DProf thesis

A framework to enhance organisational performance in large-scale, diverse infrastructure major projects

Meiring, P.

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Doctorate of Professional Practice

Title of Project: A framework to enhance organisational performance in large-scale, diverse infrastructure major projects.

Name: Patricia Inez Meiring

Doctorate of Professional Practice, Middlesex University

Candidate Number: **M00554580**

Module Code: DPS 5240

Date: 02-2021

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Abstract

Design and development processes on major infrastructure projects in construction internationally are complex. This extends to other multinationals operating for certain time periods in different parts of the world. There is a considerable amount of diversity in the workforce, and the preferences around ways of working that inevitably lead to a poor culture and reduced performance, or a safe, healthy culture and increased performance. A framework is devised to investigate what factors constrain or improve performance in a culturally complex environment. Performance in this sense includes its safety indicators, health and overall performance data (timing and cost) which are aims of business in the built environment, as well as aims for organisational development practitioners.

A framework was developed through an actual case study with embedded practitioner experience. It was expanded and verified through qualitative analysis of eight practitioners operating globally. The framework was then checked for generalisability, validity, and tested with twenty-one practitioners in leadership positions operating across major projects and multinationals.

Five main factors are identified as influencing organisational behaviour either for its improvement toward productivity, or constraining it. These are factors of an organisation and its environment that, where carefully considered and adequately addressed allow individuals to perform in healthy and adaptive ways. Due to the scope of research in international settings and with a multitude of national cultures an understanding of the diversity of culture is presented using current authors in this area including Geert Hofstede's dimensional framework. Participants indicated agreement with the five main factors within the framework. These factors were uncovered in the case study. Subsequent interviews are included according to the depth, impact and frequency of occurrence in relation to the performance of an organisation.

Participants indicated (I) training and interventions as a factor in influencing improvement in organisational behaviour, and the use of resources to rectify an issue or upskill a workforce. The factor of (II) organisational logics reveals issues around national culture, cultural leader's impact and processes. (III) National culture was encountered as a theme to be addressed in successful project management, and the (IV) factor of risk perception and motivation is uncovered and verified in the literature around major project success. Risk and safety had a depth of impact (potential injury or fatality) on the performance of an organisation. The final factor (V) of leadership was initially counted within the four factors above and later separated due to its level of impact for practitioners around influencing behaviour. A framework of five factors and several sub-factors is proposed as a comprehensive analysis of organisational

behaviour. This framework is broad enough to embrace observed behaviour that may occur within these factors.

Findings indicate that the framework provides economic, workable and insightful planning for project and mergers. It is a valuable diagnostic tool for organisations looking to enhance their practice, and for leaders to better understand influence upon less well-known behaviour they may encounter. This framework may be deployed as a post-project 'lessons learnt' working document.

Glossary

Behaviour   The output of behaviour indicating agreement, disagreement, satisfaction, dissatisfaction; conflict, challenge with supervisors or peers, extra-citizenship behaviours, high productivity versus low productivity, injuries and incidents versus injury-free, complacency and apathy versus engagement and motivation. Behaviour is analysed through data and metrics, observation, and narrative accounts of an emotional state.

Leadership   Leadership is defined as any practitioner acting in a position of influence through position or as an accepted authority within the community.

L&D   The function of Learning and Development

HSE   The function of Health, Safety and Environment

HR   The function of Human Resources

JV   Joint Venture

OD   Typically refers to organisational development. In many circles it includes diagnostics tools and design recommendations. In this context it is referring to the full scope of organisational development.

Practitioners   Professionals in the design and development space, as well as any related disciplines, like human resource, learning and development, and health and safety who undertake strategic design work.

Performance   Performance of the organisation is defined by individual and collective project success – to achieve safe, on-time and within budget projects. It necessitates having the right safety, health, capability of people and overall performance. These are aims within the OD field as well as those within the built environment. Safety primarily looks at safety rates, incidents, and a measure of safe culture. Health of an organisation includes its relational quality – the absence of conflicts and silo's that rupture its' performance. In some OD fields it can relate to the ability of an organisation to adapt and change. Capability is a key area for OD practitioners primarily concerned with recruiting the right people, and having mechanisms for the development of people and teams. Performance is related to cost, timing, quality and overall customer satisfaction (where data can be obtained for this).

Chapter 1 – Introduction

Undertaking major projects in different countries with a culturally diverse workforce poses a significant challenge to construction companies. The challenges become even more complex when the finance supporting the project is drawn from outside the country or in the form of joint ventures. There are a multitude of these factors that affect behaviour, such as diversity of the workforce, their natural ways of working, resources available to upskill and manage a workforce, the leadership and subsequent styles of behaviour, organisational processes and systems, and external stakeholders. A thorough understanding of the workforce, client and culture in which a project is to operate, is necessary to understand and win the initial tender, to make joint venture and consortium partnerships successful (Liu, Meng and Fellows, 2015), and for guiding and educating the workforce to behave in safer, more productive ways.

The research is an investigation into what factors influence behaviour toward better organisational performance on large-scale, diverse infrastructure major projects. The investigation of factors is understood to be any variable that impacts behaviour in an observable way, and performance is defined as individual and collective project success – to achieve safe, on-time and within budget projects. It necessitates having the right safety, health, capability of people and overall performance

This research begins on an international major project which examines what factors influence behaviour. The research during stages 2 and 3 expands into aspects that other industries and large multinationals often face when launching new projects and mergers or transitions. Inside multinational companies operating to international safety and quality standards, there have been numerous attempts at designing systems, processes and initiatives to reduce injury and increase productivity. These include management approaches, literature on the psychological influence and impact, and initiatives such as Total Quality Management (TQM), and revision of ISO 18001 and 45001 standards, both improvement in processes and concepts of leadership and empowerment. The link between performance management systems and safety performance is supported in this project. Complex relations between risk and injury have, however, left out elements such as national cultural differences, their values, norms and behaviour; as well as organisational design and structure. The structural and situational issues faced by organisations, such as financial limitations and reduced time-scales (Dainty, Green and Bagilhole, 2007) prove that stress is frequently imposed upon an entire organisation without affording people the stability they require, and potentially not making use of professionals concerned with end-user assimilation or creative and holistic approaches to improve it. This holds true for other industries and organisations in which ignorance of the holistic nature and wider contextual issues of an organisation can hamper learning and

jeopardise safety and productivity issues. Where incidents occur there may be investigation, remedial measures, and loss of morale, financial cost and reputational damage. These processes can hamper the overall performance of the organisation in meeting its schedule and production targets.

The factors that influence behaviour often stem from a psychological perspective of human needs in their cultural contexts (such as cultural preferences and work motivation), and provide particular challenges for organisations. Factors can also stem from an organisational standpoint (such as the resources available, processes, and hiring practices). These factors when overlooked in the impact they can create and for whom, can hamper productivity, performance and safety.

Safety practitioners are continually seeking more efficient methods and measurements to make a sustainable difference, particularly when it comes to the reduction of accidents on site. Safety practitioners look at accident reduction, lost time, and are indirectly seeking improvement in organisational culture. Traditional OD practitioners also measure culture, performance, effectiveness and are indirectly seeking solutions to accident reduction and key performance indicators. Practitioners inside of the business now are more prone to develop a merged practice including with that of more strategic human resource practitioners where the culture, improved performance, accident reduction, and improved safety and delivery is everyone's goal.

Research suggests that organisational development (OD) helps management to understand the root cause of problems, and then to decide on interventions that enable enhanced behavioural change. The impact of interventions on behaviours is a balance against how much change is required (Phillips and Phillips, 2016) and if those changes are needed at individual or team design-level (Stanford, 2007). Behavioural change needs to be tailored both to suit the exact needs of the international workforce employed, and respect the nature of the local culture within which the project is undertaken. It is vital to assess how cultural change is instigated and adopted in order to understand how the organisational culture evolves. Leadership and organisational culture foster better performance which is the goal of large-scale project management (Ogbonna and Harris, 2000; Schein, 1990). This framework illustrates how leadership, contextual factors and organisational elements are dynamically related and contribute to the effectiveness of an organisation and its ability to meet its targets.

Rationale

The overall rationale for this research study is to provide a way for organisations to consider factors that influence behaviour to improve its performance. With more

considered practices, common challenges can be overcome, a safer culture can be created, challenges can be known, and major projects can increase their performance.

The research develops this framework across several geographical locations with practitioners in the construction, and oil and gas industry on international major projects and within a multinational merger. This conceptual framework seeks to identify factors that improve or constrain safe behaviour of employees. Through consideration of these variables the organisation can be designed and set up in a way that mitigates common challenges of working internationally. A framework that works with the people-agenda is proposed here to provide a diagnostic and planning tool of the influences of behaviour during the planning stage of projects, mergers and organisations. A blueprint can then be formed to guide organisational design, and embrace factors and their interplay for practitioners throughout the organisation. This research captures the institutional memory of insights which can be utilised for each new project and reduce re-learning. This research creates a framework that can be used for comprehending differences and similarities within the same company across different locations. It allows for greater inclusivity of cultures.

This research contributes to the existing body of knowledge. It is guided by psychology, sociology and business studies. The output of the research fits primarily within OD and project management activities in order to:

(i) provide organisations and practitioners with a clearer understanding of factors that influence behaviour in a broad and international context,

(ii) utilise scientific studies and literature that overlap psychology and business fields,

(iii) show what practitioners operating in international contexts face, and the approach they adopt to enhance their efforts, and

(iv) extend OD models so that they are useful and practical to administer for international business.

This research is unique in so far as it places emphasis on factors such as national culture that need to be understood and harnessed for better global expansion of business. National culture has been used as a proxy for diversity for several reasons: groups within the study are able to be defined through national cultural dimensions which contrast the values and preferences for each group beyond the observable diversity; the literature on national culture is in depth when it comes to ethnographic descriptions of cultures which gives the reader an imbued notion of what it may feel like to live in a culture; and the research itself provides a good example of how diversity and inclusion may be thought of in the global space.

In the OD world, the conceptual framework offers a contribution to OD models in extending its scope from internal organisational factors to an 'embodied' or contextual one. It differs from OD models in its aetiology in psychology and applied business experience, linking OD and several tools for organisational effectiveness and change. This conceptual framework has strong links with project management studies and tools; it is an imperative for major projects and multinationals operating globally.

This research is enacted in three parts: through (i) case study design, (ii) interview and thematic analysis, and (iii) focus group consultation to understand the depth and breadth of challenges and their validity and generalisability across different contexts. This research is deep and considered in examining the factors that influence behaviour.

Objectives

The objective of the case study is to describe the constraints and items that improve or restrict behaviour from a psychological and real-world practice toward what impacts performance and organisational health within a major project. The result is a conceptual framework that highlights important factors influencing safe and productive behaviour, and their relations. The framework was not conceptualised at this time but rather emerged and later understood to work inside the OD field which allows for grassroots and in-depth psychological analysis to be visualised and organised from a micro- to macro-level. The research begins with my reflections upon a case study as a psychologist working and embedded in the context.

The objective of the second phase of the research is to: (i) further extend and validate the framework, and (ii) identify challenges and approaches for improving organisational health and performance. The narrative indicates the extent to which these factors affect behaviour through accounts of the impact and the frequency with which factors are mentioned. Practitioners discuss in detail challenges which make reference to processes, structure or design of the organisation or management system. Details of the approach that practitioners take to overcome these challenges include the structural or behavioural aspects of change. Identification of challenges and solutions allows practitioners to understand how they may apply the same approach(es) in future projects, and to reduce institutional re-learning. The output of the second stage is a more concretised framework that considers its use across different geographic locations, and a checklist of considerations and approaches taken by practitioners that align with best practice in dealing with complexity in diverse projects and with international management standards.

The objective of the third stage is to share the framework with participants in different industries and organisations, and allow them to provide feedback on the validity, reliability and

generalisability of it. This framework is subject to iteration as the research continues and is used within organisations.

The methodology employed is primarily based on a critical realist and pragmatic approach (Saunders, Lewis and Thornhill, 2019). The research considers the practitioner-as-instrument embedded initially in the research and then draws more parallels from other practitioners' reflections. In this way the research becomes practical and based on real-world challenges which afford an advantage in taking scientific studies back into a practical context for business.

This research approach assumes that improvements in health and safety, leadership and OD are not independent issues but can be synthesised to improve key performance metrics as well as the contribution and satisfaction of employees. This framework indicates how to improve performance in organisational activity, the way in which individuals work collaboratively, how their needs are met, how individuals know how to contribute to the safety and organisational culture, and how leaders motivate and educate staff. These nuances toward business progress mean that the project can meet its overall performance metrics.

Structure of the Research

To locate the research within current organisational practice, in Chapter 2 the literature review first explores the development of OD, current OD models, their value and gaps in national cultural concerns, and other models that may more accurately describe how culture informs business. To explore the question of factors that improve or constrain performance, the literature review then describes relevant theory in understanding the complexity of major projects and multinationals, and the factors observed to influence behaviour. This is to bring to life the observable events discovered within the case study.

The methodology section is set out in Chapter 3 including strategy, approach and ethical considerations. The complexity of the project means these chapters have had to be clearly separated between stage 1, 2 and 3; including how the data was collected (Chapter 4) and what each stage of the research found (Chapter 5 – Research Findings). Data presented in Chapter 5 has been presented to illustrate in a succinct way how the model developed. However, there have been many rich findings throughout the research that a further look at the appendices is useful to the reader to explore. The research findings are presented in a way that draws upon the theory already explored in the literature review. An initial and final version of the framework is presented at the beginning of this chapter to guide the reader as to how the research informed the final outcome.

Chapter 6 presents a final discussion on the framework including its methodology of implementation, the validity of factors, need for a framework that includes national cultural

preferences, and viability and implementation of the framework. The framework is presented against other models once again to highlight differences to the reader, and its importance in future organisational design work. Chapter 7 describes the personal learning and DPROF journey.

Appendix 1 includes the master-data from the qualitative interviews which is rich and complex. It allows the reader to understand the checklist in its original form, including a write-up of the data received. Appendix 2 includes the focus group data in its original format. Appendix 3 includes all of the materials presented in stage 3. Appendix 4 includes the electronic consent forms received from participants. A final model and checklist document is available as it's presented to practitioners who want to learn about the model, and/or are working in the field and would like to use the model.

The research project has overcome several challenges thanks to the methodological approach employed:

- The availability of evidence based real-world application on major projects and in multinationals.
- The availability and feedback of practitioners operating globally.
- Advancement of major projects and mergers into new countries and with new requirements in operating standards (such as ISO45001 Occupational Health and ISO44401 Collaborative Working).

I aim to use the framework in future work, and to publish in OD and business development journals. I may be able to produce publications for a wider audience involved in business and psychology to advance global environments with diverse workforces. Psychological research with practical approaches to business can improve the quality of work life. This framework can be refined as it is adapted for different organisations. I plan to investigate its reliability and usability and move it into the digital space.

Chapter 2 – Literature Review

2.1 Introduction

Major projects and multinationals face multiple challenges in terms of ways of working, managing a diverse workforce, enabling partners and stakeholders to work collaboratively, and implementing management systems that reduce injury and improve productivity. This literature review identifies key factors that improve or constrain safe and productive behaviour on site. These factors are used to create a diagnostic and planning framework. This framework is discussed first in the context of the literature of OD, then regarding the factors within the framework that assists in understanding a particular organisation.

This chapter describes current models, their effectiveness, and change practice. The chapter then discusses the factors that are evident in directing its behaviour and indicates how these dynamics may either improve or constrain employees and business performance. Such factors have been added to give the reader a holistic understanding of the common challenges and solutions on major projects.

2.2 Design, Development and Change

The field of OD is discussed first as an area in which the framework is compared. This information is needed in order to locate the framework and its reach for business and processes; however the framework isn't intended to be an OD model. It is ambiguous in its nature to where it sits. It developed as a way of sense-making in a holistic and culturally-responsive way; and is situated against OD and business solution information to provide parallels to how others solve the same challenges in organisations.

There is debate over what OD covers in its scope. Environments are complex and rely upon practitioner experience and intuition (McFillen, O'Neil, Blazer and Varner, 2013). Definitions of organisational effectiveness include mention of change, improving organisation design, use of diagnostics, development activities, or a consciously planned approach (Francis, Holbeche and Reddington, 2013).The focus is on the human side of organisations, how things may be perceived in an organisation and observing the organisation as an organic whole. These ideas are important to OD as a field and to the framework. For the purposes of this research, OD encompasses all activities that fit into an OD practitioner's scope, however can be used for individuals in business architecture and project management. An OD approach adopts a holistic view of organisations and major projects in order to find the root cause of problems between people and the system in which it is embedded so as to organise development activities that are coherent and sustainable. A central feature of a successful organisation is

to recognise its own unique culture, health and performance, and the ability of the organisation to adapt to change (Mullins, 2013; Kotter, 1995). Psychology that informs business and operating models are important to build up a comprehensive picture of an organisation.

OD is concerned with shaping and implementing strategy into the organisation by means of organisational diagnosis, design and development (CIPD, 2020). A study by Khan (2015) considered factors most prevalent for organisations in the Dow Jones index from 1986. It highlighted two factors were prevalent in organisations for their survival and growth. These are resources and innovation. The underlying conditions found to support resources and innovation are strategy and culture (Khan, 2015). In his book *Good to Great*, Jim Collins (2001) examines businesses over a 40 year period stating that good companies make the leap to being great by hiring the right people and keeping them focused, confronting challenges and not being side-tracked, and determining what is important to be achieved and what is not. Collins summarises these criteria as disciplined people, disciplined thought and disciplined action. These studies are important to highlight the complexity of design and development initiatives in getting it right, as well as the primary source of performance in people and their behaviour. This focus may not be captured within current understanding of business structure.

What's important too is that OD examines whole-system functioning of strategy; from diagnosing at organisational, inter-group, group and individual levels. It focuses on the present reality facing the organisation and employees. It brings tools, methods and approaches to improve the capability to deal with growth, performance and change. OD works outside the formal structure at whatever level is appropriate to achieve its outcomes (Francis, Holbeche and Reddington, 2013) however should be engaged through initial determination of structure and design onwards.

Schein (Gallos, 2006) mentions that although OD has evolved, two challenges remain for the evolution of the field. Of these challenges, one pertains closely to this work and that is:

> The difficulty of creating a viable organisation (system) that is geographically dispersed and consists of subsystems that are genuinely different national and occupational cultures. The positive aspects of diversity are highly touted, but the problems of alignment and integration of diverse cultural elements remain a major challenge.
>
> (Schein in Gallos, 2006, Foreword).

Change from OD activities is often driven from the top of the organisation, or by senior leaders who appreciate the value that interventions can bring. It can, however, fail to materialise because of limitations in the ideas of leaders around the benefits of implementing evidence-

based insight, or where it challenges the thinking of leaders, requiring them to make a change. The aim of OD is to educate leaders around the benefits, right conversations, testing the impact of strategic options, and supporting its implementation. Interventions address design, culture, capability, business-impact and change readiness, cross-organisation and intra-organisation working. The aim is to enhance organisational efficiency and individual capability in a way that is adaptive and fluid (ibid).Typically and traditionally, change is initiated only when a change is needed. In the OD literature, Gallos refers to mergers, change in roles, technological change, to enhance intergroup or communications, planning etc. As proposed in this research work, change is needed at project or organisational planning phase and has to be reviewed on an ongoing basis. It is an evolving tool.

Deloitte captured a simplified version of how and when an operating model is developed, and suggests it's necessary to understand before design of an organisation, and subsequent creation of governance. Figure 1 below illustrates a target operating model (TOM) which has components for analysis that seek to understand the ecosystem that the organisation is embedded and includes: external drivers such as broader trends in the economy, geo-politics, and the political environmental, legal, social and economic context. It compares against its internal factors (capability, strengths, opportunities, weaknesses; and also assesses competitive dynamics like its competitors (Sridharan, 2012).

Vision and Strategy
Analyse the vision and strategy of the organisation so that the business goals are aligned to the strategy, such as:
- Customer service
- Cost reduction
- International expansion
- Greater agility

Target Operating Model
Define the principles and operating model
- End to end value chain
- Front office/ back office
- Outsourcing/ shared services
- Interfaces/hand offs

Organisation design:
Define the organisation that will deliver the strategy:
- Organisation structures
- Role responsibilities, skills & capabilities
- Role Performance Measures KPIs

Governance & reporting:
Define governance arrangements and reporting requirements to run the organisation in an efficient and effective way

Culture & Leadership

Vision & strategy

Target Operating Model

Organisation design

Technology

Process

People

Governance & reporting

Technology :
Identify what technology is needed to deliver your products and services to your customers through your chosen channels, optimising your processes

Process :
Define the business and functional processes to support the business objectives

People :
Defining the level and capability of people required to meet the objectives and serve the customers:
- How many people do you need?
- How do you remunerate them?
- With what skills and knowledge?
- What ways of working and what culture do you need?

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Target Operating Model From Deloitte Luxembourg

Figure 1 - Target Operating Model (Sridharan, 2012)

This information on external factors is incredibly necessary to implement good design, governance and performance. It doesn't however take into account the psychological nuances of the stakeholders and national cultural research as is necessary when operating abroad. Often in practicality this information can be reduced and simplified in its development, and not made available to practitioners in the business that create management systems, and manage and maintain feedback. The gap between psychological research and business development is clear, and exists with practitioners through experience working abroad.

What is over-simplified in this model is the account of how information flows through the organisation – top-down rather than in a two-way system. In practice many practitioners have tried to define and create organisational culture, however it too is illusive and functions rather as an output of the behavioural norms of the people inside of the organisation, and how well they are taken care of through HR processes, and communicated with.

The popularised business model canvas is used by many businesses to define their value proposition and map out key external elements of the organisation (Strategyser, 2020).

The Business Model Canvas

Designed for:

Designed by:

Date:

Version:

Key Partners

Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

MOTIVATIONS FOR PARTNERSHIPS
Optimization and economy
Reduction of risk and uncertainty
Acquisition of particular resources and activities

Key Activities

What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

CATEGORIES
Production
Problem Solving
Platform/Network

Key Resources

What Key Resources do our Value Propositions require?
Our Distribution Channels? Customer Relationships?
Revenue Streams?

TYPES OF RESOURCES
Physical
Intellectual (brand patents, copyrights, data)
Human
Financial

Value Propositions

What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

CHARACTERISTICS
Newness
Performance
Customization
"Getting the Job Done"
Design
Brand/Status
Price
Cost Reduction
Risk Reduction
Accessibility
Convenience/Usability

Customer Relationships

What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?
How are they integrated with the rest of our business model?
How costly are they?

EXAMPLES
Personal assistance
Dedicated Personal Assistance
Self Service
Automated Services
Communities
Co-creation

Channels

Through which Channels do our Customer Segments want to be reached?
How are we reaching them now?
How are our Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are we integrating them with customer routines?

CHANNEL PHASES
1. Awareness
   How do we raise awareness about our company's products and services?
2. Evaluation
   How do we help customers evaluate our organization's Value Proposition?
3. Purchase
   How do we allow customers to purchase specific products and services?
4. Delivery
   How do we deliver a Value Proposition to customers?
5. After sales
   How do we provide post-purchase customer support?

Customer Segments

For whom are we creating value?
Who are our most important customers?

Mass Market
Niche Market
Segmented
Diversified
Multi-sided Platform

Cost Structure

What are the most important costs inherent in our business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

IS YOUR BUSINESS MORE
Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing)
Value Driven (focused on value creation, premium value proposition)

SAMPLE CHARACTERISTICS
Fixed Costs (salaries, rents, utilities)
Variable costs
Economies of scale
Economies of scope

Revenue Streams

For what value are our customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each Revenue Stream contribute to overall revenues?

TYPES
Asset sale
Usage fee
Subscription Fees
Lending/Renting/Leasing
Licensing
Brokerage fees
Advertising

FIXED PRICING
List Price
Product feature dependent
Customer segment dependent
Volume dependent

DYNAMIC PRICING
Negotiation (bargaining)
Yield Management
Real-time-Market

Strategyzer
strategyzer.com

Figure 2 - Business Model Canvas (Strategyser, 2020)

However, the same model does not highlight national cultural preference nor does it translate into how organizational design should be enabled.

In addressing the gap Schein suggests about how organizational design is enacted across different geographical locations, the scope of analysis widens for a comprehensive understanding of factors that constrain or improve behaviour. This is because cultural preferences will change the operating model, design, governance, supply chain and technology of the company. This is illustrated in the revision of Deloitte's model below (Figure 3) in which the orange circle represents what is necessary to align in a fluid and holistic way; in a two-way system of top-down and bottom up; and initiated during all of the building of organizational elements.
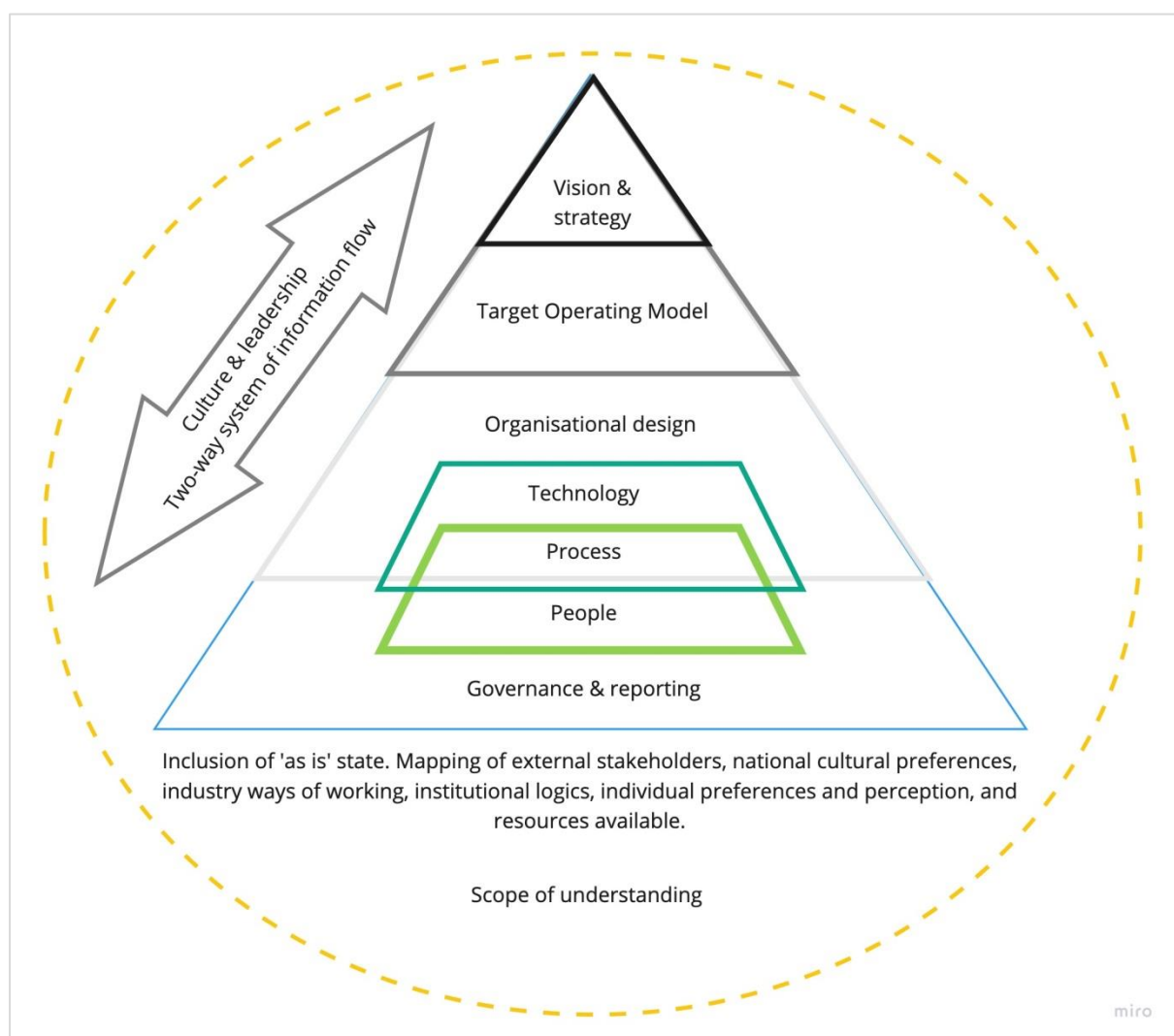
Figure 3 - Scope of analysis and alignment

Aligning these elements and the practitioners who oversee their development is useful to provide clarity for everyone in the organization. National cultural preferences in structure and decision making for example, will impact on all elements of the business if the stakeholders, customers and employees come from a diverse background.

There are several different frameworks, models and theories that OD practitioners can draw upon to make sense of what is happening in an organisation (see section 2.3) while structuring its design, or investigating root cause challenges within the business. OD Models are based in management literature from the 1970's to 1990's; although OD models are still used to this day (Stanford, 2007). The sense-making process stems from an initial diagnosis of organisational capacity capturing 'as is' states. In the case of a major project, OD models (such as the Burke-Litwin model) are rarely used in a formal way due to time and access constraints to stakeholders, and therefore there is no way in which practitioners can analyse how these factors will interact and if there will be challenges further on. Project teams do, however, move into adopting business-as-usual practices and international standards and try to tailor and sense-make as the project develops. Aspects for practitioners to examine concern the experiences of employees as projects: a) to mobilize and demobilize rapidly; b) withstand risks, and have in place mitigation measures concerning them; c) and to work with partners in a collaborative way.

OD offers an approach that regards the health of the employee and in this sense is seen to be humanitarian in facilitating the needs of the employees. This is adopted in the research and is concerned with the holistic presentation of symptoms: to understand them and to incorporate behavioural science to design interventions that may affect change on an individual, organisational, and enterprise-wide level. OD practitioners have different aims from project management towards the management of people, be that cost, speed of working and approach. Another constraint is behavioural alignment between organisations and their partners, or consultants. Such alignment should be created and driven towards specific behaviours, often set out in leadership principles, vision and value documents or charters that relate to performance goals. The extent to which these challenges are discussed and met can often be seen in the way practitioners approach their work. As a result, there is great variety in the field of improvement, including methods and approaches and their specific solutions.

Due to this variety in approach it is important to understand the genesis of OD. OD practices track the development of design from the 1920's through to 2000 and onwards (Francis, Holbeche and Reddington, 2013). These practices reflect how traits in the organisation evolve or stagnate. Organisations that were established in the early part of the century still display some legacy ways of working, whereas new start-ups are likely to show fresh characteristics.

The driving force around OD begins with stable external environments and bureaucratic structures that support efficiency in a modern day 'global economy'. It is important to note the role of multiple cultures (Cheung-Judge and Holbeche, 2015) and the fact that all hierarchies have their limitations. The advantages of new developments in organisations (Gallos, 2006) indicate a need for organisations to have employees with a broad view of organisational goals (Edmondson and Lei, 2014), and those who are empowered to share responsibility, make decisions and be held accountable for their outcomes. Significant training is required for all employees, and total systems and culture redesign are required (Francis, Holbeche and Reddington, 2013). Relations between OD and the business need to be understood. Discussions have to be had on what the organisation wants to create or become, and how to do this effectively. Implementation of frameworks for design and development need to be accompanied by research-driven, practical solutions.

2.3 OD Models

There are several models offered to OD practitioners for understanding organisations. The purpose of OD models, according to Burke (1992), is to enable an OD practitioner to predict and explain "the total behavioural output of an organisation" (129). A few examples of OD models include Weisbord's (1976) six-box model, the Nadler-Tushman (1977) congruence model, Tichy's (1983) TPC framework and the Burke-Litwin model (Burke, 1992). OD models have been proposed by practitioners using their knowledge and experience within business as guidance for their development. They are often suggested as descriptive aspects of framing design and development rather than prescriptive models. These models have been created in the last century with comparatively little new development in this area of the OD field since. Suggestions for development have indicated a need for more research and revision in tackling broader national cultural or geographical constraints (Gallos, 2006) including social, technological and global trends, the advancement of several strands of organisational science, and the overlap and synthesis of business management approaches.

A common factor in OD models lies in their purpose: they all seek to find a level of congruence, or equilibrium between factors, between factors and sub-factors, and between the organisation and its environment (Shaw, 1997). OD models typically include structural, cultural and strategic aspects of work. The approach that these models employ is the alignment of activities for a holistic or system-wide understanding. This allows for more informed planning and development work. There are several shortcomings in these models: 1) they are reductionist in flow and output, and in some instances 2) do not focus enough on national cultural preferences or the larger community and industry thereby concentrating in a limited

way only on the organisational dynamics that prevail. This demonstrates why practitioners need a clearer focus on a systemic and culturally-wide and representative model.

Diagnosis of operating models is less favoured in the OD space over team development, leadership development, workspace design and coaching (Gallos, 2006). All of these practices have evolved to form part of other business practices such as health and safety, and learning and development functions. Development activities are often used on a micro-scale for an organisation already operating, and only when something goes wrong. Opportunities for structuring against external, cultural and organisational factors are often lost. In practice organisations may not take on large-scale change. They focus on design against their parent-company structure, modelling other organisations, or evolving organically and promote development through their functional groups.

Schein (1990) puts forward the basis of understanding or organisational behaviour by virtue of individual behaviour in the world. Schein's model (Figure 4) places emphasis on the culture and deeper-rooted values and assumptions that people operate from. It is in stark contrast to organisational models that posit only an indication of where and how this is relevant for organisational behaviour.

Schein's research focuses on organisational culture in the same way that community or national culture evolves (Schein, 1990). Schein suggests that organisations are based on artefacts, values and assumed values of individuals within the organisation. These terms reflect an appreciation of national cultures and their analysis in artefacts such as symbols, traditions and practices, values, and espoused and assumed values.
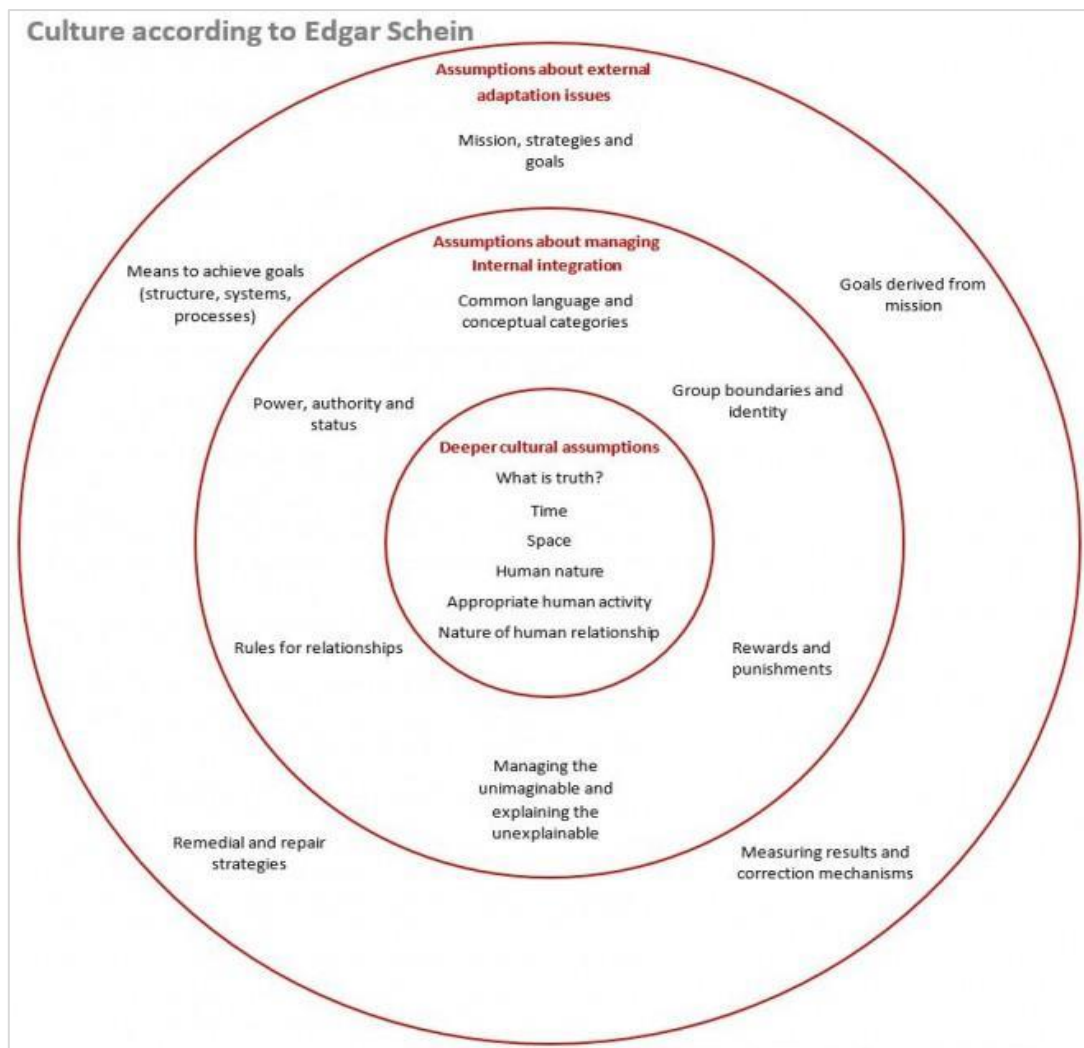
Figure 4 - Scheins' Model of Organisational Culture (Schein, 1990)

Schein's model allows the idea that individuals perceive the world in diverse and unique ways, his/her culture, and the assumptions and behaviour that follow. This model is, in this way, closer in approach to the research than the models described in the research. It is essential to meld the individual in a social context and then as part of an organisation or embodied approach to the complexity of human behaviour. Other models often fail to describe this complexity. Addressing this gap is the basis for the current research. This follows the idea of a whole-self approach to organisational behaviour in that one can never study organisational behaviour without an appreciation of individual behaviour in context.

Earlier models are described next, to contrast with the final framework put forward in the research.

The Burke-Litwin Model

The Burke-Litwin model (BLM) (Figure 5) is for some authors the most influential tool available (Robinson, 2019). It was developed in the 1960's by W. Warner Burke and George H. Litwin

in the field of organisational change. It indicates relations between variables, the context and effectiveness of the organisation. It assumes twelve drivers of the organisation encompassing input, three transformational drivers, several transactional drivers, and the output as a level of organisational effectiveness. The advantage of this model is thought to be in the separation between transactional and transformational drivers (Coruzzi, 2020).
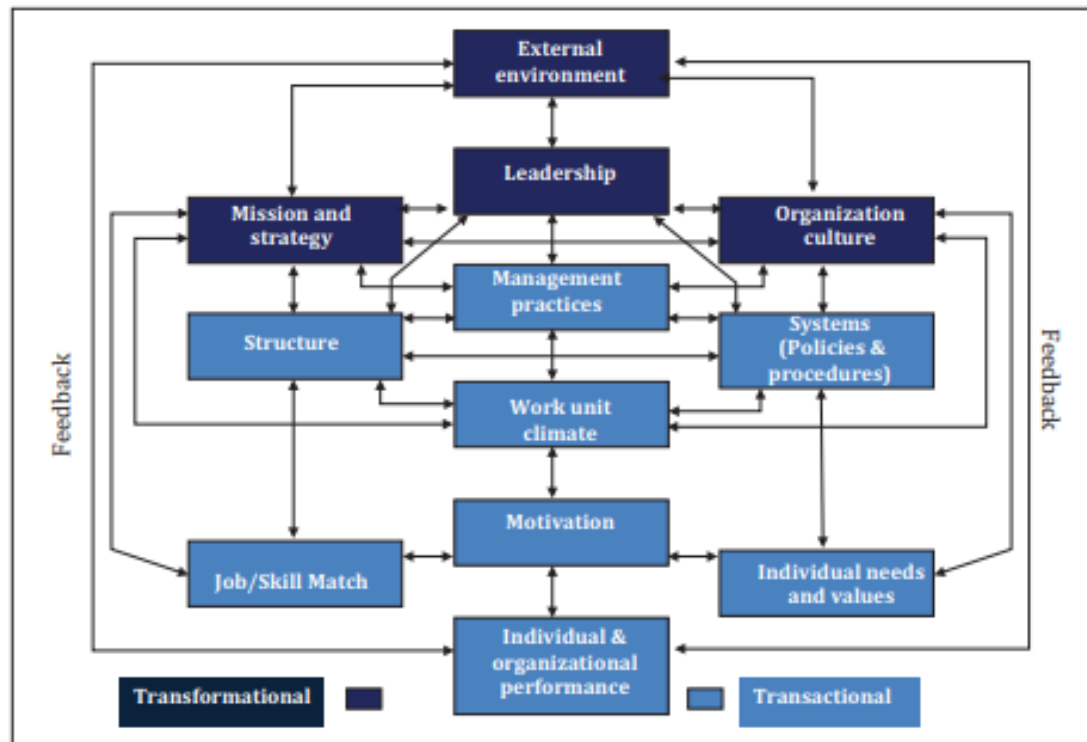
Figure 5 - Burke-Litwin Change Model 12 Drivers (Robinson, 2019).

NOTE: Copyright © 1992, W. Warner Burke Associates, Inc.

The model takes into account the environment as an input, something which other models may ignore; that is the influence that the external environment may have on behaviour. This is important to note since so much depends upon national culture and industry engagement in understanding organisations. The three transformational drivers of the BLM are elements of an organisation that have the potential to transform and change it. One element is organisational culture which is arguably the output of design and behavioural elements. The transactional drivers are aspects of the organisation that can be designed, built or changed, and aligned to sustain performance. Although relations between factors are indicated, the visualization can seem reductionist in its input-throughput-output flow, swapping simplicity for complexity. It is a rich model and is thought to align the elements of an organisation to satisfy feedback systems that can self-correct (Coruzzi, 2020). The element of 'motivation' is not related to 'organisational culture' and less detail is offered in terms of the psychological aspect

of its nature, and measurement. All aspects of the BLM are incorporated into the framework offered here, although they are weighted and 'mapped' differently in the model and framework for their impact on behaviour.

The BLM was used as an assessment tool to assess its validity in a cross-cultural research project conducted by Martins and Coetzee (2009). These researchers sought a tool for testing environmental effects and organisational performance, as well as change and overall effectiveness. There are no perfect tools: all depend on the level of knowledge and type of critical lens used by the individual practitioner. In selecting a critical tool, Martins and Coetzee (2009) consider knowledge of the tool, fit for the organisation, and its ability to include enough elements of the organisation for a useful analysis. The BLM was adopted by Martins and Coetzee because it integrated external and cross-cultural elements. The model may not, however, be that simple because the research calls for more comparative cross-cultural studies. The BLM's chief advantage is that it highlights important feedback loops and indicates qualitative aspects of an organisation such as motivation (Stanford, 2007) rather than just the design elements of structure and process. In the Martins and Coetzee study (2009) two additional factors were included: (i) equipment: tools to do the job and the quality of available technology, and (ii) working environment such as buildings, cafeteria and recreational facilities. The research took place over a short duration using action research methods in an international hotel group in the Middle East with over 17 different nationalities. The researchers accepted that generally the BLM provides a good shorthand account of mapping the key features of an organisation. This is in line with Howard's (1994) work that indicated success in its application across three organisations: British Airways, a large government sponsored organisation in Europe, and the National Aeronautics and Space Administration (NASA) (Howard, 1994). Coruzzi (2020) regards it as a way of providing organisations with due diligence, and a solid foundation on which to plan and implement both transactional and transformational behaviour. Johnson (2004) suggests that the BLM is a good model for understanding change and can be integrated with quality management systems to bridge that gap around how to, and what to change. The findings of Anderson-Rudolf (1996) indicate there is some predictive validity for organisational culture and leadership in terms of organisational performance. Faletta (1999) states that while constructs may be statistically significant, they are not, however, practical for an organisation as simplified constructs. Further research suggests analysing the validity of 'external environment' as predictive constructs (Anderson-Rudolf, 1996). Martins and Coetzee (2009) suggest that one of the most valuable tools of the research is the conceptual map outlined in the BLM for the organisation to initiate change. The researchers recommend that more research is necessary with cross-cultural groups in order

to ascertain its relevance (Martin and Coetzee, 2009) which is why the framework proposed in this thesis is so useful.

The BLM is a valuable comparison for the conceptual framework proposed. Two more comparisons need to be considered in order for a more comprehensive discussion on the use of the framework.

Weisbord's 6 Box Model

Weisbord's 6 Box Model (Figure 6) is a simplified diagram of factors that places leadership as central. Within the model, there is space for environmental influence and cultural differences of behaviour. The model signifies a focus on agency: behaviours and their development such as purpose, rewarding or motivating behaviour, and the use of 'helpful mechanisms' or resources that allow motivation to be transformed into better working relations that ultimately fulfil the purpose of the organisation (Weisbord, 1976). In the Weisbord model there may be an infinite number of sub-factors that make up the 6 factors, and an infinite number of areas of challenge related to one another. The model was developed as a 'practice' theory, a synthesis of experience and theory by Marvin Weisbord in 1976. It is explained for people to understand and use easily (Weisbord, 1976). Weisbord asserts that, from a management perspective, one can see process issues arising from a systemic point of view in which fit is determined by the organisation and its environment, and between the individual and the organisation. Weisbord notes that there is an element of ambiguity in allowing structure and process as well as individual growth, and in Maslow's words 'self-actualisation'. This echoes the sentiment portrayed by OD practitioners concerning employees in the organisation being part of its creative process (Gallos, 2006).

Peter Senge highlights a systemic view of organisations. The whole organisation and all individuals are a part of the learning process (Senge, 2006). Individuals need both structure and clarity in the organisation for growth and innovation to occur. Weisbord's conceptualisation is that management can decide on the theory that most appropriately fits any particular venture. The model allows a loose 'guide' for elements that require diagnosis.
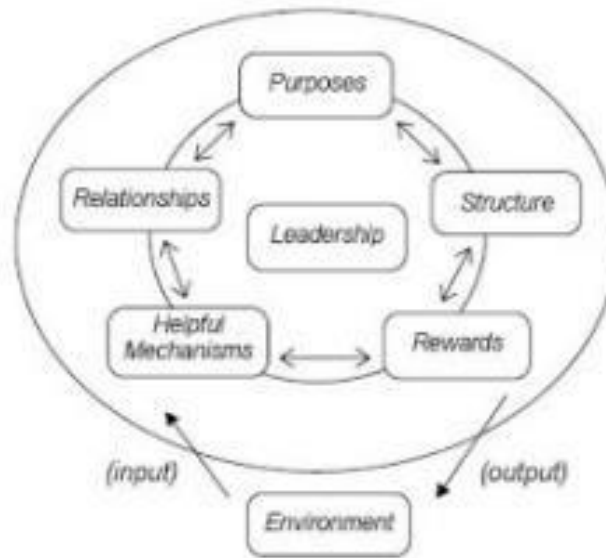
Figure 6 - Weisbord's Model of Organisational Diagnosis (Weisbord, 1976)

Weisbord considers relations between managers and their subordinates, work units, and teams and their use of technology (Weisbord, 1976). This hierarchy provides evidence of a systemic approach that considers organisational structure through formal processes and informal relations such as silo working and leadership dynamics. Within the relational dynamic, Weisbord uses conflict management theory to understand which behaviours are forceful, smoothing, avoiding or suppressing, bargaining and confronting. Different theories can be used within elements depending on the practitioner researching it and their sense-making tools. In the 'Rewards' box, Weisbord makes reference to some earlier subject matter, suggesting that rewards in financial benefits alone are not sufficient for employees to feel valued. This reflects Maslow's concern with self-actualization of individuals and Hertzberg's two-factor theory in which 'hygiene factors' alone (basic needs) are important for morale but not sufficient. In terms of leadership, Weisbord highlights the theory of leaders on an autocrat-democrat continuum. He extrapolates to a theory of leadership as task versus relation-based which is similar to Hofstede's idea of national cultures being distinct in these areas (Hofstede, Hofstede and Minkov, 2010). Weisbord references work by Selznick (1957) indicating that leaders need to complete four tasks: defining its purpose, embodying purpose in programs, defending institutional integrity, and ordering internal conflict (Weisbord, 1976). Leadership theory has since developed rapidly: practitioners now can make use of multiple theories for understanding leadership behaviour. For Weisbord, there is the feature of 'Helpful Mechanisms' that include procedures, policies, meetings, systems, committees, bulletin boards, memos, reports, meeting rooms, space and information that are useful for development activities. The processes that allow it are important: planning, budgeting, control, and measurement (Weisbord, 1976). This factor is likened to the framework and the research

in which organisations often have resources at their disposal that can be leveraged to ensure best fit with the population.

For some authors (Stanford, 2007) the Weisbord model is beneficial. It contains useful diagnostic questions, and needs the purpose to be stated. The disadvantage is that a focus on some factors may allow a practitioner to overlook others.

Weisbord's model has a 30 item questionnaire that has been used by researchers to measure organisational performance in countries such as Australia (Lok and Crawford, 2000) and across different industries – China's petrochemical industry (Zhang, Schmidt and Li, 2016) and healthcare (Jahangir, Behjat, Masoumeh and Akram, 2015). One such study combined an extension of Weisbord's survey to understand the phase or level of transition of organisations (Zhang, Schmidt and Li, 2016), suggesting inclusion of 'attitude to change'. The survey has since developed into the ODQ survey by Robert Presiozi (Lok and Crawford, 2000).

There are many helpful elements in the Weisbord model: I) the fact that practitioners can use it flexibly and II) the survey element. As an approach, however, focusing on specific factors in the way it does by weighting them can mean some items do not have a central focus for analysis such as informal processes, informal behaviour, change over time, vision and values or behavioural frameworks, and the operating model. Weisbord misses the dramatic difference that national cultural preferences can have on nuanced ways of working. Although the BLM lists 'external environment' as a factor for analysis, both the BLM and Weisbord models restrict a full investigation of external influences such as national culture and international contexts.

The Technical Political Cultural Model

Noel Tichy was a management consultant who worked during his career in the 1980's to formulate a model for what organisations can do to develop strategically. In the Technical Political Cultural Framework for Strategic Change, the TPC model (Figure 7), Tichy places emphasis on the political, technical, cultural or social aspects of organisations. The model signifies a cognitive or process map of input and output of variables that are dynamic and influence each other. The factors within the model incorporate the variability of prescribed and emergent networks, allowing for shadow aspects of an organisation; as well as the formal process and task aspects. The three strands of the model: technical, political and cultural are woven together to form parts of the organisation. These areas are important in defining and organising change for Tichy (Tichy, 1982).
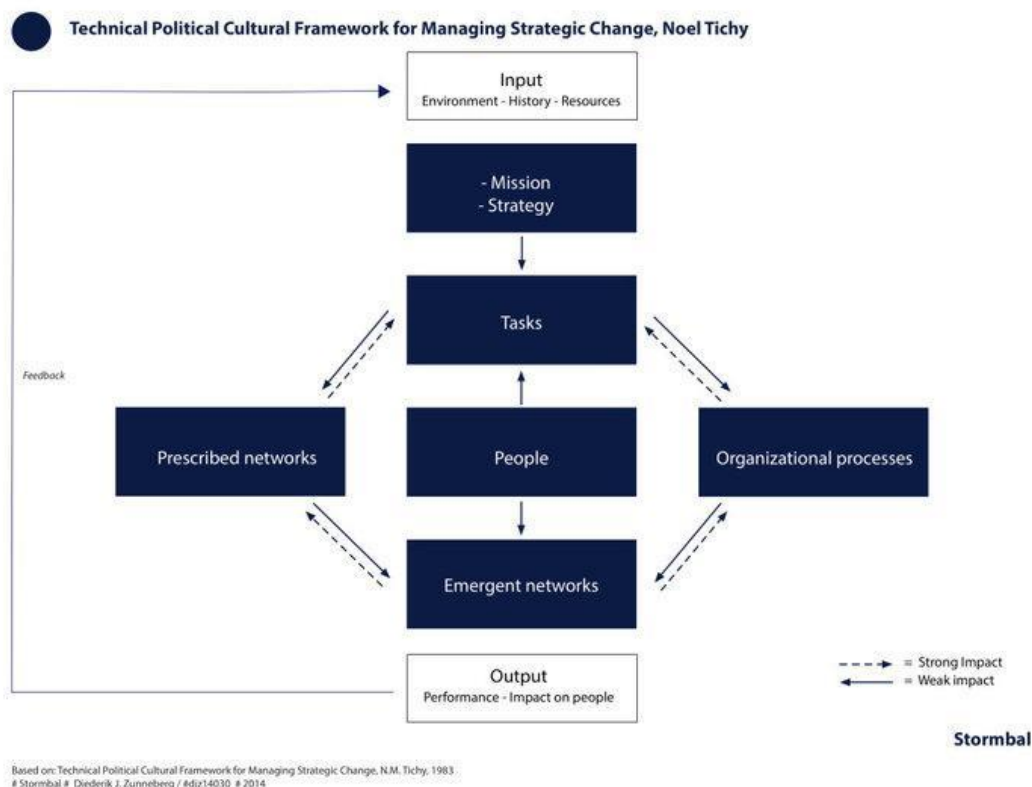
Figure 7 - Technical Political Cultural Framework for Strategic Change (Tichy, 1982)

- The technical aspect of an organisation concerns data and facts.
- The political aspect involves power relations.
- The cultural aspect deals with norms and values.

Tichy's model reflects the mission and vision, structure and HR management system of an organisation that can be leveraged to improve organisational performance in the same way Weisbord does. Within each area, the technical, political and cultural aspects need to be described and diagnosed as a nine box grid. The output is one result of organisational health and performance. Within each of the frameworks or OD models there are sub-factors that impact in hard and soft ways; in both design and structure, and behaviour and feeling. In organizing change, the Tichy model suggests that change needs to occur in (i) recognizing the need for transformation, (ii) creating a new vision and (iii) institutionalizing change. These central tenets are driven by leaders. In the ensuing transformational drama, tensions may exist between: forces of stability and forces of change; denial and acceptance of reality; struggle between hope and fear, and between managers and leaders (AIU Courses, 2020; Tichy, 1982). This is a useful way of discerning between aspects of behaviour related to change. This discernment allows discussion to surface about power, culture, and politics: all aspects of the 'shadow aspect' of organisations that often remain unexpressed (Shaw, 1997).

Elements of the model may be unusual such as 'prescribed' and 'emergent networks' and need more description, while the ideas of the political, social and technical elements may seem very broad in determining explicitly. It also lacks the detail and the capacity to account for how national cultural differences impact the design of the organisation.

Other Models worth Special Mention

Another popular model is the Nadler-Tushman model (Figure 8). It focuses on a small number of elements and emphasizes building congruence between the four elements which, like many therapists, is its goal or outcome. The Nadler-Tushman model was developed in the 1980's by organisational theorists working at Columbia University (Belyh, 2020). It has rigor in experiential application for organisations and has been further refined since its inception.

Congruence Model for Organization Behavior, Nadler - Tushman

Based on: A Diagnostic Model for Organization Behavior, David A. Nadler and Michael L. Tushman, 1977 # Stormbal Consulting # djz14023f   stormbal.com
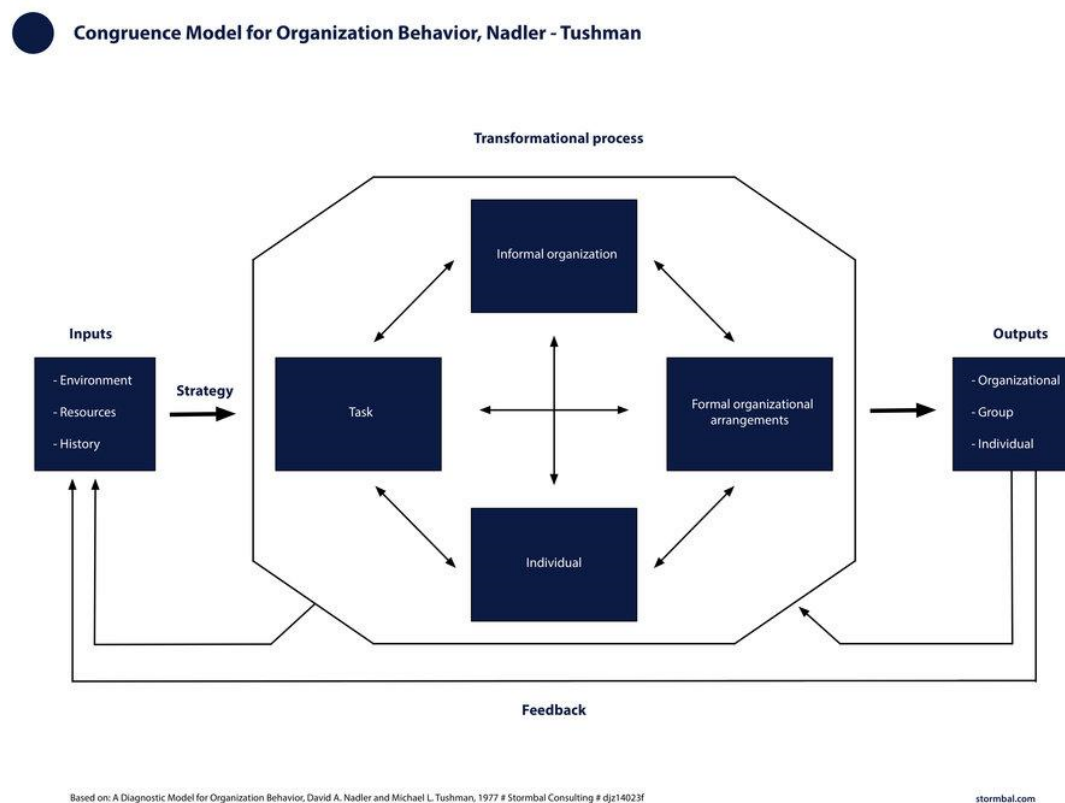
Figure 8 - Nadler-Tushman Congruence Model (Belyh, 2020).

The Nadler-Tushman Model has been criticized for having less named elements of the organisation which ultimately lead to overlooking these aspects or 'wheel-spinning' (Stanford, 2007). The benefit of the model is that it allows for a discussion of the formal and informal aspects of the organisation, and means each element needs to be congruent with the other.

New models are emerging to ensure companies are thriving. Some of the more recent advances in design emerged from complexity theory, quantum theory and non-western cultural traditions and patterns (Stanford, 2007). These advances have extended the field of Design and Development. *The Fractal Web* by Elizabeth McMillan suggests that organisations resemble organisms evolving towards growing and learning: they are adaptive and self-organising and therefore more complex than operational models that seem reductionist or machine-like (McMillan, 2021). Elizabeth McMillan's work allows a nuanced and variable approach to change which is not evident in other models. Yet there is a need for the use of OD models because of the ease in implementation and familiarity of input-output tools. For organisations currently there is a lot of influence through globalization, more inclusive workforce practices and needs, and changing markets. The updated Nadler-Tushman model has been revised in light of complexity theory.

2.4 Factors Affecting the Implementation of OD and Change

In terms of challenges and opportunities for affecting change in organisations, it is important to note that factors that can influence behaviour in organisation and are often where change or intervention can be most challenging. For instance leadership commitment may constrain the work from being done effectively, as well as constrain any change that can be effected. This is the nature of these factors as meta-factors of performance in organisations. It is often the role of OD practitioners to identify this and try to alter it.

There is a cost for poorly managed and mismatched change efforts (Kotter, 1995). This is a concern given current economic, social and political advancement. One of the main causes of failed change is mismanagement or poor communication during the change process (Francis, Holbeche and Reddington, 2013), as well as the appreciation that a change in strategy may require changes in governance, tasks, roles, and structure.

Figure 9 below is a visualisation of the perception of strategic change.
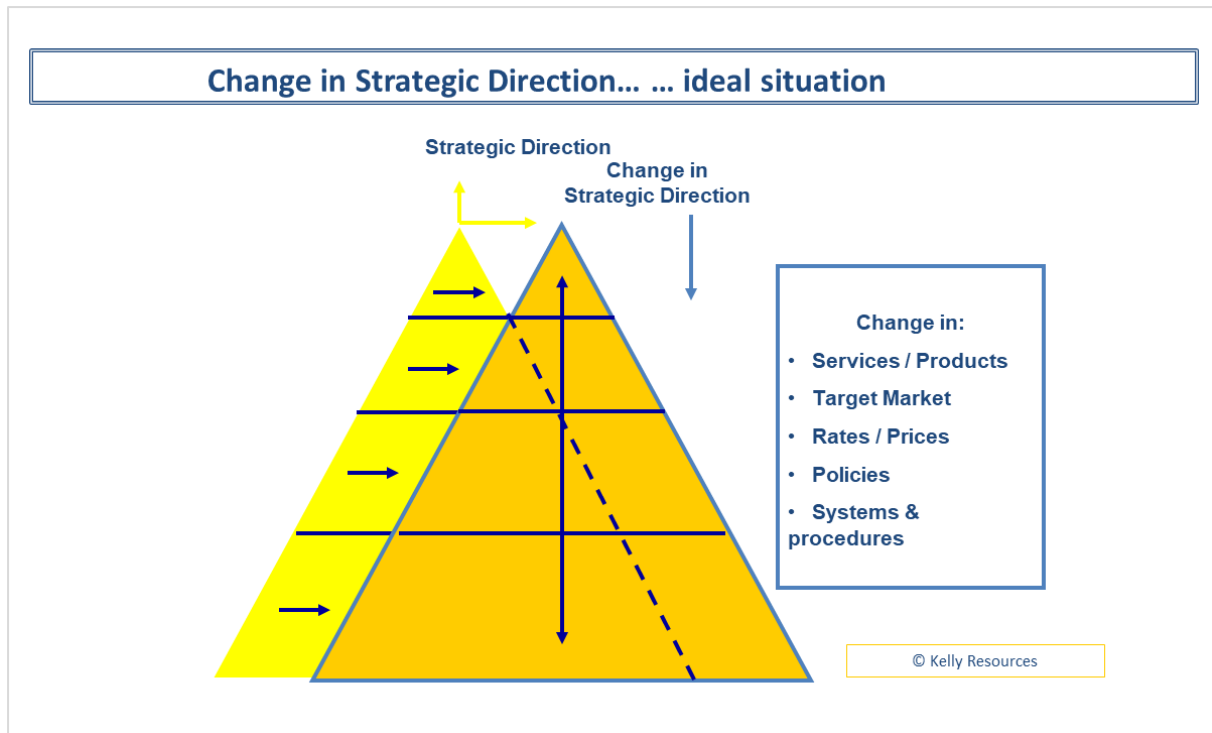
Figure 9 - Ideal Strategic Change (unpublished information shared by Kelly Resources)

A lack of communication flow can result in a delay and ambiguity in processes, job role changes, systems and processes further inside the business. Along with an anticipated change expected by leaders, employees can experience a lack of engagement, miscommunication, and a tension in their psychological contract if the change is not visible in their purview. The following figure (Figure 10) is an illustration of the mismatch between strategy and communication during change efforts.
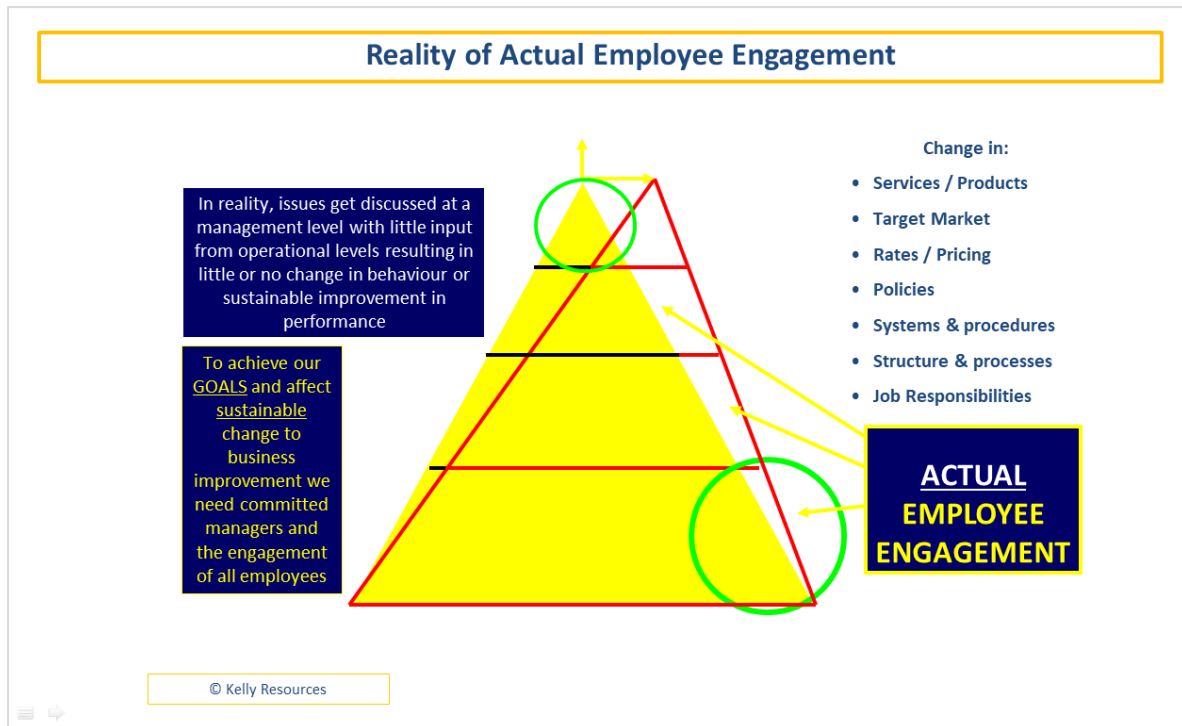
Figure 10 - Actual Employee Engagement (unpublished resources shared by Kelly Resources)

What is concerning about this visualization of change is that most of the organisational resource is situated in the employees further down in the process of consultation and engagement. Hence, failed change can be costly and take a considerable amount of time. Figure 11 illustrates the areas of miscommunication.
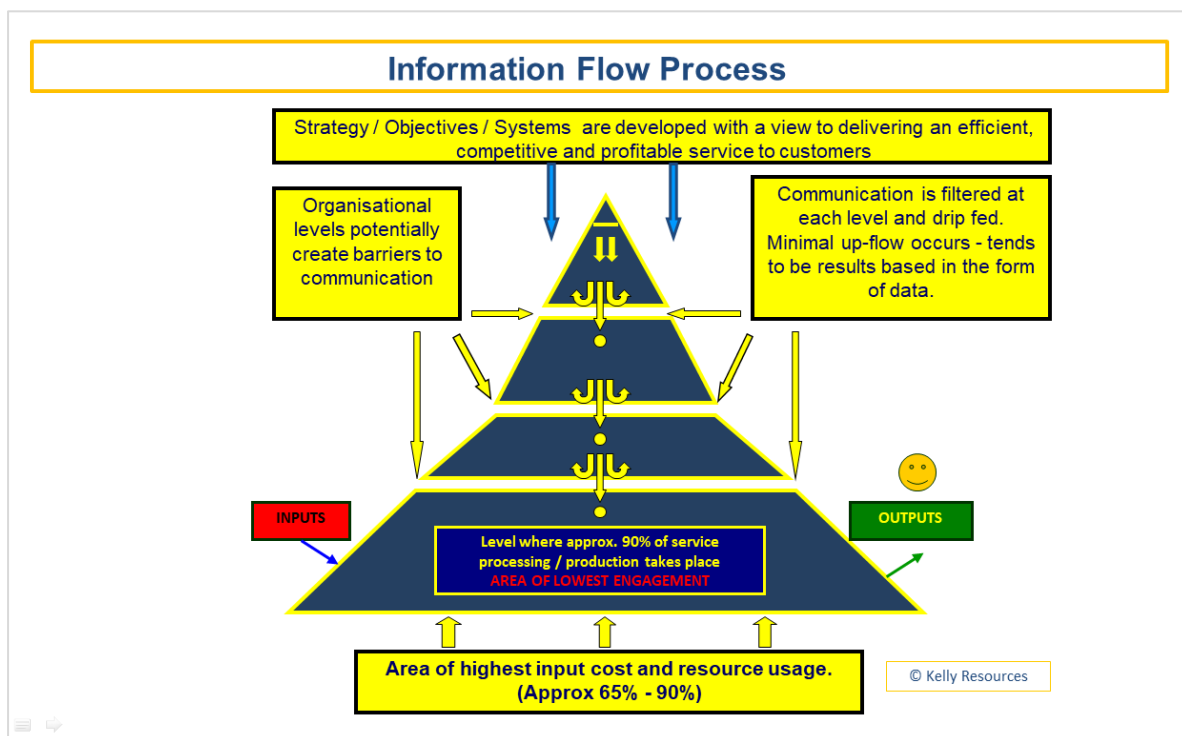
From an experiential standpoint, this relation can be weaker in global projects and organisations with considerable diversity. Deep change affects individual lives. Change efforts need to allow individuals to explore, personalise and accept change (Gallos, 2006). Badly managed change creates psychological hardships that damage family relationships, stress and burnout. Failed change efforts leave people with resentment, cynicism and disengagement. Change by design does not need to modify existing normative behaviour but can implement new behaviours in a natural, systemic-based way.

Change and fulfilment of the psychological contract is an important link to successful change. They take place more easily when previous experience of change and an open attitude towards change is evident (van der Smissen, Schalk and Freese, 2013). There are differences in approaches to change based on anthropological or cultural beliefs. There is space within models to reveal long-held beliefs and ideas including how change occurs and how the organisation has evolved. Much of this process may be ambiguous and paradoxical, and is therefore uncontrollable in every sense. This is the reason for the need for variability in design, and more sophisticated OD tools for determining root causes and pinpointing where and how intervention and change can occur relevant to the contextual influences available.

There is an important distinction to be made in change efforts between the diagnostic capabilities of OD models and a dialogic or talking approach. Gervash and Marshak (2013) suggest that a dialogic model is useful to supplement diagnostics. It explains relations between behaviours and design, health and performance, and investment in people. The difference between diagnostic and dialogic OD is evident in their ontology and epistemology. Diagnostic OD models typically state that reality is an objective fact and it is a singular reality. It has an idea of truth as transcendent and discoverable, based upon rational and analytic processes. A dialogic model suggests that reality is socially constructed, and has multiple viewpoints. It suggests that truth emerges from a certain situation, and that reality is negotiated and can include power and political processes; all of which have a basis for incorporation in the OD framework and its use in showcasing organisational health and performance.

In summary, organisational diagnosis, design and development can be a complex process: (i) to ascertain what areas of the business need diagnosing and design, and (ii) to make sense of the behaviour occurring in the organisation in order to implement change. Next it is important to consider factors that influence safe and productive behaviour. These factors are proposed as elements of consideration in OD in international settings in order for behaviour to be understood appropriately, and for the best planned approach to creating major projects, multinationals and for implementing change.

2.5 Factors Influencing Behaviour

A scientist by the name of Kurt Lewin was instrumental in the development of the OD field. He wrote about leadership and the change process in organisations. He points out two dualities that he noticed throughout his work. These are that: a) there are imposed forces from the external environment exerted on our behaviour in comparison to our own internal forces or motivation, and b) that we may not be aware of them but there are both restraining and driving forces of productivity in organisations. The ideas Lewin proposes are that: a) there are influences or forces on our behaviour and b) these can be internal and external, and c) they can constrain or improve safe behaviour and increase productivity. This is important to refer to: the factors for inclusion are discussed in light of these fundamental features (Gallos, 2006).

OD models take into account prevailing features of organisations but the world has changed rapidly since their conceptualisation in the 1980's. In application of OD models in complex and nationally diverse organisations, these factors may need to be revised depending on: I) if they are able to provide an understanding of the complexity and nuances of projects, and II) if they can capture the degree to which they influence organisational effectiveness. It is imperative to determine what factors influence behaviour on major projects, and relate these to current OD models.

Figure 12 is an original conceptualization of factors relevant to this research and signposts the factors that are discussed in relation to the effectiveness of the major project.
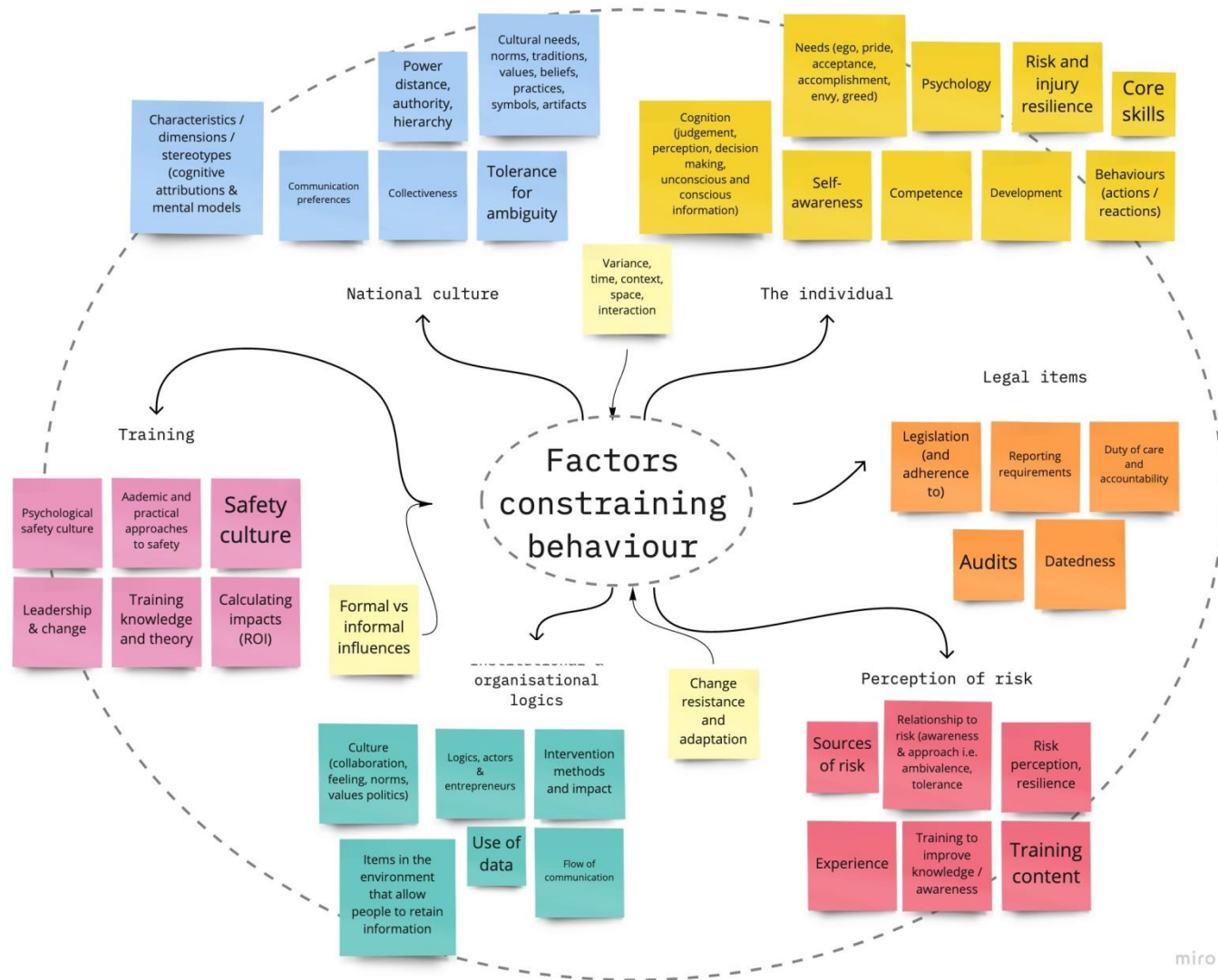
Figure 12 - Original Framework Depicting Areas of Influence and Their Content Area

National Culture

Diversity and inclusion is a significant factor within the framework and the research due to its relevance to organisational factors, individuals, and construction activities in international settings. Diversity definitions are associated with heterogeneity and the demographic composition of groups, whereas inclusion definitions are often associated with employee involvement and the integration of diversity into organisational systems and practices (Farndale, Biron, Briscoe and Raghuram, 2015) hence why they are associated and often studied together. It is also a central feature of organisations both in western organisations and multinationals given the diversity encountered in today's work world. Given the research is situated in a multinational project, national culture has been used to further the conceptualisation of diversity and inclusion on a global scale, and contributes to calls from commentators for a broader understanding. Another challenge facing diversity and inclusion researchers is to link practices (of individuals, teams and organisations) to performance outcomes, to understand national contexts (Farndale, Biron, Briscoe and Raghuram, 2015) which the study attempts to embrace. Hence, within the research the factor of national culture is used as a proxy for diversity.

Given the advancement of technology and access to international settings, research across cultures have begun to understand its effects on behaviour; as in the engagement with the Hofstede study of 117,000 employees across 50 countries within the IBM Corporation. The lived experience is significant as Michael Pickering (2008) points out in his collation of research methods for cultural studies and holds true for the research in capturing practitioner reflections of the cultural tensions that can exist within organisations. Historically, theory has been driven from sociological and anthropological studies such as that advanced by Levi-Strauss (1966) in his work *The Savage Mind*. This influenced structural anthropological studies and the bricolage approach. It has advanced into more mono-logical scientific enquiry and attempts to construct dimensions of difference by which to understand behaviour. Theory is discussed in attempting to uncover the impact national culture has on behaviour.

Within OD literature, authors such as Chueng and Holbeche (2015), Gallos and Schein (2006), Francis, Holbeche and Reddington (2013) and Stanford (2012) point to a gap within the OD field. This research addresses that gap: how organisational effectiveness is affected across geographies, and for different national cultures; particularly so in complex and diverse settings such as international construction major projects. This relation has been addressed in terms of risk perception and motivation, and organisational elements of management structures, partnering, industry and organisational culture. Now it is necessary to consider national cultural preferences and their relation to the work environment. This review allows an understanding for sense-making across cultures by using research that indicates where

differences can be exploited positively to produce better and more sustainable work, and better relations in the work-place. This review investigates the impact that national cultural differences exert; framing how OD can be used in complex and diverse major projects. Due to its desire to facilitate improvement in behaviour, it is the best starting point for investigation of an organisation. There is an opportunity for even more research within the OD field to produce nuanced ways of interpreting organisational dynamics, and to investigate alternative non-western approaches and models.

National Cultural Preferences

Authors (Hofstede, Hofstede and Minkov, 2010; Lewis, 2018; Meyer, 2014) have proposed means by which to illustrate differences between national cultural groups. These authors study culture by using values-based surveys and communication tools across national populations to illustrate their understanding of the tensions and dynamics that exist between cultures. These authors show differences between ways of working across various cultures which can be advantageous to learning or working internationally. They are not always correct, however, in their generalisations about national culture. In defining national culture in terms of dimensions across specific companies such as the case of Hofstede (Hofstede and Minkov, 2010) there is the danger of perpetuating stereotypes. Other research around cross-cultural boundaries of psychology and anthropology helps to appreciate that national culture is complex: there is a large amount of knowledge and language within societies and communities that we do not yet know or can classify (Smith and Bond, 1998). Although over-generalised, Hofstede's work illustrates that individual differences do exist culturally. Such insight helps practitioners to predict where tension and difficulties may arise.

A significant study by Wan, Chiu, Peng and Tam (2007) measures the values of national cultures given the inter-subjectivity of values: a particular value is important to other members of the group. Its level of agreement is based on a perception that an individual holds of those group members. These authors indicate that previous research by Rokeach (1973 and 1979) has discovered that values are based on individual conceptualisations as well as the values they infer from the cultural group or institution in which they exist. Previous research studies tended to accept a values-based measure: that is all employees from one organisation as is the case in Hofstede's studies or through students sample responses in the case of Bond, 1988 and Triandis, 1995. So there is an appreciation that values are individually and socially constructed depending on where and when they are situated.

 A new approach is to understand differences between national cultures: to illustrate the idea that where differences exist, skilled cross-cultural competencies such as self-awareness and communication skills may be used to dig deeper into the understanding of where and how to

accommodate different styles of working, and to create harmony which is an accepted form of intervention and training for many organisations. For authors such as David Thomas and Kerr Inkson (2009) a repertoire of cross-cultural skills can assist individuals in working globally: the emphasis is on the skills available to apply in whatever situation is encountered. This means there is less need to understand differences and more call on developing fluid cross-cultural skills to assist individuals. Systems, structures and processes include variability so that preferential ways of working are incorporated without too much human error.

National cultural differences may determine much about human behaviour. Differences add to the richness and complexity of managing a major project. An organisational psychology approach should include team development, good communication and leadership training. It is essential to find common ground in order to meet the expectations of employees, and to align safe behaviour with project goals. When providing training, it is important to understand national cultural preferences in order to persuade individuals to conform to broad project aims and behaviours. In designing reward and punishment systems to influence behaviour, it is important to understand how different people like to be rewarded publicly or privately, and how to introduce criteria for reward equitably as opposed to just equally (Smith and Bond, 1998). These are examples of the impact that national culture can have on designing better processes.

Hofstede's dimensions are useful as a critical paradigm in which to account for the differences observed in this research between cultures and safe behaviours. His theories are widely used although highly criticised for being simplistic (Beugelsdijk and Welzel, 2018), in need of revision in content validity (Brewer and Venaik, 2011) and containing philosophical and methodological flaws (Fang, 2003). Nevertheless the Hofstede framework provides a framework to build upon.

This current research looks at differences between India, Turkey and the United States as predominant groups within the case study – Stage 1 of the research. Hofstede's framework is a way of making sense of where the ambiguities may lie (as illustrated in Figure 13) between ways of working, and it is here that additional consideration needs to be made in terms of schedule, decision making, organisational structure, communication between parties – to a large extent the overall design and development of a major project.
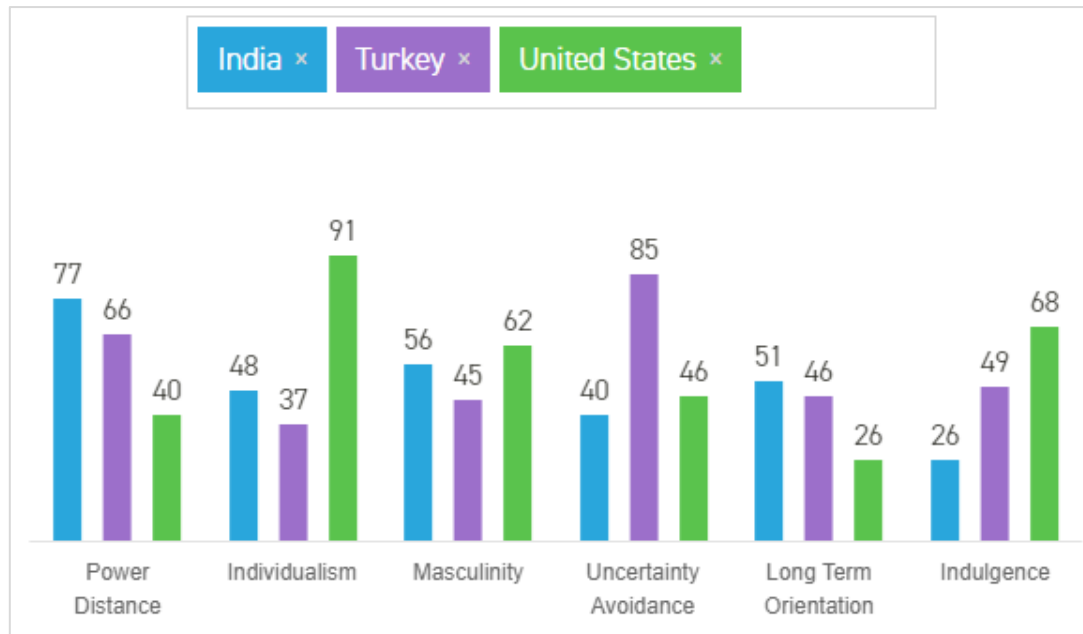
Figure 13 - Hofstede's Cultural Dimensions Differences between India, Turkey and the United States

Hofstede distinguishes different national cultures in terms of: low versus high power distance, individualism versus collectivism, masculine versus feminine, avoidance of uncertainty, long versus short-term orientation, and the degree of indulgence exhibited by members of a cultural group (Hofstede, Hofstede and Minkov, 2010).

Hofstede characterizes Indian culture in simplistic dimensions although Indian culture is possibly the most complex in the world. With the second largest population in the world (+1.3 billion people), and a gross domestic product (GDP) per capita of $7, ranked 116th in the world, Indian people comprise a large majority of migrant workers seeking wealth and success abroad. For Hofstede (Hofstede, Hofstede and Minkov, 2010) Indian employees are dependent on the boss or the power holder for direction, they have acceptance of unequal rights between power-privileged and those who are lesser down in the pecking order. Immediate superiors are accessible but one layer above less so. Indian employment structures are characterized by a paternalistic leader, management directives for giving meaning to one's work life and rewards in exchange for loyalty of employees. Employees expect to be directed clearly as to their functions and what is expected of them.

The caste system in India often determines what 'level' of trade or management a staff member may reach, which organisation they work for, and how they treat one another. Power differences are contained in such organisational structures, and within national cultural groups. This same power structure is evident in many societies throughout the world: USA and China (ibid) (Liu, Morris, Talhelm and Yang, 2019) however there is evidence of

favouritism toward group members of the same culture across cultural groups (Bennet, Barrett, Karakozov, Kipiani, Lyons, Pavlenko and Riazanova, 2004)

As typified by Hofstede, staff members recruited from India often exhibits a willingness to collaborate, and a desire to build and maintain trusting, loyal relations. Lines of communication flow upward in an organisation towards decision makers. Hofstede suggests that discussions may take a considerable time before business decisions are made. This process is complex: each culture has a unique conception of time and way of doing business (Hofstede, Hofstede and Minkov, 2010). This has implications for an organisation on its overall structure and where power and authority lies. In consideration of a Turkish culture present in the case study, what is intriguing for both a Turkish and Indian culture is communication flow. Both societies exhibit ethnocentrism in that they tend to stick to their own groups and may not be used to intercultural sharing. The same can be seen with western populations working abroad, as in the term 'ex-pat communities'. This may be a natural refuge when working in different parts of the world: kinship and safety are predominantly sought by those who are part of an in-group. Communication flow exists inside the culture and organisation; outside it may not exist at all.

Hofstede (2010) claims that India displays a masculine approach to work: success and status count more than a career built upon a love of a certain area of expertise. Such broad assertions cannot take into account however, the vast number of sects, groupings, language communities and religious associations of an ancient land such as India. India has a long tradition of being deeply spiritual, and has ancient lessons entrenched in displays of humility and abstinence. Indian people believe in rebirth. Hofstede's assertion is read therefore in this thesis as conditional only. His depiction of American culture (also present in the case study) is that it too exhibits a more masculine approach to work, however a Turkish culture is more feminine in its steer to rest, relaxation and looking after the community. These approaches to work indicate the preferences around hours, habits and routine behaviour encountered at work, and extra-mural activities. Available space and time for this variability, and possible celebration of culture is needed to accept diversity and become truly inclusive.

For Hofstede, Indian people have a high tolerance for ambiguity. As far as Hofstede regards Indian society, there is acceptance of imperfection; nothing has to be perfect nor has to go exactly as planned. India, to him, is traditionally a patient country where tolerance for the unexpected is high. People generally do not feel driven and compelled to take action-initiatives and comfortably settle into established roles and routines without questioning (Hofstede, Hofstede and Minkov, 2010). Indian people expect high power differentials but can function independently, and many seek reward and status structures to define their roles (ibid.). Hofstede mentions that, in the minds of many, rules are made to be broken or adjusted. If a

superior wants something done, then there may be numerous adjustments made by people according to particular cultural boundaries for getting it done. This is an attitude that is said to be both empowering for people in India, and the basis of its misery which can lead to a bypass of systems, processes and procedures (ibid.) and therefore detrimental to the overall goal of safety when operating inside of an organisation. In comparison a Turkish culture has low tolerance for ambiguity and rules and processes are formalised and adhered too. This implication is evident in contracts, guidelines, and decision makers who have ultimate power within a system. An established way of working can be discussed if both parties are privy to establishing contracts and project rules; and where forms of punishment are implemented.

India receives an intermediate score on long-term orientation; meaning that this society maintains links strongly with its past, Turkey equally so but the USA less so (Hofstede, Hofstede and Minkov, 2010). A stereotypical and biased view of the millions of Indians who reside in the great sub-continent is that time for Indian people is not necessarily linear and that there is a tolerance for how much time something can take. Westerners often claim an unearned superiority in their respect for time and voice frustration against what many speak of as a national laissez-faire trait among Indians. What can occur in organisations in which both nationalities work is a conflict between the timing of something, what has worked previously, and in what condition it is (sub-par, standard, or perfect for example) (Hofstede, Hofstede and Minkov, 2010). Hofstede claims that all Indians belong to religions which leave much to fate. The idea of fate and a different concept of time to a US population may explain how the same use of safety knowledge for US colleagues (controlling through action items) may not be the same for an Indian based population. But this process is not yet tested, and factors such as level of education, familiarity of process and safety knowledge may be factors that warrant consideration. Richard D. Lewis notes that cultures have different conceptions of future and past time in that some look to ancestors for answers, while some find it better to focus on the present and future opportunity available. Some cultures in Asia view time as cyclical in which the same opportunities arise throughout an individual's lifetime (Lewis, 2018) which may account for differences in the approach to goal or task accomplishment, for example.

In terms of the Power Distance for Hofstede's dimension, the Turkish people are similar in some senses. Turkish leaders are dependent, hierarchical and superiors are often inaccessible and the ideal boss is a father figure. Power is centralised and managers rely on their bosses and on rules. Employees expect to be told what to do and to do what they are told. Communication is indirect and the information flow is selective (Hofstede, Hofstede and Minkov, 2010). This shows that in such organisations there is a large distance between employer and employee, and it can be understood that organisational structure is layered and

leadership is authoritative or hierarchical in the sense of directing behaviour. This is in stark contrast to American culture in which power distance is low and employees take on more decision making within their roles. For an organisation in which both populations form a large part, an issue of organisational structure and processes that determine who makes decisions can be a challenge to consider and balance.

Turkish culture is 98% Muslim and 0.5 % Christian. This divide may be reflected in their organisational style and culture. Richard D. Lewis in his book *When Cultures Collide* notes that Turkish managers have previously been influenced by the same principles as their leaders. Turkey resembles a democratic republic but is partially controlled by the army and conservative and religious voters (Lewis, 2018), and their society and organisational structures mirror this approach.

India is both an individualist and collectivist society but Turkey is largely collectivist[1]. For Turkish people, conflicts may be considered to be a normal way of doing business. People can, and often do, have differences of opinion. Even when good relations are formed, there exist national cultural in-groups and out-groups and loyalty to the home country or company from home. Communication can suffer, particularly because many Turkish people seldom speak English. English is not a national language and of the 80 million strong populations spoken languages relate to ethnic groups such as Kurmanji, Arabic, Zaza, Kabardian and others (Chepkemoi, 2007). Many of the western people speak Turkish and therefore carry their business out in a different language which poses an additional constraint when working in partnership with others as is often the case for international major projects.

In comparison to Turkey, Hofstede notes US culture as largely individualistic (Hofstede, Hofstede and Minkov, 2010). Lewis makes the comparison with management in America as assertive, aggressive, goal and action oriented, confident, vigorous, optimistic and change-oriented in style. American managers value freedom and interest in furthering their own

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[1] 'In terms of Hofstede's characterisation, for collectivist cultures the 'we' is important. People belong to in-groups who look after each other in exchange for loyalty. Communications are indirect and harmony of the group has to be maintained - open conflicts are avoided. These relations have a moral base and this always has priority over task fulfilment. Time must be invested initially to establish a relationship of trust. Nepotism may be found more often. Feedback is always indirect in the business environment' (Hofstede, Hofstede and Minkov, 2010)

careers over teamwork (2018). One can see how collectivist and individualistic communities may clash over approach to the client, and how the collective behaves.

What are the typical and predictable differences in communication between cultures? Erin Meyer, professor at INSEAD, conceptualizes national culture through several dimensions in the way in which people relate to each other (Meyer E., 2014). Her first dimension concerns differences in communicating. In low-context cultures, communication is precise, simple and clear. Messages are expressed and understood at face value. Repetition is used to clarify messages. The US and UK fall on this side of the scale. In a high-context culture communication is nuanced, sophisticated and layered, and messages are spoken as well as read between the lines. The real message is within the message and may not be expressed plainly. India and Near East countries including Saudi Arabia fall into this category of subtle, implied communication. Blunt or candid expression which Anglo-Saxons so often strive after is considered rude. Erin Meyer suggests that differences in communication often lie in a country's history. Countries with long-shared histories and inflows of different populations account for their overall diversity such as the US. To communicate between these nationalities can prove challenging. From an Anglo-Saxon or Germanic point of view, people from a highly complex culture such as Turkey may be viewed as secretive, lacking in transparency, or not able to communicate properly. Low-context communicators in such a world may be perceived as inappropriately stating the obvious. There are obvious strategies for talking differently to different people. If individuals do not become familiar with how groups generally communicate, or if this process is interrupted, or ignored, communication may fail. This is incredibly detrimental to the proper establishment and management of safe working practices. Someone might rely on assertion as a strategy for clarity but this may seem a transactional communication style, and potentially even aggressive to many groups in the Near East. On a construction project and in a consortium environment, there are a host of communication strategies that differ. For instance, meetings between staff and project management may differ in the amount of information that senior management discloses, particularly around commercial or human resource topics. For some project managers, topics may be avoided altogether, and in others, issues are addressed in an effort to display transparency and share information. For some companies, management may embrace participatory methods and exchange communication emails and information. In others, internal communication is cut down for the sake of brevity, or an inherent distrust of information disseminated in written form. Information delivered in person may be necessary in industries that rely on quick strategic change and negotiation. Differences in communication styles in different national cultures and industries mean that communication can be the most effective part of daily business or turn into a major barrier to project success. Culture pulse surveys on projects indicate that effective

communication is always a major concern. Erin Meyer's account of social differences adopts a nuanced style and is careful to indicate that communication differences are perceptions which may not hold true all of the time.

The second dimension listed in *The Culture Map* (Meyer E., 2014) is an evaluative dimension. Countries that tend to offer direct negative feedback do so frankly and honestly, and in stand-alone sentences rather than with positive feedback. Criticisms may be made about an individual in front of others and are generally followed by a descriptive word that is absolute such as 'completely' or 'totally'. Indirect negative feedback, on the other hand, is provided subtly, softly and diplomatically, and used to 'sandwich' negative feedback. Criticism is given privately and descriptions that soften the degree of discipline are often used such as 'sort of' and 'slightly'. The US and UK fall between these poles whereas India and Saudi Arabia lean towards the latter group of indirect negative feedback. Indian and Near Eastern (Arabic) countries may not necessarily give feedback at all: change in behaviour is not seen in the same way as in a Western system which makes use of feedback and recognised mechanisms for discipline. Western forms of offering direct negative feedback may initially be challenging for someone from a Middle Eastern culture and vice versa. These considerations are important when working internationally, when performance management processes are enforced, or where training and mentoring practices are used.

In the above review, large differences emerge in preferences and ways of working for different national cultural groups. These preferences can determine the type of structure, the distribution of power, organisational culture and formal and informal patterns of behaviour inside organisations. National culture is a major determinant of behaviour. So for OD practitioners it is necessarily a significant factor for analysis in international major projects, perhaps the starting point. The OD field needs to link sociological studies to the operational effectiveness of organisations if it aims to be applicable to international audiences, and effective in its own right.

A case study in 2012 considered the use of OD interventions with different national cultural groups. The study linked OD interventions to major differences in dimensions of national cultural groups. The following figure (Figure 14) is an illustration of various possible interventions (Renn and Rohmann, 2000) and a useful contribution to the field. The content is roughly based on Hofstede's dimensions of culture.
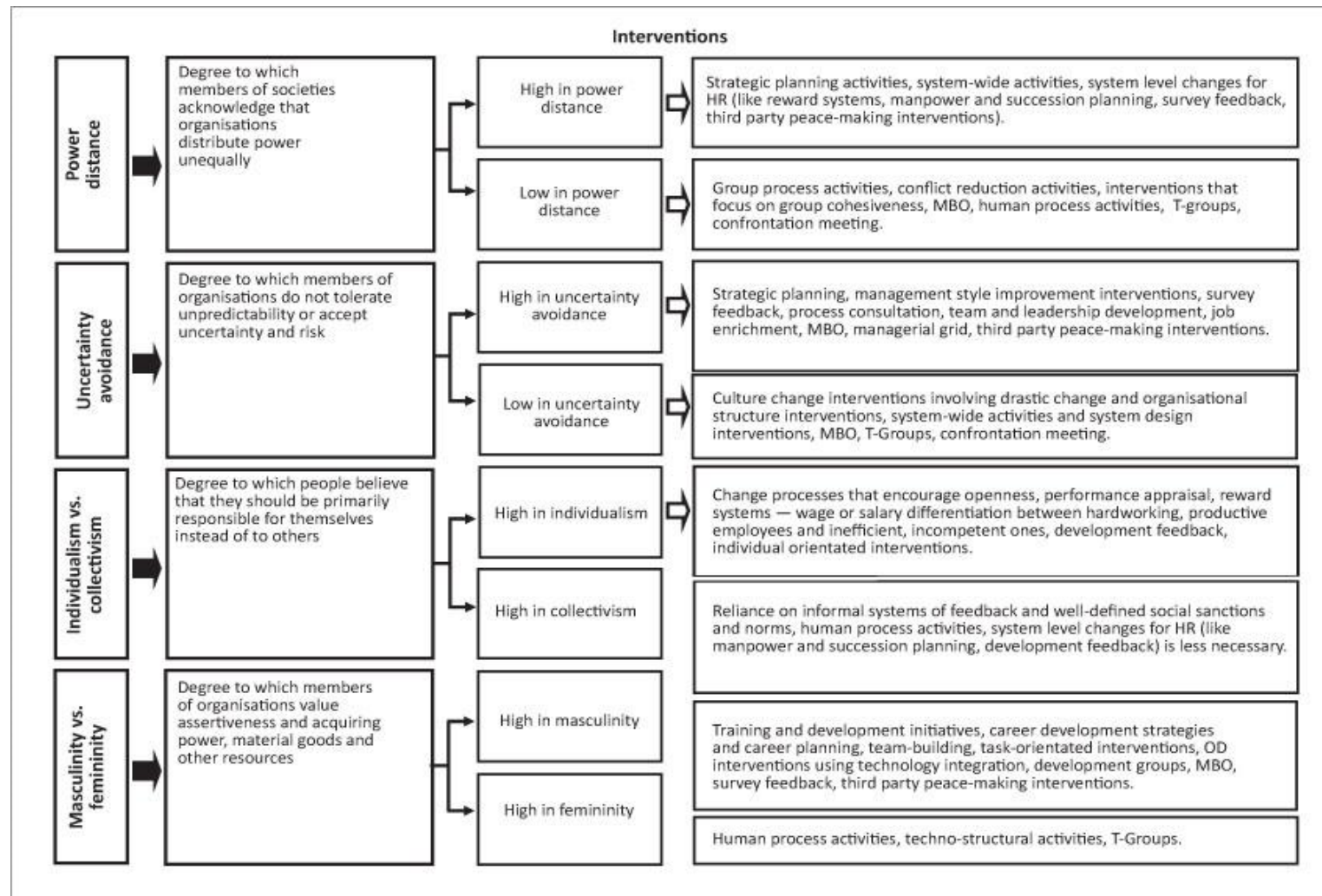
Figure 14 - OD Interventions and National Cultural Preferences (published in Renn and Rohrmann, 2000)

Risk Perception

In the development of academic knowledge into practical solutions, more information is needed to understand all the psychological constructs that determine behaviour. It is equally important to understand where and how theories about risk perception overlap or conflict. The practitioner has to find, research, and think more deeply about how risk is perceived and how safety can be assured. More in-depth research around these variables in different contexts, using longitudinal design, is needed to comprehend the dynamics of human behaviour in this area (Renn and Rohmann, 2000).

Likewise, the relation between risk and national culture adopted by Liu, Meng and Fellows (2015), Mohamed, Ali and Tam (2009) and Mearns and Yule (2009) illustrates the desire for a way of describing boundary dimensions, and to ensure improvements in safe working behaviour. Their research, however, illustrates limitations in the predictability of relations and requires a more systemic and complex level of research. This finding lends ample evidence to why the approach employed in this research project is important in terms of its in-depth interrogation of differences. A framework that incorporates the influence of national culture must identify these dynamics at a deep, meaningful level which current OD models lack. The framework proposed in this thesis offers analysis of individual level risk perception and motivation.

The field of health and safety forms a large part of an occupational psychologist's remit, including equipment, workplace design, ergonomics, and training and development. Health and safety is a key driver for organisations in construction (HSE, 2006), oil and gas (HSE, 2021) and manufacturing (Tim Brown, 2018) amongst others due to the high reputational and legal damage that can ensue when health and safety of employees are neglected. Health and safety management and risk perception on an individual level receives great attention on major projects and organisations (HSE, 2006) and should be a fundamental factor in the analysis of organisations operating within certain industries. The factor of risk and motivation can determine to a large degree how people behave and therefore is necessary to discuss when it comes to organisations, particularly those operating globally or in high risk environments. Motivation theory posited by Maslow or Herzberg is the basis for much OD work (Gallos, 2006). This factor ties in well with the literature and the advance of organisations.

Within the field of project management, the term 'risk' is often perceived in the context of uncertainty, limited resources and time (Reason, 1990). The 'Local Rationality Principle' means that people tend to do things that are rational, reasonable and based on their limited understanding and resources at the time (Dekker, 2002). People tend to act in this reasonable way within the habits of thought and behaviour inherited from the culture in which they grew

up and were educated in (Bye and Lamvik, 2007). It is therefore acknowledged that risk may be perceived quite differently in one culture from another (Rundmo T., 1995) and based on age, race, experience and education.

The risk mechanics for individuals include constructs such as judgement and heuristics (Kahneman, Slovic and Tversky, 2008). An availability bias may be in use if people perceive an incident that is highly charged or emotional (Brown, 2014). There may be a clustering illusion in which events are overestimated if they occur in quick succession or frequently or if they are waiting, paralysed for more information to make a decision (Kahneman, Slovic and Tversky, 2008). There is some fear inherent in these decisions. Yet risk experts agree that attention should be paid to emotional insight and natural intuition when making these decisions. But such factors should not be allowed to distort any decision made (Brown, 2014).

The attribution paradigm concerns how individuals draw 'causal' inferences about the world that they live in. Inferences made about others and about oneself can be both internal (personal) and external (contextual or situational). These attributes may be about a locus of control (inside or outside oneself), stability or the degree of change over time, and controllability or the degree to which causal factors are within or beyond control (Gyekye, 2010). The attribution paradigm clarifies what is known about root causes, and how they give rise to changes. In particular, workers and supervisors use inferences made typically about internal versus external factors. External causal factors include: low wages, time and trouble saving, work overload, defective equipment, inadequate training, pressure from management, co-worker faults, loss of concentration, operational procedures, miss-assignment, curses, spells or witchcraft, religious faith, poor housekeeping, lack of appropriate gear, and ambiguity or difficulty of the task (ibid.). Internal causal factors include lack of skill, professional pride, attention lapse, misperception, misconduct, lack of adequate comprehension, risky work behaviour, inexperience, carelessness, the urge to show off, ignorance, sense of job security, mood, tiredness and exhaustion, and deliberate and wilful violation (Gyekye, 2010). Understanding the root cause can sometimes be done through a process of asking why several times; however to the brightest of persons the unconscious intent around actions can sometimes be hidden. This is what gives rise to the complexity of human nature, and improvements in not only process but organisational cultural sentiment, which provides the basis for psychological safety and exploration of unconscious motivation.

In terms of attributions and cultural differences, inferences from individualistic societies such as Finland relate more to internal and dispositional factors than to work environmental ones. Collectivist societies make more attributions to external and contextual factors (Lewis, R.D., 2018). In understanding how inferences are made about incidents, and how examples can be

made of individuals in 'lessons learned' type scenarios for American safety practitioners, calling out individuals from collectivist societies may instil a greater level of grief or dishonour than intended or warranted which can be disastrous in managing a culturally diverse workforce.

The way in which people make inferences and the reasons they do so indicates differences. Responsible management commits itself to creating a healthy and safe working environment which is often recognised to be a reason for a successful and safe project. This commitment encourages awareness of the way in which attributions are made, and a 'freer' way of identifying the root cause(s) of a problem (Gyekye, 2010).

Organisational factors and context have been studied in relation to attributions. Those in an organisation with organisation-wide commitment and knowledge about safety tend to respect and implement safety procedures, and combine both internal and external attributions (Dekker, 2002) allowing a sense of psychological safety. Psychological safety has been referred to as a moderator of the defensiveness that an injured person may feel after an accident (Gyekye, 2010).

Paul Slovic (2016) suggests that a feeling of risk in a specific context can override behaviour around it. So in assessing risk, it is essential to consider equity, power and trust and the emotional relations tied to these issues. Slovic (ibid.) asserts that risk is a complex construct: it is socio-political in nature and created in relation to whoever is assessing it (Slovic, 2006). Health and safety literature, process management and psychology in terms of emotions and bias, are key factors for understanding what motivates or hampers safe behaviour. Additionally, risk perception may be based on a coping mechanism that is adopted to make it easier to ignore the danger of working in high risk environments (Bye and Lamvik, 2007). Rundmo and Nordfjaern (2011) suggest that surveys or scales of risk perception can indicate source of risk, and the importance of other factors such as knowledge of source, exposure, voluntariness, immediacy, control over the risk, severity, and novelty and dread (Fischoff, Slovic, Lichtenstein, Read and Combs, 2000).

Risk measured on a computerized laboratory test has been related to individual differences in sensation-seeking attitudes, impulsivity, and deficiencies in maturity, and correlated with self-reported occurrences of addictive health and safety risk behaviours (Lejuez et al., 2002). Taylor (2013) argues that there is a tendency for individuals to be more tolerant toward risk in hypothetical situations or simulation-based training about risk than in actual moments of critically dangerous work on site (2013).

The above review indicates the complexity of risk, perception and action. It shows that risk is contextually specific (Fischoff, Slovic, Lichtenstein, Read and Combs, 2000) and therefore needs to be assessed for high-risk environments to a large and detailed degree. OD must consider that an analysis of risk perception against national cultural dimensions, and against individual differences in the workforce can be had for major projects that are nationally diverse in nature.

There are a number of studies about national cultural differences, specifically to how people perceive risk (Mearns and Yule, 2009; Merritt and Helmreich, 1996; Spangenberg et al., 2003 and Mohammed, Ali and Tam, 2009). If national cultural differences exist, to what extent should they be considered and according to whose framework? Identity is largely but not entirely shaped by culture, tradition, customs and values of the group in which an individual is raised. Culture is an implicit, unconscious state of mind which is based territorially yet shared amongst a group (Hofstede, Hofstede and Minkov, 2010). Culture is a complex construct so a cultural framework is necessary to account for, and predict, differences between groups of people. Predicting areas of conflict and finding agreement are important tasks for OD practitioners. Renn and Rohmann (2000) suggest that different levels of analysis for cross-cultural research of risk relate to an individual level, organisational and societal level and indicate the complexity of relations to risk (Figure 15).
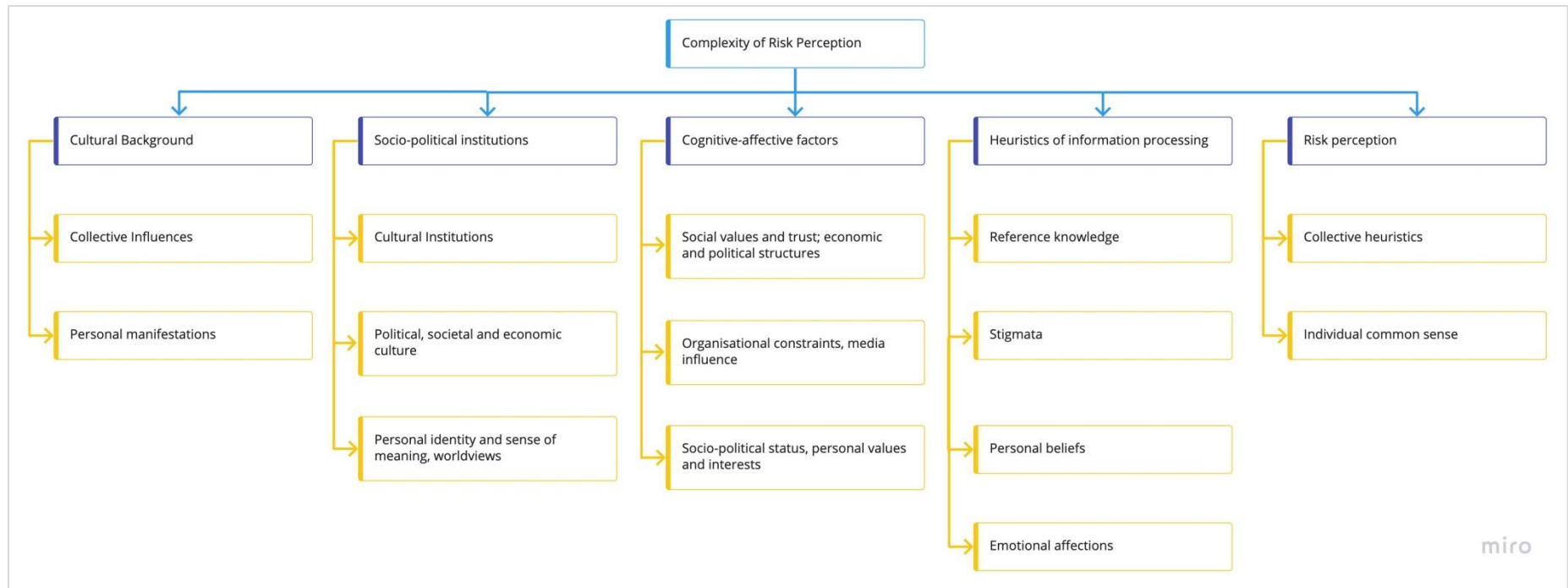
Figure 15 - Context Levels of Risk Perception, (redrawn from Renn and Rohrmann, 2000)

Using Hofstede's work, Liu, Meng and Fellows (2015) explored four case studies in China, Poland and Singapore to extend Hofstede's dimensions to the analysis of risk perception in different contexts and to propose a framework that shows how project risks are perceived and managed differently in different national cultures. Liu, Meng and Fellows (2015) suggest that individualism versus collectivism is one of two dimensions that strongly determine risk perceptions of individuals. Mearns and Yule (2009) suggest high power distance societies influence the flow of information from supervisors to subordinates. Frontline operators may not have the opportunity to influence safety cultures or response to risk which is a necessary element of all safety cultures (Cooper, 2000). Mearns and Yule suggest that individualism is a construct that better relates to individuals feeling comfortable and safe to point out at-risk conditions and behaviours. Collectivist societies, however, may not offer alternatives to problems (2009). Training and intervention need to be considered so that participation and communication of at-risk items can be collected through alternative means. They suggest that the third dimension of masculine/feminine often defines the difference between challenge, progress and distinction. Masculinity involves the social implications of being assertive (Hofstede, Hofstede and Minkov, 2010). All countries in question, USA, India and Saudi Arabia and especially Turkey illustrate more masculinist societies. More masculine countries pride themselves on excellence and achievement rather than care and quality of life (Itim International, 2017). But such macho behaviours often result in loss of sound relations and good communications (Mearns and Yule, 2009) integral to a well-functioning organisation (Wiley-Blackwell, 2013).

Avoidance of uncertainty is the fourth dimension in Hofstede's framework. This dimension originally related to the way in which people dealt with uncertainty in terms of controlling aggression and expression of emotions, and later to the extent to which members felt threatened by ambiguity and the unknown (Hofstede, Hofstede and Minkov, 2010). India and the USA score relatively low which makes sense when India is characterised as a patient country that accepts imperfection and change in plans and can comfortably settle into roles and routines. The USA has a tendency to accept new ideas and innovation, but may not be as emotionally expressive as other countries, giving them a median score on this dimension. However, it is contrasted by a society that is watched and monitored, and people know this to be true, particularly following the 9/11 attacks (Itim International, 2017) and the advent of WikiLeaks (Drehle, 2013). Saudi Arabia scores high on this dimension indicating they have a preference for avoiding uncertainty through rigid codes of beliefs and behaviour, and security, precision and perfection are sought after. Turkey scores high on this dimension and exhibits many traditions to maintain control. Mohamed, Ali and Tam (2009) researched Pakistani workers on their risk perceptions, and discovered that respondents, in developing a safer work

environment favoured: 1) awareness and beliefs accounting for 38% of the scores; 2) the physical work environment for 25%, and 3) a supportive environment for 16%. When adding national cultural differences, the authors suggest that avoidance of uncertainty accounts for 18% of the difference between scores on risk scales, and workers in collectivist, feminist and high uncertainty avoidance environments are more likely to have safety awareness beliefs and therefore have safer work behaviour. Those who perceived less risk and engaged in more risky behaviours had between one and five years of experience. The variables discussed here, national cultural differences, the environment, and individual factors such as age (Bye and Lamvik, 2007; Rundmo and Nordfjaern, 2017) provide evidence for incorporating them when talking about risk and designing interventions to change them.

There are not many studies that have researched the dynamics of national cultural differences and the effects of such differences upon an organisation's safety culture. Mearns and Yule (2009) provide some evidence of this dynamic. They find that Hofstede's framework was at least a workable model to explain population differences within their study. Of particular significance were individuals scoring high on masculinity. The variable of management commitment to safety was added to the regression model used, and emerged as a significant predictor of risk-taking, in line with the findings of Mohamed, Ali and Tam (2009). Adding management commitment however, rendered power distance insignificant (Mearns and Yule, 2009) which makes sense given these two variables both relate to the way in which people are governed and by whom. Masculinity remained a significant predictor. More masculine cultures take more risks and break rules due to bravado. This habit may be because of the national cultural differences or work within an industry considered to be 'macho'. A combination of factors has the potential to create norms that determine the extent to which individuals engage in at-risk behaviours such as gun crime in the US. Understanding these frameworks for behaviour and how they condition at-risk behaviours is pertinent to any health and safety programme, and interventions.

Risk and Motivation

Several theories of behavioural science discuss individual motivation and behaviour toward risk. These are PRIME Theory of Motivation, Prospect Theory of Judgement and Decision-Making; Judgement Heuristics, Conflict Theory of Decision Making, Cognitive Dissonance Theory, Temporal Discounting, Social Norm Theory, Operant Learning Theory, Habit Theory of Motivation, and Five-factor Theory of Personality for example (West, Mitchie, Rubin and Amlot, 2020).

The PRIME theory of motivation for example, suggests that behaviour results from internal processes: impulses and inhibitions, habit, instinct and desire, emotions and evaluations,

judgements, processes, needs and plans. Noting down each element of internal processes helps to reveal what motivational influences are behind certain behaviours. The aim is to understand how to incentivise behaviour that builds healthy habits through an understanding of the desires, needs, judgements and motivations evident (Buck, 1985). Another theory, the Prospect Theory of Judgement and Decision-Making, states that decisions are based on comparisons between positive and negative consequences of an event (Kahneman, Slovic and Tversky, 2008). These perceptions are influenced by certain biases – placing more emphasis on negative outcomes, giving more weight to those that are certain (West, Mitchie, Rubin and Amlot, 2020). Communications and messages about the positive and certain benefits of safe behaviour can be included in training to help form clearer judgements about the consequences of risky behaviour; so people are not left guessing. These theories propose solutions for major projects and in organisations. They are not infallible and need to be used in conjunction with what is most appropriate for the needs of employees.

In addressing motivation for individuals inside their work environment, Gallos (2006) is concerned with specific motivation theories from Maslow and Herzberg that formed the foundations of OD and the discussion about work motivation. These theories have since expanded into multiple theorists who look at maintenance or hygiene factors (for Herzbeg) which are akin to Maslow's safety and security factors; and those that motivate for performance. For Herzberg, recognition, opportunity and achievement are more valuable whereas for Maslow self-development and actualisation dominate. There are a host of additional theories of motivation (Expectancy Theory of Vroom and Lawler for example) that can provide a way of understanding actions of employees toward productivity, and how to excel it so that individuals perform well. The behaviourist Skinner suggests we are in a state of being rewarded for those aspects of work we do right, whereas nothing may happen when we do something that is expected or average (Gallos, 2006). These theories describe motivation inside an organisation, and warrant appropriate consideration for organisational practitioners when they assess reward systems, compensation and benefits, design incentives schemes, or develop core skills training to assist individuals in developing capability. That is why the literature notes its importance and why it is contained in many OD models including the framework proposed here as a factor worth pursuing investigation.

Approach to Risk Assessment and Communication

Risk communication cannot be effective without a comprehensive understanding of how people perceive risks, and why this varies so much within a community (Mearns and Yule, 2009). Risk can be differentiated based on the way people are taught about what is safe and what is dangerous in their environment. That is why factors at the level of national cultures are important to understand: they pertain to multinational construction projects.

Risk communication is used by organisations to communicate information about health and safety, and the factors that contribute to individual risk. Risk communication can have a large impact on the behaviours of individuals. It needs, however, to be weighed against its emotional impact. Brown (2014) suggests that people experience and voice fear, anger and mistrust if they feel their concerns are not met, if they are threatened or have been mistreated. They experience anxiety if they are unsure of a risk, or if they have been misled, or exposed to danger against their will (ibid.). In some organisations, experts are transparent and communicative about sharing risk information. In other situations, it is important not to exaggerate the potential dangers. This may cause an employee or the public to panic. At the societal level, to offer transparency around risks, a communication of the list of risks is not enough. The ability to communicate its technical information without overwhelming the audience is necessary. Some business professionals suggest that too much information can create concern and worry over something that may not be a large risk. Some businesses practise just the opposite: they deliberately create concern over a risk where people are complacent. The discussion on theories of motivation suggests different responses to risk, and the work on heuristics indicate that people can make false judgements (Kahneman, Slovic and Tversky, 2008) or fail to remember events clearly (Sylvain and Olivier, 2003). An organisation that can leverage their communications may have an advantage over the proper management of safety.

It is important to define control of risk if you are communicating it:

> *Our social and democratic institutions, remarkable as they are in many respects, breed distrust in the risk arena. Whoever controls the definition of risk controls the rational solution to the problem at hand. If risk is defined one way, then one option will rise to the top as the most cost-effective or the safest or the best. If defined another way perhaps incorporating qualitative characteristics and other contextual factors one will likely get a different ordering of action solutions. Defining risk is an exercise in power.*

> *(*Slovic, 1999: 689*)*

Risk management and communication studies inform safe behaviours and subsequent management and HR practices for large workforces (Becker and Smidt, 2015: Iqbal, Choudhry, Holschemacher, Ali and Tamosaitiene, 2015; Wang, Shou, Dulaimi and Aguria, 2004). Process mapping of individual behaviour and perceptions around risk can be translated into policies, however if management processes are inflexible about processes that are not high risk then noncompliant behaviour may occur (Cowley and Borys, 2014). There has to be room for adaptive and flexible arrangements where safety is not critical. Where there is little opportunity for discussion around risk, technical analysis may miss important information regarding individual perceptions, reaction to danger and motivation (Renn and Rohmann, 2000), education of risk (Young, 2021) and the organisational commitment and positive safety leadership exhibited (Dodge, 2012). Timely and considered interventions when delivered correctly improve safe behaviour.

There are two focal points from experience within Health and Safety that are apparent on project sites. They form a central feature of the way in which risk can be reduced, and point to the difference between not only national cultures but organisational cultures around work preferences. Leadership practices specific to national culture, and the nuance of leadership style on an individual level creating organisational culture can build ambiguity and friction not only in multinationals and globally diffuse organisations but also quite starkly through organisational mergers. Mergers, like construction major projects can have rapid lifecycles which characterise the tension between companies. More about this complexity is covered in the literature on partnering. The focal points specific to national and organisational culture look at: I) the dilemma between safety as a value and the need for productivity, and; II) the presence of safety which is indicated in data and trends focusing on lagging indicators, where there is a lack of safety. These tensions form part of overarching challenges, and highlight different management approaches toward safety.

The first dilemma indicates how individuals may act towards safety and productivity as separate areas of focus rather than being safe while being productive. A typical approach to the dilemma between time assigned to productivity and that for safety is a scarcity mind-set. If safety receives too much attention, there is less time for productivity. Safety departments face this challenge. They argue that if safety is understood as a value rather than a priority, it exists in a symbiotic relation with productivity: it is akin to any other value such as honesty (HSE, 2013). Practising it however, may need reflection time, upskilling, and management commitment to safe behaviour. That is why many safety training departments open with this topic during their leadership courses.

Second, the cost of safety is generally calculated through its deficit: when there are incidents, injuries and stand-downs, for example, costs escalate (Cooper, 2000). There is a burden of responsibility on practitioners to produce historical averages, and return on investment measures which can include 'estimates' as costs for developing and implementing an effective safety program timeously. Safety demands considerable data to understand which areas to prioritise on a particular site (Reason, 1990). At one site equipment may be old and potentially lethal. At another, clashes between labourers may threaten safety. Substantial and reliable data about conditions, resources, personnel and activities on site provided in time permit practitioners to predict areas of danger which can prevent an accident from occurring. This is where leading indicators are useful. They are defined by Mearns and Yule (2009) as something that provides information that helps the user respond to changing circumstances and takes action to achieve desired outcomes or avoid unwanted outcomes. There is considerable difference between datasets of leading indicators which can save lives and lagging data which can cost lives. Safety means measurement and monitoring practices and continual improvement of methodologies in management systems. In some cases, safety is measured only where there is a lack of care, rather than the time and resources devoted to monitoring its presence. Some practitioners rely upon an intuitive method in determining what safety practice is needed (Slovic, 2016). Although not as statistically rigorous, such 'felt' data may be of value since risk perception is inevitably an emotional as well as a scientific phenomenon (ibid.).

Interventions comprise a recognised way of managing risk, and can be supplemented by remedial actions in terms of rules, rewards and punishment, and incentives. Although safety practitioners are involved in changing behaviour, they often are not equipped with the same knowledge and skills as those used by psychologists or OD practitioners and therefore both should work together to solve issues. Health and safety practitioners often have excellent leadership skills and a keen eye for culture and behaviour. Their role involves both managing risk and organisational performance. Determining the nature of the site and the profile of its complex multinational personnel requires skill, discretion and patience. There are many moving parts to the problem of implementing programmes for inculcating safe behaviour: respect for the environment and local population around a large construction site, risk assessment and appropriate communication methods (Renn and Rohmann, 2000). It is at this point that OD can be used. It is vital to start pre-planning around factors that may improve, or potentially jeopardise, safe behaviour. These complex factors can be adapted to form a tailored program that individuals are more likely to assimilate into their own mental make-up and decision-making (Clark and Voogel, 1985). The deployment and design of prudent, sensitive interventions suited to the needs of individuals on site or project, together with

leadership and management involvement, can be useful in developing safety and safe organisational culture.

Three essential areas of the framework have been covered: national cultural and social impacts, risk perception and motivation, and the resource of risk communication that organisations can leverage to promote safe and more effective organisational behaviour. The organisation itself is now to be considered.

Organisational Logics

In the OD field, there are several aspects of organisations that are highlighted in OD models, such as leadership, values, systems and processes, strategy, and social and cultural behaviours. These are aspects of OD that practitioners can attempt to design in order to influence behaviour. There is a question of how much conscious design versus natural evolution happens with elements of the organisation. This can determine how much congruence there is in its felt or cultural aspect which is important to reflect on before proposing solutions to problems within organisations.

Aspects of the organisation are typically written about using theory from OD, Occupational Psychology, and Business Management studies. This theory may be diverse in that they stem from various principles in approach, such as a humanitarian perspective in psychology versus a business process to simplify for efficiency in the Lean and Six Sigma sciences. I have used theory from a multitude of sciences, including Organisational Logics. This field of study works from a sociological angle and considers isomorphism in organisations, and legitimation of behaviours that form the way in which it works (Scott, R.W., 2013). This science seeks to describe the actors and their logics, and how their change links to more widely held social beliefs. I use the term Organisational Logics to describe all of the aspects of the industry and the organisation that may be influencing safe behaviour.

It is important to note that there have been arguments in support of sociological viewpoints of isomorphism. This is the tendency for organisations to become more similar over time due to industry pressure. Isomorphism demands a more nuanced approach to change than is traditionally discussed as agentic behaviour and change (Aksom and Tymchenko, 2020). Change in the OD sense, however, illustrates how change may be an evolutionary and continual process, and both consciously planned and not (Francis, Holbeche and Reddington, 2013). Some authors suggest that isomorphism does not encompass divergent institutional development and the role of other macro-sociological change (Beckert, 2010). Institutional theory has developed with the advancement of different principles in its approach. It advances the idea that organisational aspects, such as social structures and processes, have their own meaning and stability. They are more than mere tools (Lincoln, J.R., 1995).

The Organisation

Design is the outcome of shaping and aligning all the elements of an organisation towards an agreed mission (Stanford, 2007). Design demands design against the business strategy and markets. It takes account of a holistic view of the organisation: its structure, processes, people, culture and environment. It is designed for the future. It is a fundamental process rather than a treatment (Stanford, 2007).
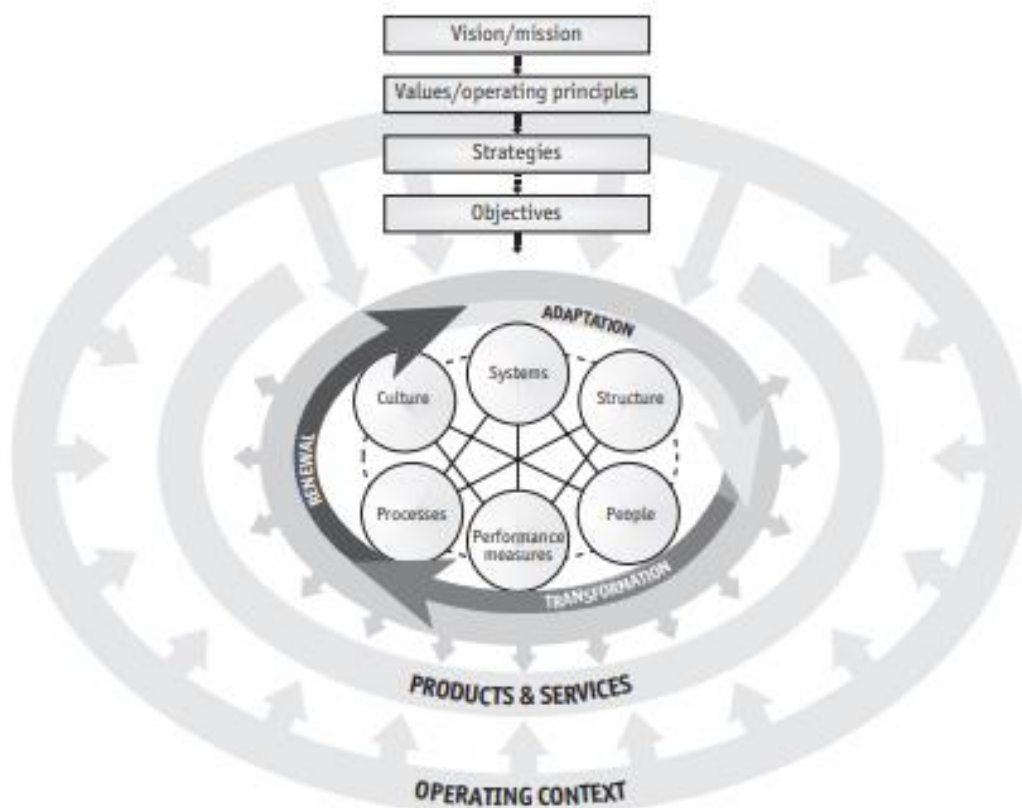
Figure 16 - The Organisation and Its Component (Stanford, 2007)

There are several important features of organisations that form part of this factor of the framework. Figure 16 (Stanford, 2007) indicates how the operating context, products and services may change through necessary evolution. The environmental influences and operating context can be overarching and messy in the way they change organisations. The recent pandemic is an example in which there exists a large amount of transition in jobs and working remotely. The change has been salutary for many (Jones, Palumbo and Brown, 2021). The extent to which industry and environment can influence behaviour is not to be taken lightly.

The Industry

Several contextual variables of changing markets impact business imperatives (Stanford, 2007). Authors such as Peterson (2004) note several strategic trends such as: I) the population; II) resource management and degradation; III) technological innovation and diffusion; IV) the flows of information and knowledge; V) global economic integration; VI) conflict and VII) governance. In major international construction projects there are characteristically significant organisational features that are needed to ensure compliance and competitiveness and which need to be investigated to understand its effectiveness. The research starts in the context of an international construction industry, the logics it is characterised by impact heavily on the type of people it attracts and their behaviour.

The construction industry is criticized for its exploitative employment practices, questionable tendering practices, capacity for large-scale financial fraud and poor personnel relations (Dainty, Green and Bagilhole, 2007). Many of these challenges relate to the temptations offered by large amounts of money involved in a megaproject (Construction Online, 2020), the international scope of the project, the heterogeneous composition of the labour force and the kudos attached to any such high status construction. Some of the more specific challenges to do with people and construction, particularly in the UK, are their reliance on informal and casual employment practices. This leads to low barriers to entry within the field, as well as exclusion of those who do not conform to its culture (Dainty, Green and Bagilhole, 2007), practices of corruption (Arewa and Farrel, 2015) and areas of organisational culture in which no measurement is made despite the industry providing a large proportion of the GDP in countries (Coffey, 2010). Those who survive and persevere in the industry, face an environment that has: (i) structural fragmentation in terms of consortium, joint ventures and subcontractors, (ii) diverse employment practices because the industry mainly employs self-employed contractors and (iii) many short-term projects which mean job stability and career development and training practices are not guaranteed. There inevitably exists a climate that relates to both missing strategic goals and an organisational culture that needs improvement (ibid.). More specifically, (i) human resource issues that may not be dealt with by project managers, (ii) more efficient cost and time constraints produce tensions, and (iii) contractors too far removed from the physical construction so that (iv) their organizing activities are overlooked (Dainty, Green and Bagilhole, 2007). Employment outside the normal staff or contractor employment contract is often non-standard, and is made up of transient migrant workers (Migrant-Right.Org, 2018) and many self-employed operatives who subcontract their services.

The use of non-standard employment contracts is common so that standards of career development, training, health and safety suffer (Dainty, Green and Bagilhole, 2007). In the last

few years there has been a proliferation of entry-level certifications associated with lower standards due to a growing number of poor service providers, and some entry level positions in which no certification or experience is needed (Construct-Ed Inc., 2021). A report issued by PwC summarises a survey about criminal activity within the construction and engineering industry in the UK, indicating that 49% of survey respondents in the sector cite instances of bribery and corruption (PwC, 2014). Criminal activity occurs frequently in countries such as South Africa (Bowen, Edwards and Cattell, 2012) China (Zou, 2006) and Australia (Rolfe, 2009). Dorsey and Whitney indicate that the sector has been littered with acts of criminal activity and the Bribery Act 2020 indicates several punishable offences for UK firms and remedial efforts that must be implemented by organisations (Dorsey and Whitney LLP, 2013). For companies operating internationally if their headquartered location is the UK then they need to abide by regulations that are UK in origin, i.e. ISO 45001.

External Environmental Influences

There have been external factors that disrupt industries and have changed ideas globally, including in the construction industry. The use of the STEEPLE or PESTLE (CIPD, 2020) project management tool examines how external influences impact on performance. In the construction industry specifically, these shifts and changes are chiefly influenced by:

- Stricter regulation of health and safety practices (HSE, 2006)
- Emphasis on social responsibility, and diversity and inclusion practices (CIPD, 2018)
- Companies with a legislated duty of care towards migrant workforces, including better temporary labour camp facilities (Migrant-Rights.Org, 2018)
- Better reporting of incidents and injuries (HSE, 2006)
- More media coverage of unfair labour workforce practices
- More competitive industry and larger, stronger and more flexible competitors (PWC, 2014)
- Globalization (Ngowi, Pienaar, Talukhaba and Mbachu, 2005).
- Technological advancements, and technological innovation
- Millennial workforce and millennial values undermining 'old school' common sense practices (Carson, 2018). Greater emphasis on gender equality in a male-dominated industry (Ackrill, Caven and Alaktif, 2017; PBCToday, 2019).

Globalisation is thought to result in industrial and economic development and a convergence of attitudes, beliefs and behaviours (Ngowi, Pienaar, Talukhaba and Mbachu, 2005) irrespective of 'stable' national cultural dimensions (Meiring and Bicknell, 2015). In some cases, globalisation can lead to value systems of managers converging. Mearns and Yule (2009) suggest that similarity in systems is typical of countries sharing the same legal,

economic and political values. There is a balance between cultural nuances and industry standards that suggest more management and people decisions are needed, particularly as information becomes available and technological advancement increases (Edwards and Rees, 2006). In a study conducted between Japanese and Anglo-American Management Systems, middle managers are now tasked with restructuring organisations that are changing from hierarchical to flatter structures following new organisational ideologies in public and private organisations in free economies (McCann and Hassard, 2004). Modernisation and technological advancement is changing societies and behaviours in diverse ways, and rapidly so in some parts of the world.

Researchers consider serious barriers should be in place to limit proactive change within the industry if it involves damage to human capital. For example, lean production and business process re-engineering reveal a reduction of workers and greater production from the few left[2]. These measures can prevent the workforce from meeting its needs, or a reduction in the number of people required. If a project is started without considering the preferences and needs of employees on site, and if the project is implemented in a purely project management fashion, there can be dissatisfaction, reduced commitment, conflict, increased turnover, bad contractual relations (Bresnen and Marshall, 2000), more accidents, recruitment problems, and informal or causal professionalism which tarnish the reputation of the company and industry (Arewa and Farrel, 2015). Developments in the area of human capital have been directed towards concepts such as 'dynamic capabilities', 'core competencies' or 'organisational learning' (Bersin and Associates, 2016). Dainty, Green and Bagilhole argue that these concepts are vague, weaken relations and demonstrate a lack of interest in the way the workforce lives from day-to-day (2007). Although the construction industry is driven towards leaner, more productive and cost-efficient projects, it constitutes a working environment well suited to researching the lived experience due to its plethora of events and controls.

Organisations provide the structure through which management systems operate (Mullins, 2013). The institutional logics they exist in and subscribe to, can determine how interventions

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[2] There are fundamentals of process mapping across stakeholders and parties that can be used to aid in understanding where waste exists in the process, and where and how to reduce it, including reducing resources. This kind of process mapping can take place in large organisations in functions such as Six Sigma, and features as fundamentals of OD work (CIPD, 2020). The principles of process mapping are based on LEAN manufacturing processes (Lynn, 2020).

are used (Thornton and Ocasio, 2008). There are specific strategies that organisations can use to facilitate learning (Yamnill and McLean, 2001). There have been movements within organisations globally toward institutional similarity through organisational standards such as the 'Total Quality Management Model', for instance. But there are elements of local variations in different cultures. What seems to be similar superficially can be different practically (Furusten, 2013). The dimensions that affect organisations and the way in which their interventions work, are the legal, social and mental structures they are embedded in. They look like laws, customs, social norms and the expectations around meeting them. These signal a number of things for individuals within an organisation about how the organisation operates such as information (ideas, knowledge and ideology) rules (standards, codes and directives) and social services (consultation and education). Training or interventions and content which at first appear to be consistent with global standards, are in fact localised. New trainees, new staff and those moving roles have to consider a large amount of information, rules and products within the company, outside of training in order to become oriented. Institutions, markets and organisations operate in relation to each other through exchanges and conversations, products, actors, institutional movements and societal trends; all of which shape behaviour. Some of these elements form tensions in that they compete (Thornton and Ocasio, 2008). In considering institutional, market and organisational influences on behaviour is the idea of societal or market trends that can change rapidly (Ngowi, Pienaar, Talukhaba and Mbachu, 2005). OD work needs to take into account the evolution of the company and the degree to which change can sustainably occur. On a more local level within the organisation, there are factors that subscribe and influence the dynamics of behaviour, 'fit' and impact on individuals that are classed under the factor of 'Organisational Logics'. These may be Tichy's (1982) technical, social and cultural factors, or the Burke-Litwin twelve drivers of the organisation (Robinson, 2019). Within these models, there is space for analysis of how the external environment impacts organisation performance. OD frameworks need to account for the rapid change that can be enabled by environmental change (sociological and technological) and need both signposting of its importance and impact on organisations, and a method for understanding its rapid change inherent in open-systems (McMillan,2021).

Partnering

Partnering is important to consider. Construction companies often use partnering to advance major project interests and may have various client, contractor and subcontractors, or contracting partner relations (Dainty, Green and Bagilhole, 2007). A discussion about partnering when analysing organisations involves gaining information about how the relation is constructed. It is necessary to understand management processes and structure, as well as the collaboration evident between partners (Stanford, 2012). Signposts within OD

frameworks are necessary to understand its complexity; how partnering may affect its subsequent elements: structural, political and cultural. The BLM model considers organisational structure, external environment, management practices, and feedback loops and in this way can assist in sense-making complex partnering relations (Robinson, 2019). The Weisbord Model is less so. The Technical-Political-Social (Tichy, 1982) model assists with this complexity by taking into account prescribed and emergent networks, and the inputs of the organisation. OD models need to emphasise this relation for major international projects.

Temporary Multiple Organisations (TMO's) combine firms and individuals who may not have worked together, from several different cultures, with different working regimes, company ethos, and employment practices. All of these elements necessitate a process of trade-off of objectives between the firm and those on the project. Repetition and routine in a TMO is challenging due to changes in the specifics of the project and reliance upon several practitioners to manage the project (Lizarralde, Blois and Latunova, 2011).

A review of the complexity and intricacy of partnering in a large construction project is necessary to understand factors that either constrain or improve safe behaviour. Bresnen and Marshall (2000) suggest the following points with regard to organisation theory:

In the 1990's, partnering was used to avoid fragmentation and to foster integration. For Bresnen and Marshall (2000) improvement is made when focused on interpersonal relations and mutual adjustment between design and construction phases. The separation of designer, employer and construction partner is inherently complex. Performance that is cost, time, and quality efficient and fit-for-purpose, is enhanced through collaborative practices (International Organisation for Standardisation, 2017)[3] and these have grown in the industry but have not measured the exact degree of improvement.

Bresnen and Marshall (2000) point out that there is disagreement over what partnering is, what form it takes, and under what conditions it should occur. Partnering is viewed as a relational strategy whereby a project owner integrates contractors and other major contributors into the project and varies with the degree of mutual project objectives, collaborative problem solving and joint governance structure (Sjur, Asbjorn, Bjorn and Wenche, 2017). Thompson

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[3] The new ISO44401 on Collaborative Working has introduced headway into managing collaborative relationships between suppliers, customers, and partners and between functions within organisations. Its intent is to drive the mind-set and culture towards collaboration and specifies what an approach to structuring resources, experiences and skills (International Standards or Organisation, 2007).

and Sanders (1998) view this range of diverse practices on a continuum from competition to cooperation, and collaboration to coalescence of organisational culture.

The amount of confrontation and collaboration in partnerships can vary. The role of contracts and charters defining ways of working differ. The duration of the partnership, incentives and rewards, role clarity, and teamwork are concepts and practices, values and norms that have differing degrees of sophistication (Black, Akintoye and Fitzgerald, 2000). It is difficult to decide whether partners are fully integrated or superficially entwined to meet client requirements. Partnering may not serve its intended purpose in reality. These challenges are reiterated in studies that indicate: the ability to face commercial pressure, and to compromise on the partnering attitude can hamper success (Chan, Chan and Ho, 2003), not engendering the right relations (Black, Akintoye and Fitzgerald, 2000), including more trust, communication, commitment, or not having a clear understanding of roles, or consistency. A flexible attitude is needed for improved ways of working (Black, Akintoye and Fitzgerald, 2000) and the willingness of the client to commit to the partnering relation (Ng Rose, Mak and Chen, 2002).

Like Cooper (2000), Cullen (1990) and Schein (1990) Bresnan and Marshall (2000) identify the role that culture has to play in organisations, in particular which organisational attributes and management styles improve or constrain collaboration to create a more practical, grounded and realistic approach. Authors such as Francis, Holbeche and Reddington (2007), Mitchie, van Straten and West (2011) and Senge (2006) place considerable emphasis on transforming attitudes, improving interpersonal relations, and changing organisational culture. Focus areas in their examination of partnering examine: I) the definition of partnering; II) tensions between commercial and collaborative practice, and difficulties in measuring and changing organisational cultures which support a collaborative approach, reiterated by Coffey (2010), and Black, Akintoye and Fitzgerald (2000).

Avoiding conflict and litigation is paramount in inter-corporate collaboration (Coffey, 2010). Partnering is thought to be important for maximizing resources and achieving complementary objectives, and can reduce project costs and decrease the timespan of a project; specifically when the contractor is involved early on in the design phase, and when integration and learning are in place (Bresnen and Marshall, 2000). The second benefit of partnering is improvement in quality, and in some cases safety. The third benefit is improved customer service and satisfaction in the project, and flexibility to cope with market volatility (ibid.). Barlow (2000) indicates through case study research on a complex offshore oilfield construction project that partnering can be used as a tool for stimulating performance gains at the project level, and innovation and learning benefits at the organisational level. Sound working relations mean better deployment of project resources and investment in training and

research (Black, Akintoye and Fitzgerald, 2000; Chan, Chan and Ho, 2003). Coffey (2010) suggests that there has been success in partnering in the UK, USA, Australia and Hong Kong and reports improvement in organisational culture.

Arewa and Farrell (2015) suggest that the construction industry breeds bad behaviours such as fraud and corruption which have become institutionalized in the industry. This inclination to corrupt practice is often due to lengthy supply chains, and complex contractual requirements which allow for more negotiation of commercial interests and the opportunity to leverage deals for private gain. An underlying aspect of the industry is profit maximization: boundaries are often blurred, as reports suggest (PwC, 2014; Construction Online, 2020).

How can OD practitioners offer support? OD practitioners and stakeholders define partnering to determine: (i) the extent to which standardized tools and techniques are applied across projects and sectors and (ii) how project teams work together (Bresnen and Marshall, 2000). The other aim is to engineer partnering over the short-term since it implies a change in relations and is usually based on building trust, commitment to common goals, and an appreciation for one another's values (Black, Akintoye and Fitzgerald, 2000; Skipon, Leonard, Lewis and Passmore, 2013). The methods needed for reaching these goals may be different for different companies. Some authors believe that partnering cannot be engineered, and that it is a product of a long-standing relation which is routine and repetitive. Trust is built up slowly over time. There is a '*separation between formal instrumental and informal developmental views on partnering… and is reflected also in attitudes towards the role of contracts in such arrangements, and towards the use of incentive systems based upon risk/reward (or 'gain share/ pain share') formulae' (*Bresnen and Marshall, 2000; 232*).* In some cases, intentions may begin sincerely enough but cannot withstand commercially-based impasses when they arise.

These studies (Barlow, 2000; Black, Akintoye and Fitzgerald, 2000; Chan, Chan and Ho, 2003; Ng Rose, Mak and Chen, 2002) suggest that there is no easy way to 'fix' fragmentation and conflict. Partnering, by nature, is relative to a company's overall strategy. Even considering the objectives, the distribution of responsibility is not without conflict (Bresnen and Marshall, 2000). Culture is a complex construct developed through ongoing interactions between people (Cooper, 2000) and is embedded in artefacts, symbols, espoused values and basic underlying assumptions (Schein, 1990). Culture is deeply engrained within the social atmosphere of an organisation (Hogan, Coote and Leonard, 2014). Changing it for an individual or entity cannot be imposed from above (Kotter, 1995; Yi, Gu and Wei, 2017). The culture of an organisation grows organically at many levels and manifests itself in many ways. Compliance is often reached rather than change at a deep level. Multiple levels of change can

shape relations between partners (Bresnen and Marshall, 2000). Another complicating factor is the complexity of an organisation in terms of: (i) specialization and hierarchical stratification, and collaboration across departments, each with its own agenda. In most cases, any change in corporate behaviour occurs from top leadership down (Kotter, 1995; Umbeck and Bron, 2017). There are some differences in how change is expressed for people 'on the frontline' of a jobsite. Change occurs through decentralized and flexible structures where autonomy and discretion are emphasized. Given the investment of finances, resources and management control, change is difficult to effect and sustain (Bresnen and Marshall, 2000).

Failure to change has been attributed to a failure between the content of change and the context and process of change (Francis, Holbeche and Reddington, 2013). Change often affects variables that are invisible to others such as influence, agency, constraints, roles and motivations of people (Kotter, 1995). Such unseen factors may account for resistance to change. Factors such as the role of a supportive climate, a deeply entrenched culture and sub-cultures compete within an industry that for these reasons still has many barriers to change (Bresnen and Marshall, 2000).

Use of Migrant Labour

On international major projects, there are characteristically multiple nationalities and labour that is both cost-effective and available. Migrant labour workers of different nationalities use different languages, and have varied experience. To manage them well and fairly is resource intensive. OD seeks organisational effectiveness in cost and productivity and is vital to understand on international major projects.

Use of migrant labour on construction sites across the world is common. The International Labour Organisation, International Human Rights Watch and Migrant-Rights (Migrant-Right.Org, 2018) report on common issues[4] that migrant workers face: working long hours, with lower wages than expected, physical mistreatment, little time off work, confiscation of passports upon arrival, payment to a sponsor in the country of work, and temporary labour accommodation which is worse than expected. Citizens of countries that make extensive use of migrant labour are often criticized for being unwilling to change without cost-effective labour (*The Economist*, 2013).

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[4] Interesting reading on labour issues can be found in the World Migration report http://www.iom.int/wmr/world-migration-report-2018 and articles: https://www.economist.com/news/middle-east-and-africa/21583291-attempts-improve-lot-migrants-working-middle-east-are-unlikely; http://www.merip.org/mer/mer123/labor-migration-arab-world.

It is necessary to think of the needs that a labour force faces:

(i)   Core physiological needs such as pay, pleasant working conditions, and clean cafeteria and facilities,

(ii)   Safety which includes safe working conditions, company benefits, and job security,

(iii)   Social needs such as cohesive work groups, and fair and transparent supervision,

(iv)   Esteem needs such as social recognition, job title, feedback, and status and

(v)   Self-actualization needs such as challenging jobs, opportunities for creativity and growth, and advancement (Mullins, L.J., 2013).

These elements can be illustrated using Maslow's Hierarchy of Needs (Adler, 1977). They show a person-centred approach to thinking about the needs of a migrant workforce. Shortfalls in facilities, catering, transport and accommodation can create tensions within the workforce. These tensions are reflected in group dynamics such as infighting, abuse, loneliness, fatigue, stress and making poor choices (van Lenthe, Jansen and Kamphuis, 2015). Accidents that strike the project can become triggers for emotional outpouring and outbursts of temper.

Factors that can aid in establishing openness include:

1) Organisational culture in which learning, respect, acknowledgement of wellness and appreciation for work done can satisfy individual needs for belonging, pride and commitment, which is something that both supervisors and a training team can foster.

2) Communications with the workforce should take place frequently with appropriate content and allow a two-way flow of communication.

3) Processes that meet the needs of the workforce hired include: resources to support the promotion of motivational needs and sufficient flexibility to account for cultural differences.

Management Processes

Management Processes are a key feature of OD models. The BLM has this element as a core feature of its design (Coruzzi, 2020). Weisbord's model, however, does not have this specific feature but looks at it through its elements of procedures, rewards, structure and relations (Weisbord, 1976), and the Technical-Political-Social Model in its elements of organisational processes, task and people (Tichy, 1982). Relevant literature deserves attention for understanding how management systems enable behaviour that can be congruent or otherwise, according to the power and control they possess.

Management systems and processes are a key feature of organisations. Their implementation relies on the degree of 'fit' for the population they are protecting. Organisation implies control. Control processes help circumscribe idiosyncratic behaviours and encourage conformity to

the rational plan of the organisation. There is a specific interplay between how social systems and control systems work, both negatively and positively (Chenhall, Hall and Smith, 2010). Control systems can take the form of policies and procedures, a code of conduct, daily activities that call for specific standards of performance, the structure of the organisation and role of relations, measurements of inputs, outputs, processes or the behaviour of people, recruitment and selection, socialisation, training and development, and performance of the organisation through more efficient and quality driven programs and project management (Mullins, 2013). These control systems are characterised by: those involved in their operation, those who conform to the structure of the organisation, and those who deviate from the desired standards of performance (Chenhall, Hall and Smith, 2010). All these groups draw attention to critical activities and are subject to continual review. Deviations in control systems can occur in diverse populations or locations and cause conflict when the two are not mutually beneficial. Modification of control systems may be necessary for different contexts or to account for the variability of human nature (Cowley and Borys, 2014).

Only partial control can ever be achieved by an organisation because: 1) tensions arise when management systems are unclear and 2) people typically resist control when it is unfamiliar, or thought to be unfair (Smith and Bond, 1998). Control and management systems comprise negotiation, persuasion and manipulation through rules and procedures that influence behaviour (Mullins L.J., 2013). Control is thought to enhance individual and organisational performance. Poor management such as inadequate planning and control, and supervision of daily activities, can lead to poor performance, and the extent to which control systems are negotiated and executed from the JV partner. It is important to understand the causes of poor performance and to ensure that the partnership achieves its purpose. Power is defined in terms of control or influence over the behaviour of others, with or without their consent (Shaw, 1997). Power is a complex and dynamic construct which may be a potential rather than realised force (Mullins, 2013). It is important to discuss power from a psychological perspective because, in this context, it explains: (i) why, when and how decisions are made, and (ii) the way in which control systems are implemented, and why decisions are complied with or not. Different organisations have different understandings of their interrelations and how to enact power relations (Thornton and Ocasio, 2008). Power can mean different things to different members of the organisation, and behaviour around power is variable.

Power and involvement relations can be either: (i) congruent and effective, such as normative and moral, remunerative and calculative, or (ii) coercive and alienative, or (iii) incongruent

[5]and therefore not compliant with the individual so that inevitably disruption occurs in the organisation (Mullins, 2013).

The commitment of employees is crucial:

- Alienating behaviour occurs when members are involved against their wishes, which is not unusual for a migrant labour workforce that can accept control systems and leadership authority due to their dependency (Chenhall, Hall and Smith, 2010);
- Extrinsic rewards such as salary and bonus can be either negative in orientation or a low positive orientation towards the organisation (Smith and Bond, 1998). Such poor orientation is a common motivation for working overseas: people understand they can earn more in other countries. A workforce such as migrant labourers may be exploited or treated unfairly in their host country (Migrant-Rights.Org, 2018) and financial incentives may not outweigh the interpersonal relations established in home countries.
- Greater involvement is based on individual belief in, and value placed on, the goals and purpose of the organisation through communication of the goals and values, and the rewards and controls systems that align behaviour with those principles (Cheung-Judge and Holbeche, 2015).

Power is exercised by individuals to shape what others can do, and share or benefit from the rewards available. Social relations are influenced by power relations and are not always equal. According to social exchange theory, individuals seek to achieve a positive balance by maximizing benefits for themselves and minimizing any costs thought to exist on national cultural lines. Those with more power are likely to do better at this. Minority groups and those without power, such as the migrant workforce are often confined to having 'low power' in some countries and situations (Smith and Bond, 1998). Language may in some situations be used as a power tactic to disempower a minority group (Mullins, 2013).

Power is an important component in understanding what factors improve or constrain safe behaviour and how projects can make the best use of power to align behaviours. Power and

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[5] (Mullins, 2013) Coercive power relies upon threats, sanctions or force, in aggressive relations between parties to the project, and those that rely on practices akin to gangs. Remunerative power involves manipulation of material resources and rewards which are similar to the rewards and incentive schemes utilized by staff to empower many labourers. Normative power relies upon the allocation and manipulation of symbolic rewards for self-esteem, such as giving adhoc and unregulated certificates for specific jobs well done.

leadership are integral. Power as defined by French and Raven (Tauber, 1986) lists sources such as rewards, coercion, legitimate power, referent power and expert power. Charisma, or personal power, may be a feature of transformational leadership and can be used to overcome structural or organisational boundaries. In some organisational contexts, an employee's responsibility extends beyond his authority. It is important to exercise the "art of influence" by using skills such as: building networks of trust and influence, creating alliances, dealing with conflict, shaping the organisation's agenda, dealing with organisational conflict and resistance, managing ambiguity and uncertainty, finding the right projects to work on, and discovering the real rules of success within an organisation. There are ways in which to improve behaviour among training practitioners and employees such as how supervisors can reward fairly and equitably (Podsakoff and Schriescheim, 1985).Yukl, Ping Fu and McDonald (2003) suggest that differences between western and eastern communities in the effectiveness of supervisory tactics to improve behaviour are consistent with cultural values and traditions. Direct, task-oriented tactics are more effective for Western managers. Tactics that involve personal relations, avoidance or informal approaches often prove less effective.

Within the BLM and Tichy Socio-Technical-Political Model, there is discussion for the interaction of people and the environment. Some elements may need to be added in OD frameworks, particularly where diverse environments can cause differences in the degree of variability necessary (Cowley and Borys, 2014) and the approach to power, structure and reward for different national cultural groups (Smith and Bond, 1998). Experience within multinational settings indicates that implementation of management systems that are not culturally specific can cause much disharmony, and disrupt many resources geared to education practices around change. OD practitioners need sensitivity and insight into what the organisation can prescribe and how the workforce actually works.

Organisational Culture

Organisational Culture is a separate element of the BLM model for organisational diagnosis. There is evidence that it does need incorporation into the framework, and is significant enough in its impact to warrant its own investigation. Schein (1990) terms organisational culture a pattern of basic assumptions developed by a given group as it learns to cope with its problems of evolution and integration that has worked well enough to be considered valid and is taught to new members as the right way to handle these problems. Management and organisational behaviour depend upon and influence features of organisational culture, and this relates to organisational performance (Gregory, Harris, Amenakis and Shook, 2009).The culture of a company can have a deep impact, and far-reaching effects. Culture can be thought of as the secret ingredient superseding strategy in some cases, market presence or technological advances (Rameezdeen and Gunarathna, 2003). Its association in the strata of design should

be acknowledged. Culture is a general concept for 'the way things are done here': develops over time, and in response to complex factors. Culture has a pervasive nature and accounts for variation among organisations (Mullins, 2013). Leadership is thought by some to be the dominant factor in the culture of an organisation; due to its level of impact and influence (Mullins, 2013). Relations between leadership style and performance are mediated by the form of organisational culture that is present (Ogbonna and Harris, 2000).

A cultural web, as described by Johnson, Scholes and Whittington (2008) is made up of several factors that can be examined when describing organisational culture. These factors include: routine behaviours, rituals, stories, symbols, power structures, control systems, organisational structure, and the paradigm that reinforces the other elements in the web. In this way the elements of culture include items found in national culture and communities. Mullins (2013) describes a hidden culture as the shadow-side of behaviour. This 'culture behind the culture' carries real beliefs, values and norms that drive behaviour but remains unnamed, undiscussed, and covert, perpetuated by leadership and management practices. Many of these factors are incorporated into OD models as separate elements such as Weisbord's 'Helpful Mechanisms' or the BLM systems, processes, and values and warrants incorporation. It needs to be understood that the aetiology of organisational culture is akin to national culture in that it can be deeply ingrained within a system, and can take length of time to achieve.

Each organisation defines a culture according to its operation. Businesses often regard their particular organisational culture as the company's philosophy, and the company style of operation. Project culture comprises project objectives and is shaped and managed by the project manager who determines how people work in teams, and how people identify and resolve problems that threaten work. The culture of the project reflects the leadership and structure, and changes from project to project. Top leadership shapes corporate culture as well as the staff and the extent to which they accept management philosophy as honest and authentic (Mullins, 2013). Rameezdeen and Gunarathna (2003) suggest that it is necessary to strengthen project culture because it counters corrupt practices. But it can easily be corrupted due to the vast power in the hands of project managers (Arewa and Farrel, 2015).The Denison Model has been used to investigate factors attributed to organisational culture that combines both organisational key performance indicators and the behavioural characteristics of the company (Coffey, 2010). This is necessary as there are several criticisms of measuring culture that exclude an examination of its performance.

Deal and Kennedy (2000) examine culture in terms of four different cultural types. Organisations differ in terms of: (i) the risk associated with their activities, and (ii) the speed at

which they received feedback on the success of their strategies or decisions. According to the Deal and Kennedy model, the culture of construction can be termed a tough-guy or macho culture which is defined as an organisation that frequently takes risks, and is typically impulsive and reactive. Characteristics of this type of culture include high financial stakes and a focus on speed, intense pressure and frenetic pace resulting in burnout, internal conflict and competition, and a high staff turnover (Mullins, 2013).

Research into the organisational culture of a Sri Lankan based construction project identified two different cultures (Rameezdeen and Gunarathna, 2003). They were based on where the contractor sat in relation to the employer or client, and if the design and construction portion of the project was divided. The common employment relation is made up of an employer as the initiating agent who then employs a consultant to recommend and justify a preferred technical proposal with costs, and refinement of the design, to the point where it can be put out for tender. A contractor will then be selected based on a formal tendering system. The consultant-contractor relation does not have contractual obligations or implications. Nonetheless, it is crucial for the successful execution of the project, and is known for being a prime cause for problems encountered in the industry (Ng Rose, Mak and Chen, 2002; Rameezdeen and Gunarathna, 2003). The primary cause of conflict is a communication gap: the separation of design and construction. Rameezdeen and Gunarathna (2003) argue that this gave rise to two different organisational cultures. In this study, organisational culture is determined by using a Competing Values Framework (CVF) developed by Quinn and Cameron in 1983. This approach requires respondents to describe the organisation by how it functions. These interpretations are then placed in a model of four cultural types: clan, adhocracy, market and hierarchy. The characteristics of a clan structure include: leaders as mentors or parent figures, a preference for information sharing, and a participative and comfortable working environment; they value traditions and loyalty, and believe their success lies in the development of human resources. Contractors believe success lies in market infiltration and market share, and emphasize smooth scheduling of activities according to time targets. Contractors often emphasize profit maximization and productivity. They value goal accomplishment and production. They focus on competitive orientation to rivals and achievements. Their leaders are seen as hard drivers. The working environment of contractors is competitive and confrontational but flexible enough for innovation. Affinity for both organisational types to hierarchy and adhocracy indicate that both want entrepreneurship, innovation, coordination and organisation of work in equal terms (Rameezdeen and Gunarathna, 2003). These types are all evident in the industry. The CVF survey is used often in OD to investigate how positions within a contract and its stakeholder and client groups

influence culture. Other forms of monitoring or describing value-based components such as trust lie within organisations.

In measuring organisational culture when using an OD framework, the practitioner has in his purview a suite of tools for measurement. An OD framework that can make use of these, archival documentation, and their own methods of discovery while being cognisant that there are underlying, potentially non-verbalised assumptions for the way in which things get done forms an important foundation from which to work in developing sustainable solutions.

Health and Safety

In some industries there is a disjunction towards stated health and safety concerns, and its actual implementation. Health and Safety regulations extend scope within the UK and act to cover more and more aspects of working, particularly given current pandemics and technological advancement. Health and safety logics need to be understood since they form part of an organisation's key performance indicators. It is essential to consider this when diagnosing operational aspects of organisational effectiveness.

The focus of health and safety in organisations is upon management or organisational culture. Safety culture is a widely accepted construct and thought to be vital in improving safe behaviour (Glendon and Stanton, 2000). Safety culture, like organisational culture, is a complex construct to measure because it consists of individual, environmental and behavioural factors, personal ability, goal commitment, goal conflict, feedback or communication flow, the complexity of a particular task, situation or job design (Cooper, 2000). Some of these elements, however, can be managed through health and safety practitioners while others rely on workforce planning and adequate recruitment. Recognising safety culture signals that an organisation will try to enhance it (Mearns and Yule, 2009). These organisations appreciate the value of developing a sound safety culture. Similarly, organisations that understand how organisational culture improves organisations are more likely to be willing to develop it. For other organisations, the importance of a safety culture may just be emerging or not considered until after a major incident. In studies originating from the UK and US, factors that make a large difference to a company's culture are management commitment, the safety system, and particular risk and themes around work pressure and competence (Flin, Mearns, O'Connor and Bryden, 2000). These factors combine organisational factors, the risk itself and individual capability. Disasters such as Piper Alpha (in 1988), the Bhopal Gas Tragedy (1984) and Deepwater Horizon (2010) illustrate the importance of developing a good safety culture. Interventions with a large audience increase the ability of management to perceive danger in time. Major disasters show that bias in judgement and decision-making may be inherent in some individuals working with data or a

safety system (Cullen, 1990; Browning, 1993; BP, 2010).   Leadership practices have acknowledged awareness of bias as a principal trait for being an inclusive leader. Bias can skew decisions (Bourke and Dillon, 2016). Risk perception, judgement and decision-making around risk may be defined in terms of the individual understanding of risk and their motivation towards it, as well as at a cultural and organisational level in their use of controls, and processes.   Leadership support and training have therefore been considered within this research. In discovering safety-related logics and safety culture, several factors have to be considered: awareness of safety culture; the organisation's readiness for it; leadership support; and the complexity of its measurement and scope for change in designing the best solutions for improvement. Archetypes for understanding safety problems that recur over time are useful as tools. These archetypes were first suggested by Senge (1990) and modified by Guo, Yiu, and Gonzales (2015) to describe eight common and recurring problems in safety relating to habitual ways of working. They identify conflicting messages that workers and staff may receive through workflows, and explain why behaviour is as it is and why frustrations may exist; and help to identify underlying structures which give rise to the problem. For example, one archetype is the 'government enabled occupational health and safety agency' archetype. Structural levels within archetypes are identified as 'government', 'organisation', 'project' and 'individual' in the same way as the case study. At government level, there exist government occupational health and safety agencies, as well as the archetype of 'safety regulations and incentive programs'. The central concern when motivating companies to manage safety is that there can be positive advantages. Government regulations and agencies provide guidelines and advice on how to manage safety, undertake audits, inspections and investigations. These guidelines point out the penalties and prosecution for mismanagement. In some cases, governments can increase penalties to enforce a level of safety in companies. But this can create a reactive culture in construction with companies 'complying' with regulations they may not actually value or understand. This enforcement has a negative effect on overall safety (Cooper, 2000).

Other archetypes may look like project (cost, production, human resources) enabled production and safety archetype; project enabled safety managements blame on workers; project (safety managements) enabled reactive, and proactive learning; individual human factors, workers' conflicting goals.

These visualisations are the results of 22 interviews with stakeholders and participants in the construction of a major project. These archetypes point to common tensions between organisations, employees and stakeholders that can undermine safe and productive behaviour in the workforce. These archetypes resemble the patterns drawn for OD practitioners trying to understand and improve performance through behavioural observation.

Guo, Yiu and Gonzales (2015) suggest that future research needs to encompass different cultural settings to consolidate their findings. This current research investigation seeks to identify these tensions in diverse contexts.

We have covered the influences on the industry, the organisation, partnering, power and health and safety goals. In OD analysis there are additional elements that may be incorporated for the design of a new organisation. Many of these aspects are captured in other models and denote: strategy, vision and values, regulatory information, governance documents (management systems and processes); and include aspects that are necessary in business and operating models such as suppliers, products or services, finances, key performance goals and metrics, cost structure, revenue streams, key relationships and value propositions (Strategyser, 2020).

The final factor of resources to leverage has already been discussed in risk communication. We extend it now to cover training and interventions.

Training, Interventions and Communications

Training, intervention and communication are a factor that influences behaviour through immediate measures. It relates to organisational logics, risk and national culture, and is a widely accepted element in organisations to promote behaviour towards improved safety and productivity. This factor is discussed in relation to its effectiveness in organisations, and like other factors is effective when used correctly.

Organisational Resources that Improve Safe Behaviour on Site

Interventions for improving safety awareness and safe behaviours are part of a management system, or may follow after a serious accident or injury. Interventions should be guided by the characteristics and context of the populations involved on site and in the surrounding area (Clark and Voogel, 1985; Goldstein and Ford, 2002). Training has many guidelines for reliable evaluation methods, and instructional design and delivery. Employing such methods improves transfer of knowledge, and knowledge retention and retrieval (Clark and Voogel, 1985). Gaps in transfer from classroom to behavioural change may occur (Meiring and Bicknell, 2015; Yamnill and Mclean, 2001). Interventions in their broadest sense are not a 'one size fits all' model. One set of interventions may work for some populations but not for others. Interventions may initially change some behaviour but may not be sustainable. A combination of factors should be devised to suit each situation such as market logics, goals and experience, and national cultural preferences that are not typically studied or considered as part of an 'embodied' approach to behavioural change. When those influences and controls are taken into account at the start, accidents or injuries are less likely to occur and old patterns

of behaviours may change. Over recent years, there has been progress towards this more holistic approach. A new popular model for deciding on which behavioural intervention to adopt in which situation, notes that both the internal psychology of the individual in terms of capability and motivation, and the external environment by providing opportunity, are key to delivering interventions that work (Mitchie, van Straten and West, 2011).

Training programs about human factors affecting aviation have been criticized for not being sensitive enough to national cultural issues (Merritt A., 2000; Merritt and Helmreich, 1996). Too often such training programs for aviation are designed for a training audience that has both low power distance and is a collectivist or interdependent group. Hofstede recognizes this as an unusual combination (Hofstede, Hofstede and Minkov, 2010). Aviation training could better align with national cultural characteristics. So, for example, US pilots training in South Korea need to appreciate the value of: (i) team work, and (ii) Asian colleagues who have to communicate through the use of checklists. Researchers suggest that effective aviation training can reduce the severity of injuries and should be designed in conjunction with members of the host culture. The focus should be on cultural differences by using facilitators or mediators (Merrit and Helmreich, 1996). Initiatives for organisational   development comprise a legitimate and broad area of research that focuses on system-wide change, shifts from norms and values to organisational culture, group learning to organisation-wide learning, and a focus on transformation of an organisation rather than just groups (Skipton Leonard, Lewis, Freedman and Passmore, 2013). This perspective is interesting considering change is a relatively new concept in the business landscape.

Training and interventions are used to increase knowledge of hazards and how to mitigate them. If people are aware of the risks, they are more likely to make better decisions when faced with them (Clark and Voogel, 1985). The brain mechanics of decision-making are thought to be formed of two processing systems: a fast, automatic system in which decisions are made outside our awareness of them, including habitual behaviours; or processed through a slow, overt, conscious thinking and reasoning system (Kahneman, 2011). Many think of error as something that goes wrong in a sequence but it involves all of the occasions in which a sequence of mental and physical activities falls outside its intended outcome (Kahneman, 2011). Error can be divided into principal types which are: slips, lapses and mistakes, both intended and unintended which are failures in cognitive memory of familiar tasks and diverted focus, or errors of judgement, and performance errors of skill, rule or knowledge (Reason, 1990).
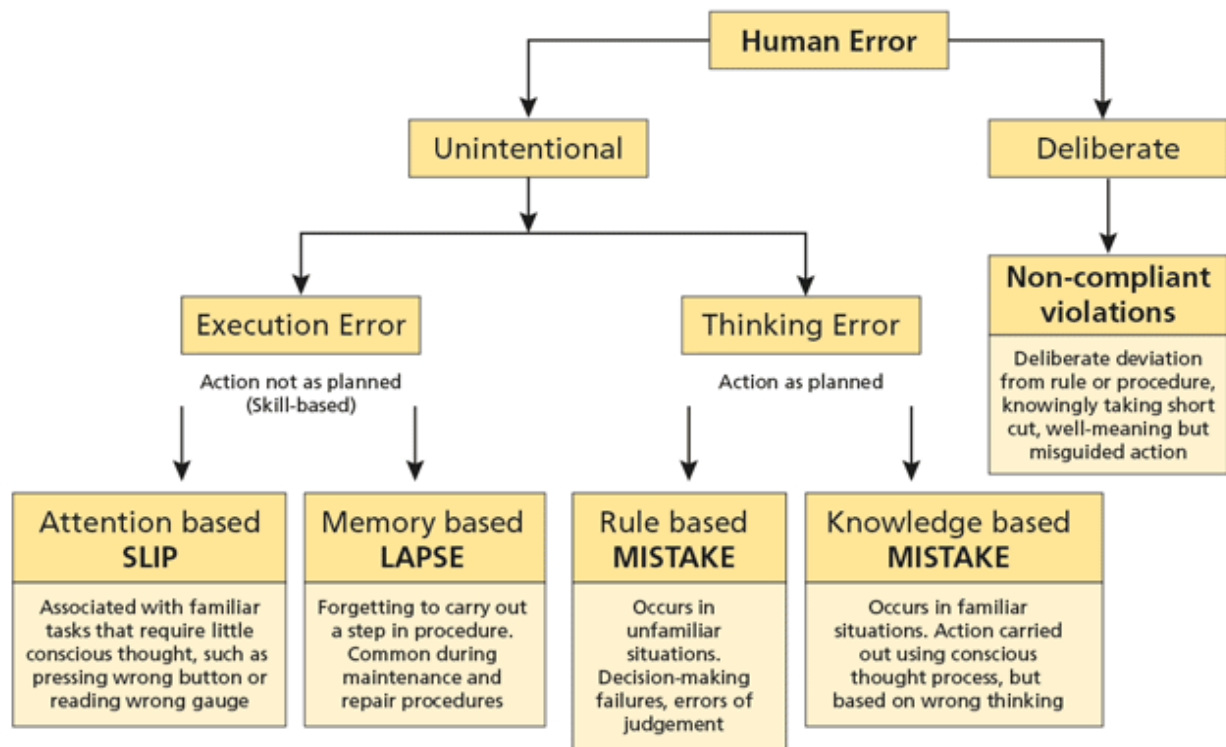
Figure 17 - Types of Error (Davies, 2018) as advanced by Reason (1990).

Figure 17 illustrates how error can be viewed, and what potential safeguards are in place externally or through training to mitigate them. Human error is advanced both in the psychological sciences and safety literature and has an advantage in informing each other. Safety specialists often try to piece together what occurred. They seek to advise ergonomists, human factors or safety specialists about how to redesign processes or equipment to prevent the same failure from recurring (Dekker, 2002). For safety instructors, decisions and subsequent action depend on the amount of knowledge available.

Establishing a Learning Culture

In the OD literature, the concept of a learning culture has been popularized due to the rapid environmental disruptors and constant change driven by economic change, globalization and world competition, government intervention, political interests, scarcity of natural resources, and rapid developments in technology; as well as a young workforce, conflict from within the organisation, increased demands for flexibility and high quality service, and greater flexibility in structure (Mullin, 2013). A learning organisation is akin to that of the concept of continuous learning. It is:

> An *"organisation where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where*

collective aspiration is set free, and where people are continually learning to see the whole together".

(Senge, 2006: 3)

The characteristics of a learning organisation are important within major projects and current organisations; particularly in an international sphere to facilitate better ways of working for sustainable and high-performing projects according to OD practitioners (Schein, 1996; Francis, Holbeche and Reddington, 2013). These characteristics include:

1. Systems thinking (Senge, 2006) – the idea that organisations are complex systems

2. Personal mastery (Mullins, 2013) – management skills and mastery, including understanding of a person as a whole that includes emotional and spiritual growth

3. Mental models (Schein, 1996) – the driving values and principles of an organisation

4. Shared vision – (Robinson, 2009) the importance of cooperation, and a shared vision by team members

5. Team learning (Edmondson, 1999) – mutually complementary practices of dialogue and discussion undertaken separately and jointly.

Learning organisations regard learning as central to their organisation. A learning culture embraces questioning and change. It embraces and benefits from change. Learning is intentional and focused on strategy. There are systems and processes which include teaching in the daily activities of individuals (Mullins, 2013).

In terms of interventions, practitioners first diagnose the symptoms and then reveal the behaviours and practices they can use as an intervention. Interventions and change management benefit one or a group of individuals, or organisation (Francis, Holbeche and Reddington, 2013). There are numerous bespoke behavioural change type programmes and interventions that can be used by practitioners. Some are 'trust in teams', CVF (Cameron, 2018) and the Table Group's 'five dysfunctions of a team' (Lencioni, 2018) for example.

A number of organisations have identified tools for changing management within six sigma relating to their methodology including 'define-measure-analyse-improve-control, or DMAIC', and the 'awareness-desire-knowledge-ability-reinforcement, ADKAR model' by Prosci (2018). The emphasis here is on the use of corporate tools and functions to facilitate influence or change. This approach was adopted in the 1920's as a separate program. It has a longer history than the OD approach discussed here.

Psychological safety is a concept used to bridge the gap between assessing and aligning behaviour, using interventions and building up a better culture for safety. Psychological safety research explains why employees: (i) share information (ii) voice suggestions for organisational improvements, and (iii) take initiative to develop new products and services. Extensive research has centred on how psychological safety enables teams and organisations to learn. At first, this soft, human approach seems counter-intuitive in an industry that has been described as 'macho' (Dainty, Green and Bagilhole, 2007). But this new attitude is, however, thought to be an essential part of learning from failure (Edmondson and Lei, 2014). Kahn (2015) argues that people are more likely to believe they will be given the benefit of the doubt when relations within a given group are characterized by trust and respect. This is a defining characteristic of psychological safety, and one that allows innovation and learning to occur (Edmondson A., 1999; Edmondson and Lei, 2014).

Training

Organisational resources assigned to training, interventions and communications are important aspects of organisations and widely used. Their effectiveness in mitigating accidents on site has a significant amount of data-driven practice that guides their use. It is important to understand the aetiology of these separate fields of work, as well as how they interact with other factors within an organisation. This improves cost-effectiveness and impact, motivation for employees, organisational performance, and the reputation of the industry at large.

Rogers et al. (2007) and Tracey and Unger (2012) found barriers that instructional designers often face when including culturally sensitive information that emphasises content development above context, learner experience and evaluation. Cultural differences are not sufficiently recognised (Sabin and Ahern, 2002). Recommendations for training design for diverse audiences include: emphasizing content organisation, sequencing, and pacing of learner experience (Sabin and Ahern, 2002); job aids such as graphics, symbols and text are useful, as well as situated learning in real contexts (Tracey and Unger, 2012).

Negotiation is a process that involves reflecting upon and examining information from multiple perspectives at various times during the design process (Tracey and Unger, 2012). It has been estimated that a low percentage of all training experiences are transferred from the training environment to the actual job. This percentage may initially be higher (40%) as suggested by some authors but falls to 25% after 6 months and 15% after a year (Yusof, 2011; Burke and Hutchins, 2007). Paula Ketter, editor of the *Journal of Training and Development* claims that the transfer of training often fails where instructional designs fail and highlights that in order to create effective instruction, practitioners need to match the right instructional strategy to the content delivered (Ketter, 2011).

Instructional methods are described by Goldstein and Ford (2002) as taking place in a traditional classroom setting or a simulated training environment. A classroom cognitive-based style has specific learning targets which are widely accepted, cost-effective and good for teaching concepts and basic skills. Classroom instruction has measurable gains. Instruction can include lectures, discussions, case-studies and role-play (Goldstein and Ford, 2002). The disadvantages are that classroom tuition may not suit all learners equally. Teaching in classroom settings usually presumes a certain level of existing knowledge amongst the learners. Language differences may make such classroom training a more difficult task if the content is not visual enough. A lecture is not suitable when complex responses such as motor skills are being described. The use of performance or job-aids in the work environment reminds participants of the most pertinent information found in training (Goldstein and Ford, 2002).

Simulated work settings replicate the characteristics of real-world environments such as flight simulation or medical procedures in which a complex work environment has to be understood and knowledge of it applied. This process is based on procedural knowledge but declarative knowledge is deployed as well. Training simulations are produced in a laboratory setting with trainers who design them, introduce new situations and considerations. Learning can be systematically introduced and fed back, and practice and transfer can be controlled. The cost of simulations is high (Goldstein and Ford, 2002). There may be fidelity issues when designing part-prototypes due to prohibitive costs; explaining why so few are used on site.

Recent developments in learning strategies have emerged due to the limitations of traditional methods, which are that:

− At the expense of design and delivery, training is generalized to meet the norm of a population rather than being individualized;
− Training needs to be scheduled and delivered at specific times; and
− Needs a designated time period for practice (Goldstein and Ford, 2002) which is limited in construction site work settings.

There are many instructional strategies to enhance transfer. Some valid approaches have traditionally been used such as practice and feedback methods to enhance long-term understanding and performance of behaviour. However, as Meyer points out, direct negative feedback can be avoided by different national cultures (2014). Overlearning occurs where tasks become so automated that cognitive resources can be better deployed for solving novel or more complex tasks. A whole-part approach to training indicates that learners are presented with a working example, and then an exercise which increases in complexity using case

studies. The learner does not experience cognitive overload (Burke and Hutchins, 2007). Active learning is a strategy that involves taking learners through carefully constructed activities. This method is useful for practical behavioural-based training content. It holds the attention of the learner, and facilitates acquisition of knowledge. Active learning is employed on projects using HSE Technicians who train people during their work activity. Behavioural modelling is a transfer strategy that involves describing a model's key behaviour by using descriptions and rule-based learning points which help learners understand behaviours that need to be utilized (Burke and Hutchins, 2007). An error-based strategy can be used to show learners what can go wrong if they do not perform the desired behaviour in their work environment (Burke and Hutchins, 2007). This is a typical strategy employed on large construction sites. All of these strategies have some merit in enhancing the transfer and assimilation of safety knowledge, although some strategies such as active learning methods lack empirical support (Burke and Hutchins, 2007).

2.6 Conclusion

This review of literature explores factors that influence behaviour toward better organisational performance on large-scale, diverse major projects. Organisational strategic design is valuable but can be hampered by various factors (Francis, Holbeche and Reddington, 2013) such as the approach to organisations or mental models, and dealing with bite-size systemic issues (Gallos and Schein, 2006), the challenge of who does it, when and how (Cheung-Judge and Holbeche, 2015) and its implementation and change management effort (Kotter, 1995). It is a science that continues to develop and has to be incorporated into large-scale projects (Schein, 1990).

The perception of individuals toward risk is reviewed across studies that involve diverse populations. For risk perception and motivation to work, safety can be different for different groups of people (Bye and Lamvik, 2007) (Rundmo T., 1995). Risk communication is used in organisations to mitigate dangers. It shows how different people may perceive and receive the message (Mearns and Yule, 2009). Behavioural science and motivational theory are part of safe administrative and training controls helping to 'nudge' behaviour toward adoption of safer processes (Gyekye, 2010; West, Mitchie, Rubin and Amlot, 2020). Failure may still occur due to errors in poor decision-making (Cooper, 2000) and bias (Kahneman, Slovic and Tversky, 2008). There are many dependencies and alternatives for how organisational culture can reduce risk (Cooper, 2000) particularly in diverse populations (Gyekye, 2010; Mearns and Yule, 2009).

Organisations can develop through planned and unplanned events, sometimes due to macro sociological events (Beckert, 2010), and sometimes through conscious change efforts

(Francis, Holbeche and Reddington, 2013). Organisations are complex in nature (Schein, 2006). Industry and organisational logics helps to uncover several features of international organisations such as the relevant standards of organisation (HSE, 2006), their design, their centralisation, the way in which they partner, and select and mobilise their workforce but can carry an organisational approach that ultimately determines their organisational culture and reputation (Dainty, Green and Bagilhole, 2007). These logics are not easy to discern or control. They can be influenced by market trends, the national culture in which it operates, the internal organisation of people and systems, and the behaviours that develop (Thornton, Ocasio and Lounsbury, 2012). Due to this complexity, sense-making in organisations can happen in the moment and concentrates on practitioner experience, rather than in planned and overarching degrees with organisational frameworks and development opportunities. That is why complexity and systems-based theories have evolved (McMillan, 2021; Senge, 2006). Organisations need to develop to help elucidate power dynamics (Mullins, 2013) (Shaw, 1997), contractual relations (Bresnen and Marshall, 2000) and organisational culture (Coffey, 2010). In multicultural settings even standard processes may need some revision if they are to serve the needs of the workforce. Reward structures are an example (Smith and Bond, 1998).

Training and interventions are often used to assist in remedial efforts for organisations, or for increasing the productivity and safe behaviours of their workforce (Clark and Voogel, 1985; Goldstein and Ford, 2002). In international contexts, however, there are several challenges that arise in implementing training to ensure that the workforce returns home safely. These include training content and instructional methods and may vary depending on education, and language ability (Rogers, 2007; Tracey and Unger, 2012). For authors, safety training needs more sophisticated measures for different cultures (Merritt A., 2000; Merritt and Helmreich, 1996).

This research has found that planning in multicultural environments is important for organisations and sought literature about national culture. The literature outlines several authors such as Hofstede, Hofstede and Minkov (2010), Lewis (2018) and Meyer (2014) who delineate culture into dimensions, or across borders. Although their work has been criticised, it showcases major differences in national behaviour, and how and why design needs to pay more attention to these differences for sustained performance (Renn and Rohmann, 2000; Smith and Bond, 1998).

The way in which factors interrelate in multicultural environments is complex. There is a large gap in the literature. This research investigates factors that influence behaviour in order to improve organisational performance. It does so by highlighting factors in a framework to

support the people in operation and design as a whole. Current design models are critiqued to ascertain how the framework presented here fits into its wider understanding and adoption in the field of management and OD.

This body of literature allows for an in-depth understanding of the factors, their interrelations, and the development of a framework that can guide organisations in international contexts to consider in improving health and performance.

Figure 18 below reviews the gaps within the literature and OD application of models within multicultural major projects. These gaps indicate where more research is needed to evolve the field of OD, its models, and the body of knowledge to which they belong: organisational science, national culture, risk perception, training, interventions and communication and leadership. The research highlights these gaps and proposes a framework for understanding it better; including how to advance new approaches in OD that allow for more complexity, and increased organisational learning so that individuals and organisational capability and health can indeed be sustainable.
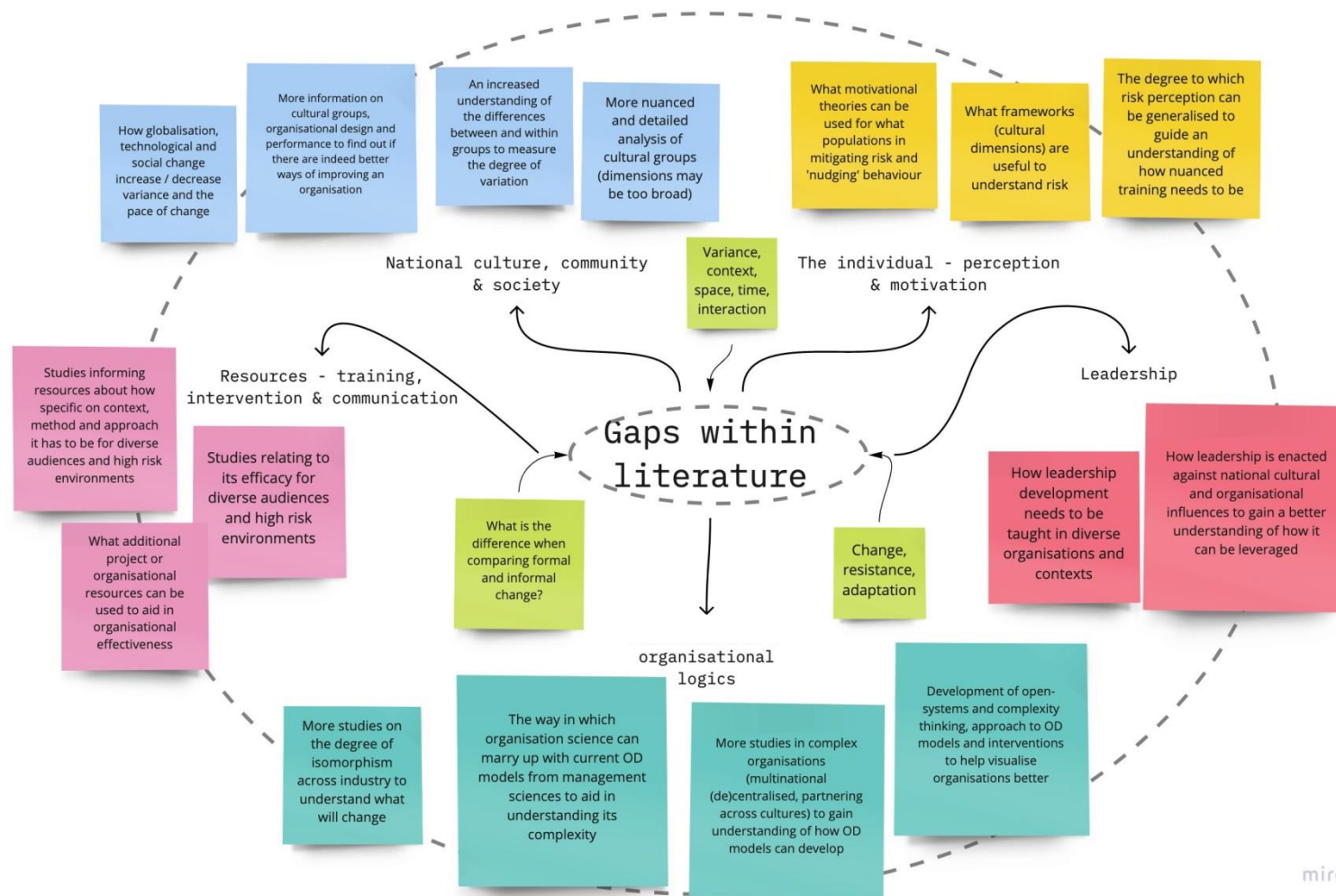
Figure 18 - Gaps in Understanding and OD Evolution

Chapter 3 – Methodology

3.1 Introduction

The method of research adopted for this project comprises a multi-method approach arranged in three stages. It incorporates different participants, methodologies and output at each stage. The first stage is a case study on a major project in the Middle East over 3 years. In the second stage of the research, practitioners on major projects and multinationals were interviewed over two years. The third stage of the research is a validation of a framework developed with practitioners on major projects and in multinationals over a year. The research findings are written up in three stages and are contained in the appendices.

This chapter focuses on the research methodology in terms of the research aims, philosophy and design, through to data collection and analysis. Ethical considerations are discussed, and challenges and limitations to the research are considered.

3.2 Research Objectives

The research question is defined as **"What factors influence behaviour toward improved organisational performance in large-scale, diverse infrastructure major projects?"** The overall aim of the research is to improve organisational performance on large construction projects. This is done by establishing a framework that describes factors in an organisation that influence behaviour: either improving or constraining performance and health.

The objective of this case study is to describe what factors engender an awareness of safety on site. Identifying those factors constitutes an invaluable framework that provides OD practitioners and project managers with a way of understanding, developing and monitoring organisational health and performance better.

The objective of the second phase of the research is to: (i) extend and validate the framework, and (ii) identify challenges and approaches to improving organisational health and performance. The narrative indicates the extent to which these factors determine behaviour through personal accounts of the impact, and the frequency with which factors are mentioned. Practitioners discuss in detail their challenges. They make reference to processes, structures or designs within an organisation or management system. Details of the approaches that practitioners take to overcome these challenges include what structural or behavioural aspects of development and change occur. Identification of challenges and solutions allow the researcher to understand how they may apply the same or similar approaches in future projects, and to increase institutional learning. The output of the second stage is a checklist of

considerations and approaches adopted by practitioners that align with best practice when dealing with complex, diverse projects, and when meeting international management standards.

The objective of the third stage was to share the framework with participants and allow them to provide feedback on the validity, reliability and generalisability of it. The researcher was then able to gauge its applicability across industries and sectors, and determine in what respects the framework needed further iteration or review. This framework is subject to iteration as the research continues and has currently been adopted and used within organisations.

In establishing a model for discussion of the research question: "What factors influence behaviour towards improved organisational performance in large-scale, diverse infrastructure major projects?" the research needs to meet the criteria for credibility, transferability, confirmability and dependability. These criteria can be met through the research method of triangulation of the content of the model (enacted through stage 2 and 3), and the use of the model in different organisations (enacted through stage 3 and further developed by the practitioner in their real-world activity). There is confidence established in positioning of the model in organisational development as the likes of other models (Burke-Litwin, McKinsey 7S, Galbraith Star Model) are in use within organisations currently. The factor of national culture is an interesting addition as a factor within these models as current practice in the diversity and inclusion field attempts to highlight this factor as an important conversation in the conceptualisation and operation of organisations. Through the discussion chapter, these criteria are discussed. In a general sense however, the product of the research needs to extend to the market and become more embedded in conversations of organisational effectiveness in order to further meet the criteria of credibility, transferability, confirmability and dependability.

The overarching research question looked to discover, understand and consider factors that influence behaviour towards improved organisational performance in large-scale, diverse major projects. Table 1 indicates how the framework and checklist were informed. The research at this stage looked to discover the variables that influenced behaviour. In stage 2 the research sought to validate these factors and discover how they may limit or improve behaviour toward performance. The final stage of the research sought to verify factors to ensure their validity and generalisability. Initially, the research began as indications of behavioural influences that contributed to successful implementation of training or management systems. These factors were organised into a diagram that, through discussions with practitioners in the same context, gave evidence of their inclusion and impact. This

research is informed by knowledge of psychological theory and practice, coupled with real-world practice and knowledge of practitioners in various management roles. The researcher values reflected in Chapter 7 – Personal Learning towards inclusion and humanistic practices influence the privileging of data, and have been highlighted for discussion. It is acknowledged that in a different context, other practitioners may select alternative factors to highlight for discussion given their values and aim.

Table 1 - Research Questions and How They Were Informed

Research Questions	Informed by Literature Review	Informed by Data Collection and Analysis
Overarching research question: What factors influence behaviour toward improved organisational performance on large-scale, diverse infrastructure major projects?		
Research Stage 1 – Exploration and Construction of the Framework		
What factors influence behaviour toward improved organisational performance?	Exploration and construction of events and observations using a diverse range of theory applicable to what is leading behaviour: psychological theory, health and safety theory, and business management studies.	Data collected from interventions on project, archival data, news articles, and discussions with practitioners. Predominantly through trial and error in achieving company objectives, and the various values and experience of the researcher.
How do the factors affect behaviour toward improved performance?	Development of theoretical model. Discussions based on the findings.	Data collected by improvement in work performance, productivity, health of the individual and organisation –organisational data.
Research Stage 2–Exploration of the Detail of the Framework and Generalisability		
What factors are validated by practitioners? (again) How do these factors affect behaviour toward improved performance?	Development of theoretical model. Discussion on the more intricate considerations of the framework for others.	Data are collected from interviews with practitioners based on their value set. These are transcribed and form a thematic analysis of the challenges and considerations to be made. Themes are informed by their frequency, and aligned to the framework identified in Stage 1.
	Approaches are considered in light of management theory, and its applicability to international operating standards. It is to ascertain credibility, transferability, confirmability and dependability of findings.	
	Factors are further informed by a range of theory derived from psychology, business management, and social studies.	
Research Stage 3– Validation and Generalisability		

| What factors influence behaviour toward improved performance? (and) Are these factors valid, reliable and generalizable for other practitioners? | Questions are informed in understanding the gap between framework and additional influences identified.

This step is to further investigation the credibility, transferability, confirmability, and dependability of findings. | Questions are informed through workshops conducted with a wide range of practitioners operating in major projects or multinational organisations, and noted for their validity and generalisability through discussions. |

3.3 Theoretical Perspective

The research methodology is summarized in the table below (Table 2) and describes how philosophy and theory can be applied to real-world business studies, and the methodological approach, strategy, timeline and data collection. It seeks to inform the reader of the choices made during the research.

Table 2 - Research Philosophy Detail

Research Stage	Philosophy	Theory Development	Research Approach	Strategy	Timeline	Data Collection
Stage 1 (Framework)	Predominantly Critical Realism and Interpretivist	Abduction	Multi-method	Case Study, Action research	Longitudinal	Archival, action-based
Stage 2 (Checklist and verification of Framework)	Critical Realism and Pragmatism	Abduction	Mono-method Qualitative	Semi-structured Interview	Cross-sectional	Semi-structured Interviews
Stage 3 (Validation)	Critical Realism and Pragmatism	Deduction	Multi-method	Survey	Cross-sectional	Workshop Feedback

Research methodology can be illustrated by the 'Research Onion' of Saunders, Lewis and Thornhill (2019), Figure 19. Research methodology is constituted by an overall research philosophy, the approach to theory development, and methodological choice, research strategy, timeline and techniques and procedures.
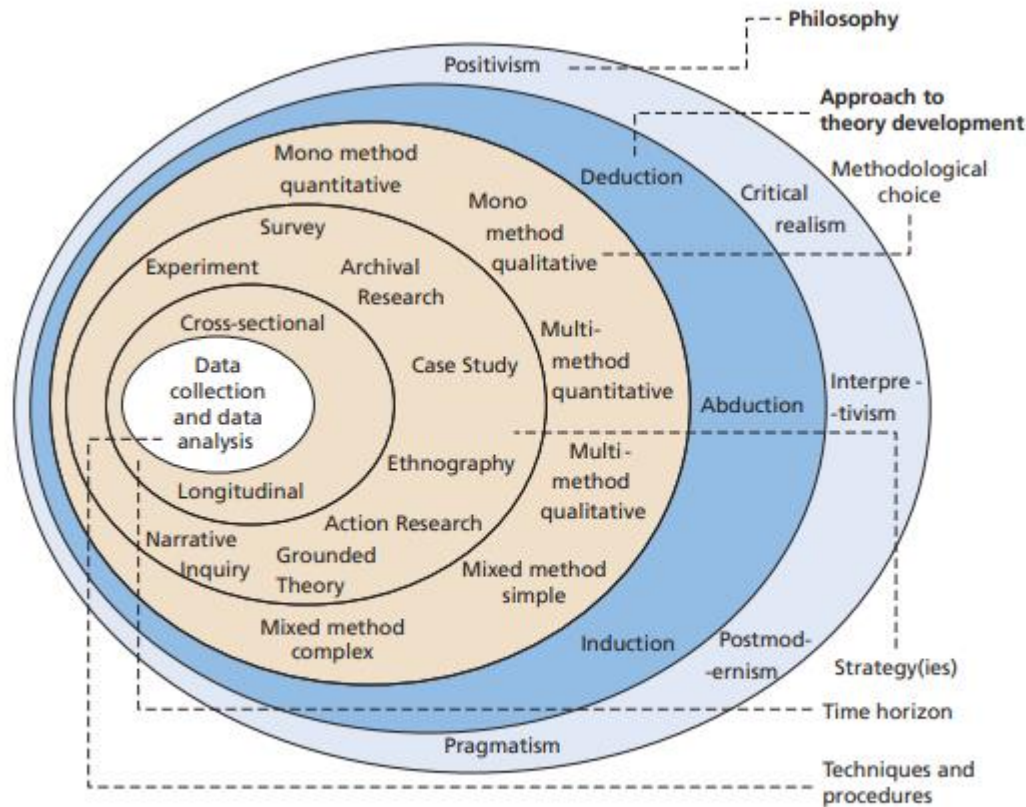
Figure 4.1 The 'research onion'
Source: ©2018 Mark Saunders, Philip Lewis and Adrian Thornhill

Figure 19 - The 'Research Onion'

Source: 2018 Mark Saunders, Philip Lewis and Adrian Thornhill (Saunders, Lewis and Thornhill, 2019).

3.3.1 Research Philosophy

Using a multi-method approach of case study, qualitative and quantitative analysis, an understanding of the full scope and dynamics of factors emerged. There is considerable complexity in this task. Creating this framework afforded a birds-eye view of several layers of behaviour in organisations.

By understanding research philosophy and its core paradigms of subjectivity versus objectivity, and regulation versus radical change, I propose that:

- Reality can be heavily constructed based on our knowing and experiencing of it, and that there may be a broader universal truth that we seek.
- In knowing, there are multiple sciences, facts and numbers that are available to us and this knowledge cannot discount the felt experience of it.

All research to some extent is value-bound, and it is the researcher's practice of reflexivity that can uncover what these hidden values are. I have used the table below to present a clearer appreciation of my proposition.

Table 3 - Philosophical assumptions as a multidimensional set of continua

Assumption type	Questions	Continua with two sets of extremes		
		Objectivism	⇔	**Subjectivism**
Ontology	• What is the nature of reality? • What is the world like? • For example: – What are organisations like? – What is it like being in organisations? – What is it like being a manager or being managed?	Real External One true reality (universalism) Granular (things) Order	⇔ ⇔ ⇔ ⇔ ⇔	Nominal/decided by convention Socially constructed Multiple realities (relativism) Flowing (processes) Chaos
Epistemology	• How can we know what we know? • What is considered acceptable knowledge? • What constitutes good-quality data? • What kinds of contribution to knowledge can be made?	Adopt assumptions of the natural scientist Facts Numbers Observable phenomena Law-like generalisations	⇔ ⇔ ⇔ ⇔ ⇔	Adopt the assumptions of the arts and humanities Opinions Written, spoken and visual accounts Attributed meanings Individuals and contexts, specifics
Axiology	• What is the role of values in research? Should we try to be morally-neutral when we do research, or should we let our values shape research? • How should we deal with the values of research participants?	Value-free Detachment	⇔ ⇔	Value-bound Integral and reflexive

Source: 2018 Mark Saunders, Philip Lewis and Adrian Thornhill (Saunders, Lewis and Thornhill, 2019).

An exercise using HARP: Heightening Your Awareness of Your Research Philosophy (Saunders, Lewis and Thornhill, 2019) illustrates my approach towards critical realism with an overlap of pragmatism, and interpretivist.

"Critical Realism focuses on explaining what we see and experience, in terms of the underlying structures of reality that shape observable events" (Saunders, Lewis and Thornhill, 2019).

In this philosophy there is a reality that is available but which alters according to our observation and knowledge of it. It is therefore our sensation and experience of the world that is important. Our experience carries a degree of fallibility in that our senses may not see everything in its reality but through our own lens, knowledge and understanding of it. Perception necessarily contains an element of experience, and of understanding through our own reasoning. This research philosophy assumes that there may be a larger picture outside what it is that we experience. The creation of knowledge is in a state of constant development. The knowledge that is created is based on our relation to this time period of our history and the social constructions we have created around events. This is thought to be a form of epistemological relativism (Saunders, Lewis and Thornhill, 2019). Critical realism is the most appropriate method for practice-based and value-based professions (Robson, 2011) such as major project and OD. Within this approach, a multi-method approach of both quantitative and qualitative data collection is appropriate.

Within a critical realist approach, the focus is on describing mechanisms that produce events rather than the phenomena or events themselves (Robson, 2011). For example, the research describes the mechanisms, factors and their interrelations that allow organisations to be most effective.

In stage 1 of the research, my focus was on making sense of organisational events and attempting to construct a framework in which I could locate meaning. A framework is used to explain the main factors to be studied and the presumed relations between them (Robson, 2011). I used psychological theory as a sense-making tool to understand factors. I used a process of locating events on a timeline to understand the bigger picture of a major project. Factors such as national culture indicated a difference in the way participants were experiencing why and how events occurred. This understanding supported my approach to critical realism. At times, the research is value-laden according to my understanding and experience in the world. As the research progressed, I compared my understanding with other accounts. Within the literature on factors such as national culture, authors distinguish culture in dimensions: task versus relation-based (Hofstede, Hofstede and Minkov, 2010), direct versus indirect communicators (Meyer, 2014), and multi-active, linear-active and reactive (Lewis, 2018). There is an attempt to understand 'universal truths' about behaviour. Sociological and anthropological books such as *The Savage Mind* (Levi-Strauss, 1966) and studies dealing with risk in different cultures (Bye and Lamvik, 2007) indicate a far more complex understanding of national culture when it is placed in its historical experience over time. The conceptual framework becomes a model with predominant factors that allow for different theory and practical tools to account for events. So a balance is struck between what tools or theory is available for meaning-making as well as for being able to develop a

framework that guides it. To further make sense of this explanation, the research is guided by my experience of growing up in a culturally diverse country, and subsequently working with and being embedded in different cultures in roles that aim to enhance awareness of others through learning initiatives, and to create inclusive communities. A humanistic viewpoint of behavioural development is also practice, guided by my own learning in occupational psychology practices and values.

During stage 2 of the research, I made sense of the accounts given by practitioners. I drew upon parallels to form a larger picture of the nature of behaviour towards improved organisational performance, from a humanistic and inclusive value-based view. Practitioners have their own view of what is happening and their explanation of events is their subjective experience using their own sense-making tools. These are necessarily fallible in some respects and subject to the context and their experience within projects and organisations. The contrasts in many interviews show how much practitioners differ in their approach and world-view. My attempts to identify themes in the data allowed comparisons, and presents an overall framework that allows for differences in approach.

Overlapping in methodological philosophy can be seen that include a pragmatic and interpretivist approach. A pragmatic approach suggests that it is the theory and considerations at the time that are most helpful to practitioners in solving problems (Saunders, Lewis and Thornhill, 2019). The framework developed in this thesis formulates practical solutions for organisations and practical tools to improve performance. Interpretivism is an approach that highlights subjectivity in its stance in terms of knowledge creation.

The table below indicates the logic, generalizability, use of data and theory that characterize a deductive, inductive and abductive approach. My research utilised an abductive approach in that it uses both theory and experience as starting points for what is known to influence behaviour, and attempts to correlate the two in a framework that can then be iterated.

Table 4 - Deduction, induction and abduction

Table 4.4 Deduction, induction and abduction: from reason to research

	Deduction	**Induction**	**Abduction**
Logic	In a deductive inference, when the premises are true, the conclusion must also be true	In an inductive inference, known premises are used to generate untested conclusions	In an abductive inference, known premises are used to generate testable conclusions
Generalisability	Generalising from the general to the specific	Generalising from the specific to the general	Generalising from the interactions between the specific and the general
Use of data	Data collection is used to evaluate propositions or hypotheses related to an existing theory	Data collection is used to explore a phenomenon, identify themes and patterns and create a conceptual framework	Data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test this through subsequent data collection and so forth
Theory	Theory falsification or verification	Theory generation and building	Theory generation or modification; incorporating existing theory where appropriate, to build new theory or modify existing theory

Source: 2018 Mark Saunders, Philip Lewis and Adrian Thornhill (Saunders, Lewis and Thornhill, 2019).

3.3.2 Research Approach

This research employs a bricolage or multi-method approach by adopting a case-study and action-based research linked to qualitative data analysis. A bricolage approach is adopted because:

- It is built on a multitude of scientific literature and discussions that lends a multi-paradigm approach: critical realism, pragmatism and interpretivism.
- For users of the framework and researchers advancing theory in this area it is a novel approach that looks to design data collection based on the sample selected and the real-life (subjective, elusive, irregular) context in which it developed (Regan, 2015) particularly given the flexible approach toward the case study,
- it attempts to add rigour, depth and breadth to the research, and
- It is a continual iteration of the framework for both advancing literature and practice (Rogers, 2012).

By means of bricolage, the object of enquiry can move from redefining something to understanding the multiple possibilities of relational ways of being. It is the assertion that we can change the way in which we research and perceive the world around us (Kincheloe and Berry, 2004) such as the growth and development of the product, research and theory of the

world. Bricoleurs include interpretation, development and new knowledge production for deeper understanding of the different levels of complexity of phenomena (ibid.). It is based on objects of study that are unpredictable, complex and changing. This has been the case through the research process that builds upon emerging knowledge by using different methods, theories and practical experience. Bricolage removes what Kincheloe and Berry (2004) call the "'messy' components of building knowledge" which do not allow for a rich, variegated understanding of the factors shaping behaviour.

This research process incorporates subjectivity in action-based research. It constructs models and interventions that can make a difference in performance indicators as well as culture, health and capability. Organisational culture by its definition is an intangible and felt aspect of an organisation. A purely objectivist approach excludes current social, political, cultural, discursive and disciplinary perspectives. This subjective nature of research allows a rich complexity of data (Kincheloe and Berry, 2004). This research recognises power dynamics behind social, cultural and economic conditions that play a part in meaning-making and organisational behaviour. In stages 1 and 2, there is a large consideration of the history that shapes the data that characterise a multi-method approach (Kincheloe and Berry, 2004). This interdisciplinary approach allows for epistemological understandings of the world to be appreciated more critically because they assume different views of knowledge (Kincheloe and Berry, 2004).

The world of international projects and the development of organisational culture and design to affect organisational health and productivity is a wide area of research. It cannot be understood in ways that seek linear and reductionist methods of analysis (Regan, 2015). I attempt to understand behaviour in such a way as to determine what business processes work, when and why. As Dainty, Green and Bagilhole (2007) suggest, construction companies have a specific reputation and working culture. Lived experiences are important to assimilate and write about.

Stage 1 of the research called for understanding events through observations, archival information and real-world research. Stage 2 demanded sense-making, theming and drawing comparisons between the accounts of practitioners in order to validate the framework and further elaborate on the various challenges to influencing behaviour. Stage 3 of the research called for qualitative data to validate the model, including feedback on its iteration and development.

3.3.3 Research Strategy

This research identifies key factors that influence behaviour towards organisational health and performance (see Chapter 5.4 Emergent Themes). Table sets out the key themes and components of the strategy (Robson, 2011). These are the research question, purpose of the research, a framework, methods of data collection, and sampling strategy.

Table 5 - Research Strategy

Purpose: Organisational health and performance is thought to be of critical importance to longevity and productivity of organisations. Attempts at studying how organisational factors are constructed and interrelate are a large part of practitioners work in OD and business. How these factors and the behaviour of individuals relate is important to understanding how to better design and evolve organisations – both behaviour and factors exist inside of organisations.	**Framework**: diagram of factors within an organisation that impact on behaviour, and the mechanisms that constrain or improve behaviour (contained within the results chapter).
Research question What factors influence behaviour toward improved organisational performance in large-scale, diverse infrastructure major projects?	
Method: observation and archival evidence of an event, subsequent behaviour, and the mechanisms that influence it. Semi-structured interviews of practitioners on their observations of the relationships; and feedback data about the validity and generalizability of findings.	**Sampling Strategy:** Case study as the initial unit of measure. Practitioners working in similar contexts as the case study and at a management level focused on improving performance. Practitioners working in broader contexts at a management level and focused on improving performance.

This research strategy is based on exploring and evidencing the relations between factors that influence behaviour. The strategy is influenced by the need to: (i) explore complex relations broadly, and in great detail, and (ii) construct a framework that offers a guideline for future practitioners in planning major projects and organisations. A level of granularity is needed. Identification and construction of broad similarities is necessary. The research strategy is chosen in an attempt to explore the relations, gain depth of factors, and find overarching elements.

Development over Time

The initial stage of the research (case study) spanned four years. A large amount of detail and complexity has been observed over the life-cycle of the project. The factors are simplified in the final model to allow for a broad view which is appropriate for the framework (Miles, Huberman and Saldanha, 2014). The research question was not completely clear at the outset of the research, it became so through an understanding of the knowledge culture and network that existed. This process of gradual clarification is described by Cetina (1999) as research without a clear narrative initially but evolving over time. A knowledge culture in the case study developed through ruptures or events in management practice that indicated different factors at play. During the case study, many ruptures indicated the availability of a knowledge network that is deeply and intricately constructed, involving many mental models of sense-making (Cetina, 1999).

Fieldwork had begun before boundaries and a framework were specified for the research. Boundaries are borrowed from systems-based approaches and used to define where and how systems start and end; making it easier to understand how factors interrelate. The proposal moved from singular events or programs to multiple programs. I identified a thread in the various aspects of the project. This led to documentation of the framework as a way of consolidating the various factors at play.

At stage 2, the framework became clearer. Boundaries of the research then became apparent as factors that influence safe behaviour emerged. Factors of influence were observed over a long period of time.

The case study approach was used based on the 'site' or major project and the events that occurred using both quantitative and qualitative approaches (Robson, 2011). This helped in visualising the framework, and the multitude of ways in which behaviour and performance can be seen in singular activities. It then grew into a framework. The research started from a looser design toward more selectivity. Factors were then confirmed within the second and third stage of the research which is characteristic of using case studies and the benefits of doing so (Robson, 2011). A case study method is fundamentally different to other methods employed in the research. It can include researcher bias and therefore needed to demonstrate trustworthiness over time. A qualitative analysis was conducted in the second stage of the research.

The case study makes use of the **practitioner as a research instrument.** The case study is an ethnographic account of the lived experience of a major project over an extended period of time. With ethnography, the researcher enters into a relation with people in order to study them in their social setting. These relations affect the process and are affected by the presence

of others (Robson, 2011). This process entails: (i) gaining an insider view of the project, (ii) observing and studying the group in its natural setting and to take part in it, (iii) the focus of the study can change, (iv) data collection is considered over a long period of time with a focus on behaviours and events that occur frequently and can be understood over a longer period of time, and (v) the shared meaning of the group is central to the way in which they manage and intervene (Coolican, 2014). New developments in thought grew in a practical nature. I am keenly drawn to the characteristics of ethnography (Robson, 2011). It is about understanding 'real life' settings, generating conversations and data about them in a specific context, being comfortable with a reflexive, active and flexible style, and looking for depth and complexity in research (Robson, 2011).

As an insider researcher, access to relevant documentation and information has been made available as far as possible and grants an advantage to the research. It is based on practical implementation and changes in behaviour that can be observed and understood. One disadvantage of being an insider researcher is that information about global perspectives and business issues may not have been available initially on which to base the research, however this has developed over time.

Stage 2 concentrated on qualitative data collection and analysis, using semi-structured interviews and thematic analysis. Qualitative research receives some criticism so data overload was minimized by consistent organizing, and re-readings of transcripts reduced gaps in the data or inconsistency due to first impressions. Checking between case study and practitioner accounts increased availability of information while internal consistency focused the hypotheses (Robson, 2011). The data collection included sampling of a variety of practitioners allowing for more information variability. Comparing that to the case-study created a basis for comparison. The accounts were scanned in detail and several thematic maps were generated for practitioners. This process allowed an understanding of the frequency of themes and the interrelations to form. This work provided the case study research and framework much greater breadth and depth. Accounts of practitioner data and approaches are summarized and included in the checklist. All practitioners have been operating for several years and their accounts are based on real-life solutions. They are reliable enough to serve the purpose of the context they are in. The way in which theming was carried out establishes relations through the connections between each transcript, and similarities and differences between transcripts. Both similarity and contiguity are important aspects of coding (Robson, 2011).

The OD model may be thought of as both diagnostic and dialogic (Gervash and Marshak, 2013) in the sense that it is an interpretive science based upon the prevailing symptoms

present, and interpretation of them. A diagnostic model focuses on holistic, pragmatic and sustainable views of organisations. This model utilises dialogic processes in uncovering what is available, and diagnostic references formulate a broader view. The ideas reference a systems-thinking perspective. The whole organisation is allowed to be part of making meaning rather than a team or an individual OD consultant within a unitary diagnostic function. The OD model shares with it the method of formulation which began in exploration of events, concluding what influences behaviour according to real-world action research and classical science. The research attempts to reveal knowledge in a cultural knowledge network (Cetina, 1999). The dominant construct in OD is that organisations are like living systems that generate new knowledge. This is true for the model developed in this thesis in that certain factors are always present in organisations. Their interrelations and approach may change. A dialogic view suggests that organisations are meaning-making systems. This is true of this research project in that accounts of practitioner experiences suggest where meaning is prescribed and where the focus is the largest and most fundamental.

Research Design

This research is flexible in its design and characteristic of ethnographic case studies (Robson, 2011) and the bricolage approach (Kincheloe and Berry, 2004). There are many benefits for allowing flexibility in design but these needs to be managed against what Robson (2011) terms: i) allowance of necessary skills and training for implementation of a range of methods. This is beneficial in upskilling employees and harnessing new knowledge for more understanding and (ii) timing in case study and qualitative analysis which can be lengthy. The DPROF research structure allows for this approach to develop as it would naturally. A track of evolution and incremental change can be seen. (iii) The limits of adopting multiple approaches such as when and where to combine methods, or the formulation of research strategy through the research process has allowed for more triangulation in findings both in stage 2 and stage 3 of the research. (iv) Robson (2011) suggests there may be an issue with a lack of integration of findings. The sequential nature of the approach has allowed more methodological rigour.

The nature of the research employs the researcher as an instrument and evaluation of real-world practice. This allows for evolution of the research in context. A flexible design is appropriate in this sense (Robson, 2011).

 Several research texts were considered to inform the most appropriate methods to safeguard against malpractice. Research malpractice can result from poorly completed data collection and analysis (Miles, Huberman and Saldanha, 2014).

To ensure generalizability in findings, Robson (2011) suggests that there may be errors in: (i) inbuilt bias, and (ii) samples that are too small. This was considered in both stages 2 and stage

3 of the research however the samples are appropriate for the experience and knowledge they possess. The construction of a framework and its practical use are for ensuring organisations have a better understanding of the influences of behaviour. This model is subject to change as it is implemented in different contexts. There is a constant re-evaluation of data, sampling for variation as far as possible, and understanding the progressive nature of the enquiry which allows for evolution from a 'messy' and intricate exploration of work, to more variation and validity of overall findings.

I have been particularly organized in mapping and writing notes to ensure that at each stage I am cognizant of the accuracy of the data and bias inherent in the research. Flexible designs are criticized for not having standard measures for assessing the validity and reliability of research (Robson, 2011). The trustworthiness of the project could therefore potentially be called into question. In particular, controls that mitigate threats to validity or replicability cannot easily be determined. Robson (2011) determines that the aim of validity and reliability privileges some approaches over others. Researchers argue that credibility, transferability, dependability and confirmability are descriptions of flexible design that are more warranted (Robson, 2011). The credibility, transferability, dependability and confirmability of the research is secured through the sequential nature of the research at each stage allowing triangulation of findings, the data achieved within stage 3 of the research, and the positioning of the research within an existing real-world application. It is considered in Robson (2011) that the validity of interpretation of the data seeks to consider the final product and discover how the data demonstrates the interpretation made. My interpretation as an ethnographer has meant an active involvement in the feeling, state and culture of organisations which is important in order to comprehend the full effect of what organisational culture, health and performance can have on individuals. This is an inclusive and humanistic worldview. This first-hand experience of work grounds my understanding of the work, and the importance of having a framework that can aid OD across cultures, environments and contexts. Its validity has been illustrated through an analysis of alternative models that guide OD however it is acknowledged that further application of the model is necessary in large-scale, diverse major projects.

In order to arrive at the end product, different stages of data collection enabled data and methodological triangulation and elaboration of the product. Theoretical triangulation has been made using multiple alternative models and multiple different theories in the explanation of behaviour. Further development is expected, and implementation will be necessary to understand better how the product is used on site.

3.4 Ethical Considerations

Agreements between participants and the researcher were made explicit during the selection process. Agreement forms were administered and discussions were held with participants on the process, prior to interviews or workshops. Considerations involved: time spent on the research; the kind of data collection involved such as observations, interviewing, journal writing and life histories; involvement in a voluntary capacity; the researcher's role in design of the research; confidentiality of data; anonymity of participants; the researcher's role in producing descriptive and explanatory products and accounts of the research process; the researcher's supervisors and their roles in critiquing and delivery of final products; the benefits afforded to participants; and publication of final results (Miles, Huberman and Saldanha, 2014).

Since the research is both a documentation of challenges faced by participants and approaches to solutions, the research makes use of the researcher's reflective practice. Relations between participants and researcher are implied in a shared, equal-status model about the design of the product. Since this research project adopted a bricolage method, the design of the research was directed predominantly by the researcher as the study unfolded. The following ethical considerations were set up at the outset of the project.

3.4.1 Informed Consent

Interviews and workshops were set up through email invitations from the researcher to each participant. Confidentiality forms and agreements were emailed to participants prior to each interview stage. During each interview, agreements were explicitly discussed, and any questions posed were addressed by the researcher. Participants were informed before the publication of the research.

3.4.2 Privacy, Confidentiality and Anonymity

Agreements were provided to all participants at stages 1 and 2 of the research process. See Appendix 4 for the Agreement Forms. The form assured confidentiality and anonymity for participants, and opportunities to withdraw at any stage of the project. The researcher maintains contact with the participants involved in the study. They have been informed of final submission including the confidential nature of the final submission and any subsequent publication.

The nature of this theme considers confidentiality, anonymity and privacy control (Miles, Huberman and Saldanha, 2014). Interviews and relations between practitioners and researcher allow for outpouring of information. Data have been considered to ensure protection and privacy. Anonymity is protected and is set within certain industries. The factors

identified on a major project are not peculiar to it. Any information that has been included such as newspaper articles have to be removed from public view because this identifies the company and location.

3.4.3 Harm and Risk

All participants were over 18 years of age and consented to the research. They do not constitute a vulnerable population. In establishing a level of trust and honesty within the process, the research strictly maintained the confidentiality and anonymity of companies and participants. In the process of interviews, some practitioners mentioned names that both researcher and practitioner knew. In all instances, these have not been included or acknowledged in the research to maintain anonymity. There is a risk of leading a discussion which may compromise the integrity of data and so is avoided (Miles, Huberman and Saldanha, 2014).

3.4.4 Benefits, Costs and Reciprocity

Benefits offered to the participants were (i) inclusion within the research project, and (ii) the opportunity to discuss behaviour confidentially and reflect on their style and approach towards challenges. No financial considerations, joint ownership, or joint publication was offered. There may have been a degree of reciprocity enabled in that participants and the researcher were working within the same field. Assumptions around mentorship, learning, building good relations and networking are important. Such assumptions often involve non-verbalised outcomes of the research including altruistic assumptions aligned with the purpose of the research (Miles, Huberman and Saldanha, 2014).

3.4.5 Data and Conclusions

All data were considered to be owned by the researcher and University of Middlesex when the research is submitted. Prior to submission, agreements between participants and researcher stated that participants can withdraw from the research at any time. This includes the five year study period. In reproduction or re-use of data, anonymity will still be afforded to participants. No data will be made publicly available unless approved by researcher and University agreement.

No agreement has been entered into for the stage 1 case study. No publication or reference to the project can be made outside the model and its factors. The documentation in stage 1 needs complete privacy because it forms a substantive part of the development and reflection of the researcher's experience. The research is privately funded and bears no relation to any organisation or agreements by a third party. Current discussions between researcher and the organisation at which the research was conducted suggest that there is an opportunity for the behavioural framework to be used within major tenders for future projects.

The consideration of power relations within the model should be highlighted in terms of its overall approach to operating within organisations (Miles, Huberman and Saldanha, 2014). The researcher's main aim was to improve safety awareness but the framework developed in the course of this work may be deployed to improve work structures and agency, and to facilitate a better way of organizing and implementing a major project or structuring a multinational organisation through a merger and transition. Certain aspects of an organisation are avoided in discussion with other stakeholders since they may compromise the reputation of an organisation and minimize future work (Dainty, Green and Bagilhole, 2007). Such aspects include: legal consideration, stakeholder management, and future development. There is often some resistance to disclosure of challenges or weaknesses in the organisation; these may be linked to underperformance or failure in task. The researcher's approach to this dynamic is to unpack and understand at a deeper level what influences inculcate an awareness of safe behaviour on a large site. In some respondents' commentary, although privacy was guaranteed, there was a degree of bias in terms of the role and relations to the organisation for all participants and the researcher. The questionnaire in stage 2 was based on factors drawn from stage 1.

The following information is available and aligns strongly with the research process as defined by Miles and Huberman (1994) and Miles, Huberman and Saldanha (2014):

1. Raw material: recordings, project documentation and successive iterations of notes
2. Partially processed data: transcripts and subsequent versions of write-ups
3. Coded data: transcripts coded against factors
4. The guidebook included in the method section
5. Memos have been included in the method section as far as possible, and includes textbooks and commentary for theory development
6. Data displays: worksheets and thematic diagrams which have also been used for search and retrieval of information
7. Analysis episode included within the method section
8. Report texts: successive drafts written on design, method and findings of each stage
9. Method chapter which serves as documentation of final data collection and analysis work.

Evidence of the information can be found in the research methodology chapter and appendices. This outlines the ethical considerations inherent in the research including informed consent, confidentiality and anonymity, benefits and costs for involvement in the research and data use. The next chapter focuses upon data collection at each stage of the research.

Chapter 4 - Data Collection

This chapter is part of the methodology of the research and concentrates on how the data is collected through each stage of the research: I) Stage 1 is the case study, II) Stage 2 is the qualitative interviews collected from Health and Safety practitioners operating globally, and III) Stage 3 is the presentation and qualitative analysis of the presentation of the framework to a diverse set of practitioners operating globally in various professional settings. Data collection is discussed here, and data analysis is provided in the following chapter.

4.1 Stage 1

4.1.1 Participants

Signed confidentiality forms are obtained for all of the participants in stage 2 and 3 (electronically and paper).

The unit of measurement in stage 1 is a major project. The project has multiple stakeholders and a large number of workers.

Stage 1 includes between 6,000 and 18,000 labourers throughout the life cycle of the project, approximately 500 staff members from each consortium organisation including over 30 subcontractor companies at varying stages of the project. The unit of study is the organisation made up of three companies and the major project through its lifecycle. The researcher plays multiple roles on the major project. The unit of study is based on available settings and the multitude of opportunities that presented themselves showing the need for identifying a framework.

An initial stage of the development of the case study sought to establish limits for analysis. The idea of focus, establishing boundaries, and being selective is called into question but the ideas propagated to form an initial framework. Until that time, the researcher identified new leads, extended the area of information, bridged existing elements, reinforced trends, accounting for other information, and qualifying and refuting information as can sometimes be the case when developing a conceptual frame (Miles, Huberman and Saldanha, 2104).

4.1.2 Measures

The case study is examined over a period of three years. The job description of the researcher was initially to lead the revision of the Health, Safety and Environmental (HSE) Training suite which formerly belonged to the joint venture partner. The case study is a narration of the experiences the researcher had delivering the training program and upskilling the competency of the migrant labour workforce, as well as the OD interventions presented themselves on

project. The unit of measurement is therefore a major project since the case study included several component factors that contribute to the creativity, and depth of analysis and action research that is evident in this kind of research (Miles, Huberman and Saldanha, 2104). This allows an opportunity to consider and test alternative hypotheses for the output of the research. The case study is exploratory and covers documentation of differences in power structures evaluated through consideration of literature on how organisations can constrain or influence the safe behaviours of their population, the dynamics of various national cultural differences, the context and environmental constraints, and the ways in which the researcher and HSE team attempt to influence behaviour. The narration seeks to understand the intricacies of why some of the 'interventions' that delivered are particularly useful. The data collected is archival and the research has been presented in sections that relate to the major project, industry and training program. By revisiting the case study events, alternate theories are allowed to guide the interpretation of events and ideas about the constructs involved in the study.

The research is abductive in the sense that it allows incomplete data to form a narrative account of factors influencing safety behaviour. This method is useful for a more holistic and natural way of revealing factors that governs behaviour. This study includes the subjective experience of the researcher. The potential disadvantages of using this approach involve the reliability and validity of accounts (Timmermans and Tavory, 2012) however the exploratory accounts of the case study is validated through Stages 2 and 3 of the research. The benefits of doing this are to understand how and why practitioners choose to shape the cohesive identity of the major project, both from a large meta-theoretical perspective, and an individual perspective (Del Corso and Rehfuss, 2011).

Data is collected primarily from archival records, documents used within the project, observations and work tasks, and discussions throughout the project. The research is a narration by the practitioner of events, constraints and influences of behaviour on a major project. All identifiers of the project, such as people and company names, have been kept anonymous as far as possible, except for national cultural variables which form a key part of the research project, yet allow the reader to have a thorough understanding of the events, and reaction to constraints within the project. No confidentiality agreement has been included by a project representative. This limits the amount of evidence available for publication.

These events and constraints are important given their impact on behaviour. The observations have all been made by the first person in an attempt to note down and discuss psychological aspects that reflect what is identified. The research insights are therefore subjective and fallible but represent a solid and rigorous attempt at finding different ways to conceptualise

and think about the health and promotion of development practices of people assigned to a project which is appropriate for the research design (Miles, Huberman and Saldanha, 2014).

The data presented is selected based on the degree to which it showcases the dynamics of variables, for example their relation to the unit of analysis and framework. Action research by its nature is based on practitioner expertise and immersion in the project, and explores the nature of constructs in a real-world context which looks at both depth and breadth of factors that support the research hypotheses (Coolican, 2014).

Important questions on which the research is based and which explain its purpose are offered as follows. These questions are used to guide research development:

What factors constrain or improve their behaviour towards Improved performance (safety, productivity and quality of work)?

From the main research question we can unpack some additional questions and assumptions:
- How can behaviours be influenced towards safety (as a goal of performance)? Is performance (safety, productivity and quality of work) common sense??
- How do national culture, organisational composition and culture, and safety practices influence behaviour?
- Are the insights discussed within the research generalizable for a different global population, given the nature of global construction work across different locations of the world?

As the world becomes more globalized, and culturally dispersed, there exists a 'duty of care' towards these emergent, diverse populations to create social and economic structures that are flexible enough to ensure equity at all levels. Corporate social responsibility of large companies working overseas becomes critical given the unfamiliarity of the environment, diversity of populations, and international spotlight on media and events. Major projects must uphold human rights rather than devote themselves entirely to profit margins and the heartless exploitation of local populations which exacerbate power divisions and strain business relations between countries.

The case study method is used to investigate deeply and intensively to gain insight and understanding into the phenomena of a chosen topic. In this case, researchers' reflections are guided by an understanding of psychology, particularly design and development which shape individual, organisation and enterprise-wide activities by using interventions designed to enhance employee and organisational performance. This background is born from the practitioner's own academic background in psychology. A case study considers behaviours, skills and performance of an individual at the organisational level in order to diagnose and

design appropriate interventions to drive culture and increase performance. These goals condition the safety climate of a major project. Injury is reduced as the desired levels of psychological sensitivity, safety awareness and community learning are increased.

4.1.3 Data Considerations

All documentation is captured as part of the routine practice of operating by the organisation; such as training records, evaluation measurements, charters, survey and feedback mechanisms, and commentary about differences between people, and discussions about process improvement and behavioural change. An understanding of the major factors and subfactors is considered and condensed through the research stages. All documentation is presented as part of business as usual within the organisation to the supervisors concerned and forms part of the remediation discussions for the project management team.

The method of gathering data is after-the-fact (Saunders, Lewis and Thornhill, 2019). The role of the researcher involves action learning and research. Training, interventions, health and safety practices, and human resource development is initiated and monitored with various key performance indicators, objectives, and measurements of their effectiveness. The researcher is engaged in reflective practice which is a valuable tool for sense-making (Schon, 2016) and developed a clearer understanding of the activities, decisions, and methods employed to mitigate risk. Measurement of training is substantial and well documented throughout the duration of the project. Health and safety practices as well as OD initiatives are recorded. The intangible benefits of allowing an open community of employees to develop are explored with practitioners in Stage 2. Records can be found in Appendix 1 under Training and Interventions. Key reflections are part of the case study documentation including intangible or 'felt' aspects of what it is like to be on a major project in various roles. The involvement through action research is substantial.

During the case study, several discussions are held with members of the project in order to sense-make, explore, test and compare hypotheses about model factors. These informal discussions determine the final form of the final research product, and are a useful way of producing knowledge in context (Cetina, 1999).

4.2 Data Collection – Stage 2

4.2.1 Participants

Stage 2 includes eight interviews with practitioners. Practitioners are selected based upon their length of service within the organisation and their experience with management systems, interventions, and risk reduction. Interviews are therefore purposive and homogenous.

Participants are selected as key participants operating in different environments based on their roles (Miles, Huberman and Saldanha, 2014) and offer the research comparable glances between different contexts and cultures and operating within the same industry standards set. The sample is not deliberately construed for confirming, disconfirming, deviant and typical evidence although the personalities of practitioners allows for these approaches to emerge. Interviews are arranged over several months, each one lasting a few hours in order to reach saturation of content.

Table 6 - Stage 2 Participants

Interview	Profession	Pseudonym	Current Location
Interview 1	HSE Manager	Tony	Africa
Interview 2	HSE Specialist	Vinnie	Eastern Europe
Interview 3	HSE Manager	Larry	Eastern Europe
Interview 4	HSE Manager	Steve	Middle East
Interview 5	HSE Manager	Timothy	Middle East
Interview 6	HSE Manager	Peter	Middle East
Email Correspondence 7	HSE Manager	Manu	South America
Interview 8	HSE Manager	Bruce	UK

The interviewees work within the same field, and largely within the same industry: construction services. Their accounts offer an understanding of other cases by which to compare stage 1 which is useful for generating confidence in findings (Miles, Huberman and Saldanha, 2104).

4.2.2 Measures

During stage 2, the aim is to validate the factors that are indicated in stage 1. The unit of analysis as the entity on which the interpretation of the study will focus is each practitioner and the context they experience. The unit of coding is the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon: comprising the answers to the questions and generation of themes determined by the structure of the response (Boyatzis, 1998). That is the challenges that practitioners face, the key topics or themes, and the approaches practitioners take in mitigating these.

Thematic analysis is believed to be an advantage in that it is flexible and can be used with any data type (Boyatzis, 1998). It is an easy and quick method to learn when compared to other forms of qualitative analysis. It provides a means of summarizing key features of large data sets. It is not tied to a particular level of interpretation and can be used in a variety of fields and disciplines. The disadvantages are that themes can be quite broad: they may not allow

the right level of detail and focus and can be limited to exploration rather than interpretation. There is little detail given about the procedure. It is contained in Appendix 1 and the Master-Data sheet. A guidebook that allows specific themes to emerge is used, which is the appropriate method for thematic analysis (Robson, 2011).

New themes were able to emerge through the interview process although the interviews and structure were guided by a series of questions based on factors within the first iteration of the model. This is a step in validating the main factors that influence behaviour. Themes indicate the frequency of topics, and their challenge to participants including resolution where possible.

Interviews are requested from practitioners in advance and an agreement form sent through to those willing. Interview dates are selected according to the timeframe practitioners are available: 6 out of 8 interviews are conducted in person. The discussion is recorded using a phone and transcribed by an outsourced consultant. The transcriber is selected based on her work within the academic sector and with qualitative research. The transcripts are checked for accuracy before coding. Once transcribed the researcher read the interviews and is involved in finding themes according to the factors within the model, and other identifiable influences on behaviour. These factors are identified based on the way in which a practitioner would discuss a challenge, and the identification of the root cause or behavioural influence at play.

The questions guiding each interview are constructed based upon the factors that influence behaviour that are prevalent in the research. The questions are based on fairly large open-ended questions to allow each practitioner to answer in their own way. The question set is constructed and iterated several times as the research was set up and the interviews undertaken. This is done because the participants: I) understand the question but it is too broad or too simplistic to allow them to answer succinctly or II) do not understand the theme. The initial and most broad question: "what factors influence behaviour toward improved organisational performance on large-scale, diverse infrastructure major projects?" is used to bring the conversation back to the main thread. This iteration follows a similar path to that of the revision of the diagram and subsequently the guidebook. Each table or diagram is adjusted as the factors became more refined through time and analysis. The interview questions are used to guide the interview process: they focus on major factors influencing behaviour and are presented below.

Introduction

I am interested in what factors promote the success of large constructions which have a diversity of workforce behaviours. Safety, quality and productivity are all mutually related. Individual behaviour can greatly improve or constrain overall safety, quality and productivity. I seek to understand the factors that either improve or constrain individual behaviour, and to identify way of improving organisational performance The below is a list of factors identified as improving or constraining behaviour. We ask questions related to these factors to find out their validity, and to understand what can be done to improve organisational performance.

Certain broad lines of thought begin to emerge:

1. What factors most significantly affect the decisions made about safety procedures and safe behaviour on a multicultural megaproject?

2. What strategies have been used to manage, motivate, inform and train those working together on a multicultural megaproject?

When we discuss staff, we should deal with everyone on a project and how each one's behaviour, skills and sensitivity affects others, and ultimately, the success of the whole project.

The following questions are prompts for seeking evidence of the concepts which I need to discuss:

- What do you think influences and instils safe, productive behaviour on site?
- What experiences/exposures really change ideas about performance, risk and safety?
- What kind of interventions do different cultures prefer for safe, productive behaviour?

Organisational culture

Organisational culture may be defined as the way we do things in a certain work environment. It is a concept that is made up of a shared vision and values, dominant and/or minority groups, accountability of leadership, action or behaviour of people towards each other, and open communication.

1. Does organisational culture exist in your organisation, and do you think it influences behaviour? How?
2. How has the culture changed over the last few years?
3. What are the greatest challenges on project and working globally? Explain.

4. What are the largest rewards? Explain.

5. Can you tell me about the informal influences upon safe behaviour? This could entail elements outside the formal work processes i.e. the social environment, social structures, actors, functions, economic activities, social situations or gatherings, communication, divisions of labour creating temporary boundaries and setups, dress, humour, behaviour in informal meetings, types of gatherings and traits related to interpersonal relations, informal leadership, behavioural control (in-groups, coercion and persuasion) and informal communication.

Influences of national culture: definition

Culture comprises artefacts, patterns of behaviour, behavioural norms, values - espoused and actual - and underlying assumptions manifested by individuals or their communities.

6. In terms of nationality, what are the general behavioural cultural practices, norms, values, traditions, rituals and celebrations practised on the job? I.e. the differences and practices between a Turkish and Omani culture, for example.

7. Do you think there are national cultural differences that cause conflict or harmony on the job?

8. Do you think people feel prohibited from doing something in the normal way they would i.e. Sikhs are not able to wear helmets properly on top of their mandatory turbans.

9. Do you think the project or organisation has made arrangements for appropriate leadership / systems for the workforce?

Risk

10. In your opinion, what is a good definition of risk on your project?

11. What types of risk do you usually see?

12. How frequently do these risks happen?

13. What are the causes of unsafe actions and risk-taking?

14. What attitudes do people have about taking risks at work i.e. are they blasé about it, or empathic about people getting injured?

15. Are mental health incidents / discussions addressed? Why?

Safety Management

16. In your broader philosophical view, do you feel that injuries are preventable? Why do you think that?

17. Do you think the experience of an accident affects how people view safety? What else does?

18. Did this injury impact on your understanding and practice of safety, or not really?

19. Does the environment (place of work, social and physical environment) play an important part in improving safety? Explain.

20. Do you think attitude makes a difference to whether you practice safety or not?

21. Are people motivated to practise safety?

22. Do you think people take time to think about safety on project?

Interventions

23. Take me through some of the interventions you have seen on the job. What happened? Who delivered the intervention? What was the length of the intervention? What were the goals and objectives of the intervention?

24. Were the interventions successful? Why?

25. What are the advantages/challenges of designing and delivering successful interventions?

26. How should safety success be measured? Why?

27. How do you think manual workers react to interventions? Is there any long-lasting change in behaviour after an intervention?

28. If the project included interventions designed to reduce injury, what would they be? (For manuals and non-manuals from different cultures) and why?

The questionnaire is used both to prompt the interviewees, and to code the interviews. The analysis considers several questions to understand the content better based on Boyatzis (1999) which includes:

1. What are people doing? What are they trying to accomplish?
2. How, exactly, do they do this? What specific means and/or strategies do they use?
3. How do members talk about, characterize, and understand what is going on?
4. What assumptions are they making?
5. What do I see going on here?
6. What do I learn from these notes?
7. Why do I include them?
8. How what is going on here similar to, or different from, other incidents or events recorded elsewhere in the field notes?
9. What is the broader import or significance of this incident or event? What is it a case of?

10. What surprises me? (to track assumptions)

11. What intrigues me? (to track your positionality)

12. What disturbs me? (to track tensions within your value, attitude, and belief systems)

4.2.3 Data Considerations

Stage 2 procedures applies ethical guidelines for appropriate research methods including participant agreements: consultation around the agreements, publication, anonymity and confidentiality, and subsequent actions taken by the researcher (see appendices –participant agreements), and a formal face-to-face interview (transcripts and Master-Data),

During the interviews, conversations between researcher and practitioners move freely. One interview is guided by questions that are emailed for the participant to respond to. This is different in that there is not the normal fluidity of speaking that occurs in other interviews. Instead the participant emailed his responses. This allows for more preparation but is not tempered by the researcher in any way. The response is a direct stream of consciousness potentially concentrated upon content and edited. In the emailed response this difference is factored into the participants' themed analysis in its length. There are fewer themes generated in their responses. For face-to-face interviews when participants lose their train of thought, the researcher guides them using the factors predominant in the questionnaire set.

The researcher-as-instrument is a useful approach. The researcher is familiar with the factors of behaviour and employs a multidisciplinary approach from stage 1 to 2. The researcher is able to draw out detail and investigate how different the factors are across contexts and for different people. There is potential for researcher bias since the participants know the researcher. Bias within an interview is not unusual where power relations exist (Miles, Huberman and Saldanha, 2014). The participants are more experienced than the practitioner and within the same field (in HSE) yet not in direct power positions over the researcher. An informative discussion could be had on the same subject matter without fear. Participants can try to please the researcher as someone connected to the same network; however a balanced interview style is adopted so that there is empathy as well as objective awareness. The style of approach in interviews is important to consider and in maintaining impartiality (Miles, Huberman and Saldanha, 2014). Repetitions in the data are sought because they reflect the constraints of work environments that emerge most strongly. Each work environment possesses peculiar constraints which differ slightly from one to another. Subtle differences shape the dynamics of each practitioner's approach to safety interventions. The fundamental need of each individual remains the same and can be applied across cultures and countries.

The analysis code of transcripts in stage 2 includes:

1. Recording of interviews
2. Transcription by a third party and verification by the researcher
3. Initial fieldwork note-taking of transcripts
4. Analysis of codes stemming from transcripts against guidebook, and guidebook iteration
5. Further analysis of transcripts against new guidebook iteration
6. Synthesis of notes taken from transcript into a worksheet for easy search and retrieval
7. Construction of thematic diagrams to understand and simplify information
8. Further analysis and coding into final worksheets that include new headings related to theme, approach, and consideration and supporting literature. This includes successive iterations.

4.3 Data Collection – Stage 3

4.3.1 Participants

21 participants take part in the final stage workshops conducted over a two-month period. Participants are drawn from several locations around the world; so the workshops for some participants take place online. Participants are pre-selected based on their experience of one of the key factors in their workplace or area of interest.

Participant	Job Title	Company	Location
1	Project Engineer	EDF	UK
2	Change Practitioner	High Speed 2	UK
3	OD Manager	Bechtel	UK
4	OD Specialist	Bechtel	UK
5	OD Specialist	UK Government	UK
6	Senior Manager	Total	Qatar
7	HR Manager	North Oil Company	Qatar
8	Change Practitioner	IHRDC	Qatar
9	HR Manager	Total	Qatar
10	CEO, Intercultural Fluency Specialist	Hyun and Associates	US
11	Master Coach	Empower World	Qatar
12	Head of Drilling	North Oil Company	Qatar
13	Change Practitioner	Consultant	UK
14	OD Specialist	Bechtel	UK
15	Cultural Specialist	Consultant	US
16	Risk Practitioner	North Oil Company	UK
17	Communications Specialist	North Oil Company	Qatar
18	HR Specialist	North Oil Company	Qatar
19	HSE Manager	Jacobs	Sweden
20	Teacher	Qatar University	Qatar
21	Training Partner	North Oil Company	Qatar

4.3.2 Measures

The third phase consults practitioners in a workshop environment. The workshop shows participants the model and the checklist, and asked them for their feedback on validity and generalisability. Note is taken of the discussions and stories shared by workshop participants to understand where the model elicits a response, a challenge, or an opportunity for sharing and connection.

Workshop Structure

The workshop takes place over a three-hour session. The workshop structure is provided below.

Table 8 - Workshop Structure

Agenda Item	Timing	Materials
Pre-work - Research Topic - Who is this for - What are the pain points - Setting the Scene: Example - Influencers	Pre-Work	Video provided prior to the workshop Zoom Link
Welcome / Introductions	10	
Ways of Working	10	Slide
Recap of pre-work: Setting the Scene example and Influencers	10	
Question – is the framework valid and generalizable? What can be added or improved?	30	Workbook
Deep Dive: - Looking at one aspect of the framework	30	
BREAK (15 minutes)		
Question – are the factors for consideration and approach valid? What can be added or improved?	30	
Activity 2 Implementation:	5	Workbook
Evaluation END	10	Workbook

All comments and feedback are captured by a facilitator, an experienced coach and facilitator, hired for this purpose.

Workshop Questions

Participants are given a workbook to record how they used the framework to analyse their own context or organisation. The workbook was used in the first two sessions but was subsequently removed. The methodology for using the framework was made clearer. Feedback from participants explained what they had experienced in the presentation and how the framework needed to appear.

Participants give feedback about the framework, variables, and pain or gain points throughout the workshop. Frequency of shares is recorded for each workshop.

Questions asked of participants during the workshop are:

- Is the framework valid and generalizable for you?
- What can be improved in the framework?

Workshop Materials

See Appendix 2 for the workshop materials which include:

- Participants pre-read is given two weeks prior to the workshop,
- The workshop presentation, and
- The workshop workbook for participants.

4.3.3 Data Considerations

Stage 3 workshops are conducted in person and virtually. In-person workshops are conducted at the researcher's residence at a laptop around a large table. The workshops are 3 hours in length. Participant agreements are requested prior to the start of the workshop. The researcher explains the slides and asks questions, allowing participants to relate whatever they wanted to during the workshop.

The feedback in workshops is captured by a facilitator. Two facilitators are consulted in order to help develop the workshop, and to capture feedback and deliver it in transcripts. The reason facilitators are used is in order to capture high-level detail. Both facilitators are involved in teaching International Coach Federation (ICF) coaching and abide by these ethical guidelines. They are highly skilled in listening for affect, emotion and feedback.

Where virtual meetings occur all participants are given agreements which are read before the time. The workshop is conducted with the same procedures entered into in the face-to-face discussions. The data is analysed using qualitative analysis under 4 heading: I) do participants understand the factors in the framework? II) Do participants understand the need for a framework? III) Do participants agree with the validity of the framework? And IV) do participants know how to use or implement the framework? This analysis is listed in Appendix 2 and the next chapter.

Chapter 5 - Research Findings

5.1 Introduction

The review of literature and observations on the case study (stage 1) determine the boundaries, events and participants of this research project. This chapter explains the initial sub-themes which guide interviews in stage 2. The guidebook and emergent themes are discussed in relation to how they structure the thematic analysis and subsequent iterations of the model. Feedback in Stage 3 is presented and used to refine the model through a consultation process.

5.2 Initial Framework

The model is developed during the first phase of the research according to themes drawn up by the researcher, in an attempt to summarize what factors foster safe behaviour on a large building site. The route of the research outlined in the methodology chapter indicates the following:

Table 9 - Stage 3 Research Journey

Type of Research	Events / activity	Outcome
Action research in case study	Events on major project in learning and development, safety, and organisational development.	Understanding of over-arching factors prevalent in performance of events (safety rates, safety and organisational culture, partnering performance, scheduling of project, training evaluation).
Literature (dis)confirmation	Discovery of events through literature providing deeper understanding and breadth of topics	Understanding, exploring and seeking confirmation / disconfirmation.
Evaluation and refinement	Evaluation of the over-arching factors; refinement as time progresses and refining and expanding literature.	Production of over-arching factors and diagram.

The factors are listed below:

- National Culture and Context
- Organisational Logics
  - o   Structure of the organisation
  - o   Workforce practices
  - o   Management and leadership systems
  - o   Partnering
  - o   Design and development practices
- Training, Interventions and Communications
- Risk Perception and Motivation

The factors are represented diagrammatically in Figure 20 below. This is the initial framework that developed through case study findings and represents the form and content of the final framework. The diagram changed from its initial conception as themes begin to emerge, strengthen or disappear. The diagram is organised according to factors that derive from large fields of theory. National culture is often studied in terms of sociology, anthropology and more recently, social development, business and psychological studies. National culture relates to environmental context in that researchers increasingly have experience of living in different countries. Organisational Logics, including organisational psychology and management studies, are contained in the field of industrial/occupational psychology and management sciences which corresponds to a field of learning for research in MSc Occupational Psychology. Individual perception and motivation are built around knowledge of psychology. Perception of risk areas considers theory related to risk perception studies in social and business sciences and to the fact that the researcher role has been in a health and safety function.
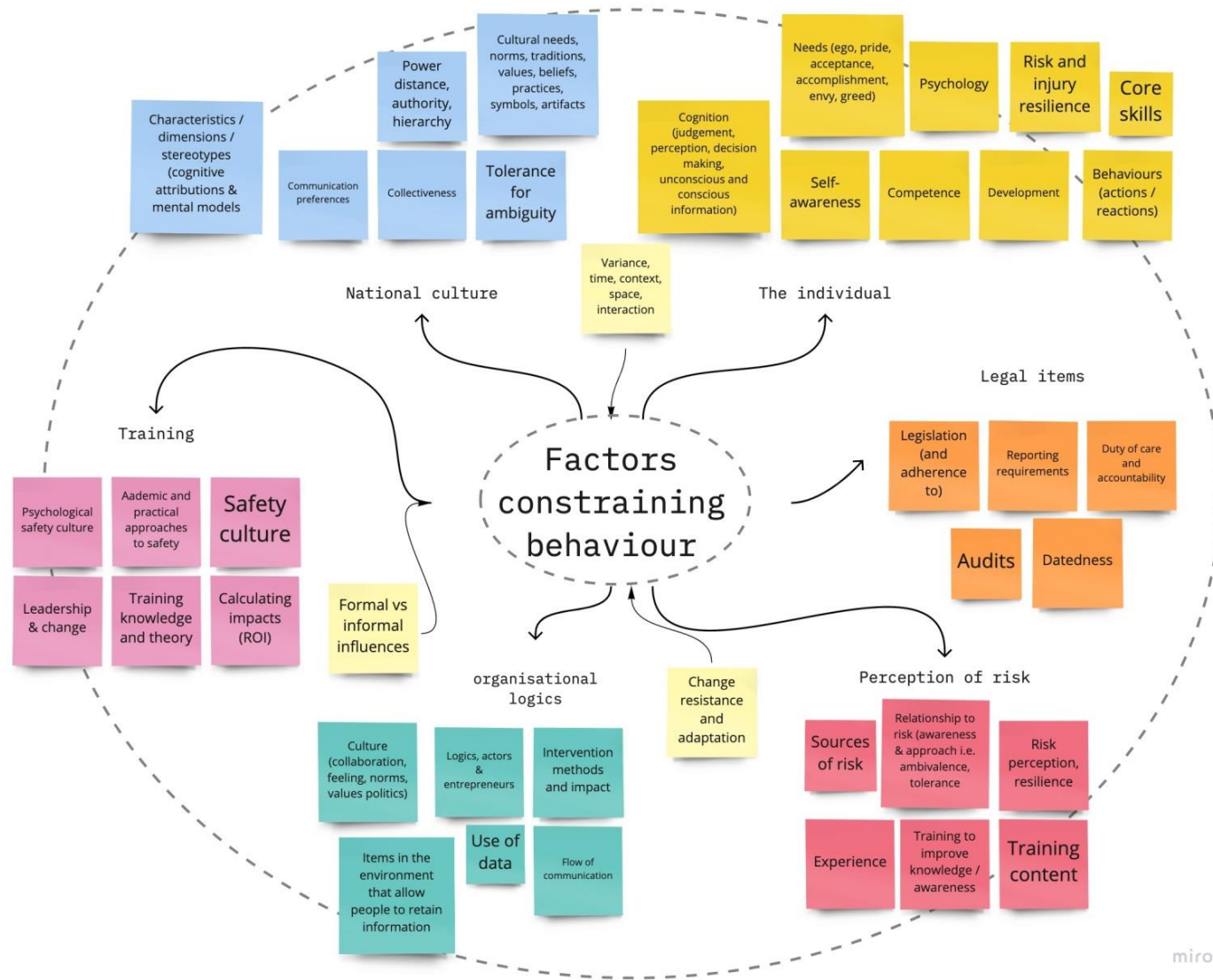
Figure 20 - Original Framework Depicting Areas of Influence and Their Content Area

These factors do not include every activity that occurs on a major project but are listed due to their prevalence within the case study, and informed by theory and practice. The case study write-up describes several major factors that influence behaviour. The major highlights are described below.

The Final Framework

This final framework is presented here (Figure 21) to indicate how the research findings contributed to the models overall development. This framework draws upon OD: (i) to include contextual and national cultural literature (ii) to create a flexible model that suits the dynamics at play (iii) to transform or leverage organisational resources and output.

This final framework is predicated on a whole-self approach in which the feeling of being in an organisation is important, as is learning about the dynamics between factors for employees and leaders. The framework and its implementation acknowledge that employees can make their own reasonable decisions in enabling best practice. It does not leave all decision-making to leaders to enable the right impact. Through diagnostic and dialogic processes, learning and change can occur. This framework is based upon the understanding that organisations and major projects as systems interact continually. Any small change in one part of the system enables change in another.
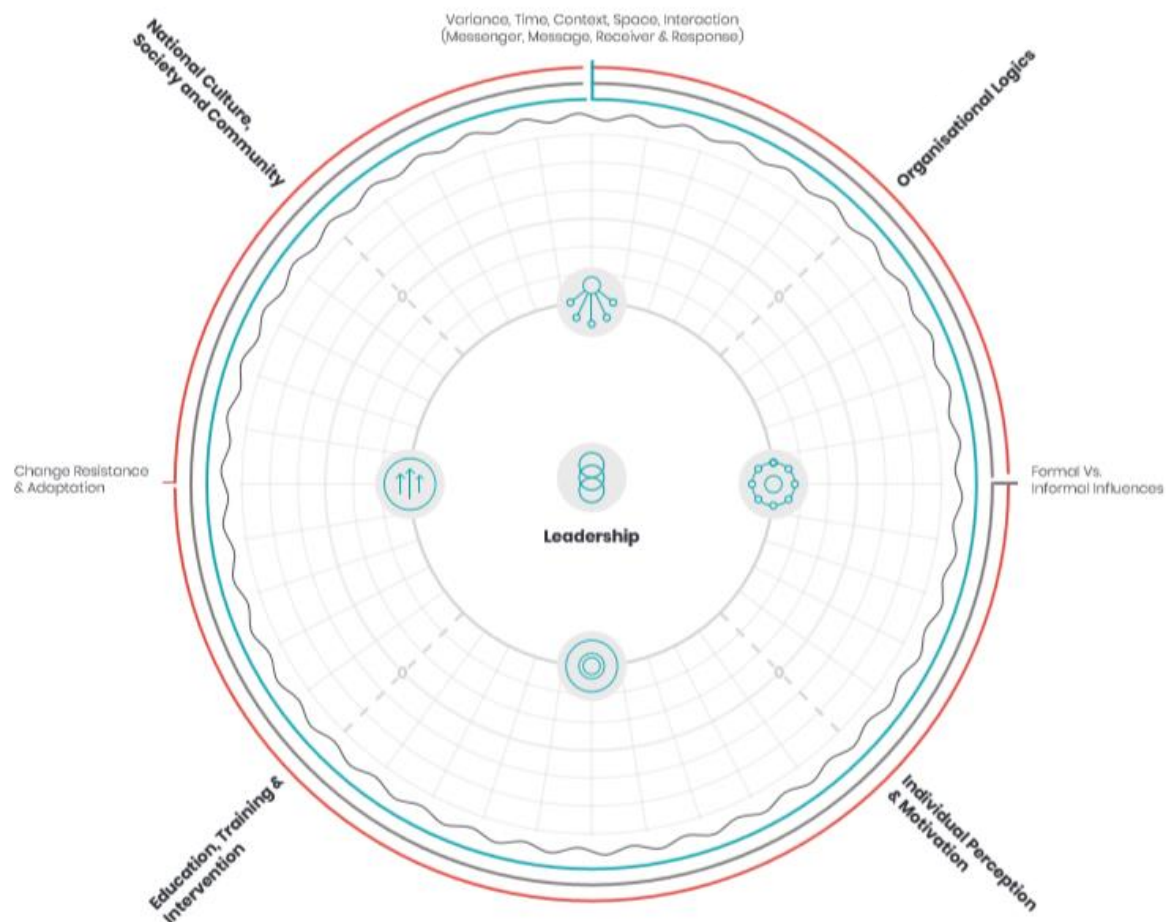
Figure 21 - The Framework

In terms of the shape of the model, the framework proposes a circle that indicates interaction of variables that deliver on health, performance and a constant flow of interaction. Unlike other models the circular shape indicates that elements are in continual interaction with one another – there are more highly integrated factors in the model so that a change in any factor may change another.

The framework is thought to function in the same way an organism might. It has collective processes that keep it healthy. If there are factors that are unhealthy this can cause damage in one other factor, or within the whole system. This idea gives factors ample weight in terms of their impact on behaviour.

The circles indicate how these factors can also be subject to change and variability, and formal processes and structure and informal behavioural change.

For each subfactor there are several questions to consider:

1. What is available?
2. What are the impacts and influence?

3. What is the degree of internalisation and knowledge of dynamic?

4. (How) is it verbalised (communicated)?

5. What is the degree of flexibility or variability?

6. What is the impact on other factors / sub-factors or dynamics?

The final subfactors are indicated in Figures 22 through 26 below to illustrate the depth and breadth of exploration through the research finding stage.

The Framework Subfactors

Factor
National Culture, Society and Community

Sub-factor	Dynamics
National Culture & Diversity	i. Power distribution and leaders ii. Dimensions iii. Relationships iv. Decision-making v. Ways of working vi. Symbols & Artifacts, Traditions & Rites vii. Espoused Values viii. Underlying assumptions about the world ix. How information is distributed (storytelling / documentation)
Social Norms	i. Ways of Relating ii. Normative Behaviours iii. Impact of societal change
Technological change and adoption	i. The rate of change ii. The adoption of technology iii. Innovation
Community & Stakeholders	i. Ways of working ii. Power & Influence
Industry	i. Standards ii. Norms / Competitiveness

Figure 22 - Subfactors of National Culture

Organisational Logics

Sub-factor	Dynamics
Governing Documents (Strategy, Vision & Mission, Values)	i. Strategy ii. Vision & Mission iii. Values / Competencies
Formal Process & Structure	i. HR Strategy / Formation ii. HR Degree of Advancement (maturity) iii. Organisation Charts iv. Degree of silo or cross-functional team working v. Line management responsibility (decision making & HR ownership of processes) vi. Process & Procedural Sophistication and degree of enforcement vii. Dissemination of information into organisation / information available viii. Meetings ix. Audits and regulatory requirements
Informal Logics, Actors & Resistance	i. Informal networks ii. Organisational Culture iii. Influential Actors creating agency or resistance to formal structures and process iv. Shadow aspects of organisation
Communication	i. Formal communications ii. Informal knowledge networks

Figure 23 - Subfactors of Organisational Logics

Factor
Individual Perception and Motivation

Sub-factor	Dynamics
Motivation	i. Motivation – extrinsic (reward, benefits) ii. Motivation – intrinsic (Maslows Hierarchy) iii. Motivation through delegation and empowerment iv. Peer Support v. Leadership Influence
Perception	i. Understanding of organisational and global context ii. Knowledge of processes iii. Perception of risk and safety (i.e. ambivalence or tolerance) iv. Knowledge of key targets and understanding of own influence v. Self-awareness vi. Attitude
Education	i. Level of Education ii. Ability to learn and integrate knowledge iii. Experience of context and risks iv. Cognition (judgement, decision-making, attributions) v. Communication Skills

Figure 24 - Subfactors of Individual Perception and Motivation

Factor
Education, Training and Intervention

Sub-factor	Dynamics
Training & Development	i. Opportunities available (apprenticeships, mentorship) ii. Process (approvals & decision making) iii. Feedback and return on investment iv. Content – culture and values-based, process or procedural, or education
Provision of Services	Relates to wellbeing and healthcare i. Internal services ii. External services
Organisational Communities of Practice	i. Knowledge Communities ii. Availability or access to
Intervention availability and familiarity	i. OD interventions internally and externally ii. Availability and familiarity iii. Leader Support

Figure 25 - Subfactors of Education, Training and Intervention

Factor
Leadership

Sub-factor	Dynamics
Management Behaviour	i. Managers style of working ii. Management development iii. Knowledge of working practices iv. Responsibility of HR processes
Positional Leaders	i. Leaders style of working ii. Leadership characteristics and development iii. Leadership impact and communication
Influencers – Characteristics & Impact	i. Employees and influencers ii. Style of working iii. Characteristics and impact iv. Resistance verse support
Leadership Development & Communication	i. Self-awareness ii. Development opportunities iii. Communication style and influence

Figure 26 - Subfactors of Leadership

5.3 Case Study Details

Redacted

5.4 Stage 2 Thematic Analysis

Once a figure had been outlined themes emerged that assisted in creating a framework for questions in Stage 2 to guide practitioner interviews. The guidebook, like the initial framework and questionnaire, is developed through literature review, and guided by identifiable characteristics of the Stage 1 case study. The guidebook is therefore a way in which to test the relevance of literature to practitioners' real-world experience in Stage 2 and 3.

Interviews are transcribed against the elements of the guidebook – Table 11.

During the interview, notes are taken of important themes. Transcripts are manually coded. The guidebook was revised as coding continued. The manual coding process initially sought to investigate what influences on behaviour are evident from the practitioner's narrative. This manual coding was done sequentially for each transcript to identify themes. Where themes need more elaboration, transcripts are considered alongside each other in order to determine how practitioners understand each influence on behaviour. A subsequent coding investigated the challenges that practitioners face and the approaches they took in managing behaviour and enhancing performance.

During interviews, I noticed words that suggested practitioners were dealing with tensions. These include words such as 'hard', 'difficult' or 'difficulty' 'problem', 'challenge'. Where an issue arose, the practitioner responded to the challenge with a proposed solution, or an actual solution, and identified the output of doing so. This is how the checklist began to emerge.

Practitioners used words to demonstrate national culture: 'culture', (used as an identifier for national culture such as Danish, or Australian), 'group', 'locals' and a description of what social norms or behaviour they had noticed. Occasionally they resorted to stereotypes, using phrases such as 'that's normal for them'. Practitioners used certain words to demonstrate Organisational Logics: 'organisation', 'client', 'contractor', 'team', 'leader', 'politics', 'structure', 'processes', 'management system', 'culture'. Practitioners coupled this vocabulary with areas where they found challenge or opportunity: 'what's good is', 'that's good', 'challenge', 'problem', 'difficulty'.

Practitioners demonstrated the formal and informal aspects of working through the use of certain words such as: (for formal discourse) 'legislation', 'regulation', 'processes', 'systems', and (for informal discourse) 'communication', 'behaviour', 'relationship', 'culture', 'teamwork'. Coding separated safety management systems and training from risk perception and motivation. Yet these areas are heavily intertwined, particularly when working with HSE professionals. Words such as 'management system', 'safety', 'training' and specific activities are discussed as they related to the function of HSE. For risk perception, practitioners

employed words such as: 'risk', 'perception', 'motivated', 'incentivised'. This is often coupled with approaches in mitigating risk: 'what we did', 'so we (did/used/ran)'.

Thematic analysis revealed areas for discussion that reframed the framework and allowed for further revision to the Master data through four key areas: i) national culture; ii) resources such as training, interventions and communication; iii) risk perception and motivation; iv) organisational and industry specific logics, behaviours and structural (political, technical and cultural).

Table 11 is a guideline around the structure used at the time of interviews in Stage 2. This guideline is not shared with practitioners, however, they did have access to the questionnaire (see 4.2.2 Measures). It later provides a means for identifying themes in the coding stage.

Table 10 – Interview Guideline

Main Theme		Sub-theme
National Culture - Description: this theme is about how national cultural traits and norms constrain or prescribe behaviour within that community; these norms are learnt from a young age or you're born with them. They are enduring in personalities and become dominant influences of how people behave in different environments.	1.1	Underlying / hidden assumptions and espoused values (ideas that underlie behaviours or ways of thinking that are expressed verbally that showcase differences in ways of thinking and doing). - Has some parallels with 2.1 Historical parameters - Must in some way be shared within a group - (Note parallels with Hofstede dimensions) 1. Power Influence, 2. Masculinity 3. Individualism vs. Collectivism 4. Tolerance for ambiguity 5. Indulgence and Meyer dimensions 1. communication: low-context vs. high-context, 2. evaluating: direct negative feedback vs. indirect , 3. persuading: applications vs. principles, 4. scheduling: linear vs. flexible time, 5. Deciding: consensual vs. top-down, 6. Trusting: task-based vs. relationship-based, 7. Leading: egalitarian vs. hierarchical
	1.2	Overt cultural practices and behaviours (traditions or behaviours that showcase the difference between national cultures) - Language differences / barriers / challenges Behavioural irregularities, Formal rituals and celebrations, Work behavioural norms and patterns of behaviour, Time, Meetings, Artefacts and Symbols
Organisational Logics - Description: The parameters or boundaries set in place by institutions and markets, their logics, and actors; as well as	2.1	Historical parameters (ways of structuring or organising behaviour dependent on the history of the country and the discourse within the interviews i.e. number of times its referenced) - Level of standards within the country, Timeline of country or market or organisation influences, Institutional entrepreneurs / actors, Hybridisation of Logics Market or Industry Influence (has the market set any parameters creating power inequalities or distributions that people have to live with(out))

the organisation and its structures that put in place parameters and boundaries. These exist objectively outside of the awareness of many people but key in creating the environment and context in which they operate – the norms and rules in place.		- Globalisation or modernisation influence, Legal, social and mental structures (laws, customs and expectations around them)
	2.2	Organisational or Institutional Parameters / Norms / Structure (would have some parallels to 1.1 cultural differences) - Composition, Project Characteristics, Dominant Groups, Partnering and Subcontracting, Organisational entrepreneurs or actors, exchanges and conversations that create tension or constrain behaviour. Degree of formality, Centralisation of power, What prescribed training can be delivered? Organisational maturity and learning and development initiatives (Berlin) What additional information (rules or protocols, products) do people encounter that facilitate training like on-boarding?
Organisation - Description: This theme is about the local organisation applicable to an individual and containing things that people can affect or have agency over i.e. those items we tend to want to control,	2.3	Structure / Team 1. How many parties / stakeholders, 2. How many people (big or small) 3. Approaches to construction /safety and risk (contracting, work hours, cost and time devoted to safety), 4. Competence of the workforce (experience and training) 5. Goals and Values of Organisation (to safety and risk), 6. Organisation of tasks to team, to individuals to departments
	2.4	'Culture' or Work Ethic: 1. Teamwork (finger pointing, collaboration, conflict, partnering), 2. Commitment to leadership and goals and values, 3. Relationship between participants, 4. Power Distribution, 5. Welfare of the workforce, 6. Improved quality – process, learning, doing it right / conditions on site, 7. Attitudes of people
Degree of Formality - Description provided to the right. Colloquial language –typify industry.	2.5	The social or urban environment, economic informality, organisational informality, social structures, actors, functions, economic activities, social situations or gatherings, communication, divisions of labour creating temporary boundaries and setups, dress, humour, behaviour in meetings, types of gatherings and traits. (Will have many similarities with Organisational Logics no. 2 and Organisation no.3) Interpersonal relations, informal leadership, behavioural control (in-groups, coercion and persuasion) and informal communication so important to capture because they influence behaviour.
Safety Management Practices– Description: HSE management		Practices focused on reducing risk. How much risk is in environment and what procedures are in place to militate against these? Management System includes: 1. Meeting the expectations of the workers, 2. Structural elements that optimise the benefits such as convenience, work effectiveness, physical comfort, and safety training that emphasize the unfavourable consequences of risk-taking behaviour, 3. Close safety supervision, 4. Safety fines, 5. Safety incentives, 6 Time sufficient work schedule

		Safety Culture or Climate
		1. Individual, 2. Environmental, 3. Behavioural Factors
		Moderated by goal commitment, ability, goal conflict, feedback or communication flow, task complexity and culture (Cooper).
		Training
		- Type of training (curtailed or provided through management system and ad-hoc initiatives, Success measures / evaluation, Barriers, Reason for Intervention, Timeline of training (before or after accident)
Risk – Description:	4.1	Attitudes towards Risk-Taking Behaviours
		- Danger, Silliness, Unspecified, Work nature, Carefulness, Unspecified, Convenience, Image building, Challenge
		Internal capability and motivation vs. external environment making risk or training more easy or prone
	4.2	Reasons for risk taking behaviours:
		- Time saving, Effort saving, Convenience, Comfort, Cost saving, Sense of satisfaction, Lack of proper safety measures, Workplace constraints, Perceiving no accidents or dangers, Pressure from seniors, Peer influence, Able to do risky tasks, Easy tasks, Image
		Reasons for non-risk taking behaviours:
		- Safety training, Safety supervision, Safety penalties, Safety incentives, Perceived accidents or dangers, Family responsibility, Peer influence, Unable to take risk
		Automatic and fast processing or slow and deliberate mistakes (Kahneman).
		Perception of risk made under uncertainty and pressure of limited time and resources (Reason) 'Local Rationality Principle'.
		Understanding of risk occurring through National Culture, Conventions and Socialization
	4.3	Risk source:
		- How dangerous is it, and degree of relation to the other
		- Exposure, voluntariness, control over risk, severity, novelty and dread
	4.4	Confounding Factors (environment and individual characteristics)
		- Age, gender, race and evolution, Work schedule , Safety measure design, Habituation, Working experience
Accidents	5.1	Frequency; severity; causes.
		Order of factors reported that contributed to site accidents: (from most contributing factor to least). Kind / type of accident (skill, rule or performance error); judgement error or cognitive failure (slip, lapse and deliberate mistake). Poor safety culture, risk taking, alcohol and drugs, lack of experience and training, poor risk perception, tiredness, poor management style, thrill seeking and national cultural clashes (reported as least likely to cause an accident). Further analysis found that experience and training was drawn out as the most significant contributory factor.

5.5 Emergent Themes

Each interview focused on one or more of the main factors, and allows for exploration of the dynamics and challenges of it, and their interrelations. The data is aggregated according to overall themes to produce the conceptual framework, and the details in Stage 2 captured in the Checklist for easy use by practitioners (see Final Framework). As an overview Figure 45 provides a reflection of what themes are discussed by the interviewees. The frequency of mention of theme here does not directly correlate the prevalence of the factor within the model. These factors have been selected according to their indication within stage 1 and revision during stage 2.
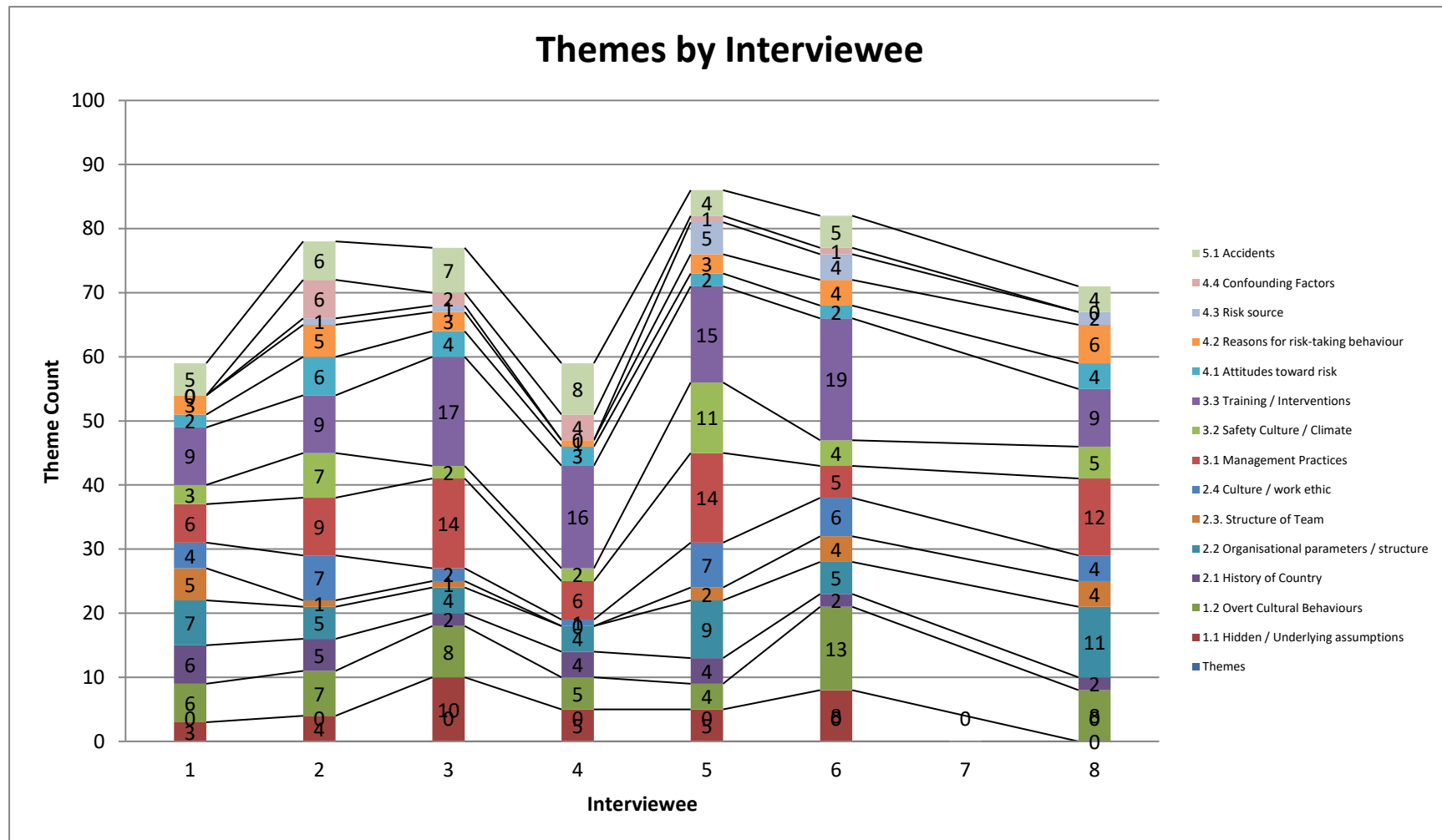
Figure 27 - Themes by Participant

Themes were organised by factor and sub-factor. Organisation of the data can be found in Worksheet Appendix 1.

Results within Stage 2 of the research indicate what practitioners identified with as factors that influence behaviour in an organisation. They have been themed according to the initial diagram of influencing factors and their resonance with practitioners.

- Organisational logics (all components of the organisation – its design, its environment, and its normative behaviour),
- Interventions, training and communication (resources available to an organisation to use to drive the health and development of individuals);
- National culture, community and society (including all of the preferences. Traditions, ways of working and assumptions about the nature of the world and collective);
- Risk including how individuals view it, act around it, and what individuals are motivated by; and
- Leadership. This factor was included in the initial themes in Stage 2 of the research, and later separated for inclusion in the model as a factor due to its prevalence in determining organisational health and performance.

At this stage conversations about factors were not simply about one factor but about their interrelations. Although the interview was semi-structured, the main themes were not described in full. Questions guided what practitioners spoke about. The challenges they encountered and the approach they took to mitigate injury or improve performance emerge as major issues. Through the description of challenges and approaches, I identified and extracted the main influences on behaviour. I matched those to the initial diagram until, over time, the final framework became clear.

Training and Intervention Themes

The main themes contained in the guidebook, and the themes found within the interviews are cross-referenced in the worksheet (Master-data). Below (Figure 46) is an excerpt of the master-data from the theme of resources, training and interventions. See Appendix 1 for a detailed discussion of the key points made during the interviews.

The way in which these themes are written out is to guide practitioners in considering potential challenges and potential approaches taken by the participants in Stage 2. The table from left to right will indicate the topic area: classification such as learning and development for example. The next column is a description of the subtheme i.e. the approach to learning and development. In the 3rd column there are questions to consider. These questions are posed around the approaches taken by practitioners and highlight where challenges were

encountered. For example 'at what stage are people engaged with training? What is the approach (level of engagement / philosophy)?' The next column to the right indicates what might be done such as 'engagement at on boarding and process change stages. Awareness, empowerment and understanding'. The final column indicates the potential impact of an approach to on boarding around awareness which is 'generating a culture of safety to speak up and learn. It must be explained and focused on that the processes are understood and used'.

It is a useful way to understand what helps with improving performance and the working environment.

	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
			Interpretation of Results		
3	Behavioural Psychology	Types of Interventions	Has an understanding of the behavioural change process been mapped? Have various considerations for approach to behavioural change been considered?		
4	Learning and Development	Approach – the way in which one engages with the audience	At what stage(s) are people engaged with training? What is the Approach (level of engagement / philosophy)?	Engagement at onboarding and process change stage(s). Awareness, empowerment and understanding.	Generating a culture of safety to speak up and learn It must be explained and focused on that the processes are understood and used
5	Learning and Development	Competence & Capability	What is the level of education of staff / workforce? What is the level of competence and capability of staff / workforce?	Consider their level of education upon hire (unskilled, semi-skilled, or highly-skilled). Trainign will need to be implemented according to knowledge gaps.	
6	Learning and Development	Content & Level of Personalisation	What are the gaps in knowledge? What are individuals preferences and needs? Is it delivered in the same language as the learners language? How relatable is the content?	The content of training can be tailored to individuals needs - or employee and individual led wherever conceptual training is needed. Content can also be personalised according to employees stories and life ensuring that there is more applicable learning.	Ensuring content is focused and personal allows quicker assimilation.
7	Learning and Development	Content & Level of Personalisation	How much participation is encouraged during training?	Emphasize question and answers so individual incorporates knowledge at their level, and provide clarification	Knowledge is retained based on the question people ask - so allow the audience to lead what information it is they need.
8	Learning and Development	Content & Level of Personalisation	How much content is offered at a time?	Chunk the training into small bits that relate to individuals needs i.e. 20 minutes of content + exercises that help the audience apply what they've learnt	Application of knowledge is easier if its related to the way in which people use and retain information. Long-term memory needs rehearsal
	Learning and Development	Content & Level of Personalisation	Are different kinds of knowledge	Offer procedural knowledge and simulation (behavioural)	Conceptual information allows

Figure 28 - Excerpt Master-data–Cross-referencing Themes and Transcript Data

Training and intervention subthemes are indicated in table 12 below. There are a variety of factors relating to classroom training, interventions, such as group coaching and facilitation, discussions in a formalised process, including evaluation and tests. Training is considered to be any event in which an individual or group of individuals focus on learning outcomes. Training and interventions have multiple objectives that include hard skills such as technical or health, safety and environmental certification or soft skills such as teamwork and collaboration.

Table 11 - Training and Interventions Subthemes

Subtheme	Count
Approach	**27**
Behaviour	4
Content	**16**
Continual process	**14**
Culture	**13**
Evaluation	6
Induction, Supported by Leaders, Reward	1
Management System	5
Materials	5
Method	**20**
Motivation	**6**
National Culture	1
Origin, Purpose	1
Personalisation	**18**
Purpose	3
Retention	3
Reward	**8**
Supported by leaders	**23**
Technology	1
(blank)	1
Grand Total	**176**

What became a priority for the participants around the concept of training was the level of differentiation of education and knowledge of the workforce and the ways in which training could be done, both in the classroom and onsite to enable it. When working across different national cultures, the practitioners noted a specific way of leading that engenders trust in the

relations. The difficulty, however, is embedded in a workforce whose aims differ from those of management which focus upon profit. A Health and Safety Manager states "managers have to take care of people… but the business can decide to terminate contracts" breaking the psychological contract for employees. It is important to note that "at the time of training not to emphasize the deficiencies or bad habits of the workforce" (no negative discourse) "indicating instead the importance of methods which are necessary to optimise through improvements and change to ensure the integrity of the worker" (Interview 7).

The variables in the table suggest that for training and interventions to work they need:

- A considered approach to training,
- Design specifically with content, process, method, personalisation, reward and support by leaders in mind, and
- A targeted and open approach to establish culture, motivation, personalisation and support by others as an outcome.

Subtheme: Approach to Training and Interventions

7 interviews made reference to this subtheme. Keywords of the subtheme include: communication, empowerment, collaboration, positive motivation, culture creation.

This sub-theme is about the way in which safety practitioners engage with the workforce, and members of staff; by means of a positive and collaborative approach usually displayed through training or intervention. This approach is one that creates a learning culture and empowerment; helping individuals to speak up and learn about safety. Interventions are more likely to succeed; enabling some of the organisational culture to be established. A collaborative approach indicates how practitioners can establish themselves and their role within the organisation or project.

'Approach' as a subtheme is a form of leadership which is connected to another subtheme of 'support by leaders'. Approach relates to the other subtheme of 'culture' and 'motivation' as an outcome of this leadership approach.

Leadership approach has a make-up or several key ingredients, and outcomes.

To begin with, however, a few important points are worth reflecting on:

- Different pressures are exerted at different levels of staff (managers, supervisors and workers). Yet an approach which is adopted democratically by all staff members, top to bottom, is more likely to be flexible enough to account for different types of pressure at each level.

- A democratically adopted approach may be compromised, however, by structural or organisational constraints, such as having to de-man the project, terminating contracts, for example.

The ingredients of this democratic, collaborative leadership approach are:

- The use of framing positively, use of positive discourse and positive recognition tools,
- Emphasizing collaboration through communication, including empowering others to work towards the problem, being honest, listening, accountability and trust, and being friendly,
- Demonstrating care and compassion, integrity, extending emotional support, and teaching others.

The outcomes of this leadership approach are:

- Generating a culture in which it is safe to speak up,
- A policy of safe systems at work is assimilated into behaviours of staff.

Subtheme: Content of Training and Interventions

The keywords here are: subject / topic, personalisation, motivation, audience, method, training needs, and support by leaders. Content can be described as the subject matter of training and interventions.

Training gaps or needs have to be identified to define the knowledge, skills and abilities that are most appropriate for different populations. There are many factors that help to determine needs: such as national cultural differences, language, educational experience, and familiarity with the site. Training needs to be built through induction packages on information about the project and risks. An organisational logic that may cause tension can be the allocation and reduction of resources in order to train and upskill.

Some methods for developing training include self-directed learning processes: instructional design of courses, delivery of courses, personalisation of content, quizzes, and intergroup competition which can elicit a deeper, more personal understanding of knowledge, cohesion of group members, and healthy group dynamics. Training should be based upon declarative or procedural knowledge of standards or processes. Training exhibits practical processes which are more easily assimilated across language and national cultural barriers, for example.

Training needs to state the purpose of training for individuals to grasp the value of the information, and a conceptual idea of its applicability across various situations.

In multicultural projects training has to incorporate as much information as possible; anything that adds familiarity to the site. Leadership training is useful to start from top management to supervisor, enabling trainees to comprehend the approach to safety adopted on a specific site, empowering instructors to lead safety, and establishing a positive culture of trust and collegiality on site. Leadership training should include information on roles and responsibilities that allows individuals to understand how their individual actions can aid or obstruct safety, and increase individual accountability.

Content should include:
- Identified gaps based on national culture, education and the project
- Self-directed learning processes,
- Declarative and procedural knowledge, process and simulation
- Induction process to ease workers onto site
- Inclusion of leaders in training,
- A vision of the safety culture and values, which is operationalized.

Subtheme: Training as a Continual Process

This subtheme reflects on training as a continual process:

1. To be delivered in the classroom and on-site to practically implement the information
2. To learn on the job and through mistakes
3. To allow chunking into smaller pieces of information
4. To allow change to take place incrementally until it is complete – so that new behaviours are entrenched and resistance to them is overcome, and
5. Some rules are highly specific to the site and need to be highlighted and reinforced.

Subtheme: Method of Training and Interventions

Keywords here are: management system, evaluation and method.

This subtheme relates to the way in which training is delivered, to improve its effectiveness. It is important to note that practitioners need to be mindful of the methods used. If the method patterns of behaviour are alien to the particular culture of an individual worker, such as police-like surveillance of work in progress, such methods break down team spirit and productivity.

Method relates to practical or simulation-based training that can be used:

- to handle dangerous situations safely,
- on-the-job training,
- include a change to policy, retraining, on-the-job implementation and evaluation,

- in multiple contexts so that the guiding principles can be understood and applied in different situations,
- by subject matter experts because they are seen to be credible

Subtheme: Motivation, Training and Interventions

The subtheme relates to individual motivation to work safely, becoming a safety practitioner, as well as how motivation is related to training and interventions. Motivation is primarily discussed as an outcome of training and interventions.

The topics of motivation for the practitioners relate to:

- how training and interventions are considered and understood: measurement in the classroom of mood and affect, and can form part of evaluation instruments,
- The way in which people act toward safety processes, and this is through experience. A person's behaviour is a demonstration of their intrinsic and extrinsic motivation.

Subtheme: Personalisation of Content

There are 18 counts of the subtheme of personalisation of content which displays its importance to practitioners in influencing behaviour.

This discourse considers the advantages and impact of personalisation.

Personalisation comprises:

- Training content that is in the same language as that used by the majority of the workforce
- Stories relevant to personal history
- Use of visuals or graphics that display the same national cultural diversity and environment
- Use of all training material (posters, signs)
- What is taught through a consultative process to promote questioning
- Clarification and questioning of how things relate to the individual
- Education at the audience level: to help trainees understand their role in the process.

The advantages are:

- Messages are clear and real
- The content is more easily assimilated
- Can help individuals understand safety on an emotional level, or incorporate emotions,
- A consultative process can drive clarity, commitment and accountability

The impact of personalisation of material for practitioners means:

- Learning can be observed through distinct changes in behaviour
- Can help the practitioner gain more awareness of the audience and better creation of processes that relate to the needs of the population.

Subtheme: Reward

Rewards relate to the process set in place for formally rewarding people which includes stipulations around the criteria and reward. The discourse from the practitioners relates to:

- People are motivated toward financial or material reward
- Some disadvantages of this is that rewards can: 1) reward the wrong behaviour, 2) may not be clear or consistent (can produce resentment), 3) motivates toward extrinsic behaviour (rather than intrinsic motivation)
- Rewards can be non-financial in nature, like a handshake or a mention for example. This can raise the pride of workers and produce healthy competition.
- Leaders can have an influence in rewarding behaviour
- Reward schemes need to be researched to reward the right behaviour

Subtheme: Organisational Culture and Training and Interventions

This subtheme relates to training and interventions and its relation to organisational culture.

The subtheme suggests that training:

- influences organisational culture,
- makes use of content that relates to a company's overall vision, mission and values,
- based on leadership development allows affirmation of a safety culture and approach to emerge toward safety and people,
- can establish a new awareness and connection by allowing people to meet others and discuss new subjects, which is a reflection of the culture that is created,
- Allows individuals to ask questions and challenge the way in which things are done, which allows commitment toward the project goals and innovation. A leader's approach to training and management of teams shows a mind-set toward people and organisation. This finding, to some extent, is a demonstration of the way in which they have been taught how to lead which can be negative or positive for the workforce and project.
- Training and interventions can focus on topics that generate greater understanding of the challenges or differences that the population face i.e. topics on ethics or values may look different to different national cultures for instance, and is therefore

important as a topic to consider if rewards and punishment processes are related to ethics.

- Metrics can be taken using surveys which measure training and organisational culture. Training in this sense is particularly important since it is a method or event that showcases the values and approach of the organisation – training and interventions, and the quality of them, are a demonstration of the value of the people it hires.

There are some boundaries to these variables:

- Training and interventions influence the culture of the project only over its length of existence: it cannot influence the larger society, although it can work at upskilling the population for present and future roles in other organisations and in that way has a longer lifecycle and influence,
- Training and interventions go some way to shifting in mind-sets, and show care for people but can be met with resistance.
- Finally, if training and interventions are to improve, leaders must acknowledge the interrelations between these variables, and a measure of self-awareness and accountability in creating it.

Subtheme: Support by Leaders

To a great extent, leaders determine an organisation's behaviour. Many of the practitioners interviewed noted the impact of their own leaders upon them. One practitioner in Interview 6 showed his understanding of leaders in the world who prefer command and do not have a larger perspective or insight into their workforce. These are ideas of leaders that are commonplace for practitioners. Many countries suffer from genocide, poverty, dysfunction and a lack of empowerment when not concentrated on end-user or population health.

The sub-theme suggests that:

- Leadership has a large impact,
- Role modelling is important to allow others to emulate good (safe) behaviour,
- Role modelling implies that behaviour is visible,
- Good leadership which improves safe behaviour; identifying leaders in the workforce and empowering them,
- Support requires such characteristics as sincerity, sympathy, communication, trust and respect and allowing others free will.
- Top management may possess authority by virtue of position, however, in order for them to be genuine leaders, they need to empower and hold accountable those in other management positions; allowing them to develop their leadership abilities.

- If managers lack real leadership, and simply rule as bullies, their behaviour constrains collaboration, productivity and safe practice on site. Tyranny forms a culture in which: 1) workers resort to acting alone, doing things their own way, 2) workers emulate bullying ways, and 3) fear grows.

National Cultural Themes

The following (Figure 47) is an excerpt from the Master-data that was used to cross-reference the themes and the transcript data. Please see Appendix 1 for a detailed analysis.

	Sub-Theme	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this
2	Cyclical Tensions and Pain Points	Country History	History of cultural groups and their interaction within a community or society	What is the historical experience of people living in that country toward foreigners (i.e. colonisation, intrusion)?	Make sure the history of the population is understood. Become aware of the stereotypes evident in the population. These shouldn't be exacerbated or perpetuated if they are negative.	Historical power plays and stereotypes that are negative and are repeated can result in alienation due to unfamiliarity with management or leadership style, and may not be accepted by the local population if it is viewed as being disrespectful. Trust has a large role to play in foreigner acceptance. This shouldn't be disregarded or downplayed.
3	Cyclical Tensions and Pain Points	Country History	History of cultural groups and their interaction within a community or society	How does previous experience of foreigners determine current behaviour of local populations toward foreigners? Is there a rejection of foreigners, minimisation, or acceptance and inclusion?	Make sure the history of the population is understood. Become aware of the stereotypes evident in the population. These shouldn't be exacerbated or perpetuated if they are negative.	Historical power plays and stereotypes that are negative and are repeated can result in alienation due to unfamiliarity with management or leadership style, and may not be accepted by the local population if it is viewed as being disrespectful. Trust has a large role to play in foreigner
4	Cyclical Tensions and Pain Points	Gender Stereotypes	Assumptions about gender within a community or society	Do implicit and explicit gender differences surface in structure, roles and responsibility?	Understand the history of gender differences within the population	Some industries have historically demonstrated gender discrimination. Some national cultures have what is seen as gender discrimination. The subtle distinction should be made that is appropriate enough for national cultural acceptance, and not constrained due to industry or organisational influence.
5	Cyclical Tensions and Pain Points	Gender Stereotypes	Assumptions about gender within a community or society	Do implicit and explicit gender differences surface in structure, roles and responsibility?	Take care to place the right person in the right position and be aware of assuptions and bias around gender labels	
6	Cyclical Tensions and Pain Points	Gender Stereotypes	Assumptions about gender within a community or society	Do implicit and explicit gender differences surface in structure, roles and responsibility?	Ensure that promotion and performance criteria are built upon explicit assumptions and expectations that don't discriminate	
	Preferences of Behaviour	Normative Cultural Behaviour	The preferences and normal behaviour of national cultural groups	What degree of differences exist between the national cultural groups? (based on hierarchy, distance to power, individual or collectivist cultures, formal and informal communication)	Investigate the differences between populations, and make them known to management staff. The use of existing academic models can be a useful starting point i.e. Geert Hofstede, Erin Meyer, Fons Trompenaars. These difference	An understanding of self and others is a leadership competency that can enlist support from employees and populations dramatically and quickly

Figure 29 - Master-Data Excerpt - Cross-referencing Themes with Transcript Data

National culture relates to many subthemes around archetypes, cultural norms, education and knowledge, skills and abilities, governance and motivation, power, risk perception and stereotypes.

The themes under discussion relate to the most frequent sub-themes: archetypes or tensions, cultural norms of behaviour, education and knowledge, skills and abilities, governance and motivation, power, risk perception and stereotypes.

Table 12 - National Culture Subthemes

Subtheme	Count of subtheme
Archetypes / Tensions	**5**
Cultural norms	**26**
Education / KSA's	**14**
Global systems	1
Governance	1
Governance and Motivation	**5**
Impact	1
Leadership Approach	2
Power	**19**
Risk Perception	**4**
Social change	1
Stereotypes	**4**
Work ethic	1
Grand Total	**84**

Most noteworthy are the discussions around cultural norms, knowledge and skills, and power. These discussions are highlighted in Appendix 1. The themes bring up a complex set of discussions around national culture. The discussions indicate there is no right or wrong way of behaving for different cultures although stereotypes may still exist and behaviours within national cultures may relate to their own set of assumptions around fairness and safety. One practitioner in the Middle East stated that "at every level of staff, there is a different national culture: all these differences have unique triggers, beliefs, culture, history and risks which add to the complexity of the project". Where this becomes difficult is in relation to risk: (this is an excerpt from Appendix 1). For example, in Saudi Arabia, where the practitioner in Interview 6 worked, driving behaviour is often dangerous, and many driving accidents occur. What is rated

as poor driving on site may well be considered quite normal.   Drivers of large trucks often neglect to signal direction, and do not respect others on the road. In other situations, where a workforce is mired in language difficulties and with different assumptions about relations with others, workers frequently organise themselves and work in ways they consider normal. But this sort of behaviour can lead to accidents because *ad hoc* behaviour which is regular 'back home' is highly 'irregular' and dangerous on an international construction site (Interview 8). Falling back unthinkingly upon what is acceptable 'at home' frequently jeopardises safety on site.

Another discussion is about the impact of national culture. It is pervasive and does not change quickly. Discussions around ways of working and communication across the organisation assist in developing a more collaborative approach. Even in this relation it may not be easy to engender working relations if the workforce speaks a different language. The extent to which behaviours are ingrained is illustrated in this example, an excerpt from Appendix 1. During Interview 2 for a practitioner in Eastern Europe, religion and culture are often linked. Religion, to some extent, may be deterministic and related to how individuals view life, death and risk. Some cultures believe that death is entirely determined by God and utterly pre-destined. This religious dependence may make some individuals perilously fatalistic on site when compared to workers for whom agency and acquiring new behaviour are the basis for individual safety precautions. If accidents cause death, there may be leaders who interpret death in a spiritual sense which reinforces a belief in fate and destiny. It is particularly difficult to align this world view (i) with secular models of risk assessment and (ii) standard notions for avoiding dangers on site.

The following is a summary of participant feedback for national cultural themes.

Subtheme: National Cultural Archetypes
Certain archetypes for appreciating and practising safety have been developed, and are useful as ways of understanding the organisation. These archetypes were first suggested by Senge (1990) and modified by Guo, Yiu, and Gonzales (2015) to describe eight commonly recurring issues in safety. These archetypes help to identify:

(i)   Conflicting messages that workers and staff receive through workflows, and
(ii)   Why behaviour is as it is,
(iii)   Why frustrations may exist; and
(iv)   Underlying structures which give rise to persistent, recognisable issues.

These visualisations are the results of 22 interviews with stakeholders, and participants in the construction of a major project. The authors suggest that future research needs to encompass

different cultural settings to consolidate their findings and that is an advantage of the current research. The archetypes that are discussed here present typical dilemmas facing safety practitioners. Such issues surfaced during interviews: not all of them necessarily relate to the archetypes discussed in the Senge studies. Yet many similarities exist in terms of the need for a healthy organisation and safe, productive and high quality work.

The following points are discussed:

- Implementing the right programmes for a unique population requires the programmes to align with national cultural norms
- The history, customs and language of the host country must be studied and respected in minute detail in order to create a healthy organisational culture
- Hiring practices must be adhered to closely. If new recruits do not possess the necessary skills, and are dismissed bad performance, the whole project is thrown into jeopardy.
- Empowering females in the construction industry is an important step in establishing equitable terms of employment. If national cultural norms, and the mores of a macho industry oppose forward thinking initiatives, then such national prejudices or chauvinist bias have to be carefully yet firmly checked.

Subtheme: Cultural Norms

Engrained cultural differences often give rise to unacceptably rigid behaviours.

The themes discuss the following points:

- Different nationalities exhibit different behaviours; customs and expectations and no 'right or wrong' type of thinking exists. It takes a long time to change behaviour.
- National cultures have different normative behaviours relating to the concept of right and wrong, justice, and fairness, risk perception and safety. These differences mean that safety may not be 'common sense' but is defined through experience.
- National cultural beliefs around agency and changing behaviours may not be consciously practised but be the workings of the unconscious habits of each land.
- Forging relations of trust in the workplace between national cultural groups is stimulating, enlightening and an opportunity for all parties to learn from each other. Social psychology produced in-group and out-group theory which is useful in describing the relations between groups characterised by national cultural differences. In-groups are characterised by national cultures prevalent in major projects although relations across national cultures may be divergent and evident.

- Different national cultures have values that determine behaviour. To understand these diverse attitudes; there needs to be more connection and consideration of the differences.

Subtheme: Education, Knowledge and Skills

The following points are made in relation to national culture and education, knowledge, skills and abilities:

- Major projects often demand employment of many low-income workers who are largely unskilled or semi-skilled, and who lack the necessary experience or training for safe work practices. Training may sometimes be delivered on project but is dependent on resources, cost on project, language and learning ability.
- Ability, knowledge, skills and experience may be culturally specific i.e. certain nationalities are better at some aspects of work than others.
- Some safety programmes may have been designed for western populations, and are not easily transferable to other culturally diverse populations.
- 'Common sense' definitions of smart work including emotional, social and intellectual capacities may not be the same for all national cultures. This may be based on familiarity of the work through history, and skills needed within a particular environment.
- Priority for hiring staff may be based on language ability and nationality rather than experience or skill. Considerable risk is introduced through hiring practices.
- Different national cultures do not necessarily understand or have the same experience of safety.
- Risk is introduced if workers are not familiar with safety equipment and if communication or safety rules are not available or conveyed in their own language.
- Training must be concentrated upon workers who are directly involved in the work, and upon managers who are held accountable for safety. Training must be reinforced: – this can be done by means of job-aids and needs to be in the languages understood by different workers.

National culture and education levels within a country are interrelated in many ways. There may not be enough locally trained workers to occupy skilled positions. A workforce that is unfamiliar with construction or international safety standards (Interview 1) (Interview 2) is at risk. For some safety practitioners, lack of suitably skilled workers means there is a duty of care to train the workforce that is available before workers are exposed to the risks of a large

construction site. But training programmes demand finance (Interview 1). Not all unskilled workers are equally able to learn safe behaviour (Interview 1).

Subtheme: Governance and Motivation

There are themes related to governance and motivation under the theme of national culture. These points are related to the following factors:

- The impact of national cultural differences on major international projects is large: clashes can occur easily due to unfamiliar governance, environment, etc.
- Laws governing procedures or processes for safety may not be as strictly enforced or as thoroughly defined in all countries,
- Organisational systems such as reward and incentive schemes may not always motivate intrinsic and extra-citizenship-like behaviour. Reward schemes may be counter-intuitive to certain national populations,
- Governance structures that determine basic needs need to allow flexibility and space for individuals to practise their normal religious, physical and culturally-specific norms in order to allow enough freedom for individual growth.

The impact of a country's governance upon a major project is significant (Interview 7). Many multinationals may operate in a country at the same time and find themselves at odds with the local standards of governance. Clashes can occur simply because members of each large company have not been fully briefed and orientated to the governmental habits and culture of a new environment.

Subtheme: Power

.   Power is an important construct related to this study because some of the dynamics of 'who' and 'how' are closely interrelated; who has power, and how they have power, and how exercise of power, if good, can be an empowering, liberating mechanism or, if bad, a constraining force.

The following constructs have a large degree of power in generating good working relations and productivity or setting out guidelines for fair behaviour:

- Good relations between local government and site management can speed up completion of work in a satisfactory way. Such an understanding between local government and management of a large site can help ease tension between labourers from many different backgrounds.

- Project leadership and management teams hold power yet, depending on their exercise of this power, the working climate of the site may be improved or compromised.
- Religious authorities hold power over what is defined as ethically right and wrong, or good and bad: their regulations affect the way workers interact.
- National cultural power systems, such as the caste system in India or the capitalist elite in many first world countries, often determine how individuals interact, which can assist or detract from harmonious relations.

Subtheme: Risk Perception

There is the subtheme 'risk perception' under national culture.

These points fall into two areas:

- Risk is defined differently for different national cultures, and
- Influencing risk perception takes a long time, and requires sustained effort.

Subtheme: Stereotypes

One practitioner suggested that there was some truth about stereotypical behaviour regarding the population he was in: they need to learn the importance of safe behaviour (Interview 1). In the same interview, the practitioner discussed stereotypes and how to overcome them.

The practitioner in Interview 6 reflects on his own stereotypes about those working with him and his own nationality. He states that this reflection has opened his eyes to how he thinks about a workforce through his management of safety on projects internationally.

Organisational Logic Themes

The following (Figure 48) is an excerpt of the Master-data worksheet for Organisational Logics. It is contained in Appendix 1 with a detailed analysis of data.

	A	B	C	D	E	F
1	Sub-Theme	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
2	Education & Competence	Program & Procedures	Availability of Project Specific Processes	What processes are project specific? Are these changes incorporated into training and orientation processes?	Include these in classroom training, and in information (posters, signage) that helps individuals orient to site or project more quickly.	Targeted training and instructional aids add quicker familiarity to site, and an understanding of the unique risks and hazards of the project. Ensure training is targeted so that training retention is increased, and resources and time can be cost-efficient. For people who are familiar to procedural information, they may have gaps in understanding how it is applied to the project
3	Education & Competence	Program & Procedures	Availability of Project Specific Processes	Is this information available and known?	Use a variety of instructional aids to assist with retention. This includes the use of HSE signage that indicates risk.	Be wary of methods that may distract focus i.e. wifi and mobile phones on construction sites. Any method that distracts in a physical work environmen where hazards exist can be dangerous.
4	Shareholder / Client Influence	Stakeholder Management	Client Influence	What constraints are determined by the client and have influence over the structure and systems that influence or constrain people?	Investigate who the client is	Constraints from the client can be seen in the form of control over staffing, finances, their Key Performance Indicators (KPI's) and scheduling needs, client management style and responsiveness. Clients on major projects around the world are often parts of the government, and they are imbued with the style and culture of the country, and determine much of how the project activity gets carried out
	Shareholder / Client Influence	Stakeholder Management	Client Influence	Where does the client come from, and what is their approach to the organisation and management structure and function?	Investigate what the underlying or unverbalised assumptions are that the client would like to see – given a successful project.	

Figure 30 - Master data Excerpt - Cross-Reference of Themes and Transcript Data

The theme of organisational logics was initially coded by means of keywords such as 'organisational parameters and structure', 'structure of the team', 'culture and work ethic', and 'history of the country'. These keywords were counted and recoded into subthemes that relate to the level of logic or influence such as: client influence, governance logics, HR and workforce planning logics, industry logics, leadership, organisational culture, project planning, availability of resources and training.

Table 13 - Institutional and Organisational Logics Subthemes

Subtheme	Count
Client Influence	**8**
Environment	1
Governance Logics	**33**
HR / Workforce Planning Logics	**34**
Industry Logics	**6**
Leadership	**30**
n/a	7
Organisational Culture	**15**
Project Planning	**21**
Resource Availability	3
Training	2

The interviews yield interesting discussions. Regarding governance, practitioners noted that

> *"There may not be sufficient understanding of what safety is and little knowledge of its regulations" (Interview 2)*,

And

> *"If the work is stopped due to danger, subcontractors are often bemused, irritated and out of pocket" (Interview 1).*

Practitioner solutions are varied. For some "work processes and safety routines have to be built into the work flow so that everybody on site agree upon and understand the meaning and implications of safety; such as in STARRT, pre-work briefing cards" (Interview 2). Another practitioner suggested that an organisation "can minimise danger to subcontractors by drafting a stricter contract which measures and reports upon safety" (Interview 3), and deductions of bonus. These are two items that the practitioner in Interview 3 has suggested are useful. The idea is to understand "what behaviours have been learnt that should not be rewarded".

Another excerpt from Appendix 1 illustrates the complexity of workforce planning in relation to national cultural issues. Some practitioners, in an eastern European country, found that clashes arose as a result of differences in culture, religion, political affiliation and/or language. Ways of working differ between employees (Interview 2). One practitioner trusted only those from his own culture. This isolationism may be the result of bitter experience. This practitioner suggested that because jobs in the area were so scarce, labourers or artisans risked a go-slow or apathy on site but stopped short of forfeiting employment altogether. He suggested that if they were fired, they were content to have a 'valid reason' for leaving (Interview 2). A different practitioner on the same project suggested that a large group of workers that formed part of the joint venture were from a culture that used fear to rule. He suggested they were a dominant group who are hired onto the project, forming their own sub-cultural in-group or clique (Interview 3). He suggested it was hard to break such inside groupings: JV partnerships conducted meetings together in their own language. The practitioner indicated that he had seen a different and healthy safety culture which was led by professionals who hired people with the 'right' mentality or attitude (Interview 3). He suggested that during orientation or hiring stages, one has to look for alignment of values and attitudes which can be tested during probation (Interview 3).

Organisational culture is an interesting subject since there are many definitions for individuals about what it is. There are many different ways of noticing and influencing it. Practitioners highlighted that if employees are not imbued with the particular culture of an organisation culture, they may compromise: (i) commitment to safety (ii) the task at hand and (iii) the risks inherent at the 'coal face' and at senior levels of staff (Interview 6). Corporate culture affects and shapes (i) the way in which employees approach the industry, (ii) safety and people, and (iii) the development and buy-in of cultural behaviours and practices within a certain organisation (Interview 8). The same practitioner reflected that corporate culture brings with it an understanding that all parties have different mind-sets. Camaraderie grows when knowledge is shared and each employee knows he can rely on the company employees as colleagues when he needs to (Interview 8).

The following are summaries of the different themes of Organisational Logics.

Subtheme: Client Influence

The following points summarise how the client can either improve or constrain productivity and performance:

1. The client ultimately controls staffing, finances, Key Performance Indicators (KPI's) and scheduling needs, client management style and responsiveness.

2. Clients on major projects around the world often comprise parts of government, and are imbued with the style and culture of the country, and determine much of how the project activity is carried out.

Subtheme: Governance Logics

Governance logics relate to market influence, industry regulations and management on major projects that constrain behaviour. The following points are discussed:

1. Procedures are often copied from project to project, yet inevitably reflect the distinctive habits and customs of the host population. It is essential to adapt procedures to the local environment and population,

2. Procedures have to allow for more training to ensure the population understands them easily,

3. Reward subcontractors for behaviour that is productive to the project,

4. Empower subcontractors to reward and incentivise labourers by allowing them to meet and agree upon a fair management process characterised by integrity, comprehensiveness and multi-faceted allowances.

Subtheme: Human Resources and Workforce Planning

These points relate to:

- The different levels of enforcement of local and nationals in their performance management.

- The recruitment of local and nationals are different i.e. hiring can be based on a quota system or prioritisation of languages and the knowledge of local traditions and cultural norms instead of technical ability.

- The challenges that may present for building good working relations between individuals from different national cultures, and with different expectations around performance.

- Management systems for national and local staff and contractors are coupled with an approach to leadership that can be aligned better to improve performance.

Subtheme: Leadership

There are 30 counts of the subtheme of leadership. The leadership subtheme is discussed by many practitioners. The following points describe various leadership styles suggested by practitioners. Ideally, leadership is characterised by care for the workforce, and educational programmes which allow individuals information needed to act appropriately and decide their chosen course of action. A supportive or consultative leadership style is most appropriate for working internationally, and includes transparent communication styles, with an emphasis on

learning and group awareness. Such leaders lead by example in a multicultural workforce, in which so much of the learning occurs by copying the lead example and performance of good managers.

Subtheme: Organisational Culture

The reflections noted by practitioners are varied. There is less agreement about the importance of organisational culture yet all the practitioners agree that it does play a large role, if difficult to describe and measure.

Subtheme: Project Planning

Project planning is important in executing a project with a multicultural workforce. The following points indicate the tension that typically exists on a project. They are:

- Joint Venture partnerships may be contractually beneficial but can also mean that leadership and management style, and approach to work can be disparate and this can cause tension.
- Project planning, if done well, can outline a sustainable mobilisation plan. However that may not always be the case. It can cause tensions when staffing is ad hoc and reactionary.
- Living conditions can also be planned more appropriately for the needs of the workforce including how it is that population likes to live, play, pray and work.
- The project design is subject to change: if this is drastic and more consideration paid to staff, employees may become disgruntled and cause the project to go over time and budget.
- Adequate quality controls and tendering need to be ensured for better subcontractor management of staff.

Risk and Perception Themes

The following (Figure 49) is an excerpt from the Master-Data from Appendix 1 on the factor of risk.

Sub-Theme	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
Risk Perception and Motivation	Hazard of Controls	Risk Control	What controls are being used to reduce risk on the worksite?	Physical controls, engineering controls or elimination of risk needs to be carefully considered in line with the workforce needs and abilities.	Safer controls should be implemented, and where this isn't possible used education and learning (risk verse severity) as appropriate for new work and where changes are made. Enough resources to support individuals and engagement need to be made, in the language of the workforce where possible.
Risk Perception and Motivation	Workforce Attitudes	Risk Control	What variation in attitudes are exhibited by the workforce toward risk?	Risk attitudes are varied and unpredictable in the management of a large workforce. Risk attitudes need to be considered in light of the leadership and influence and education available. Design processes with behavioural variation in mind where possible (and where low risk).	Allowance or tolerance for a variey of risk behaviours, and risk mindsets means that nothing can be condemned but steered toward better behaviour.
Risk Perception and Motivation	Risk Assessment	Risk Control	What behaviours of safety have been highlighted as important?	In understanding the risks of the project a few 'golden rules' or key HSE behaviours should be listed to identify what is expected, and what can be used for training, and emulated by supervisors.	People may not be familiar with what is expected in high-risk areas. Its important to educate those.
Context	Project Risks	Risk Control	Have accidents occurred previously?	Examination of all possible risks is important to understand the possible risks and the controls needed	This will ensure the workforce feels supported and cared for, and will mean a caring community and vibe is established so that more engagement, more learning and more communication (without blame) can be made.
Context	Industry Risks	Risk Control	What industry-specific risks are prevalent and can be prepared for?	Avoid potential for name, blame and shame (in many cultures negative punishment is not effective). Use accident information for training or re-evaluation without personal details.	More vigilance 'on the shop floor' means the workforce can demonstrate their training where it matters most, and they can be rewarded and supported for the small changes that are made daily. Training is not just contained in the classroom – it is a culture that exists always.
Risk Perception and Motivation	Risk Assessment	Risk Control	What work activity is being carried out, and is a rigorous work process in place with training?	Ensure work processes are understood. Rule out misunderstanding through education and training and measurement of knowledge – simulation or behavioural training can be very effective. Work to include information on what to do in unfamiliar situations.	Information available readily is useful prior to approaching any risk in the environment. There may be many reasons attention or focus is diverted and so focusing attention on the difference / hazard is important.

Figure 31 - Master-Data Excerpt - Cross-Referencing Themes and Transcript Data

There are 58 counts under the theme of risk which may be broken into subthemes: risk control, data, motivation and perception.

Table 14 - Risk and Perception Subthemes

Subtheme	Count
n/a	1
Risk control	27
Risk data	4
Risk motivation	14
Risk perception	12

A safety practitioner has at her/his disposal a battery of controls which s/he can call upon to minimise or eliminate risk. Such controls include elimination or substitution engineering controls which help to prevent employees on site from being injured. One practitioner in Interview 3 relied upon external, physical controls rather than trusting safe behaviour from workers. This choice suggests that the practitioner found behaviour unpredictable, or not wholly reliable, or he suspects all workers are not fully familiar with safety protocols.

Preferring engineering controls over human well-being suggests that in going to 'great lengths for preventative measures', organisations risk not training staff on site sufficiently. This neglect of training leaves many individual workers, skilled and unskilled, ignorant of safety procedures and good working habits on site (Interview 4). This practitioner suggested that those on site learn through experience, which he considers to be a natural part of life (Interview 4). This attitude opens the possibility of fatal accidents on a large construction site.

This practitioner stated that he had difficulties 'influencing leadership because their focus is on production' (Interview 3). He claimed, however, that he could convince some supervisors of the benefits of a caring approach to the workforce by alerting supervisors to the cost of poor safety in terms of health, life and production (Interview 3). This practitioner did improve safety awareness and behaviour by educating his supervisors and leadership in a subtle way about factors which could increase production and cost. Because leadership has such a significant influence upon the workforce, it can instil the right or wrong behaviour in those working for them. If management adopts a policy of productivity over care for personnel, it is likely that the workforce will replicate an uncaring behaviour. The safety practitioner in Interview 3 stated that management, in his experience, preferred to focus on production, and that they had a compelling drive to increase productivity at almost any cost. Their chief concern was to complete construction on time and on budget so as to make as great a profit as possible. Another practitioner in Interview 8 stated that there may be an 'anything goes' attitude by the

workforce. The kind of hard pressure placed on them by a rule-by-law type of supervisor, who prefers production over safety, creates a climate of fear. When such a supervisor is away from the site, workers react like children because they have been treated as such. They often adopt a care-free behaviour to displace some of the pressure they felt when their overbearing supervisor was present.

Attitudes to safety can manifest themselves in the form of deliberate disobedience, a lack of knowledge about the regulations or concerns (Interview 5), a mistake, slip or lapse such as occurred in the investigation into an incident in Sydney Dekker's work on safety and human error (Dekker, 2002). For a practitioner in the Middle East in Interview 6, unconscious incompetence was something that he himself acknowledged he was guilty of when he was younger and more ignorant of the rules. Lack of knowledge can be the result of poor laws and regulations in some countries, and poor incentives around safety as in Interview 5.The type of resources employed in the use of a task may be the cause of low reward schemes: for example the use of old equipment that fails or overloading of trucks because of overhasty work. Incentives built around quantity rather than quality, constrain work or shift the focus of attention away from safe practice (Interview 3). The resources made available to staff can obstruct safe behavioural output.

Subtheme: Risk Control

This subtheme relates to specific controls that are put in place and their positive, and negative, effects upon human behaviour on site including:

- Various risk attitudes
- Familiarity of accidents on site and how they are handled, and
- The specific risks that are encountered and how they affect behaviour.

Subtheme: Risk Motivation

The following points summarise how practitioners understand motivation around risk, what encourages or allows someone to take unnecessary or unreasonable risks, and what can be done to deter individuals from doing so. This includes:

- Negative motivating factors arising for how people learn from or address risk including any remedial actions taken, experience from speaking up, and public shame
- Positive motivating factors which include generating a space for psychological safety to be available, and
- The increase of risk due to educational differences, and the way in which HSE practitioners can influence leaders, workers and subcontractors on site.

Subtheme: Risk Perception

This subtheme relates to the way in which risk is perceived.

Risk is perceived by practitioners in a variety of ways. Many factors determine such perception: national cultural norms, governmental laws and management structures, attitudes innate and learnt, and knowledge available.

For a detailed explanation of the dynamics contained in the themes see Appendix 1.

The research used the overall factors for conceptualising the framework, however wanted to organise the detail captured by practitioners into a working document that can supplement increased learning by organisations. This document is entitled 'the checklist' and is a document that summarises the challenge practitioners had during their work inside major projects, as well as the approach or solutions they took to overcome them (See Final Framework). The checklist is a ready list of sub-categories, questions to consider and can be used with project teams to support in project planning at a deeper level, as well as reduce organisational relearning. There can be alternative solutions to consider that have not been documented so the recommendation for organisations is to add information to the checklist on an ongoing basis, and for future studies to understand more of the evidence-based practices available. Figure 50 below is an indication of what the checklist contains with regard to project specific processes. There can be changes needed to project processes if adopted from a parent company, and consideration can be made in terms of how to increase procedural flow if available for the needs of the specific workforce. This consideration can be had by management teams on project prior to implementing them or during revision.

Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach	Why? Example
Availability of Project Specific Processes	What processes are project specific? Are these changes incorporated into training and orientation processes?	Include these in classroom training, and in information (posters, signage) that helps individuals orient to site or project more quickly.	Targeted training and instructional aids add quicker familiarity to site, and an understanding of the unique risks and hazards of the project. Ensure training is targeted so that training retention is increased, and resources and time can be cost-efficient.	For people who are familiar to procedural information, they may have gaps in understanding how it is applied to the project which can lead to accidents, confusion, miss-alignment with teams, and rework.

Figure 32 - Example of the Planning Checklist

The way in which the checklist can most appropriately be used is for a project planning team to gather and discuss some of the questions during the planning stage of a major project or merger and transition. The benefits of doing so mean that:

- Important aspects of structure and agency of an organisation are not overlooked.
- In discussions, practitioners can gain a better understanding of what can be expected and mitigate dangers in some way.

5.6 Stage 3 Meaningful Consultation

During Stage 3 21 practitioners participated in workshops to understand the framework and give feedback around its generalisability, validity and use. All of the research participants during stage 3 understood the model. There were variations in understanding its use since most of the participants were not OD professionals and therefore had not seen similar models previously. Participants discussed aspects of pain and gain points because they had seen them in other projects or organisations; some of them pertained to personal issues and others to operational aspects of the organisation. There is ample feedback on more of the pain points within organisations. These comments have not been incorporated into the checklist: they show the extent to which the content of the checklist resonates with individuals.

The final consultation process feedback has been grouped in diagrams relating to the research hypothesis and used within the discussion chapter. This is to streamline the feedback in order to iterate the final framework. The feedback is separated into:

1. Understanding the influence on behaviour in an organisation
2. Understanding the need for a framework
3. Viability of the framework, and
4. The framework's approach and implementation.

The Influences on Behaviour in Organisations

Participants were accepting of the factors included in the model. A participant agreed that "multiple variables influenced behaviour", and another noted that "a deeper dive into the impact of leadership and values" (interview 19) is needed. The following figure (Figure 51) is a collection of all the comments pertaining to factors within the framework, and discussed below.
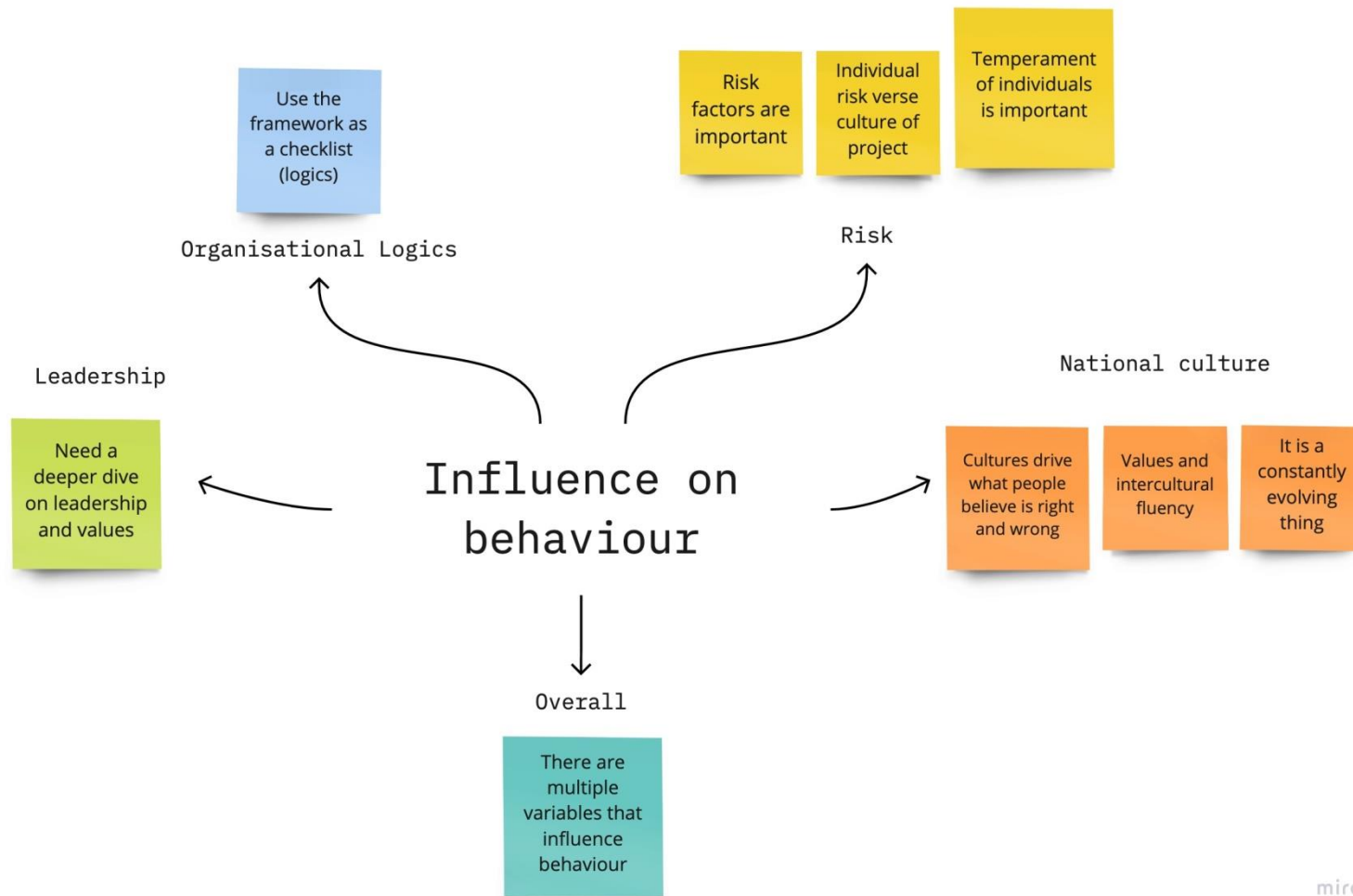
Figure 33 -Participants Comments on The influences of Behaviour STAGE 3

Additional iterations of the model relating specifically to the factors or sub-factors within the model are: "questions around pinch points and leadership" (interview 19). This comment was made by a safety practitioner specifically concerned with the influence of leadership on safe behaviour. This is a common factor within safety literature (Dekker, 2002) and essential for OD work. The same practitioner suggests that "a question about what processes to have in place in relation to disasters and what behaviours we see" should be added. This showcases analysis around incident and injury. It triggers questions that relate specifically to safe behaviour, and improving institutional learning around incidents. These recommendations have been added to the checklist.

One practitioner suggested including a discussion about power when examining institutional and organisation logics: "We need to talk about power over people" (interview 5). This comment reflects the broader discussion around power and the subversive and explicit dynamics of power and leaders (Francis, Holbeche and Reddington, 2013). This aspect can be included by practitioners, depending on their perspective and interpretation of factors and their relations in organisations. These comments reflect what the framework is likely to bring when leaders are discussing their own organisational blueprint, and are highlighted in specific relations within the checklist.

There was one criticism formed around the checklist item of reward. The comment was: "How does recognition by singling people out for celebration impact them? It works for some, but the question maybe: is it intended to create competition? Some people will hate it. Some will be extremely proud they have been singled out. In Japan it is not a good thing to be recognised in public. It varies from place to place" (Interview 15). The framework item and language used has since changed. The framework now recommends rewards to be determined according to the preferences of the population and what is necessary including decisions around equality or equity in criteria. The comment came from a participant who has considerable knowledge about the preferences of different national cultures   .

Another participant shared that: "some of the questions under organisational logics are items not commonly asked" (Interview 5). This comment follows from my own experience with others in that 'Organisational Logics' are new terms recognised in organisational literature. There may be overlaps and extended ideas and thoughts around how organisations and groups of people work within companies. Traditionally, when compared to other OD models, organisational factors include: strategy, processes, governance, processes (Tichy, 1982; Weisbord, 1976). Organisational logics consider actors, their relations, change and resistance such as normative behaviour. This differs from traditional factors and is useful for

incorporation into a framework. This framework allows discussions not traditionally undertaken when planning a project or organisation and is therefore particularly relevant. I refer to discussions around power-over-people. It is a necessary discussion point.

The Need for a Framework

Conversations during stage 3 of the research were particularly powerful in validating the need for a model to appreciate the influences on safe behaviour. When presented with the framework, 3 different participants noted it as: "a diagnostic tool" (interview 14)…and "a systematic way to view factors" (interview 5) and "a diagnostic approach in terms of understanding what is important and prioritising. Build a whole program using it as a tool" (Interview 4). These comments signify that participants comprehend the framework as: (i) a sense-making tool, (ii) a systemic tool, and (iii) a means of prioritising what is important within an organisation. Figure 52 is an excerpt of the feedback during Stage 3 in terms of the need for a model.
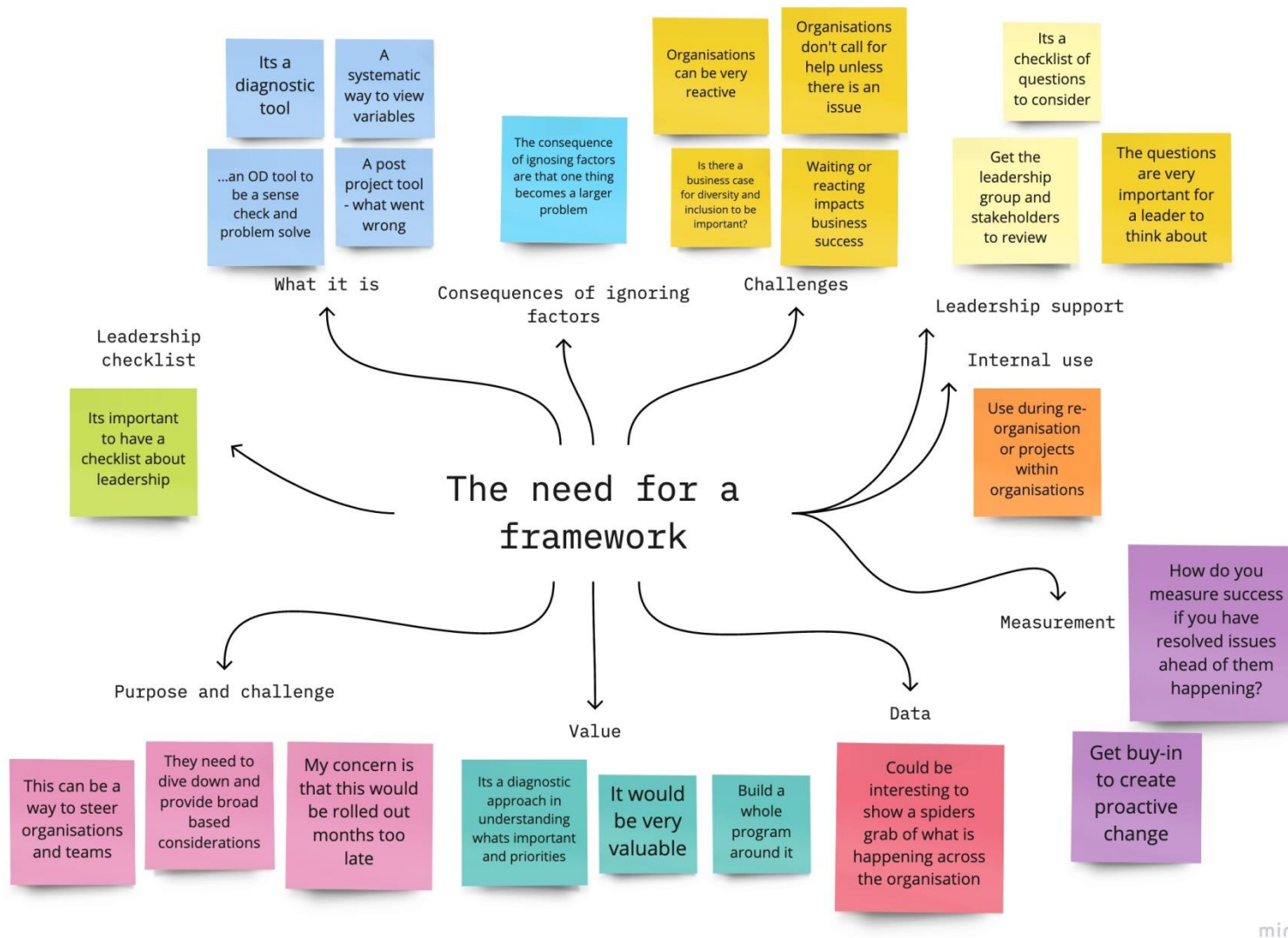
Figure 34 - Participant Feedback on Understanding the Need for a Framework STAGE 3

This framework is crucial at the planning stage of a major project or merger. There can be consideration of its use post-project or merger as a way of organizing the institutional memory of its development. One participant indicated this as a "post project tool to indicate what went wrong – lessons learnt" (interview 3). This recommendation has been added to the framework.

Another participant added that it can be used "during re-organisation or projects within organisations" (Interview 14) signifying their agreement that it can be used during a re-organisation, as well as in smaller projects within specific departments within an organisation. The comment suggests that diagnosis can be understood to facilitate design at a macro (organisational) and micro (project) level in the sense that details within each factor have a significant relation to the project (or process) being defined at each point. There are multiple considerations that can be applied to all ideas and projects within organisations and for organisations based on the initial diagnosis.

Two comments were significant about the approach taken in the framework: (i) national culture, community and therefore diversity is important, and should be focused on and included within discussions around international organisations, and (ii) the framework suggests a whole-self approach for employees in organisations as they will inevitably act in their own customary ways within an organisation. The arguments for diversity and inclusion, and a whole-self approach for organisations follow literature within recent OD approaches such as positive psychology and appreciative enquiry (Francis, Holbeche and Reddington, 2013). The first argument for diversity and inclusion is perceptible in a question posed by one of the participants: "Is there a business case for diversity and inclusion to be important? The businesses I work with usually have a business need and that for them is an issue, so I don't have to convince them" (interview 10). This comment underscores the fact that diversity and inclusion are important factors in the exploration of national cultural differences in many organisations. The methods that organisations need are selected when a problem in the organisation is encountered rather than from a project design stage. The framework lists national culture and community as integral and important to understanding the dynamics of the organisation. The way in which these elements are diagnosed and interpreted by practitioners depends on their experience and skills set. Cross-cultural communication and competency development are more effective for changing entrenched behaviours.

Another participant was excited about the concept of a whole self: "bringing hearts and minds together" (interview 4) and a different participant suggested the framework "could be very useful for (individuals) self-analysis. People can find their own pain points through it" (interview 5). This is an important thought in determining where to position oneself in the OD landscape.

Viability of the Framework

Comments about the viability of the model indicate general agreement with it: "I found the framework great. An injection of good stuff" (interview 18), "Yes, the elements seem to be really useful" (interview 9), "The framework is really useful" (interview 7, "Leaders need to be flexible - this is seen in the framework and I agree with it" (Interview 15). Figure 53 below is a diagram of the feedback around the viability of the framework and contained in Appendix 2.
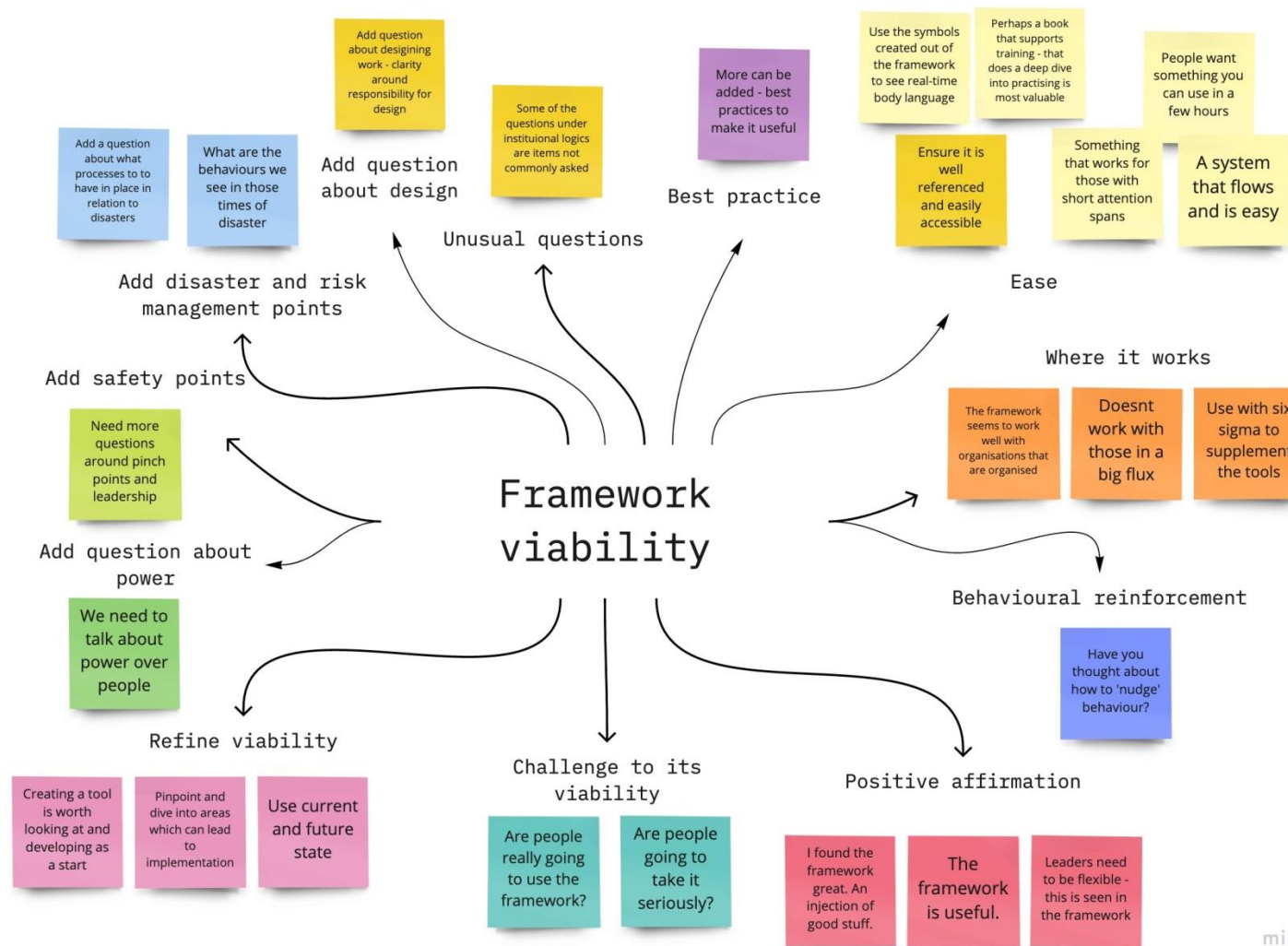
Figure 35 - Participant Feedback on Viability of the Model STAGE 3

Apart from knowing when and why to employ a framework, are comments given by participants: "The consequences of ignoring the questions or factors in the framework are that one thing becomes a larger problem" (interview 1). This comment signifies that ignorance of factors and dynamics within organisations can mean they become larger. I have witnessed this in organisations in which the leaders do not have enough strategic information about staff to link variables with practices. The comment points to a need for using a framework at a design and planning stage to allow for structured discussions about the influences on safe behaviour within that particular context and with those factors. Another participant asks why and when to use the framework in a different way: "How do you measure success if you have resolved issues ahead of them happening – sometime bad things have to happen to get buy-in to create proactive change?" (Interview15). This comment signifies that certain events need to occur to enable change: often in remedial training and OD interventions. In understanding what dynamics cause failure, it is useful to understand the value of a framework. This is re-emphasized in a further comment: "organisations can be very reactive - they don't call for help unless there is an issue, and this impacts business success." (Interview 15) This participant may have seen both versions of enabling through best practice versus not. This is an endorsement of the value of this framework for the project.

Another participant explained why and how an organisation can use the framework: "This framework can be away to steer organisations and teams to dive down and provide broad based considerations. I like the framework; my concern is this would be rolled out six months too late. Develop it into 'something "that's ready to go" (interview 19). This participant offered the solution of having something that can be used during the initial stages of a project or organisation, and its viability – "ready to go". It is valuable to link design, development literature and planning literature. Such linking provides a foothold in best practice worldwide in the planning phase of mergers, projects and organisations. This literature can be made available to more practitioners within business. The participant's idea supports the notion that they may have seen organisations that have developed inadequately and then tried to rectify or amend an issue within an organisation. This is common in OD; practitioners are often called in only when there is an incident, profit or morale loss (Francis, Holbeche and Reddington, 2013). A framework can be developed so that it is more easily digestible. This follows training literature in which the shorter and more specific the information is, the easier it is to assimilate and store (Mullins, 2013).

One participant noted how it could be used: "It's a checklist of questions to consider – getting the leadership group and stakeholders to review and think about the questions that are there

now and identify the potential gaps" (interview 6) which is a useful process to consider in its implementation. A similar comment touched on leadership again: "The questions in the framework are very important for a leader to think about" (interview 15). These ideas are in agreement with the concept of leadership and power presented by Francis, Holbeche and Reddington (2013), and the need for all change in organisations to be driven by leaders. Awareness of issues within an organisation is within a leader's purview. Without a good understanding of the 'people-items' of an organisation, these issues may be fixed only after they occur. Case studies can be useful to highlight the links between organisational (or process) design and incidents, cost and loss.

Two comments indicated limitations of this framework: "The framework seems to work well with organisations that are more organised – not organisations that are in big flux like the army" (interview 5).The interpretation of the comment may attribute its use in more well-organised organisations that can change more easily, or have discernible aspects that can be sought and described. The framework would have to be implemented in different kinds of organisations to determine its effectiveness, as well as the factors that become prevalent for it. This type of critical analysis increases the validity, reliability and rigor of the framework.

Another of the participants indicated that there should be more information about how to change safe behaviour during the implementation stage: "Have you thought about how to 'nudge' behaviour?" (Interview 4). This comment signifies that both the dialogic and diagnostic approaches to intervention may be of value, as well as incorporation of behavioural science or motivation theories and signposting behaviour (West, Mitchie, Rubin and Amlot, 2020). This is common in areas concerned with reducing risk such as ergonomics (Dekker, 2002).

This question lent itself to consideration of the framework in so far as it can be employed on a continual basis to instil safe behaviour and 'nudge it' into place. One participant asked if: "there is some way you can measure the health of the organisation such as measure heartbeat on your health/stress levels?" (Interview 8). In this discussion, enabling approaches to data on a continual and real-time basis through the use of technology may be effective. This is a consideration of what can be done with the framework after its submission and acceptance by a wider community. Technology can help with visualisation of the data, and enables its use on a continual basis, potentially by all employees within an organisation. These suggestions for incorporation of technology-based OD model are valuable and should be considered for future development. Much of the psychological assessment data has been rigorously tested, made valid and reliable, and can in some cases be good and ethical predictors of behaviour like the

growth of technology : 4.833 million in 2020 in contrast to 16 million in 1995 (Miniwatts Marketing Group, 2020).

A particular practitioner suggested in Stage 3 that technology makes the framework more readily available and workable: "Trillions of dollars going into AI and digitalising – and companies that take the opportunity up will potentially do well e.g. Uber app." (Interview 8). Digitalising the framework in an app or using technology can enable more availability for data input and reporting features. This enables the working aspect of the document, its continual update or enhancement, and is a serious consideration for future development of the framework. Discussions about the use of the framework by the participants indicated that one person thought it "could be interesting to show a spider's grab of what is happening across organisations… a way to identify …and decide to do things differently." (Interview 6). This signals a way in which to deploy the framework as a visualisation tool, something that can be normed against other organisational populations as a way of iterating and further developing the model. Providing normed data across organisations is a popular method of developing organisational assessments such as '*The Cultural Inventory'*, or '*Great Place to Work Survey'*; as a way of providing organisations with benchmark data (Human Synergistics International, 2019). This way of benchmarking across companies could signal an organisation needs to make a change depending on the outcome they seek.

When considering the format of the framework and checklist, one participant suggested it must be "well referenced and easily accessible" (interview 13) ; another "people want something you can use for a few hours…a system that flows and is easy – that works for those with short attention we as humans have generally developed in modern times." (Interview 2) The framework needs simplicity in its design and use. This is a consideration of its creation and design throughout the process. An initial understanding of the influences on behaviour can indicate a large number of responses. The main factors and shape of the current model have evolved to indicate simplicity.

One comment indicates that the framework can be used "like six sigma…for structure and method" (interview 3). This comment means that a practitioner may be able to view the framework and checklist as tools that are familiar to organisations which can be more easily assimilated into day-to-day functioning.

In terms of the use of the framework, one participant indicated that its form may need to change in order for it to be easily assimilated: "Use the symbols created out of the framework to see real-time body language and perhaps a book that supports training for the trainers.

There are an awful lot of drawers filled with manuals. Training that goes deep into practising is most valuable." (Interview 13). This comment suggests that the framework can be refined and adapted into training for organisations which is a consideration for future development; particularly because some of the factors i.e. Organisational Logics may not be immediately familiar to users of the framework.

There were several suggestions for iterations around its overall use. A comment from an OD practitioner indicates that the framework and checklist are a "useful starting point" … "and then pinpoint and dive into specific areas which can lead to implementation: see current state and future state… a lot of activity to explore." (Interview 3) Another comment was that "more can be added to make it useful for organisations. Add best practice." (Interview 3) These comments indicate that the framework and checklist can be modified on a continual basis to include more information as needed – almost like a living document within an organisation – a lesson learnt workbook. The comments suggest the workbook is just one way to initiate conversations about the organisation and its setup with multiple approaches that could be useful for managers to engage in. This is necessary in the project planning stage but it is often the case that bid teams and project planners follow specific criteria outlined by the client rather than a psychological appreciation of what this may mean in terms of the influence on safe behaviour.

Implementation and Use of the Framework

Comments around the implementation and use of the framework are outlined in Figure 54 below for Stage 3 feedback.
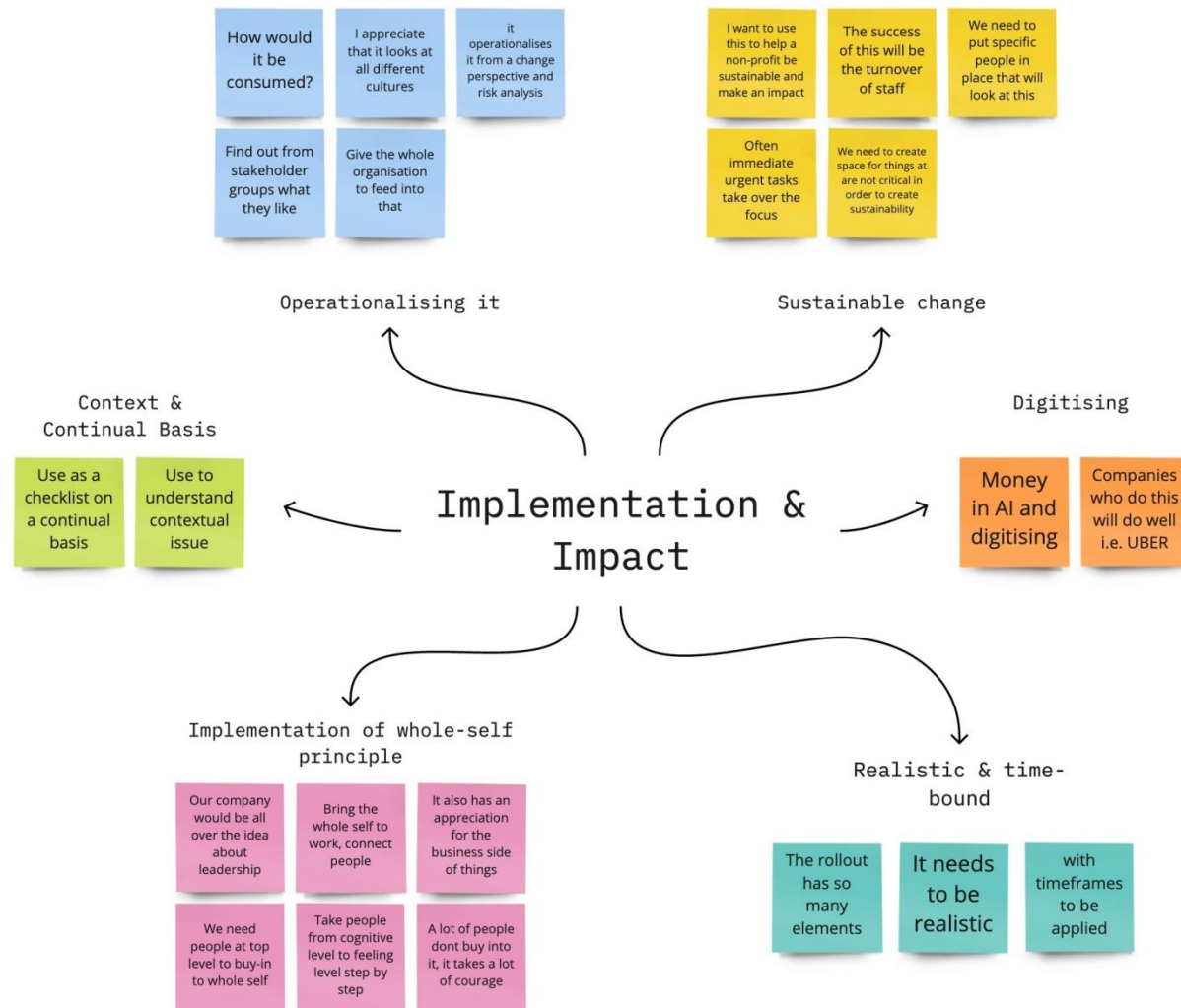
Figure 36 - The frameworks approach and implementation STAGE 3

In Stage 3 several comments were made regarding the timeline for implementation of the model. One practitioner suggested that the framework can be 'used… on a continual basis to understand the contextual issues' (Interview 18). My interpretation of this comment is that the framework is useful in mapping out an initial blueprint of the organisation. But it can be used to understand changing contexts and organisational subfactors. This framework acts as a working document for a project planning team, and management, embedding strategic processes into the organisation.

Change or design results from the use of the framework. Regarding the change management aspect of the model, one practitioner commented: "How could it be consumed? Not sure but appreciate that it is looking at all the different cultures – to operationalize it from a change perspective" (interview 10). Their determination gives preference to the model to discern cultural and community difference and provides some approaches as to how on a macro and micro level there can be different suggestions about what an organisation can do practically.

The same practitioner suggests that from a "risk analysis [perspective one can] find out from stakeholder groups what they like and do not like about the approaches, and their ideas. [These suggestions are] a way to operationalize it – give the whole organisation opportunity to feed into that" (interview 1). By their understanding, a lot of the implementation, analysis and interventions using a dialogic or community-based or employee-involved approach can be used to garner support for change. This is in line with current OD paradigms that are employee-centred (Francis, Holbeche and Reddington, 2013) and need employee and leader involvement and support in order to be accurate. Another challenge to the considered when working internationally is that practitioners may not have the flexibility to vary processes and procedures. Practitioners can be considered about how they design processes, including the leadership style to support individual ways of working. A framework can give them the understanding of how to do this.

In terms of the support for change, an indication that leadership is essential to the implementation of the model was highlighted by a practitioner: "The success of this is going to be determined by the senior executive team and how committed they are to implementing this minimising risk and delivering efficiently." (Interview 10) This is true for most of the activities undertaken in a major project or organisation. It needs leadership support. A similar opinion was given in a different workshop during Stage 3: "The whole thing around leadership: our company would be all over this part and bring the whole self and connect to people and also have appreciation for the business side of things as well. We need people at top level to buy

into this whole self. A leader read the book, felt the value and wanted to bring it in to work. Take people from cognitive to feeling level step by step – you edge into it. There was resistance: some people dropping out and others engaged deeply with it. It takes a lot of courage to do the work. A lot of people don't necessarily buy into it or believe it – not clear how it can work and be brought in." (Interview 4). This comment illustrates the complexity of gaining buy-in from leadership in order to implement intervention and how vital it is. I noted an absence in the use of literature around whole-self approaches in my work within organisations, and no OD models that promoted this approach specifically. This belies the awareness and openness needed from organisations to implement strategic OD. There needs to be a mind-set developed and more evidence given as to its successful use within organisations in order to gain market buy-in to this framework.

There are some existing tools in the framework that have useful parallels with the framework to map out better project plans. This list is not exhaustive. It has been referenced by practitioners from the fields of project management and human resources. These tools are discussed to indicate that the model is not a replacement for existing activities and can be used to complement project management, and lean and six sigma development.

Table 15 - Supplementary Resources

Tools Available that Support Diagnosis or Planning	Reference	Uses within research
Stakeholder Management (Matrix / Map) can be done when a project is starting. Maps out the parties that will be on project which can then be used to guide framework development.	https://www.apm.org.uk/body-of-knowledge/delivery/integrative-management/stakeholder-management/	Must be used to identify the key actors or parties to an organisation at a macro and micro level. Stakeholders will need to be mapped onto the framework including workforce, client, employees, and contracting or partnering organisations, as well as industry players. An understanding of stakeholders can then be used to guide group preference, norms, requirements, and create ways of working.
Root Cause Analysis - what are the major causes of accidents and incidents? The tool is used to identify root cause.	https://hsewatch.com/root-cause-analysis-basic-steps-methods	Identification of root cause is important so that causes or sources of incidents can be found. The source of risk can impact on the behaviour around it. A root cause analysis can also support better case study and best practices.
Six Sigma Tools are a suite of process improvement tools used in large organisations. Two tools can be most applicable: 1) Identifying the voice of the customer and their needs; 2) Identifying the inputs and outputs of a process for stakeholders to determine waste and insufficient processes.		These tools can be used by practitioners for understanding how preferences of stakeholders can be used to tailor processes for the end user. This will support better ways of working.

The Framework

There is a need for holistic, whole-system wide planning which take into account national cultural differences. Design has to be updated. Continuous people management on major construction projects allows an opportunity to create more informed practice. Through case study research and practitioner interviews, a framework has been devised in this thesis to:

(i) provide organisations and practitioners with a clearer understanding of factors that influence behaviour in a broad and international context,

(ii) utilise scientific studies and literature that merge psychology and business,

(iii) show what practitioners face when operating in international contexts, and the approaches they adopt to enhance their efforts, and

(iv) extend OD models so that it is useful and practical to administer for international business.

This framework allows practitioners working inside organisations and major projects to acquire a better understanding of an organisation; to determine what dynamics are likely to impede people's progress; and to decide what can be done to improve safe behaviour and increase real productivity.
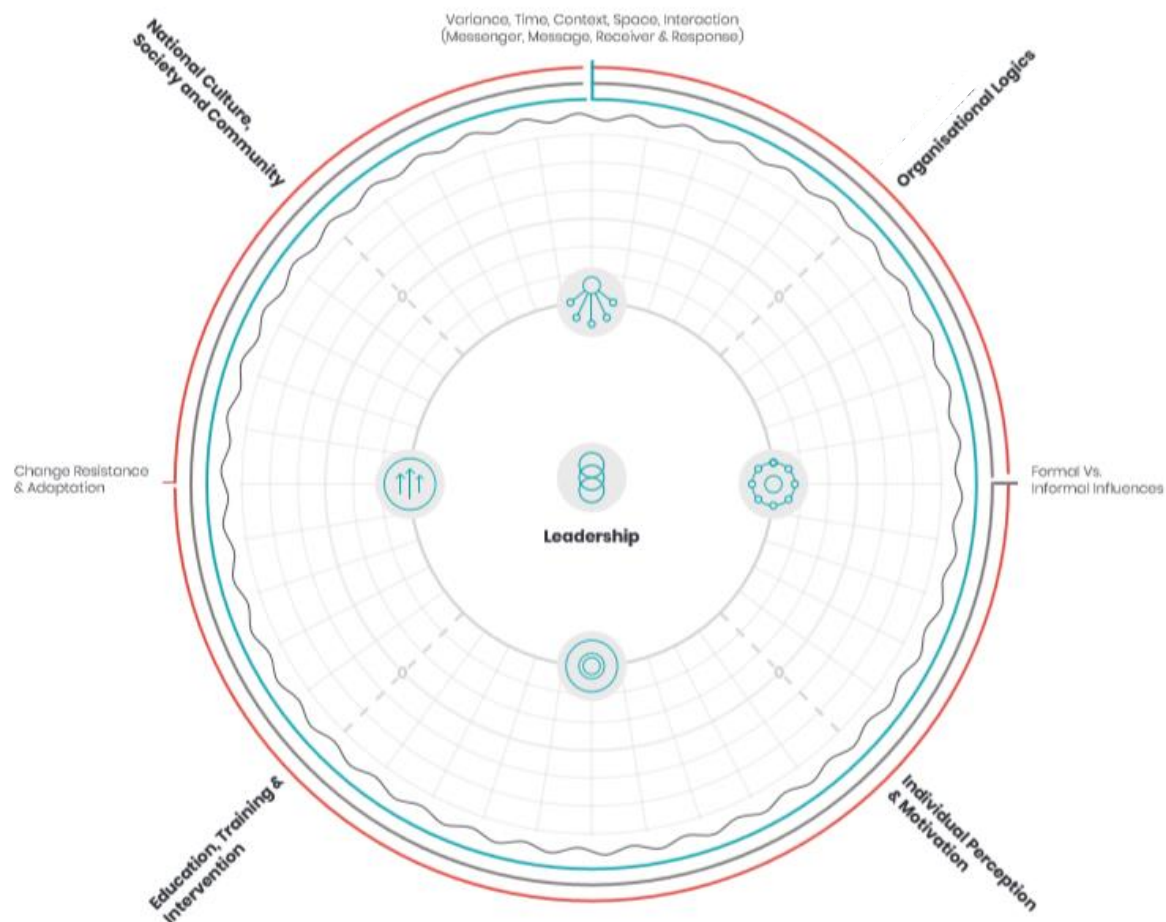
Figure 37 - The Framework

When making sense of the factors within the framework (Figure 55), practitioners must use their own knowledge and theory to advance ideas around when, and how, and what can be done to implement a more strategic design or development activity, and then iteration and testing can take place. For example, a practitioner might look at the dynamics of hierarchy and power distance for different cultures and decide that there needs to be a particular organisational structure with a certain number of levels of hierarchy, and that decision making is centralised in the top 3 layers in order to have control. This potentially suits the industry if it is highly regulated; however can forma constraint on individuals from more flatter and distributed cultures. The theories postulated by Hofstede and power distance may enable meaning making around structure; however practically there may be another alternative to think about. Weisbord uses conflict theory to make sense of behaviour inside of teams, whereas someone with a psychological background might use clinical theory. Thus the model becomes a structure and method for interpreting and problem solving.

When looking for ambiguity and creating understanding, practitioners are able to showcase the framework in a 12 box-grid as below (Figure 56).

	The Individual	The Organisation	Community & Society
National Culture, Society and Community	Degree of internalisation... Traditions Religious Practices Symbols Normative Behaviour Communication Beliefs (life and death) Agency Leadership	Prevailing dominant national culture Work styles Preferences for hierarchy Communication or relational style Experience Stereotypes / ingroups verse outgroups	Degree of generalisation...
Organisational Logics	Presenting constraints for individual Political stance Games played (TA) Pain points of implementation of work / habitual ways of working Ability to influence Leadership	Institutional Behaviour Actors Type Key Performance Indicators (KPI's) Power Structure /Organisational Structure Presenting contraints (silo's / degree of politics / level of bureacracy / decision making ability) Flow of Communication Age, history and governance Organisational culture and reward structure	Technology isomorphism Conditions Social Beliefs Legislative Items
Organisational Resources – Training, Interventions & Communication	Style and preference of learning Level of education Leadership	Focus area Method Competence / education Training available Selection and Assessment / Recruitment Mob / Demobilisation Resources Communication Nudging / Rewarding Behaviour	Availability in community and society Access Standard
Individual Perception and Motivation	Risk Source Risk Perception Motivation - hygiene factors, goals, level of need Behaviours toward risk Level of agency / fears to behave Level of autonomy / will and soverignity Leadership	Necessary KPI's (necessary standards and behaviours toward safety / safety incident rate)	Prevailing behaviours in society and conditions

Figure 38 - 12 Box Grid

Implementation of the framework developed in this research follows a standard methodology of process consulting, using a five stage approach (Cheung-Judge and Holbeche, 2015; Stanford, 2012). The method of implementation of the model in its simplest form is:

1. Consultation with a client and establishing relations with key personnel,
2. Assessment of the salient factors influencing safe behaviour; to understand dysfunctions, opportunities, goals of the systems in the organisation,
3. Application of the research around elements of dysfunction and health, and identifying approaches (or interventions) to improve the effectiveness of the organisation and its people (prototyping),

4. Applying approaches to improve effectiveness, and
5. Evaluating the ongoing effectiveness of the approaches and their results.

A change in roles in 2018 led me to a new organisation in which I have thought more carefully about how to implement the model. The organisation was a recent takeover and merger of two large multinational corporations. Several staff members moved from the old operating company to the new one. Three large divides exist in nationality although the organisation hired individuals from over 50 different nationalities. The three companies, old operator and two new merged operators have specific corporate cultures and are familiar with operations and the prevailing national cultural preferences. Similar organisational dynamics and constraints were observed during the development of the model and in the new organisation indicating valid use of the factors within the model. I mapped the organisation using the framework. The checklist was useful to determine allocation of training resources and communication. I observed the following insights from the framework:

- Mapping of the framework is a long process that requires known input and research time for understanding the specific dynamics at play. For example, the specific national cultural preferences represented on a project, the industry and context. This process is an overview of the whole organisation or major project, and can be useful as a visual of the project in the planning phase. This may be useful for diagnostic purposes, as mentioned in the feedback process during stage 3 of the research.
- It is important to capture all actualities and possibilities no matter how insignificant they may seem. The training approach emerged from my understanding of learning and development at my previous organisation. I noticed that in the two multinational organisations, and under the guidance of the Chief Administrative and Personnel Officer who had her own approach, a large part of the challenge of organising and administering training was due to the different approaches taken by the multinationals. The aim of capturing factors from a macro- to a micro-level indicates the degree to which certain ways of working were internalized. It is a core determinant of the success of an organisation.
- A large audience is needed for purposes of interviewing in order to understand the overall view of an organisation: people with contextual knowledge, leaders and their approach to work, and project planners or transition managers. The framework should become a practical tool kept as a working document that can be added to. It is a visualization of the organisation as a whole that is living – subject to change, complex and dynamic but working towards maintaining equilibrium.
- National culture and corporate culture determine the extent of internalization of factors and their relation to the framework. In terms of individual perception and motivation, it is

essential to take national culture into account. Where resources such as training, interventions and communications, they are intertwined within national culture.

The predominant features can function from a macro- to a micro-level. Sociological and technological trends exert influence on a macro-level, as well as national cultural preference; the extent to which these are internalized by an individual; and played out at the organisational level. The level at which the factors operate can be diagrammed according to how they are analysed through micro- to macro-levels (see Figure 57 below).
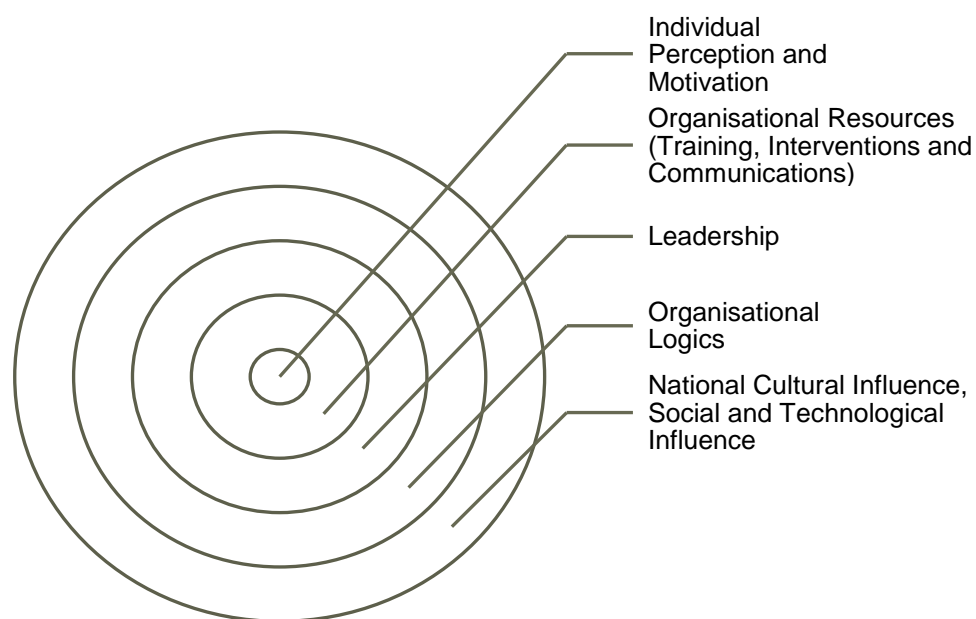

Figure 39 - Macro and Micro Level Influences

Mapping processes by level of internalisation can help practitioners define where and how interventions or changes need to occur. The model requires additional work to formalise the sub-variables within the five key areas of influence, and operationalise them into survey items. Reliability and validity have to be tested on a larger scale. It requires more modelling and statistical analysis to understand the predictive or deterministic elements. This analysis is reasonable. More scoping of what can be done and why is needed if the research attempts this route.

The planning checklist is finalised according to the main factors. The final planning checklist is in the Appendix 2– Framework.

Sub-Theme	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
Cyclical Tensions and Pain Points	Country History	Cyclical tensions are issues that may play out over and over in a cycle that induces negativity unless interrupted. History of cultural groups and their interaction within a community or society	What is the historical experience of people living in that country toward foreigners, colonisation, and stereotypes of for foreigners? Is there a rejection of foreigners, minimisation, or acceptance and inclusion? How do local and foreign groups work together?	Can the history of the country be better understood? Become aware of the stereotypes evident in the population, and avoid exacerbating or perpetuating them.	Historical power plays and stereotypes that are negative and are repeated can result in alienation due to unfamiliarity with management or leadership style, and may not be accepted by the local population if it is viewed as disrespectful. Trust has a large role to play in foreigner acceptance. This shouldn't be disregarded or downplayed.
Cyclical Tensions and Pain Points	Gender Stereotypes	Assumptions about gender within a community or society	What are the assumptions or stereotypes of the genders within a community or country? Do implicit and explicit gender differences surface in structure, roles and responsibility?	Understand the history of gender differences within the population. Take care to place the right person in the right position and be aware of assumptions and bias around gender labels. Ensure that promotion and performance criteria are built upon explicit assumptions and expectations that don't discriminate.	Some industries and national cultures have what is seen as gender discrimination. The subtle distinction should be made that is appropriate enough for national cultural acceptance, and not constrained due to industry or organisational influence.

Figure 40 - Planning Checklist Excerpt – National Culture or Diversity

Sub-Theme	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
Education & Competence	Program & Procedures	Availability of Project Specific Processes	What processes are project specific? Is information and changes incorporated into training and orientation processes?	Include processes and changes to classroom training, and information (posters, signage) that helps individuals orient to site or project more quickly. Use a variety of instructional aides to assist with retention. This includes the use of HSE signage that indicates risk.	Targeted training and instructional aids add quicker familiarity to site – it gives the staff member an understanding of the unique risks and hazards of the project. Ensure training is targeted so that training retention is increased, and resources and time can be cost-efficient. For people who are familiar to procedural information they may have gaps in understanding how it is applied to the project which can lead to accidents, confusion, miss-alignment with teams, and rework. Be wary of methods that may distract focus i.e. wifi and mobile phones on construction sites. Any method that distracts in a work environment where hazards exist can be dangerous.

Figure 41 - Planning Checklist Excerpt – Organisational Logics

Sub-Theme Definition	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
Behaviour Change	Behavioural Psychology	Types of Interventions	Has an understanding of what is needed to change been outlined and understood? Have various considerations for approach to behavioural change been considered?	The natural cycle of change and how information is passed to people is a useful method to adopt. For example, if change is led through discussions then a similar message by leaders can be adopted and discussed at each opportunity. Change signifies an adoption of a new mind-set and so that results in not only procedural change but opportunity for exploration and assimilation.	Mind-set changes (to safety for example) or ways of working on a task that need to change can be approached through discussions if there is clarity on what is happening, what is needed and why, and that individuals feel empowered to be a part of the conversation and change process. This will make the difference in acceptance of the change process.
Training	Learning and Development	Approach – the way in which one engages with the audience	At what stage(s) are people engaged with training? On-boarding, before each work activity, or on a continual basis. What is the Approach (are people allowed to engage in conversation and generate ideas and opinions)?	Engagement at on-boarding and process change stage(s) steps is appropriate. At each engagement stage there is an opportunity to generate more awareness and development of a culture, relations and community through discussion, and promoting a space in which it is safe to speak up and learn.	Every member of the project has an impact on the culture that can be created. Engage with them on a meaningful level – that relates to them personally. Your approach or value or mind-set can be focused before the training or meeting starts. Give information on processes so that they understood and used.
Education	Learning and Development	Competence & Capability	What is the level of education and competency of staff or the workforce? Can scales of learning be developed?	Consider their level of education upon hire (unskilled, semi-skilled, or highly-skilled). Where simulation or behavioural assessment can be carried out prior to hire it should be done. Training will need to be implemented according to knowledge gaps.	Visual observation of the capabilities is best in ascertaining if they are knowledgeable about the job. Ensuring experts are there during the hire process will mean the right people ae hired to project.

Figure 42 -Planning Checklist Excerpt – (Resources to Leverage) Training, Communication

Sub-Theme	Classification	Description	Questions to Consider	Potential Approach(es)	Potential Impact of Using this Approach
Risk Perception and Motivation	Hazard of Controls	Risk Control	What controls are being used to reduce risk on the worksite?	Physical controls, engineering controls or elimination of risk needs to be carefully considered in line with the workforce needs and abilities.	Safer controls should be implemented, and where this isn't possible used education and learning (risk verse severity) as appropriate for new work and where changes are made. Enough resources to support individuals and engagement need to be made, in the language of the workforce where possible.
Risk Perception and Motivation	Workforce Attitudes	Risk Control	What variation in attitudes is exhibited by the workforce toward risk?	Risk attitudes are varied and unpredictable in the management of a large workforce. Risk attitudes need to be considered in light of the leadership and influence and education available. Design processes with behavioural variation in mind where possible (and where low risk) so that people are allowed to behave in the way they know best i.e. for aspects of dining options, breaks, religious or prayer times, or meetings.	Allowance or tolerance for a variety of risk behaviours, and risk mind-sets means that nothing can be condemned but steered toward better behaviour. It's important to allow individuals to feel free to act in a way that prefer in order to feel accepted and expressive about issues; and for safety specific items it is important to indicate where a different attitude or mind-set may be useful to adopt.
Risk Perception and Motivation	Risk Assessment	Risk Control	What behaviours of safety have been highlighted as important?	In understanding the risks of the project a few 'golden rules' or key HSE behaviours should be listed to identify what is expected, and what can be used for training, and emulated by supervisors.	People may not be familiar with what is expected in high-risk areas. Engage and educate the workforce or staff on these rules. Activities that work well to upskill are simple demonstrations and examples.

Figure 43 - Planning Checklist Excerpt – Perception and Motivation

Chapter 6 - Discussion

This chapter focuses on the final framework. It considers the feedback offered throughout each stage of the research and the literature that informs the core research questions: what factors influence behaviour and what can be done to improve organisational performance? A framework was designed in Stage 1, verified in Stage 2 through thematic analysis, and reviewed through final consultation in Stage 3. The discussion focuses upon how participants understand the framework: its need and viability, as well as what factors need to be included in a framework.

6.1 Introduction

OD can make headway in the understanding of organisational logics, elements of the organisation, and its power relations that enable transformational change to occur. Current developments in OD grant employees a broader view of how to implement organisational goals and how to enable shared responsibility, decision-making and accountability (Francis, Holbeche and Reddington, 2013; Gervash and Marshak, 2013). OD has overarching principles such as design for humanitarian, complex and systems-based organisations. The framework proposed uses these elements to proffer a more considered approach to sustainable development, and inclusivity of diverse staff and employee empowerment.

OD in its current state is varied, both in the approaches taken by practitioners and the work that they do. Schein (Gallos, 2006) suggests that OD is a vibrant field but one that needs to overcome a major challenge in creating an organisation in that: 1) it may be geographically dispersed, and 2) it consists of subsystems that have different national and occupational cultures. The framework proposed tackles these aspects in that: I) it can be implemented across different geographic locations and with different national cultural populations; and II) it can indicate where subsystems overlap and need standardisation, or where they differ and need differentiation. This framework allows for a holistic blueprint to be formulated so leaders can make considered design decisions – those based on how it feels to be in such a system.

This framework originated in a study of major projects and mergers with different partnering organisations and multiple national cultural groups. These practitioners are in Africa, Eastern Europe, UK and Saudi Arabia working in major projects. The model was conceived within OD and psychology primarily due to the researcher's influence within the field. The factors are selected based on the researcher's bias toward identification of how they influence behaviour, and how such a discussion in the form of OD models are already accepted within the business world. There were numerous factors existing within current models that have been excluded from the model, or subsumed under a new heading i.e. organisational culture, and vision and

values under 'organisational logics'. The factor of 'resources: training and communication' has been selected based on researcher experience within the field, and how it is an accepted way of improving performance. The factor of national culture (and diversity) is selected based on practitioners experience of the extent of influence on behaviour in different parts of the world – in this way 'researcher-as-instrument' has influenced what has been constructed as, and within the model. The privileging and frequency afforded to factors within the model, and the model as a whole is largely based on theoretical enquiry, practitioner conversations within the research – either generating quantity or enquiry, and practitioner and researcher real-world experience within business.

The specific array of factors in the model has been built with an understanding that individual behaviour can be largely impacted by individual learning within diverse communities, and this overarching nature of behaviour is influenced by larger factors, such as organisational logics, leadership within organisations,

This framework is inherently adaptive to diversity (national culture as a proxy) and the differences available across geographic locations. The framework can be implemented across different companies or in the same company in different countries as a way of discussing factors that influence behaviour in diverse settings. Due to its focus on macro-elements, the framework is large enough, as a 'bird's eye view', to incorporate and illustrate distinctions between organisation design, and the diverse make-up of each organisation or project. As yet, the framework has not been implemented in this way, although consultation with other OD practitioners suggests that the use of the framework in this way is a viable and valuable option lending evidence for credibility and transferability of the model. The research illustrates how valuable the extension of organisational strategy from business science across the fields of organisational psychology is. The research shows how psychology can be employed to formulate a framework for both design and an understanding of how people operate over different contexts. It is not prescriptive but rather allows for more information gathering on the specific variability of a company.

Planning appropriately is important for companies to survive and thrive. OD tools can change or address market fluctuations (Gallos, 2006). An initial consideration for organisations is whether to undertake diagnostic and design work or not. Once this decision has been made, a company needs to decide what model is used. Revision of OD models is necessary if they are to assess complex and diverse environments. A method of analysis and implementation is proposed to guide practitioners as to where and how they can enhance organisational performance.

The discussion chapter is separated into sections to enable an understanding of: I) how it was formulated and the degree to which the literature and participants agree with its contents, II) the need for a new framework against existing OD models, III) the viability of the framework, and IV) its implementation and use. The literature review and practitioner accounts substantiate the content of the framework which is where we now turn to.

6.2 Factors within the Framework

In understanding behaviour in high-risk industries, practitioners need to take into account the factors and subfactors that influence behaviour in understanding and improving on design elements to ensure a good fit. This step is necessary and has been considered in light of Stage 2 thematic analysis and Stage 3 practitioner consultation; to measure the validity of the contents of the framework.

Two questions emerge before a model is used (Stanford, 2007). These are:
- Does the model package the organisational elements in a way that stakeholders will recognise?
- Does the model harbour implicit assumptions that might help or hinder design work? For example, does it include or exclude factors such as local culture (both national and organisational) and human factors (such as personalities), or does it suggest ways that elements may relate to each other?

The short answer to both questions is affirmative in the case of the proposed new framework. These questions are addressed through the discussion which sheds light on how the subfactors originated, how they relate, and how the framework factors may be understood. The framework is based on a systems-based 'ecological' and complex model with factors identified in a case study that determines behaviour. The most prevalent inclusion for understanding organisations in international contexts is diversity (in this case national culture is used as a proxy and influences individual motivations and perceptions, and leadership), and the various organisational elements that have been developed.

The final model has been simplified into five factors of behaviour including leadership. . The factors are:

- National and sub- cultures, or culture, context and community,
- Organisational logics,
- Interventions, training and communications, and
- Individual risk perception and motivation,
- Leadership.

Factors for inclusion have been selected according to their prevalence within the research setting but are not all inclusive. Additional factors affecting behaviour can be included if discovered through the assessment phase. The factors are: I) complex constructs with various interrelations and II) are broad enough to encompass existing literature and theory identified in Stage 1 of the research.

When discussing the complexity of factors, systems theory is referenced because it illustrates variables within the same system and in sub-systems. Changing one variable may lead to an unexpected change in another. This is not unusual for an understanding of organisations using systems-based perspective and complexity theory (McMillan, 2021; Senge, 2006). All factors are located in a specific context, time and organisation. The evolutionary or determined change is important to monitor throughout the diagnosis and design process to capture all of the changes within the system.

Characteristics of the factors within the model:

- They are subject to change over time, context and interaction. These factors are dynamic: there is change, resistance and adaptation to the environment and interactions. As the case study in Stage 1 and the analysis in Stage 2 indicates, factors can interact and are specific to context and time i.e. national culture is specific to a context (Hofstede, G., Hofstede G.J. and Minkov, M., 2010), and training and interventions are specific to national cultures (Gyekye, 2010) .

- There are formal aspects of design and development, and informal institutionalised behaviour inside organisations that indicate what the culture of the organisation is, who holds power, and what actors or entrepreneurial behaviours are evident (Thornton, Occasio and Lounsbury, 2012). Formal aspects of behaviour can be shown through overt expressions, policies, strategy documents, and formal meetings; and informal behaviour comprises aspects such as informal meetings and communications, institutionalised or normative power-relevant behaviour, and implicit values and assumptions (Schein, 1990). Different psychological theories can assist in sense-making the power-relations and psychodynamic or emotional components of the organisation depending on the practitioner's experience, such as transactional analysis.

- Due to the interrelations between factors, the framework needs to allow for complexity and variability. This is one reason why the design of this model is circular. There are no exact predictions about the impact that variables have on each other. Instead this framework appreciates that all elements exist in a dynamic state of flux. Future

research could investigate models across other organisations to understand their similarities and how to create possible predictive relations.

- The factors are interlinked in an organisation, and where change occurs, a new level of learning about the interrelations and dynamics of the organisation can be attained. Individuals often think about behaviours within their own work life, the dynamics between supervisor and team, for example. Overt and conscious learning enhance the consciousness, awareness and change, for all individuals during interventions and future work activity. On a broader scale, the organisation can learn, adapt and innovate. A learning organisation can enhance an organisation's performance (Schein, 1994). The factors are organised from a macro or broadly societal level to a micro or individualist level to account for the level of analysis required. They have different levels of internalisation and impact for different employees (Clark and Voogel, 1985). One employee might be influenced more easily by national cultural variables than another. Certain values may be considered in terms of their inter-subjectivity or importance to various sub-groups or sub-cultures (Wan, Chiu, Peng and Tam, 2007). Another type of risk concerns how an individual behaves toward risk. The extent to which these variables affect individual behaviour calls for extensive research. Renn and Rohrmann (2000) suggest different levels of analysis for cross-cultural research into risk at the individual, organisational and societal levels. Cognitive-affective factors, heuristics, and risk perception are pitched at the same level as individual risk perception and motivation as dealt with in this research. This area within the model can accommodate discussions on sub-variables that Renn and Rohrmann highlight when examining risk perception. Their levels three and four (Figure 56) signify some of the same sub-variables that influence behaviour, including organisational constraints, media influences, social values and trust, and economic and political structures. Their model invariably considers cultural institutions and the political-, social-, and economic-culture which influences risk perception (Renn and Rohmann, 2000). There are many similarities to what they identify as influences upon safe and productive behaviour.
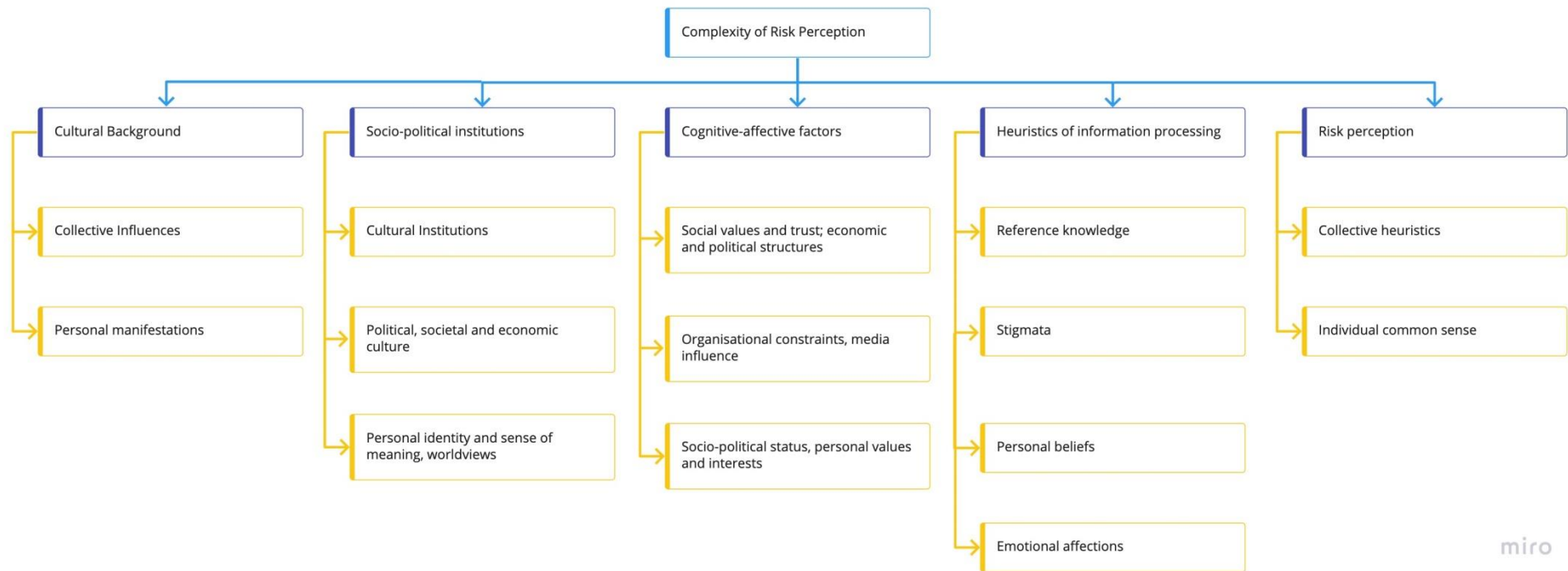
Figure 44 - Context Levels of Risk Perception (redrawn from Renn and Rohrmann 2000).

We now turn to the factors within the framework.

National culture and community factors (as a proxy for diversity)

In the literature review and case study development, it was clear that this factor and its subfactors play a significant part in biological and social learning, according to both mainstream and academic literature. National and sub-cultural differences point to generalized characteristics of the ethnic and geographical backgrounds of individuals (Hofstede, Hofstede and Minkov, 2010; Lewis, 2018; Meyer, 2014). These groups have specific norms and values, traditions, symbols and artefacts that they prize and from which they derive identity. These elements direct the way in which people utilize time, space, and direct relations and dynamics between people (Lewis, 2018). National culture and its theory have been used to highlight variances in ways of working, however this factor is a proxy for diversity and can be used to incorporate understanding of diverse ways of working of each factor to improve organisational performance and embed inclusion into a business.

Participants in Stage 2 identified elements of national culture that played a significant part in project dynamics. There were many cross references to other factors at play. Risk is specific to individual perception and the values within the social and cultural group (Wan, Chiu, Peng and Tam, 2007), and organisational behaviour through ways of working, and training and interventions (Gyekye, 2010). National cultural differences are unavoidable, even laudable in many instances: they determine our values, symbols and artefacts (Hofstede, Hofstede and Minkov, 2010). They are pervasive, and should not be ignored or erased to create a false homogeneity: "cultural norms shape behaviours that individuals revert to in unfamiliar situations, many of which are tied inextricably to the community and culture in which an individual grows up" (Interview 3 Stage 2). Within projects or organisations, there may be a large diversity of cultures: "there may be still further differences within each community; with workers from as many as 46 nationalities employed on any one project" (Interview 6 in Stage 2). The extent to which national culture can be understood is within the relations and performance of different cultural groups. The extent to which such relations can be damaged is indicated by participants in Stage 2 who refer to these relations as determined by "a history of colonisation" and "suspicion" and "a reluctance to accept trust from those of a different national culture" (Interview 1 Stage 2). Even when one language is a common factor for those from the UK, USA and Canada for example, in-group trust is not a given: "there can be a tension, historical grudges and jealousy" (Interview 6 Stage 2). These differences are deeply ingrained and are not easily transformed through intervention. National cultural differences form deep ways of thinking for individuals.

The thematic analysis in stage 2 points to themes regarding national culture and the performance of an organisation in several ways:

I) Tensions can exist between the cultural groups by virtue of history, social groups and bias, and stereotypes. For participants, this caused several challenges including how to engender trusting and collaborative working relations, and how to manage staff when education and experience can differ so strongly on a large international building site. An example is given around the use of tools for safety practitioners, in Interview 6:

> *A project manager in a rich country is more likely to be more anxious about productivity and speed than concern for the environment. Workers from poor nations who have made their own tools try to save wear and tear on their few tools and continue working with limited resources. The clash in attitudes can lead to serious tension which may constrain the project, safe behaviour and collaboration.*

> *(*Excerpt from Stage 2*).*

Entrenched inequality can be severe and there can be no easy resolution to the friction it creates.

II) Different cultural norms give rise to different understandings of behaviour. This creates challenges around leadership. Managing staff is difficult when employment contracts differ so greatly depending upon client requirements. An example of the complexity of generating trust can be seen by a practitioner in Interview 1:

> *The existence of in-groups causes the existence of out-groups made up of individuals who are seen to be different. Out-group members are not awarded the same benefits and 'kinship' enjoyed by in-group members. There may be many types of in-groups but most are constituted along cultural lines first, and then by positional level or status within populations. And… the organisation is like "a 'House of Cards'… an environment of suspicion, spying and distrust between management from one in-group, and the agency or local client.*

> *(*Excerpt from Stage 2*).*

III) Human resource and workforce practices can give rise to different ways of monitoring performance for different national cultural groups, leading to perceived inequality. This is demonstrated through the differences in contracts between national and local staff, as well as what terms and conditions make it challenging to terminate contracts for poor performance.

The expectations for employees on international contracts are high due to the amount of time and resources taken in employing people internationally.

IV) Governance between the client and subcontractors who form different national and social cultural groups can prove challenging and can exert considerable influence on the project.

> *In some countries (*Interview 1 a practitioner suggests that if he*) knows people in positions of authority or power, then he can get things done more quickly, regardless of the predetermined boundaries or challenges. This perception implies that undue influence and pulling strings are paramount in getting the project to finish well and on time" and "(*A practitioner Interview 2*) suggests that in order to win a tender, a company may need political influence within local government. This habit may look like a company buying a job. Due to being in an Eastern European country, people grow rich through corruption, bribery, drugs, prostitution and trafficking.*

> *(*Excerpt from Stage 2*).*

This line of enquiry is understood to be characteristic of relations within the construction industry (Bresnen and Marshall, 2000; Dainty, Green and Bagilhole, 2007)

V) Power relations between different national and social cultural groups.

Participants in stage 3 indicated that national culture is a strong influence on behaviour: "cultures indicate what people perceive as right or wrong" which is akin to authors who classify cultural behaviour into dimensions (Hofstede. 2010; Lewis, 2018; Meyer, 2014). The perception of right and wrong has a strong influence on behaviour. Risk to some is not risk at all to others (Slovic, 2016). Collaborative behaviour means one thing to one group or individual but means something quite different in another community or to another individual (Renn and Rohrmann, 2000). Such differences of view were prominent in Stage 2 thematic analysis and final consultation of the framework.

Mearns and Yule (2009) link national culture to organisational performance and find that Hofstede's framework is a workable model to explain general differences and characteristics of the population. Comparing dimensions can help to explain behaviour within organisations. Such multi-dimensional comparisons are a sound starting-point for the framework. The more nuanced and sophisticated the understanding of cultural preferences is, the deeper and more impactful the diagnosis and intervention.

Liu, Meng and Fellows (2015) propose a framework that shows how differently risks in projects are perceived and how differently projects have to be managed in different national cultures.

This essential flexibility is the basis of the framework they propose. Liu et al. suggest that individualism versus collectivism, and masculine versus feminine societies, are two dimensions that strongly determine how individuals, groups and national communities perceive risk. Liu et al. construct a framework that links risk and national culture, as does the framework suggested in this thesis. Relations between national culture, risk and organisational behaviour infer that there are many different ways of relating individuals to each other, individuals to groups and one community to another. These relations can be harmonious, or confusing, and conflicting. It is the work of an organisational practitioner to reveal such relations during implementation of a framework. In terms of perception of others, misunderstandings may be attributed to behaviour that is different based on national cultural experience and norms (Gyekye, 2010). These differences form part of the model proposed in this thesis and allow exploration of where and how harmonies and tensions exist, and why and how to plan for them in the future.

The theme 'Risk Perception and Motivation' was discussed by practitioners in Stage 2 of the research. Comments in Stage 3 about the influences on behaviour indicate that "multiple variables pertain to major accidents including a poor safety culture", implying the relevance and interrelation of variables that constrain safe behaviour as is the case in major disasters (Cullen, 1990; Browning, 1993; BP, 2010). This is reiterated in literature that shows that national culture, risk and motivation are important determinants to safe behaviour (Rundmo, 1996). Relations between risk and other variables within the model suggest that risk and individual perception and motivation are closely related. Risk perception and motivation expose personality and character, which is why they have been grouped together. Organisations and processes should take careful account of human behaviour in terms of risk and motivation to improve their effectiveness, such as employing stricter controls where necessary or allocating resources to specific training that fits the population. Risk behaviour can differ depending upon such elements as: sensation-seeking attitudes, impulsivity, and immature behaviour (Lejuez et al., 2002). It is significant to highlight such aspects in terms of organisational culture or the overall feeling of the organisation and individual motivation and education. Brown V.J. (2014) and Slovic (2016) claim that emotions and feelings are an important element in our analytic system for decision-making. Rundmo and Nordfjaern (2011) argue that the source of risk has an influence upon the way in which people behave towards it. Additional factors include: knowledge of source, exposure, voluntariness, immediacy, control over risk, severity, and novelty and fear (Fischoff, Slovic, Lichtenstein, Read and Combs, 2000). This knowledge can help determine the content of training and ways of communicating risk. Understanding risk in different contexts is important but it is in no way a predictable science. It needs ample discussion for organisations using the framework and

checklist to instil safe working behaviour and make it a natural part of everyday labour. Bourke and Dillon (2016) link leadership to understanding risk, lowering safety incidents and improving performance. This aspect of improvement extends to development of a culture of safety and communications which is an aspect of the factor of 'organisational logics' (Glendon and Stanton, 2000). How committed management is to safety is a significant predictor of risk-taking (Mohamed, Ali and Tam, 2009) and leadership style.

The way in which practitioners attempt to reduce risk varies considerably. For some, there is a significant reliance on controls, and for others leadership matters the most. A safety practitioner Interview 3 stated that he *"uses a battery of controls which he can call upon to minimise or eliminate risk rather than rely on individual choice. His action suggests that he finds behaviour unpredictable, or not wholly reliable, or he suspects all workers are not fully familiar with safety protocols." (*Excerpt from Stage 2*)*

Many accidents that occur on large sites are serious, life-changing or even fatal. They are often the result of poor management or management failure. So, for example, the use of the 'carrot and stick' approach, or leadership style of 'military men' for instilling safe behaviour may not be effective for employees drawn from all national cultures (Interview 4).

*(*Excerpt from Stage 2).

The issue may be perpetuated by the way in which accidents are managed:

When an accident does occur, individuals immediately blame each other rather than find fault in an objective and detached manner, by examining what actually caused the mishap: the process, systems, tools, personnel, or methodology"

*(*Excerpt from Stage 2, Interview 8*).*

To reduce the risk, some practitioners (Interview 4) placed significant responsibility on the contractors on site, and the enforcement of a strict management system, including watching data and trends. The relation between context, resource, safety and risk is important. How practitioners approach the issues of risk reduction include the use of safety data or leading indicators as an appropriate tool for understanding safety (Mearns and Yule, 2009). These aspects should form part of an intuitive rationalising of what can be done to mitigate risk (Slovic, 2016).

Another practitioner (Interview 5) recommended that:

> *Supervisors account for any accident or injury of an employee or subcontractor in their employment. This accountability can increase pressure on monitoring safety because*

(i) supervisors are held immediately accountable for their decisions, (ii) they know they bear this responsibility and (iii) they are more likely to be vigilant about safety as a result of this knowledge and accountability.

(Excerpt from Stage 2, Interview 5).

The importance of effective leadership is endorsed by other practitioners:

[One practitioner states that he has] difficulties 'influencing leadership because their focus is on production' (Interview 3 [however he] can convince some supervisors of the benefits of a caring approach to the workforce by alerting supervisors to the cost of poor safety in terms of health, life and production (Interview 3). [This practitioner] has been able to improve safety awareness and behaviour by educating his supervisors and leadership in a subtle way about factors which could increase production and cost.

*(*Excerpt from Stage 2, Interview 3*).*

Communication is contained in the model under various subfactors and is a vital component to OD. The practice of an organisation indicates that risk communication is used by various organisations to communicate information about factors that contribute to individual risk ((Mearns and Yule, 2009. Such communication helps individuals make the best possible decisions. Processes are adopted in large multinationals to allocate responsibility. There is a need for them to have adaptive and flexible arrangements for differences in ways of working (Cowleys and Borys, 2014). This is how the subfactor is interrelated with national cultural preferences and individual differences. This variability allows for learning about risk, technical analysis, individual motivation and logical decision-making principles (Renn and Rohmann, 2000). In understanding and implementing interventions around risk reduction, it is important to understand how and where to incorporate variability in ways of working and learning (ibid.). Communication around risk is strongly related to the factor of resources, intervention and training in the framework. It is important to have resources in place to orient people to the organisation and improve safe behaviour (HSE, 2006) rather than relying on reactive or remedial training, communication and intervention.

Health, safety and environmental management systems have been considered in light of their juxtaposition with productivity. For the UK Health and Safety Executive, health and safety need to be prioritised over productivity (HSE, 2013); however there is a need to continue to produce to earn revenue. This dilemma between value and productivity affects how people behave on the construction site. This dilemma gives way to other questions: what resources does the

jobsite have available for it to operate safely; and how much knowledge do schedulers have about the practicalities of onsite production? This in turn affects how much time and resources are afforded to health and safety intervention and communication.

Individual motivation is an important factor in the framework. There are several theories in behavioural science that propose solutions for how risk is communicated according to individual motivation. These theories can be useful in discussing ways to reduce risk. Safe behaviour may, for example, be motivated by physical signage, communication in the form of educational posters and training, educational messaging about the risk involved in a process, what beliefs are rational and what alternative beliefs are available to replace risky ones (West, Mitchie, Rubin and Amlot, 2020). This relation is available for discussion within the framework. The factor of motivation is related to what resources are made available to a workforce, particularly one working away from home such as the type of accommodation and facilities available. For a workforce such things are necessary and enhanced employment contracts, transport, subsistence and rewards. These aspects play a key role in motivation of the workforce, and prompt better morale and opportunity to give back by allowing for safer psychological contracts (van der Smissen, Schalk and Freese, 2013).

In Stage 2, the practitioners compared positive and negative motivational factors. Negative factors soon appear: for how people learn from or address risk including any remedial actions taken, experience from speaking up, and public shame. Positive motivating factors include generating a space for learning and psychological safety to be available. The following excerpt from Stage 2 gives an understanding of how these positive and negative motivational factors may determine behaviour. A practitioner in Eastern Europe states that*:

> …risks often occur due to (i) ignorance or (ii) prioritising productivity at the expense of safety or (iii) fear of punishment from the hierarchy (Interview 3). These observations imply that the site (i) is ruled by fear and is a place where (ii) mistakes are punished, whether the worker is conscious or unconscious of his [/her] mistake. The site should in fact be an environment in which it is understandable to fail, make mistakes, ask questions, and learn from them [as espoused by Amy Edmondson in Psychological Safety and her book The Fearless Organisation: learning can and should flourish on site; which means improved performance over the long term].*

<div align="center">(Excerpt from Stage 2, Interview 3)</div>

The fear of punishment or recrimination is cited by another practitioner in the Middle East (Interview 8) who asserted that *"fear of punishment or removal from site can demotivate the individual worker and the workforce generally. Rule by fear builds resentment, people 'hide'*

facts, and blame others. The 'stick' approach can become faulty when it is not implemented consistently; when, for example, 'red cards' are given for bad behaviour and enforced by fine or written record (Interview 3)."

These discussions are captured within the checklist and can be used for practitioners in determining their approach to contextual factors, organisational culture and leadership on site.

Organisational logics have levels and interrelations, actors and entrepreneurs who act within the landscape to improve or constrain behaviour (Thornton, Occasio and Lounsbury, 2012). Interrelations are defined by power, resistance, norms and agency (Thornton and Occasio, 2008). These subfactors are revealed through Stage 2 of the research and contained within the checklist.

Organisations have business objectives and are structured around power distance, decision-making authority and flow of communication (Mearns and Yule, 2009; Mullins, 2013; Stanford, 2007). In an organisation, there may be an informal flow of communication, and a culture that represents the shared values of the organisation. These may not be the same as the one proposed by leaders in documents. A participant in Stage 3 comments

> *"When talking about leadership we need to talk about power over and power with".*

Power is an important component in understanding what factors improve or constrain safe behaviour, and how projects can use power to enhance safe behaviours. Power and leadership are integral (Mullins, 2013). Management systems and interventions (Yamnill and McLean, 2001) can be more appropriately exploited in the context of the specific industry and logics that govern it, its own unique legal, social and mental structures (Mullins, 2013; Thornton and Occasio, 2008). These structures are all sub-variables of the organisational logics area, including the legal or legislative requirements of an organisation, shareholder and client expectations, and expertise. Dainty, Green and Bagilhole (2007) indicate a multitude of factors contributing to the organisation and reputation of the construction industry such as lack of employee development, short term contracts, globalisation, technological advancement, stricter regulations of health and safety, better reporting of incidents and transparency, and supplier contracts. All of these factors build up a picture of the contextual dynamics surrounding an organisation or major project. These elements sharpen our view of national culture, context and society. Major influences on behaviour in an organisation are enriched by our understanding of institutions and market influences as broader than the organisation alone (Thornton, Occasio and Lounsbury, 2012). Arewa and Farrell (2015) consider that contracting and a view of long-term commercial considerations are appropriate to avoid the type of legal

disputes and cost-cutting measures that are traditionally associated with the construction industry. Similarly, a review of the complexity and intricacy of partnering in a large construction project is necessary to determine factors that either improve or constrain safe behaviours on a large-scale project (Bresnen and Marshall, 2000). An exploration of these dynamics can support an organisation in establishing practices that enable emergent change locally and globally. That is why they have been added as subfactors in this framework.

Practitioners in Stage 2 note the following points when it comes to client influence, and partnering:

- The client ultimately controls staffing, finances, Key Performance Indicators (KPI's) and scheduling needs, client management style and responsiveness.
- Clients on major projects around the world often comprise parts of government, and are imbued with the style and culture of the country, and determine much of how the project activity is carried out.
- Procedures are often copied from project to project, yet inevitably reflect the distinctive habits and customs of the host population. It is essential to adapt procedures to the local environment and population without compromising safety processes,
- Procedures have to allow for more training to ensure the population understands them easily,
- Subcontractors can be incentivised and rewarded for behaviour that is productive to the project,
- Empower subcontractors to reward and incentivise labourers by allowing them to meet and agree upon a fair management process characterised by integrity, comprehensiveness and multi-faceted allowances.

OD practitioners and stakeholders define a partnering relation to determine: (i) the extent to which standardized tools and techniques are applied across projects and sectors and (ii) how project teams work together (Bresnen and Marshall, 2000). In this case study, differences in the understanding of procedures and management behaviour were evident. There is a need for communication and coordination around the purpose and requirements to work. Without discussion and agreement on these items, there may be differences and conflicts about how control systems are executed and why. Organisations face considerable work in the contracting phase: (i) to decide on how the project is planned and executed, and in order (ii) to minimize the difficulties so typical of the construction industry (Bresnen and Marshall, 2000). Khan (2015) identifies resources and innovation as factors most prevalent in organisational

survival and growth. Strategy and culture are conditions underlying these factors. They require careful consideration through organisational frameworks.

A sub-factor in the management of organisations is the workforce available for hire. International major projects may need to hire a migrant workforce. The resources available, dynamics of care and communication, and national cultural preferences are important in determining the correct way to hire (Mullins, 2013; The Economist, 2013). Practitioners in Stage 2 note the following issues pertaining to hiring a workforce:

- The different levels of enforcement of locals and nationals in their performance management.
- The recruitment of local and nationals differs. Hiring can be based upon a quota system or prioritisation of languages and the knowledge of local traditions and cultural norms as well as technical ability.
- The challenges of building good working relations between individuals from different national cultures, and with different expectations around performance.
- Management systems for national and local staff and contractors are coupled with an approach to leadership that can be aligned to improve performance.

Another sub-factor for inclusion is the relevance of organisational culture which is the key ingredient superseding strategy in some cases, market presence or technological advances (Rameezdeen and Gunarathna, 2003).Cultures are shaped by leadership, cooperation and behaviour exhibited by management and staff (Schein, 1990) and are a large function of the generation of literature and practice in developing an appropriate culture of safety (Cooper, 2000; Mullins, 2013). Culture, on a micro-level, refers to other factors and sub-factors including routine behaviours, rituals, stories, symbols, power structures, control systems, organisational structure, and the paradigm that reinforces the other elements in the web. Organisational culture is made up of several sub-cultures, be that in terms of such elements as national cultures, teams or functions (Tichy, 1982).

In Stage 2 practitioners agreed about the relevance of organisational culture:

> *Organisational culture is about 'bringing people together' (Interview 6). There needs to be discussions around what comprises organisational culture so that there can be closer alignment between approach and management. Conversations should be conducted between all parties as part of the leadership community on project (*Interview 6*).*

> *(*Excerpt from Stage 2, Interview 6*).*

Stage 1 of the research was concerned with interventions that minimise at-risk behaviours. This concern is the duty of a functioning HSE management system. A company needs to make use of the HSE management system as successfully as possible in order to reduce the occurrence of accidents and injuries. Reducing fatalities and injuries is the prime goal of any safety team (Health and Safety Executive, 2013). Safety management systems and risk have important interrelations and dynamics that need discussion in the literature, particularly as the context for each participant in Stage 2 was so different. Their approaches to understanding the dynamics and subsequent actions were different. A degree of flexibility is necessary to understand the unique nature of each project. Organisational diagnosis is more effective than a predictive method in doing so.

The area of Interventions, training and communications references in Stage 2, and has been included because it influences behaviour immediately, when compared to the slow learning pace of entrenched national cultures. This area allows an organisation to innovate and create, and to deliver unique contributions and solutions to problem areas (Goldstein and Ford, 2002). This area is included as an enabler of behaviour in a framework.

In Stage 2 practitioners note the following around interventions and training:

- The approach to learning is important to consider and can be used for increasing: communication, empowerment, collaboration, positive motivation, and a culture of safety awareness.
- The content of training is important. Content must include personalisation, motivation, be mindful of the audience, appropriate delivery, and have support from leaders.
- Training is a continual process. It must be delivered in the classroom and onsite to implement the information practically. It is about learning on the job and through mistakes. It must be continuous which allows the safety officer to break information down into smaller units of information, and allow change to take place incrementally until it is complete so that new behaviours are entrenched and resistance to them is overcome. Finally, some rules are highly specific to the site and need to be highlighted and reinforced.
- The method of training is important: it can be both practical or simulation-based and conceptual. This subtheme relates to the way in which training is delivered, to improve its effectiveness. It is important to note that practitioners need to be mindful of the methods used. If the methods has patterns of behaviour that are alien to a particular culture of an individual worker, such as police-like surveillance of work in progress, it may have a contrary effect on team spirit and productivity.
- Training should motivate members.

- Personalised training can be done through: having content that is in the same language as that used by the majority of the workforce. Include stories relevant to personal history, use visuals or graphics that display the same national culture and environment. Use training material such as posters and signs, use a consultative process to promote questioning, clarify how things relate to the individual, and educate at the audience's level to help them understand their role in the process.
- People are motivated toward financial or material reward. Some disadvantages of this are that rewards can: 1) reward the wrong behaviour, 2) may not be clear or consistent and can produce resentment, 3) motivates toward extrinsic behaviour rather than intrinsic motivation. Rewards may be non-financial in nature, such as a handshake or a mention for example. And this can raise the pride of workers and produce healthy competition. Leaders can exert considerable influence in rewarding behaviour, and reward schemes need to be researched to reward the right behaviour.
- Training and interventions can help develop organisation culture to a significant extent. This is because they may make use of content that relates to a company's overall vision, mission and values, and are based on leadership development that allows affirmation of a safety culture and approach to emerge toward safety and people, amongst several other reasons (see Stage 2 for more discussion of its development).
- Leadership and role modelling on site have a large impact in promoting safe behaviour, and need more careful consideration and support.

Learning organisations are understood to use a thinking approach, allow for personal mastery, make use of values and principles to lead the creation of mental models about the dynamics within an organisation, and have a shared vision and team learning (Senge, 2006). According to Mullins (2013) learning organisations allow for new approaches, understanding by all employees of the dynamics in the organisation, improvement at all levels, resources invested for equitable rewards, and sustainable processes that consider buy-in from all levels of the organisation. This is important since practitioners learn about the dynamics and factors within the organisation. Improved conscious awareness can be gained by all. This allows for improved organisational performance.

There are two points worth noting that facilitate the implementation of a learning organisation; a principle that needs to be adopted when using the framework:

1. Implementation and effectiveness of a learning organisation rely upon senior managers accepting that learning occurs at all levels of the organisation. This may be politically challenging. Senior managers understand that managers are a major asset but may not be

ready to acknowledge that everyone, from top to bottom, needs to learn each day and that everyone has the power to learn. Studies are limited in this regard. They warn that differential power which has been reflected in this case study in varying forms diminishes the potential for individual and collective learning. One of the most significant factors is the way in which power is exercised and behaviours are rewarded and punished (Mullins, 2013). The need for diagnosis means that leaders at the top level want to know about some of these power differentials and where learning needs to occur.

2. It is worth studying how an organisational culture is perceived and accepted in global organisations, or organisations made up of different national cultural groups because their learning approaches and evolution may differ. This case study looks at the relations between national culture and organisational culture and has been the focus of why the framework was initially developed.

A more nuanced approach, after having understood the dynamics within an organisation, is recommended. For example, Rogers et al. (2007) and Tracey and Unger (2012) identify limitations in training of cultural differences and culturally sensitive information. They recommend learning in real contexts (Tracey and Unger, 2012) and the need to organise the content, sequence it and pace the teaching (Sabin and Ahern, 2002). These are all factors that can be better understood for identification of national cultural characteristics through OD practices and interventions. Operating in a global context is not as simple as merely implementing the same processes used elsewhere.

Leadership was separated due to its prevalence in the research and it was added to the framework. Leadership is constituted of several main factors and their interrelations. The way that leaders influence behaviour from a social and community perspective should be studied, and how it affects those in the organisation, and the leadership qualities that individuals possess. These points are noted within Stage 2 of the research. Sound leadership needs to allow "the chance to speak up about safety", building "care and compassion of others", "to thank people and appreciate their work" and "saying what you will do, and doing it". In incorporating leadership into the model, it became a central feature that can act as a transformational element for safer behaviour. It is an organisational element captured within the organisational structure as well as a behavioural element that impacts on the way items are communicated, how individuals relate to one another, how national cultural differences can be bridged, and how people become familiar with, and empowered in the organisation (Peterson, 2004). It allows for variation in leadership concepts that make sense in novel contexts across cultures (Gupta, van Wart, and Suino, 2016). Figure 63   below indicates

how leadership factors contribute to the different factors within the model. Leadership is shaped by those elements in a symbiotic dynamic relation.
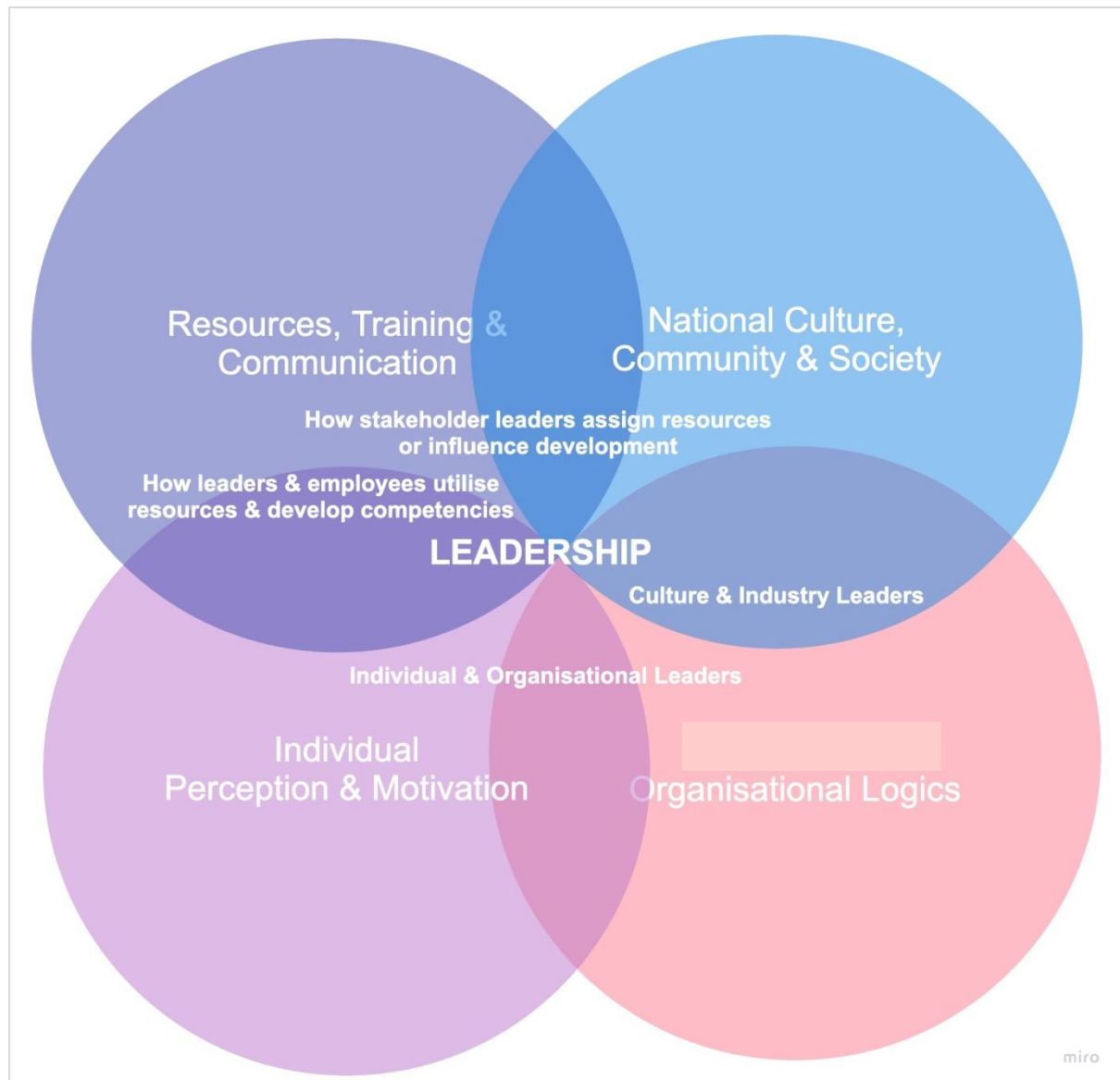

Figure 45 - Leadership and Its Relations to Factors within the Model

In Stage 3, a participant mentioned that there "needs to be a deeper dive into leadership and values" because of its impact on behaviour in an organisation; noting its prevalence for a participant. This is true for organisational literature that discusses leadership as a key factor influencing behaviour (Gupta, Van Wart and Suino, 2016). Leadership is a broad term denoting: (i) positional leaders and their behaviours and (ii) employees and actors within the organisation that behave by way of compliance, resistance or apathy. Leadership comprises all behaviour on the job, and the way in which individuals relate, communicate, influence and behave around the organisation, people and work tasks. Everyone exhibits leadership behaviour in some way. New OD mind-sets place power in the hands of employees to organise

and contribute to the workspace (Francis, Holbeche and Reddington, 2013). Such grassroots leadership can play a large part in the development of an organisation. New OD mind-sets emphasise that employees become more active players in the process. Reciprocal benefits are derived between leaders and employees when co-creating an organisation.

During Phase 3, recommendations for inclusion in the model as influences on organisation behaviour include:

- Technological and social influences, and
- Education of an individual which determines how much knowledge they possess about project activities, and how likely they are to use information,
- Additional questions about leadership development.

These aspects were highlighted as significant enough to be subfactors within the model because they relate to technological advancement, education and leadership (Gupta, Va Wart and Suino, 2016). They have been incorporated into the final model as factors and subfactors.

Overall participants indicate agreement with the factors that influence behaviour within the framework and in this way meets some of the focus toward credibility, transferability, confirmability and dependability The factors have been compared with current OD models. There are several that are used across OD theory and other models. For example, organisational structure and behaviour form a building block of OD models. Within the diagram, it has been included under the factor 'Organisational logics'. The overarching theoretical framework helps elucidate dynamics such as power, agency and actors which allow a broader understanding of what is available to be analysed and diagnosed within organisations. The model proposed in this thesis encompasses more variables of behaviour than existing OD models. This assists in full analysis where the aim is better identification and planning of how dynamics function, to improve or constrain safe behaviours.

There is therefore ample evidence in the research for inclusion of these five factors, and additional subfactors for a full analysis of organisational design. After Stage 2 and 3 were complete, various practitioners mentioned the need for: I) explanation of how business and operating models work in relation to the design, and II) how financial systems define how the company is set up and operates. The framework can be used flexibly to allow practitioners to combine their own knowledge and allow them to define it contextually however it is recommended to start with analysis of the 'as is' state of the organisation, and the subfactors available in order for diagnosis of the organisations health, followed up or simultaneously with operating model creation. Feedback into the organisational design model needs to be continual in order to improve its efficiency. Financial metrics are an important feature of an

organisation and the model can be coupled with revenue source analysis, market competitors, having the right key performance indicators, understanding the target market and stakeholders – tools that can be incorporated to build out a comprehensive analysis of an organisation.

Now it is important to undertake an analysis of practitioner responses in understanding the need for a framework.

6.3 The Need for a Framework

The framework uses a systems-based, organisation-wide analysis depending upon a variety of methods to gain information. The need for a conceptual framework varies according to each individual organisation and type of change they envisage. Using a framework can provide comprehensive analysis which is necessary for a sustainable and inclusive company to develop, however the conceptualisation of the model has been based in literature from business management and organisational development prevalent in western practices around organisational performance. So too is the idea of humanistic and whole-person organisational development. The research on culture, safety and organisations may include participants from across the globe, so too does the case study in this research however the formulation of challenge, solution and the conception of the framework is primarily from western countries. Hence, for future studies, an understanding of how an audience from other eastern countries may consider, visualise, and improve performance should be understood.

The initial conceptual model was identified in Stage 1 and built around the influences of behaviour in an organisation relating to evidence of such factors and how they relate to other factors. The framework was not in existence in Stage 1 of the research or available to participants in Stage 2. Numerous accounts of challenges called for an approach or framework that evidenced and summarised these aspects to overcome common problems.

The framework is: I) a model of psychological factors that illustrate the influences of behaviour in organisations; II) A list of questions and considerations for planning major projects and organisations; III) Principles for the way in which practitioners think about organisations, and OD activity. The model and checklist are not to be used as static documents. Factors can be added should they take a larger role in understanding and diagnosing where the constraints and improvements for behaviour are, including addition of approaches or best practices that practitioners use to guide the development of a project. Institutional memory can be used more flexibly, and adopted more quickly by practitioners and in industries where the retention rate is high.

Naomi Stanford (2007) poses an important question for organisations when deciding on a possible design:

- Does the model allow for new and unconventional organisation design that will help drive the business strategy?

This is a useful question pointing to if and where a need is defined by an organisation, and why this framework is needed. To drive the business strategy, leaders in organisations need to assess their design. Part of this analysis is to establish clear links between what is inside an organisation, and how it is communicated and managed. A framework can assist leaders in doing this comprehensively. In some cases, there may be no need for redesign, when the root cause of an issue is pinpointed. In some cases design is not undertaken at all (Stanford, 2007). Organisations chose to use HR and change management tools such as restructuring instead; pointing to a gap in knowledge for business in how to use organisational and psychological knowledge.

A framework proposes a systems-based, organisation-wide analysis using a variety of methods to gain information. Incorporating a dialogic analysis process helps to gain clarity in, and for, a specific situation. Reality is negotiated and can include power and political processes (Shaw, 1997); all of which form a basis for incorporation in the OD framework rather than just the construction of a singular reality. A dialogic approach emphasises aspects of a practitioner's approach to change and how interventions should be approached (Gervash and Marshak, 2013); through change as storytelling, and the creation of containers to produce ideas that lead to change. Change should be encouraged and can be self-organising, continuous or cyclical (Francis, Holbeche and Reddington, 2013).

References to why models have been used before are powerful. They demonstrate their need, and why and how the framework enables these benefits. A framework can be (Stanford, 2007): I) A firm framework for walking people through the design process, and as a point of reference to return to, II) When it is communicated well, it can show stakeholders that there is a blueprint for a plan to be developed. It is holistic rather than allowing haphazard or ad hoc initiatives, III) The way in which it is discussed with senior leaders can allow them to develop more awareness of their perspectives, and attitudes to the company's design; it raises important discussions and buy-in about the organisation's design, IV) Using a model enables several solutions to be generated in a systemic way which is in line with understanding of complexity theory (Senge, 2006; McMillan, 2020). This makes it easier to compare their pros and cons; V) Using a model generates reflection on possible consequences of various types of design decisions.

The second question in establishing a need for a model (Stanford, 2007) includes:

- Does the model allow for transformational design as well as transactional design? Transformational means a design developed in response to environmental forces either internal or external to the organisation – for example, creation or closure of a business unit or a merger – that affects the mission, strategy and culture. Transactional means changes related to the business or work-unit structures, systems, processes, and so on that might be needed to carry out the mission and strategy but do not change them.

The framework created is intended to be transformational in the sense that I) the understanding of the organisation can evolve, and II) both the transactional and transformational items Stanford discusses can be made more strategic to accommodate different ways of working. The framework builds a culture of psychological safety and learning (Francis, Holbeche and Reddington, 2013) in order to understand what design, development and change management initiatives need to take place. It then becomes easier for more appropriate design to occur. Design encompasses formal structures and systems such as strategy, values, structure and processes that enable people to achieve their business purpose or strategy while delivering a quality customer experience.

The proposed framework carries elements of both transactional and transformational change highlighted through the Burke-Litwin Model (Robinson, 2019). Transformational elements are values, vision and mission, and competencies. Understanding how the factors interrelate, however, is the key in determining the transformational impact of any one factor. For example, the values of an organisation can be transformational if delivered in the right way, by using the right intervention and approach. But they carry difficulties if they are in contrast to the prevailing national cultural logic.

The framework focuses on tangible outputs of an organisation such as finances, structures, performance and services as well as the intangible aspects of an organisation such as leadership, culture, engagement, motivation and autonomy. This dual focus is in line with other OD models that incorporate transactional elements such as process and transformational aspects of business such as strategy and values that improve performance (Francis, Holbeche and Reddington, 2013).

As with other OD, a dual focus aligns strategy within the organisation, and has a distinct understanding of what needs to change to support more productive, safer and a higher quality of performance.

A framework and knowledge of relevant literature helps to expose hidden dynamics through a psycho-dynamic lens. This can assist therapists working on personnel and relational dynamics that need to make human dynamics visible and use this visibility as the groundwork for designing interventions. During diagnosis, human dynamics in organisations can remain part of shadow aspects of institutional and organisational behaviour. This invisibility of what are actually significant factors makes it difficult to address human dynamics. Practitioners during Stages 2 and 3 of the research do more than allude to these dynamics in their accounts of management behaviours and power relations between leaders and stakeholders: *"The client can often be regarded as 'filling their pockets' (*Interview 2)"; Another practitioner (Interview 8) states that there is frequently distrust in the industry: *'the client is poking fingers at…' which can constrain the working climate and behaviours in significant ways."* And *"when implementing safety procedures, there may not be sufficient understanding of what safety is, and little knowledge of its regulations (*Interview 2*). If the work is stopped due to danger, subcontractors are often bemused, irritated and out of pocket".*

These shadow aspects of organisations include: emotions, sins of the past, anxiety or conflict, politics, power struggles and leadership (Shaw, 1997). Such shadow aspects can be hidden from the conscious awareness of employees and are therefore not included or easy to discern in focus groups and employee survey. They are, however, decisive in many key dynamics of a large organisation.

This framework is a useful mechanism that highlights paradoxes and ambiguities in formal and informal organisational behaviours. New OD techniques can explain the beneficial or constraining effects that politics and power have on an organisation (Francis, Holbeche and Reddington, 2013). New OD mind-sets make this possible. Power and political structures are discussed within the organisational logics theme; which is why its incorporation into the framework is so important. On an international scale, clients, external stakeholders and customers have considerable influence upon structures within an organisation. Therefore diagnosis of the responsibility and power relations are important (Thornton, Ocasio and Lounsbury, 2012). Incorporation of a method such as Transactional Analysis assists in determining these relations more precisely (The Berne Institute, 2021). Language and action play an active role in shaping change: which is why it is included in this model as resources

an organisation can leverage. HR and OD practices make sense of ambiguous ideas, beliefs and mind-sets related to power relations within an organisation. Without a framework and an experienced practitioner to guide its implementation, many leaders think OD generates hypotheses that are threatening or too risky.

OD practitioners need to understand the level of intervention they envisage when implementing a framework. It can be a whole system, organisation, team or individual level intervention. For the framework to be implemented, the whole system needs to take into account the dynamics of a particular company. Two aspects of implementation that relate to system thinking are viewed as organic, social and technical systems that work towards sustaining equilibrium (Miller and Rice, 1967). Every intervention is interconnected and has an impact across the whole organisation (Stanford, 2012).

Stage 3 participants observed that the framework was: "systematic", and a good approach to "*understanding what is important and prioritizing*". It allows an organisation: "*to get a deep dive and provide broad considerations"; "It's a checklist of questions to consider – getting the leadership group and stakeholders to review and think about the questions that are there now and identify potential gaps*". Their overall response indicates a need for a model. One participant noted that "*it might be six months too late*" for implementation and used as a remedial tool rather than one to be used in upfront planning.

Figure 64 addresses the gaps identified in the literature review with respect to other OD models available in the scientific literature, which the current framework seeks to address.   .
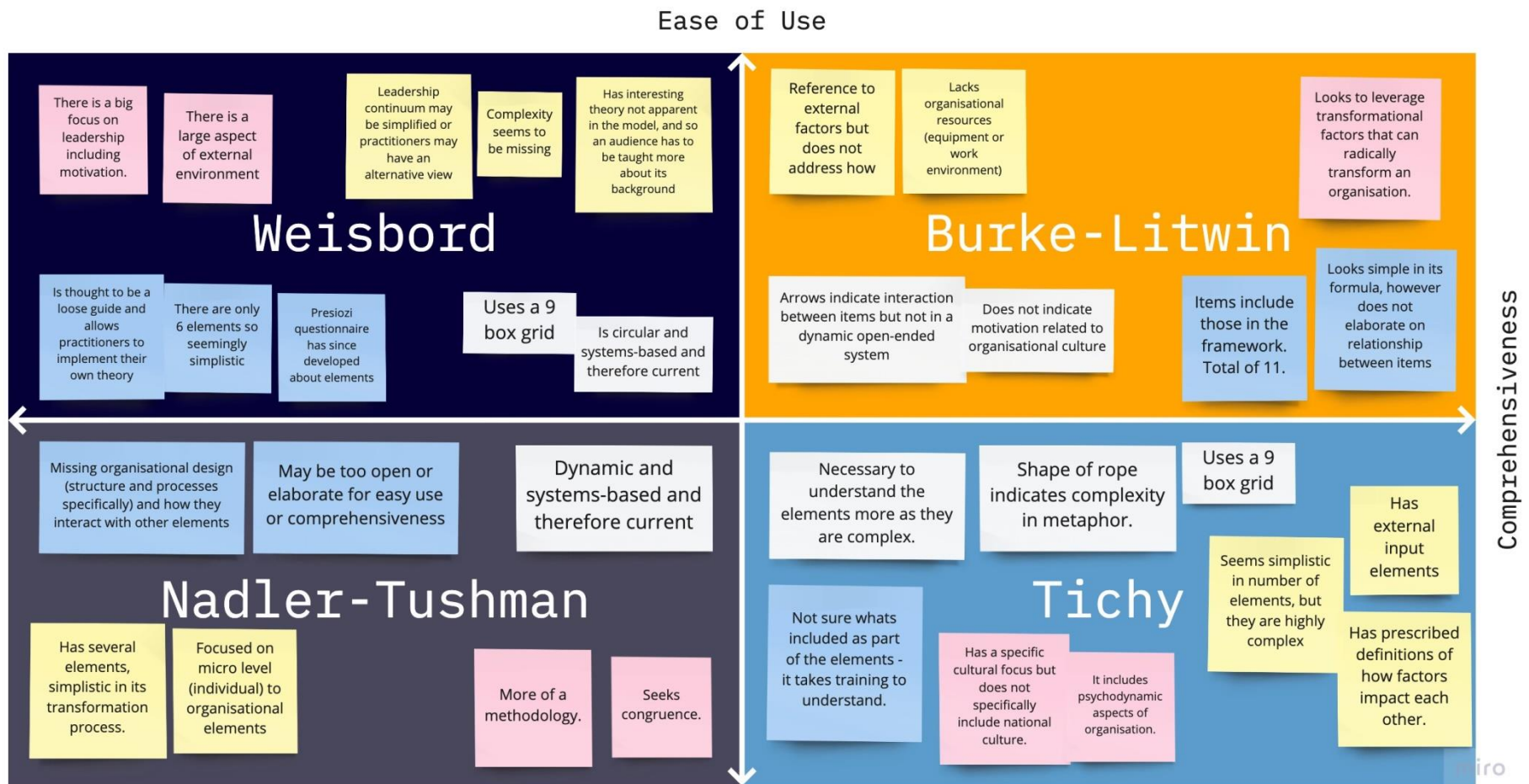
Figure 46 - Comparison of OD Models

The Burke-Litwin Model

The BLM (Figure 65) was constructed in the 90's using available models and organisational theory (Coruzzi, 2020).
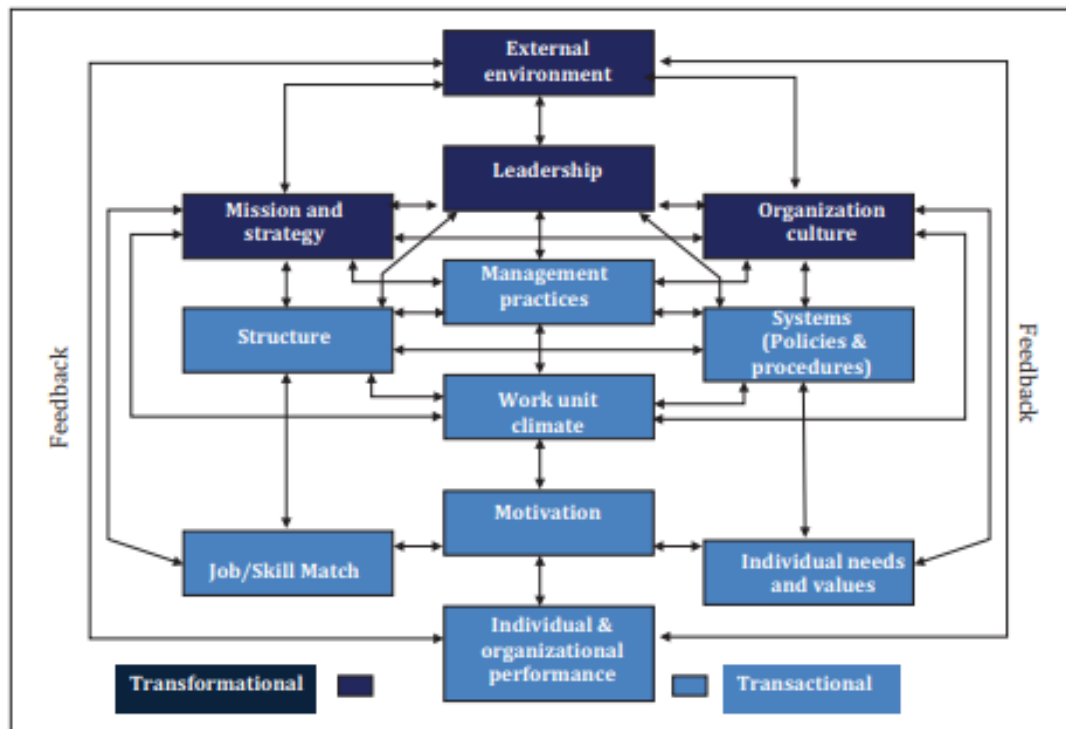

Figure 47 - The Burke-Litwin Model of organisational performance

NOTE: Copyright © 1992, W. Warner Burke Associates, Inc.

The framework, like the BLM (1992), highlights the effect of the external environment, its structure and behaviour, process and practices and leadership and culture, and the effect that it can have on an individual's performance. It does this using a model that indicates input-throughput-output (Coruzzi, 2020). This model demonstrates where factors have an impact on each other, and in that way is a dynamic system like this framework. The difference in this model lies in the formulation of the question statement: the framework asks what factors impact behaviour and the extent to which such factors determine it in an open-systems model. The BLM model examines how *specific* organisational factors interact to influence organisational performance. In the framework, the level of internalisation of national cultural tradition differs according to each population group and how that interacts with perception, motivation, leadership and design for example (Wan, Chiu, Peng and Tam, 2007). In contrast, the BLM suggests relations between predominantly organisational factors and proposes a hierarchy of factors, while allowing for external influence.

Another difference between the models is that the BLM is developed by OD practitioners with the aim of producing an organisational blueprint that can account for organisational performance prior to a change management intervention (Robinson, 2019). By contrast, the formulation of the new framework is based on a psychological, sociological and safety perspectives with reference to its origin and the literature it is embedded in (Thomas and Inkson, 2009). It seeks to find a holistic blueprint in order to locate it in context and identify the most appropriate change.

A criticism of both models is that although the BLM is illustrated as input-throughput-output and the framework as a contained system of complexity and health, both models cannot undertake an analysis of psycho-dynamic behavioural aspects that may be needed to understand more of the ambiguities of behaviour in an organisation such as Organisational Transactional Analysis might do (The Berne Institute, 2021). That level of detail and analysis is not described yet can be used within the framework to reflect the complexity and power relations of behaviour.

The BLM is framed as a flowchart with inputs and outputs indicating a formulation or sum (Coruzzi, 2020). Both models are predicated on open systems in that the organisation is thought to act continually with its environment. The framework may take a more complex shape and availability for it within the system.

Both models contain transactional elements. Within the framework, organisational subfactors such as mission and strategy, leadership and organisational culture are included under institutional and organisational logistics. Leadership forms a central aspect. In the BLM, these elements are termed transactional elements and drivers of transformational change (Robinson, 2019). An advantage of using the terms transformational versus transactional can help orient practitioners to the type of change that organisational elements can have. It can be highlighted as such in the framework, however the transformation in the framework is determined by where and how contextual and organisational elements constrain performance and these can be different for different organisations.

Both models allow for understanding to occur at individual, team, business unit and organisational level yet they do not make this completely obvious. Like the framework, the BLM can be used within a business unit or across several units in order to allow evidence for a business case for change to unfold. The BLM is thought to be useful for planning change with transformational factors that can 'leap' behavioural change, and alter the culture of an organisation (Martins and Coetzee, 2009). Some critics, however, consider this process to be too complex (Coruzzi, 2020). The same behavioural change can be managed through the

framework proposed which allows an appreciation of the national culture and complexity in which each project is embedded.

Weisbord's 6 Box Model

Weisbord's 6 Box Model is a simplified diagram of factors that promote improving leadership behaviour. Weisbord illustrates the model in a circular form, 'a radar screen' in which blockages in process may damage the system. He employs a grid for determining available elements in the organisation, as seen below (Figure 66)
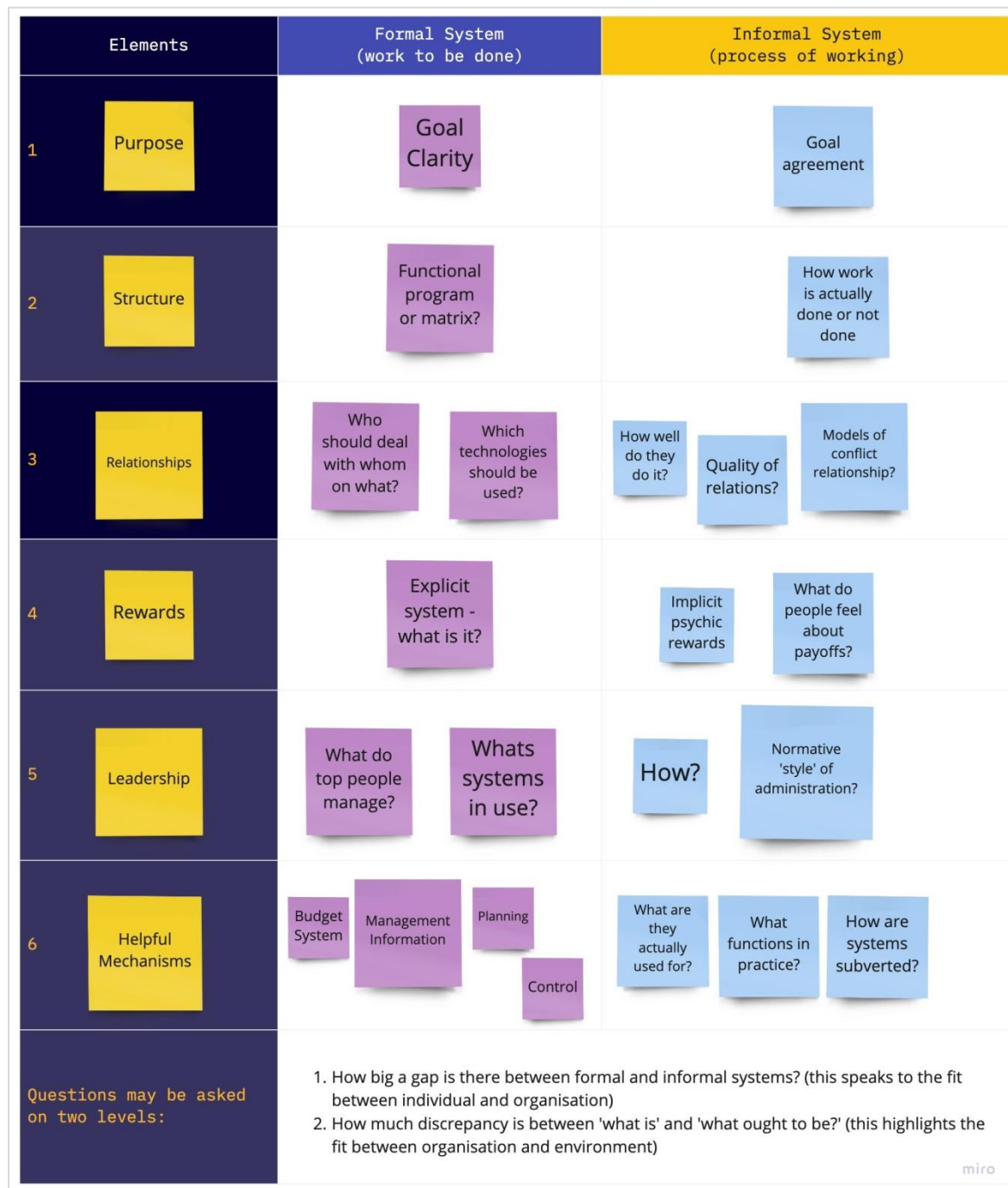

Figure 48 - Weisbord Matrix for OD (Weisbord, 1976).

All of Weisbord's factors are evident within the framework: purpose, structure, rewards, helpful mechanisms, relations, and leadership as well as the external environment (Weisbord, 1976). These factors do not differ in items for diagnosis. The Weisbord Model simplifies the procedure. In the same way as the proposed framework is intended, the Weisbord model allows practitioners to apply whatever theoretical research or explanation of variables they have in their toolkit.

Weisbord pays particular attention to the formal and informal nature of all factors: some may exist within a formal structure, and others are part of informal behaviour. Weisbord suggests that in studying informal behaviour, it is best to note the 'normative' behaviour that can be observed in relation to a system. Weisbord suggests identifying this behaviour on continuums (Weisbord, 1976). This approach, however, can be tricky for practitioners who are not entirely familiar with Weisbord's leadership continuum. This model is valuable in terms of the analysis of relations that examines how people interact and how they comprehend the dynamics between people.

For Weisbord, helpful mechanisms can assist employees. These helpful mechanisms allow identification of what is valuable for an organisation. Unlike other models, this facility brings clarity in planning resources. It assists in steering the organisation in the direction that it needs to go. In the proposed framework, there is a factor that resembles helpful mechanisms: the resources available to an organisation through training, intervention or communication. In this way it is similar to the Weisbord model.

Weisbord poses questions that guide a practitioner's implementation of the model in the same way the proposed framework does. In the proposed framework the questions seek to answer: I) if the element is there, II) how it is communicated, III) how it interacts with other variables and IV) what its impact is on individuals. There is no value proposition to decide whether the items are 'right or wrong' at this stage. The idea is to uncover elements of interaction and the level of internalization. For Weisbord, these questions include: (i) how big a gap is there between formal and informal systems? This speaks to the fit between individual and organisation, and (ii) how great a discrepancy is there between what is and what ought to be? This highlights the fit between organisation and environmental expectations and seeks to understand a value proposition straight away (Weisbord, 1976). This approach may not uncover the depth of the interaction of elements.

The Technical Political and Cultural Model

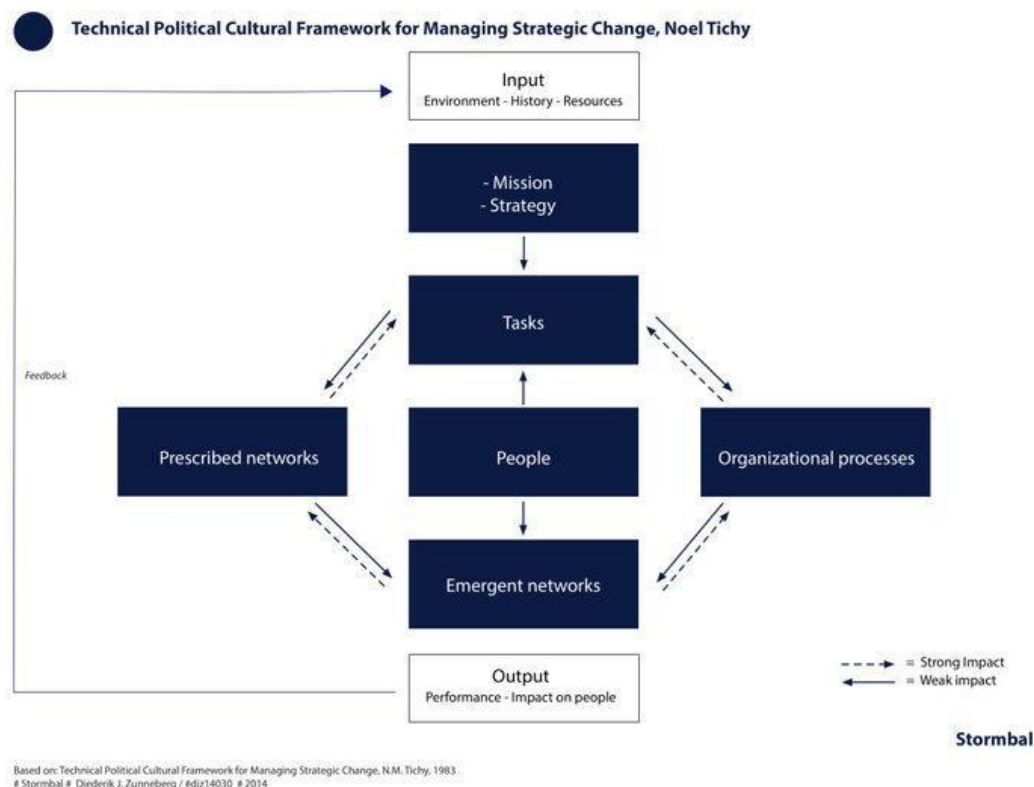Once more it is pertinent to return to an analysis of the TPC Model proposed by Tichy in 1982 (Figure 67).

Figure 49 - Technical Political Cultural Framework for Strategic Change

The technical aspect of an organisation concerns data and facts. The political aspect involves power relations. The cultural aspect deals with norms and values. The Technical Political and Cultural model (Tichy, 1982) has a strand of rope as a metaphor for its basis in the 1980's. The technical, social and political aspects may be too broad for many practitioners to pinpoint and separate, for example national cultural preferences for working from a client may be social and political. They may impact on activities to a far larger degree than any other. In contrast, this framework adopts a living organism for its conceptualisation. The dynamics within an organisation may influence each other. They comprise a system within a larger system. Metaphors may be useful in this sense to illustrate the approach for strategic change and organisational health. That is why the model is compared with a living organism.

The sub-factors in the Tichy model are useful in that they point to the human resource management system when developing the culture of the organisation, specifically through selection, performance appraisal and socialization in an organisation's culture. The Tichy model identifies what transformational variables can do between strategic, operational and managerial levels. It differentiates between levels within the organisation at the intervention level (Tichy, 1982) which is important. The proposed framework is separated from determining the level of intervention which can differ widely depending on the (sub) system it is in. After

establishing and considering interventions, practitioners need to focus on strategic, managerial and operational effects within an intervention. In this area, the Tichy model has some advantages. These elements, however, may not be easy to define or isolate. Strategic, managerial and operational approaches need to be encompassed in all interventions before there is any change for the better (Tichy, 1982).

The Tichy model highlights the need for managerial approaches in strategy, culture and human resource management. The technical, political and cultural model, however, needs good practitioner experience before it is possible to predict accurately what will happen in future for the organisation on a behavioural level. The Tichy model uses a 9 box grid to determine the elements. Some practitioners suggest this is too complex to use (Martins and Coetzee, 2009). The same grid style approach can, however, be used within the framework if a practitioner needs to examine these elements.

Edgar Schein's work is worth mentioning. It relates to organisational culture and leadership. Schein suggests that organisations are based on artefacts, values and assumed values of individuals within an organisation. These terms reflect an understanding of national cultures and their analysis in artefacts such as symbols, traditions and practices, values, and espoused and assumed values. His conceptualisation is related closely to the proposed framework in that it recognises how some factors are more deeply embedded than others, such as national culture (Management Study Guide, 2020). Schein's model may be the basis for the framework in understanding the contextual factors such as national culture that are far more ingrained and offer an 'embodied' approach to understanding organisational behaviour which is particularly useful for international working, or work with a diverse population.

In summary, the framework proposed here uses a systems-based, organisation-wide analysis depending upon a variety of methodologies to gain information. The need for a framework lies with the organisation and the determination of the change they would like to see. Using a framework can provide that comprehensive analysis which is necessary for a more sustainable and inclusive company to develop.

We now look at the viability of the framework as evidenced in Stage 2 and 3 of the research.

6.3 Viability of the Framework

The diagram below (Figure 68) is a simplified analysis for the case study major project to illustrate some of the prevailing points noted in how to improve its design. This would necessarily be an important aspect of diagnostics, to showcase recommendations for improvement which can be used alongside the checklist. The purpose of including it here is to illustrate the reader potential for how it would work. As the research summarises the case

study in greater detail these aspects would inevitably be captured and included in a report for an organisation, alongside high level recommendations.

Figure 50 - Organisational Analysis for Case Study (in brief)

The analysis can be undertaken in a box-grid with space for understanding the impact and interrelations of variables as it is described and visualised within its circular shape (see The Framework document). The subfactors can be included in the boxes and described in detail as analysis occurs. Initial recommendations can be made based on the presenting symptoms. The checklist, however, may be used for a deeper examination of the various elements and to uncover symptoms and issues that may not necessarily be evident initially.

There are several unique aspects of the model when compared to other OD frameworks, and the feedback provided. They illustrate the potential for transferability of a flexible framework.

The framework:

● Gives more understanding and meaning to organisations in their environment which is important given that industries and markets affect the organisation (Dainty, Green and Bagilhole, 2007; Aksom and Tymchenko, 2020) and so do national cultures (Coffey, 2010; Rameezdeen and Gunarathna, 2003).
● Takes account of stakeholder, client and employee's needs, including organisational key performance indicators. This improves practices and understanding of the end-user or employee far better (Bresnen and Marshall, 2000)
● Takes account of current academic theory. It does not discount current theory and practices of business and psychologists in business.
● Is built on robust, new conceptualisation of organisations as learning places, emergent systems, influenced by evolution and environment.
● It does not attempt to reduce the complexity of behaviour. It is important to find all the variables possible, and understand what drives behaviour.

An important question when assessing the viability of any model is (Stanford, 2007):

● How will stakeholders react to the presented model (is it jargon free, simple to understand and communicate)?

This framework was presented in its current form to practitioners during Stage 3 of the research who gave feedback on its viability (see Appendix 2 for detailed information).

Comments from participants indicated broad consensus about the framework: "*I found the framework great*" and "*The elements seem to be really useful*". The items which design

specialists need to ascertain are included in the discussion. They aid in discovering what is needed from an academic and a practitioner point of view.

Within the framework proposed, there is some jargon. The reference to knowing what 'logics' means comes up in discussion with others. The framework has been simplified enough to allow for descriptors that are clear. Yet some practitioners may find the framework difficult to understand, or too broad or too complex in its array of sub-factors. This is inevitable as people adopt their own sense-making frameworks and work with whatever they feel is best. Many OD models assume practitioners will make sense of the particular framework they choose in their own way, and utilise what it is they know (Robinson, 2019). Making the theory available for people to comprehend through journal articles and training is helpful. The framework has more well-known terms, such as national culture, organisational structure, and training. So that there are relatable aspects of the model as well as descriptions of what the main factors mean.

There were several comments around the factors and sub-factors of the model that generated information, extending them in some way: add more "*questions around pinch points and leadership*"; add "*a question about what processes to have in place in relation to disasters and what behaviours we see*" and "*we need to talk about power over people*". These comments reflect what the framework is likely to bring when leaders are discussing their own organisational blueprint, or what comments are added by the various practitioners when they are investigating deeper areas of the checklist.

One participant shared: *"some of the questions under 'organisational logics' are items not commonly asked."* This comment confirms that organisational logics are new terms to organisational literature: there may be overlaps and extended ideas and thoughts around how organisations and groups of people work within companies. Traditionally, when compared to other OD models, organisational factors include strategy, processes and governance (Tichy, 1982; Weisbord, 1976). Organisational logics consider actors, their relations, change and resistance such as normative behaviour (Thornton, Ocasio and Lounsbury, 2012). This framework allows discussions not traditionally undertaken when planning a project or organisation and is therefore particularly valuable. It does, however, require additional training and information sessions in order to allow practitioners to do the work.

In considering the overall format of this framework and checklist, the iteration needed simplicity in design and use, as well as a sensible way of incorporating the literature in bite-size elements (Clark and Voogel, 1985). Comments from practitioners allude to the way in which they wished

to use it: "*it must be well referenced and easily accessible*", and "*people want something you can use in a few hours… a system that flows easily – that works for those with short attention we humans have generally developed in modern times*", "*Use the symbols created out of the framework to see real-time body language and perhaps a book that supports training for the trainers. There are an awful lot of drawers filled with manuals. Training that goes deep into practising is most valuable.*" These considerations are valuable in marketing the product and allowing practitioners to use it.

The second question for assessing the viability of a model is (Stanford, 2007):

- Will the model find favour across the organisation or will it compete with other organisation design models?

This question depends on what the organisation has already implemented, and what values and assumptions the design was predicated upon, such as competitive or collaborative aspects. The actual design elements when seen as a blueprint can easily be disassembled and re-assembled in new patterns depending on their interrelations and existence. In this way they do not compete but form a large framework of understanding. Tools that allow practitioners to grasp approaches to values, strategy and competencies for example can be assessed to find out if they are congruent, such as Organisational Transactional Analysis. An investigation that considers the narratives of what the organisation is like, how it approaches its staff and customers, what influences it, and how it works, is useful. Different methods of investigation may yield new sense-making discussions and should be completed at the outset of any design work.

The third question for assessing the viability of a model includes (Stanford, 2007):

- How adaptable is the model for the specific context and circumstances in which it will be used? Does it enable any new perspectives or innovative thinking? Is it scalable to small work unit design and whole organisation design?

The framework proposed in this thesis can be adapted depending on the project or business unit in question. In this sense it can help small and larger organisations across different geographical areas. Since the model was developed for large projects (1000+ people) and organisations, I would suggest it is used within this context rather than for independent traders and small businesses unless they want to scale up abroad. The model allows for an

understanding of complexity theory and how organisations can evolve, adapt and be more dynamic. It captures this complexity and in so doing extends current design models. This, however, may be too complex for some who need a simpler design in which case I recommend embedding business and operating models noting down their contextual drivers. The outcomes for OD models can form a business case for change, and centralisation or decentralisation, for example by virtue of accounting for environmental factors in national culture, location, industry and behaviour.

One comment indicated a challenge to employing the framework: "*The framework seems to work well with organisations that are more organised – not organisations that are in big flux like the army*". The comment assumes that diagnostics can be undertaken in organisations that can change more easily, or have discernible aspects which are sought and described. This challenge is valid in that the complexity of the model may not, at first glance, be able to account for organisations that are dispersed. I suggest, however, that the model can capture the flux of systems as an organisational element, and so enable a discussion about where and how this element of the organisation impacts on behaviour; and where and how change can be realised.

Participants in Stage 3 observed that:

- The framework "*is a useful starting point (for organisations), and then dive into specific areas which can lead to implementation*". The model does so within the checklist, and in line with a dialogic approach can be used as a reference point for important conversations (Gervash and Marshak, 2013), as well as allowing a blueprint to be visually displayed (Martins and Coetzee, 2009).
- "*Add best practice*" which indicates how the framework can be used on a continual basis to enhance organisational learning. This consideration is useful in estimating its future impact, and will be suggested to organisations that use the framework as well as developing it within the digital framework.
- "*Have you thought about how to nudge behaviour?"* This comment looks at both understanding and training of behaviours which is important – the questions themselves can enable changes in behaviour (Gervash and Marshak, 2013). The theory contained in behavioural science and motivational theory within the framework enables organisations to understand how they can assist in nudging behaviour towards safety and productivity (West, Mitchie, Rubin and Amlot, 2020). This can look like training and communications that prompt specific behaviour or promote a certain way

of thinking about risk for example: "*Have you thought about how to use the data to find out about how people are doing… like a weather map*". This consideration is about how the framework is undertaken and displayed and during analysis a variety of methods may be helpful including employee surveys. This is common in change programs (Cheung-Judge and Holbeche, 2015). It is helpful for future digital iterations of the framework in which this data can be deployed in real-time capacity to allow for more employee engagement and data to be derived about the organisation.

These questions are invaluable for refining the model and providing alternative ideas and advancement. In order to ensure the model meets the criteria for credibility, transferability, confirmability and dependability there are additional exercises to undergo, such as simplification of terms, developing learning materials, providing ways of using the model that are easy i.e. digitally; as well as real-world application within different contexts. We now address the final consideration for participants – that of implementation and use of the framework.

6.4 Implementation and Use of the Framework

In Stage 3, several comments were made regarding the timeline for implementing the model. One practitioner suggested that the framework can be "used … on a continual basis to understand the contextual issues". This framework can act as a working document for a project planning team, and management, embedding strategic processes into the organisation as organisational features change. Another practitioner suggested that "*the rollout has so many elements - it needs to be realistic with timeframes to be applied*". Their conceptualisation here indicates that implementation should be modular and foresees the process of analysis and implementation taking a long period of time. This should be considered in line with change that is planned and is a normal feature of organisation-wide change (Francis, Holbeche and Reddington, 2013). One practitioner asked: "*How would it be consumed? … not sure – but appreciates that it is looking at all the different cultures – to operationalize it from a change perspective*". Their determination gives preference to the model to discern cultural and community difference, and provides some approaches as to how on a macro- and micro-level there can be different suggestions about what an organisation can do practically which is normal when looking at interventions and their scope (Tichy, 1982). The same practitioner suggested that from a "*risk analysis (perspective) [one can] find out from stakeholder groups what they like and do not like about the approaches, and their ideas. [These suggestions are] a way to operationalize it – give the whole organisation opportunity to feed into that*". Implementation, analysis and interventions using a dialogic or community-based or employee-involved approach can be deployed to garner support for change. This is in line with current

OD paradigms that are employee-centred (Cheung-Judge and Holbeche, 2015) and need employee and leader involvement and support in order to gain accurate data. Another challenge to the considered implementation when working internationally is that practitioners may not have the flexibility to vary processes and procedures. Practitioners can be assessed in terms of how they design processes, including leadership style to support individual ways of working. A framework can give them the understanding of how to do this.

I have found that there need to be several considerations for practitioners when implementing the model. These are:

- The employee or 'end user' is the focus of diagnosis and planning phases in that they have accounts of what it feels like to work in the organisation that show if they are productive. It is important to receive employee feedback through focus groups or surveys because it follows the OD approach of being whole-person and employee-led change (Francis, Holbeche and Reddington, 2013). What often happens in implementation and intervention is that change is pushed from the top management team down through the organisation. When employees have not been engaged on the change, such top-down change can provoke real resistance (Thornton, Occasio and Lounsbury, 2012). A balance needs to be struck between the needs of the organisation and the desires of employees. A dialogic approach enables change to occur easily with the agreement of all parties. The new consensus model is tailored according to employer/employee needs.
- The organisation must be approached as a natural organism: it can evolve and shrink and change depending on the relations between the various factors within the organism. It is a complex, dynamic and ever-changing system requiring equilibrium between all its moving parts. This principle follows the idea of eco-psychology: individuals need a state of equilibrium in mental, physical and emotional processes in order to function well (Fisher, 2013). This process can apply to organisations or groups and systems of larger individuals. During processes within groups, there may be an overload of physical, mental or emotional exertion on the system and individuals can become exhausted. If an organisation is seen as a natural and living organism, its health, productivity and the way in which change occurs can be better designed and sustained. This approach signifies that health and productivity are based upon homeostasis and equilibrium rather than extreme levels of production forced on from above. Equilibrium thinking, however, adopts the view of psychology that borrows metaphors from living environments (Fisher, 2013).
- The 'lived experience' or 'ways of working' is the focus of enquiry. It must always align to a natural state of being. A natural state of being allows for the whole-self at work, mind, body and spirit. This idea is based on the principle of culture and climate inside the

organisation as a felt experience which must be a part of surveys or focus group enquiry. The practitioner implementing the framework observes the behaviour that occurs in an organisation, as well as the emotional reasons and the felt experience or intentions of the employees within it. All behaviour is motivated by particular stimuli. To find out what motivation causes what behaviour, the emotional component surrounding it needs to be acknowledged. This point assumes that there is psychological safety embedded within the organisational culture. Psychological safety is important for making people feel secure and able to change their behaviour in response to organisational change (Edmondson and Lei, 2014). It explains why employees: (i) share information (ii) voice suggestions for organisational improvements, and (iii) take initiative to develop new products and services.

- The method of implementation and analysis of the framework within a team requires all team members to adopt a new consciousness so that any change in the factors or sub-factors can be noticed and communicated as it arises. Change can start as soon as diagnosis or analysis begins. Through the processes of focus groups or surveys, there may be changes within systems that impact the model. There may be contextual changes such as client or stakeholder needs that change. Relations between factors change. As an example, in Interview 1 Stage 2, a practitioner deals with demobilising national and non-national employees within his team which may occur suddenly across an organisation as the budget dictates. Difficulty may arise if contractual issues are not understood: it may not be possible to demob employees easily or quickly. There may be a difference contractually between national and non-national employees. Such differences need to be discussed openly. Performance across the team may not be equal and the manager may be forced to continue work. A change in timings around mobilisation and de-mobilisation occurs frequently on major projects and can impede sustainable functioning.

In order for the framework and resulting intervention to be effective, there needs to be fluidity and flexibility in the process such that additional discussions, factors, and new approaches can be added, tested or revised throughout the diagnosis. Design and interventions have traditionally been cross-sectional activities in which a survey is conducted and corresponding interventions created. This process is necessary yet I argue that there is another step which concentrates on the way in which this is done. Design is inclined to change quickly when new staff is changed, or if the contractual scope changes. Sometimes events can be foreseen and planned, at other times they cannot. To manage the effects of change, flexibility and dialogue are necessary so that as the framework is updated, interventions and their content development and delivery can allow for impromptu opportunities and 'unfolding'. This works well with new ideas about OD (Cheung-Judge and Holbeche, 2015). Preliminary planning

enables change which can be seen and recorded throughout the process. This unfolding allows for a co-creation so that any change in behaviour is organised and directed by the audience rather than the facilitator in a spirit of co-ownership or partnership which is true for new OD interventions (Francis, Holbeche and Reddington, 2013).

Another recommendation for the use of the framework concerns upskilling the project planning or leadership team throughout the process. The more the project planning or leadership team can integrate the process of identifying behavioural dynamics, and understanding change and co-creation processes, the better the outcome for the organisation. The OD practitioner in this sense is the guide or facilitator for conversations and considerations that ensue. This is a co-creative process: there is buy-in and ownership by the whole team.

Naomi Stanford (2007) suggests several additional questions that can be posed to organisations when choosing to implement a framework, and worth addressing here. The first question is:

● Does the model work with other models in use in the organisation (for example, change management or project management models)?

This question relates to the understanding and 'fit' of the framework and its implementation which is important for an OD model to be employed. The answer to this question is more nuanced than replacing one design with another since the framework is not a replacement but a way of understanding what is available and how. Practitioners implementing the model need to understand what other models or approaches to people management are available. If the framework, however, is used as proposed then understanding what models and approaches have already been implemented, and how they can be transformed is useful. For example, if we understand that there are a few features that need to be sustained in an organisation such as vision and mission, values or operating principles, strategies and objectives and a number of other elements such as cultures, systems and processes which are in a continual cycle of renewal (see Naomi Stanford, 2007) then there is space to understand which aspects of the design can be changed and how.

The second question is:

● Are the costs to adopt the model acceptable (for example, training, communication and obtaining buy-in)?

This question is encountered with any organisation as soon as they enlist the support of OD safety practitioners because of the change that is understood to be needed. It is often not a consideration in the budget if done for remedial support. The extent of the change, the duration and the resources deployed to it need to be considered when developing a business case for change. It is suggested that for effective change to occur, any intervention or design that can change the main issue, or design it holistically and sustainably, is most appropriate. To investigate what this is can be a lengthy process yet if organisations allocate resources for this development during project set-up; a return on investment should be seen over the duration of the project. Comparative research in this instance is valuable and can be found in project management studies (Collins, 2001). A discussion around the expectations of change projects is important between change agents, leaders and those in the organisation. Leaders then know how to influence employees and they know what to do to assist.

The final question is (Stanford, 2007):

- Does the model have a sponsor or champion who will help communicate it appropriately?

This question is about the implementation of the model, and correctly identifies that implementation without leadership support can be challenging and can fail (Kotter, 1995). In order for implementation or change to work, there needs to be appropriate support within the organisation, with leaders and with employees who feel empowered to support it.

An indication that leadership is essential to the implementation of the model was highlighted by a practitioner in Stage 3: "*The success of this is going to be determined by the senior executive team and how committed they are to implementing this minimising risk and delivering efficiently.*" This is true for most of the activities undertaken in a major project or organisation, it needs leadership support. A similar opinion was given in a different workshop during Stage 3:

> *The whole thing around leadership: our company would be all over this part and bring the whole self and connect to people and also have appreciation for the business side of things as well. We need people at top level to buy into this whole self. A real example of heart and head work [given by the practitioner] is the Brene Brown [courageous leadership] implementation at work. A leader read the book, felt the value and wanted to bring it in to work. Take people from cognitive to feeling level step by step – you edge into it. There was resistance: some people dropping out and others engaged*

deeply with it. It takes a lot of courage to do the work. A lot of people don't necessarily buy into it or believe it – not clear how it can work and be brought in.

This comment illustrates the complexity of gaining buy-in and collaboration from leadership in order to implement intervention and how vital it is. I noted an absence of a whole-self approach in the use of OD models in my work within organisations, and a slowing down of models developed in OD literature. To implement strategic and people-centred OD organisations need transparency, trust and human care.

6.5 Limitations of a Western Framework

It is acknowledged that a western perspective influences the conceptualisation of the framework, posited within this work. In the main this was resultant from the challenge being rooted in the mandated role of the researcher (given to her by her employer), which was to improve adherence to international Health and Safety standards that had largely developed in the context of operations in the Western world. This has both theoretical and practical implications for the work, not least in understanding barriers to uptake and development of culturally informed ways of working with others in harmonious and mutually-beneficial ways (Santos and Freitas de Paula, 2022). To face these challenges, the research has engaged in methodology and an approach more appropriate to understanding context and cultural difference to performance on major projects, and has been born out of real world issues operating in global contexts. The research is useful to raise the issue of what it means to really embed diversity and inclusion practices in organising and operating in culturally diverse societies, whether or not the research borrows a lot of theory and assumptions about organisations from the western world. The framework must be seen in its historical and political context more broadly, and its impact in creation of an academic narrative that is inclusive can be examined further. The section reflects on how western practice has influenced the research and creation of the framework both theoretically and practically.

Alcadipani, Khan, Gantman and Nkomos (2012) showcase the idea of the 'globalised South' as a tying together of diverse, socio-economic and political practices from previously marginalised countries, that through history and western discourse has been viewed as under-civilised, in need of a 'modernised', universalising western approach. The authors illustrate that management curriculum has borrowed much of its theory from the western world, the USA in particular, which have become central to management practices in different countries, or amalgamated in a hybrid approach. This has meant that local, 'indigenous' practices of management and organising may have become eroded, under-researched and confusing to the contrasting models of western thought. An example comes

from a model that has prevailed in describing cultural difference and their impact on organisational practices (Hofstede's Cultural Dimensions) used within the research. The model has been criticised for its construction of discourse favouring a 'developed and modern' side ('Anglo-Germanic' countries) and a 'traditional and backward' side (the rest), reducing the legitimacy of practices in other countries (Fougère and Moulettes, 2007). There is evidence in countries like Brazil and Zimbabwe in which ways of organising have evolved separately from western models and are considered to be sufficiently evolved for the local communities. As an example, kukiya-favela organisation builds on three survival strategies: (1) Kukiya-kiya associated with economic and social survival and signifies flexibility of rules and smarts to sustain one-self, (2) Mbongi, or a process of participative learning through storytelling including critical discourse of political, economic or foreign practices that have historically worked to oppress these communities, and (3) Ubuntu associated with solidarity – the contribution of social harmony that guide practices of caring and sharing with the local community (Imas and Weston, 2012). These strategies are rooted in historical violence and marginalisation of these communities by their government, foreigners or local populations. Marginalisation has allowed opportunity to distance themselves from mainstream state or economic activities, prompting re-invention of strategies of self-improvising and resourcing. These case studies have been examined from the lens of values, context and practices that are relevant to the population in these societies, to allow dignity and a voice to their way of living, and to contribute to organisational discourse that historically may have exploited, excluded and labelled them as inferior (Imas and Weston, 2012). Imas and Weston (2012) acknowledge that they might be writing about 'the other' from their own perspective, and therefore emphasize the importance of co-creation of knowledge and socio-dialogical methods of enquiry – a 'partnering' with participants to illuminate their stories that allow a different kind of meaning to emerge. It is here that practices outside of the 'modern west' need to be understood, and the discourse evolved to provide more inclusive and contextually relevant approaches to management practices. Models must be understood through a co-creation of distinct epistemological and ontological assumptions evident in other countries (Alcadipani, Khan, Gantman and Nkomos, 2012).

In reflecting on the researcher's own lived experience, her work in different countries (Africa, the Middle East and the United Kingdom) has allowed far greater learning of the way in which others interact with the world. A lived experience in other countries develops skills for relationship navigation across cultures that become important in relating to others (Hyun and Lee, 2014). A lived experience means development of relationships with diverse communities, a trial-and-error approach to management practices, and continual dialogue

and feedback opportunities. Practically the delivery of a successful major project is also determined according to its social-outreach agenda, inclusion of a local workforce that is empowered to benefit from infrastructure development, a satisfied (often local) client, and a beneficial partnering relationship. This is why the use of a framework for operating has developed from a humanistic approach in which all stakeholders working on a major project have an opportunity to feedback, and co-create richer, more beneficial practices. A humanistic approach is evident throughout the research both in the literature and data gathered, and is proposed to accompany the use of the framework in future research settings. Due to the megalithic 'colonial' west however it may take some time for exploration of indigenous practice to come to the fore and take central position to the way in which companies operate, and reflected in academic practice.

There have been several ideas proposed for illuminating the roles of researchers, and exploring ways that theory and practice of communities can be adopted without losing their authenticity or indigenous practice (Santos and Freitas de Paula, 2022). In particular:

1. The idea of intentional questioning of assumptions that are western-centric, when understanding the challenge of operating and management practices and how it works in different cultures,

2. The use of western knowledge that is dependent on local reality rather than imposed as 'the truth' to work from when applying cultural frameworks',

3. The practice of researcher self-reflection of the power dynamics and assumptions in the context in which research or practice is taking place, and

4. The method of empowerment, and 'social justice' agenda in actively seeking out previously marginalised, or 'peripheral' voices to construct richer dialogue and solutions.

In Stage 1 the research used a case study, ethnographic method in understanding the local environment and its management practices. The practices implemented were western-centric (following International Safety Standards, for example), however the data gathered was through feedback loops from culturally different stakeholders in determining its impact and sustainability. This allowed a hybridisation of practice to occur. In practice, early conversations in the planning phase around operating and management practices did not occur due to the nature of commercial and contracting, however feedback loops and discussions of evolving practice became more evident through the case study in a trial-and-error approach. The research used cultural 'partners' willing to challenge assumptions and

construct new ways of managing to provide feedback. These cultural partners were available due to the integration of partners in the organisational structure at different levels of leadership, and contributing to focus groups, surveys, and day-to-day practice. The framework is therefore positioned as something to be used during the planning stage, prior to construction, to allow more equitable practices to emerge early on.

Stage 2 of the research involved a time period of data collection and analysis of evidence from individuals operating across Africa, the Middle East, Eastern Europe, the United Kingdom and South America. These practitioners had an understanding of the practical challenges across cultural groups and were in the throes of navigating, seeking feedback and trialling different approaches that might work. These practitioners came from the western-world, or had worked inside of western organisations; but their feedback helps illuminate the hybrid approach to workforce management that have developed over their professional years. The narrative of practitioners often centred on historical 'colonialist' practices and the fear of 'foreigners' evident for locals which was an important consideration in evolving more inclusive and sustainable practices. They also considered a change in their language when speaking to locals (see 5.4 and Appendix 1). What is poignant is that although the practitioners can be seen as uttering 'West is best' discourse, the change in their leadership style is evident of a supportive and humanistic style in engaging with local communities. It is understood that being able to work abroad, practitioners undergo some acculturation to the local context, broadening their boundaries of practice, changing their language, and becoming empathic to local practice. These practitioners considered their own legacy and that of their organisations in which an imperative to work abroad means building mutually beneficial and sustainable practices. Their solutions were often novel and person-centred, which is an approach they've found that works well with having long tenures and contributing to successful projects. To this extent their approach fits well with hybridisation of management and organising. An example of this has been in developing safety training that is context specific to increase learning uptake which is key to minimising incidents and echoed in recent research by Pilbeam and Karanikas (2022). Extending the idea of inclusive research practices, it is here that partners and co-creative practices are important to empowering individuals and communities in rich and engaging conversations, and novel and sustainable methods of organising. It is also here that researchers and practitioners engaged in the research have had to face ethical and value-based challenges around how to work best with others, and being self-reflective in the process. A continued reflective process is important in future research development and continued successful practice abroad.

Integration of enthnographic type methodology and work across cultures, Meleis (1996) offers a way of looking at whether research extends our thinking of work across different cultures. There are eight aspects of culturally competent research which reiterate the ideas outlined by Santos and Freitas de Paula (2022). These include (1) understanding contextuality including the cultural, political and historical context of the population (particularly those in which colonisation and subjugation of cultures have been evident); (2) relevance of the research question to the organisation; (3) communication styles, awareness of identity and power differences between parties so that credibility, and mutually beneficial solutions can be developed; (4) reciprocation in which the research meets the needs of all stakeholders; (5) empowerment of the research population enacted through the research; and (6) flexibility in the time of the research process both in quality and quantity to engage in investigation and reflection practices. The aspects also include (7) the extent to which there is local participation in shaping management practices; (8) and the process used to ascertain future practices that might be helpful to empowering stakeholders.

In understanding point 1, the research makes use of methodology (case study and qualitative interview) that allows understanding of context and history to surface. This is evident through Stage 1 of acculturation on project, and Stage 2 practitioner reflections that voice concerns regarding management practices. In discovering the relevance of the research question to the organisation, it is unclear whether conversations took place during the planning of the major project about the specifics of management practices and cultural differences. However what is critical to stakeholders is organisational performance evidenced through Stage 1 through 3 of the data set. The solutions that evolved are contextual and therefore may not be similar across projects but show a concern for improving management practices, which includes the welfare of individuals. It is also unclear what constitutes good performance for stakeholders - which may vary depending on their own specific lens (safety, cost or social justice), and so this is an important conversation for future research in proposing and using the framework. Unfortunately, the research doesn't make use of indigenous voices in qualitative research and therefore understanding the reciprocity and empowerment of individuals is reduced, however these voices do form part of the data discovered in Stage 1 of the research by virtue of the integrated organisational structure. Further research may be able to bring more of a platform for indigenous practice to surface.

Due to the structure of the doctorate there has been ample flexibility in time and methods used in engage in investigation and reflective practices which is useful. For points 7 and 8, there has been engagement through feedback loops and trial and error in shaping

management practices together with the local community. Appendix 1 provides this in a compendium of thought and practice that can be used, and amended for future practice.

In summary, methodology and philosophical assumptions can be selected for research that allows more consideration of western versus other (indigenous or local) practice, including the real-world practice of organising; and more can occur in future research in this space. It is important to keep in mind that exclusive, inflexible or intolerant practices, including historically and socially dismissive language i.e. 'The Developed West' and 'The Backwards Rest', (Fougere and Moulettes, 2007) can have severe ethical consequences of thought and practice, but this was already firmly in the minds of practitioners who have been involved in the research, and is central to consider in future applications.

6.6 Summary

A framework is proposed in this thesis which significantly improves the planning and diagnosis of major projects and organisations. The framework proposed in this thesis is developed from extensive experience with international organisations. Companies are expanding globally and the workforce has increasingly diversified in terms of national/cultural backgrounds. Any organisational model has to take into account how these factors interact with organisational features, the industry, organisational resources, leadership, and the individuals that exist within the organisation. This framework was developed through a case study and qualitative practitioner interviews. It has been subject to exhaustive consultation with other safety practitioners in different industries and in different types of organisations. There is a real and perceptible need for such a framework to aid in organisational understanding and institutional learning. Several suggestions have been made for what this should comprise. The proposed framework has been discussed against existing OD models. The research proposes several important factors in project planning and diagnosis to improve interventions, design, and in the performance of an organisation through better fit of individuals, stakeholders and organisational features to reduce injuries, and to improve the health and capability of an organisation.

A framework and improved consideration of factors saves time and resources. Of great importance within the work is the idea that an organisation can improve the well-being of workers, their satisfaction and production. These priorities do not need to be compromised with consideration of diagnosis and behaviour, and sophisticated design and development.

Conclusions and Recommendations

Within OD there is a tendency to neglect psychological factors and how to build an organisation that enables a better fit for workforce preferences which meet key performance indicators in diverse and complex major projects. OD models are available. They are used primarily when key performance indicators go awry, or when a consultant is unable to engage in consultation in order to build the organisation (Gallos, 2006). A framework was developed by this research for deployment at the planning stage of major projects and organisational mergers. It guides practitioners in their understanding of the converging factors and how best to develop and implement systems and processes that work for their unique national cultural contexts. This framework is a tool to be used on a continual basis to capture key factors that enable better consideration and documentation of the approach taken by practitioners. It is a diary of 'lessons learnt' so that institutional re-learning is reduced. The framework originated in international settings and therefore can be set apart from other OD tools in focusing on contextual issues and diverse ways of working as an 'embodied approach'. The research uses studies from sociological and organisational science (Lewis, 2018; Meyer, 2014) for understanding the unique ways in which organisations and processes change, and are better suited for different contexts (Hofstede, Hofstede and Minkov, 2010; Smith and Bond, 1998). This framework combines project management and OD literature in bringing together tools from these areas to enable improvement in organisations so that its health and performance are developed well and sustained.

The research originated within a major project in the construction industry where international management systems met challenges in a unique context: a diverse national cultural workforce, differences in partnering preferences and contractual obligations (Bresnen and Marshall, 2000), challenge in the management and upskilling of a workforce, implementation of corporate management systems, and design, structure and process including diverse leadership styles evident in major construction projects (Dainty, Green and Bagilhole, 2007). This unique, divergent context posed a challenge for the management team in supervising a project that had to complete on time, on budget, and can maintain its key metrics of safety and productivity.

After careful examination of these challenges, a set of factors that influence safe behaviour is evident. These factors can work together to enhance safe behaviour and improve performance. These factors are contextual, broad, centred in real-world research and practical application, and focus on understanding a major project. This framework takes into consideration the employee experience of a project. The whole-self is important since we spend many hours in an organisation and play out so much of our behaviour there, thus the

research stems from a humanistic approach (Francis, Holbeche and Reddington, 2013) to the psychology of individuals and organisations. The research also acknowledges the complexity of behaviour and design and uses systems- and complexity-based analogy in sense-making the dynamics within an organisation evident in recent illustrations necessary for organisations (Senge, 2006; McMillan, 2021). The approach of this framework enables the individual to learn as well as the organisation as a whole which is characteristic of learning organisations (Senge, 2006). Consideration of these factors is proposed at the outset of a project in order to understand how to structure, design and implement major projects more effectively so that workforce preferences are respected (Rameezdeen and Gunarathna, 2003), the individual perception of risk and motivation is understood (Slovic and 2016), practical approaches to resources are devised to assist with upskilling (Renn and Rohrmann, 2000), and stakeholder expectations and responsibilities can be better outlined and managed (Bresnen and Marshall, 2000).

Further investigation with practitioners on various major projects globally allowed a unique framework to be established, and the factors to be identified in greater depth. Qualitative analysis indicated certain challenges with the dynamics between factors on different major projects, and validated the factors that influence behaviour.

The research is unique in its origin through case study and qualitative analysis. It combines psychological and business literature to provide a practical tool for use, primarily due to the researcher's background inside major projects and in psychology. The research is approached from a critical realist and pragmatic perspective to enable a framework that is useable and useful.

A review of the major determinants of behaviour on a multicultural and complex major project against the ability of current OD models to diagnose was discussed in the literature review. Figure 18 signposts these gaps, while the discussion chapter indicates how the framework assists in contributing to greater understanding and improvement. Figure 69 details how the framework allows OD models to evolve, and embraces the complexity inherent in complex environments.
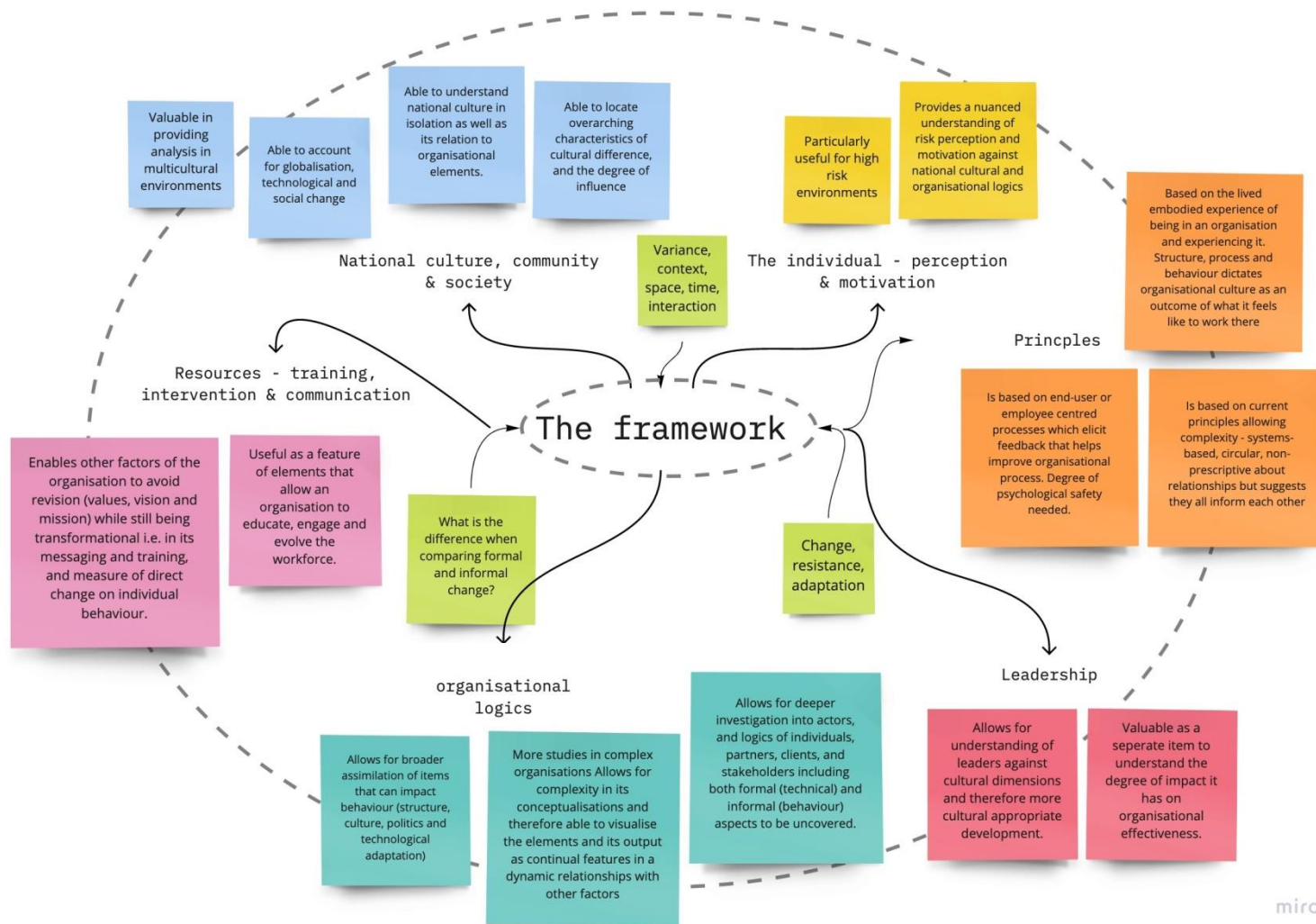
Figure 51 - The Framework's Contribution to OD evolution

This framework is proposed, like other OD models (Martins and Coetzee, 2009) to enable a visualisation or 'blueprint' for assessing factors which can improve safe behaviours on a major project. The aim of this framework is to allow dialogic and diagnostic opportunities towards increased safety, productivity and health.

Reasons for the five main factors within the framework include:

(i)   National cultural differences operate in deep ways in individual behaviour (Lewis, 2018) in international projects and are used as a proxy for diversity generally. The use of national cultural theory yields crucial patterns of behaviour that are beneficial for project teams to understand diversity when developing inclusive process, structure and the management of teams. The research contributes to OD models in their ability to recognise and isolate national cultural variables in which an organisation is positioned. This gives an understanding of how an organisation can evolve to suit its context.

(ii)   The field of organisational logics pertain to patterns of behaving in the industry and the organisation's design and therefore useful theory to incorporate to understand both the macro and micro normative behaviour. The framework enables a broader understanding of design to include both formal and informal elements; and how to understand complex and diverse organisational setups.

(iii)   The resources available to a project such as interventions, facilities, training, events and communication can be understood and used in such a way that the education, skills and preferences of the workforce can be matched. The separation of this item within the framework means that resources can be leveraged to change and impact behaviour in a direct and effective way; rather than enter redesign or revision of organisational elements. This marks a difference to the way it can be achieved and the pace of change.

(iv)   Individual risk perception and motivation and behavioural science highlight the understanding of how national cultural differences affect individual understanding of risk (Renn and Rohrmann, 2000), and how practitioners may go about using behavioural science to motivate the workforce towards their needs (Mitchie, van Stralen and West, 2011). The separation of this factor is important in high-risk environments as it relates to individuals basic ways of understanding risk, and being motivated to act. In having this as a factor, analysis can be used to determine its relation to national culture, and then how organisational factors can develop to suit. This is distinct from other models in understanding what the basis for behaviour is as an initial step.

(v)   Leadership styles are appropriate for specific workforces and contexts. Leaders'
        behaviours and actions can have a far-reaching effect on the approach towards safety,
        productivity and health that the workforce aspires to. The framework proposes a set
        of subfactors that can be analysed for greater understanding of leadership both in its
        relation to national culture and diverse working practices and to organisations
        elements. The identification of this factor is not unique in OD models, and warrants a
        continued existence in new frameworks.

The research was validated by practitioners in multinational organisations which indicated agreement with the factors, the framework's need and use, and its viability within business contexts. Data suggested that: (i) the framework can be extended to other industries and organisations, (ii) the framework can be digitized so that organisations can make use of real-time and continuous data as well as employee action and initiative in assisting change, (iii) the framework is broad enough to allow practitioners to use their knowledge and skills of sense-making within the factors, (iv) the framework is a systematic way of organising, and an appropriate sense-making tool, (v) the framework needs leader support in order to deploy the framework in the right time and throughout design, change or implementation as a platform or tool.

More development is needed on the framework if its factors are to be validated. Implementation and analysis are necessary to understand its full use, reliability and generalisability for organisations. It distinguishes itself from other models through its development within diverse and international contexts, and so national cultural and institutional theory has been used widely from this broad scope, and can be added to in future studies. The conception of the framework is influenced by western authors, practitioners and academic papers, and future visualisation of organisational performance can be done with audiences from other parts of the globe.

The framework is planned for marketing and use for a wider market. The factors are described within resources to make it accessible and easy to use. Practitioners suggest that change is often made in organisations as a remedial measure after loss has occurred (Francis, Holbeche and Reddington, 2013). Any evidence provided to establish the costs of loss is important to motivate leaders to use the framework at the initial stage of project and merger design.

The model will be iterated for further expansion in its sub-factors, for studies that relate organisational elements to national culture and contextual variables, to decrease jargon, and for training purposes. The framework is intended to be used by OD, human resource, safety

and change practitioners which is enabled through journal articles, webinars, and training for safety and human resource practitioners.

Chapter 7 – Personal Learning and DPROF Journey

This journey centres on two observations of the world: the study of human behaviour and ethical implications of decisions around managing and organising people. These strands have been the focus of my academic life through psychology and law; as well as tracking my self-awareness and that of others in business, and how we navigate ethical and value-based tensions of our own. The journey into psychology and law in a diverse, vibrant and divided country such as South Africa allowed me to study how people lived, how the sociological and political landscape developed, what anthropological views existed, the legal landscape, and ideological debate on what behaviour is considered ethical and for whom. This has all been integral to my perception of how organisations should operate, and how I support it. In post-Apartheid South Africa the diversity of cultures is particularly obvious. The country has suffered severe systemic racial discrimination, and it has been through reform however, the extent to which diversity is celebrated and harmony exists is limited. There is still severe discrimination, violence, a failing economy and infrastructure, and no large scale evolution of inclusion in the country. Since this cultural and racial divide has been an element that has affected my life – how I treat people, how I understand systemic discrimination, how violence has affected my family, what agency I have had in bringing about change, the need for conceptualising a way to more broadly and deeply consider others has been incredibly important, and hence why I have chosen to focus on it within the research. Observations on the socio-political changes in South Africa have widely influenced my perception of evidence in the research. Working abroad, the salience of diversity has been particularly powerful around national cultural differences. I have desired a more in-depth understanding of diversity that is based on psycho-social and value-based diversity rather than skin colour or gender as is the target for many western organisations currently. The way this difference has been brought to life is through the writings of anthropologists and researchers interested in understanding broader, long-range differences evident in studying populations in different countries that, through comparison, reflect the heterogeneity and richness of the world's population.

When I began working in organisations in the UK and abroad my learning about people and business become more real, and more complex. It took me a while to understand the nature of the industries I worked in. I had high ideals about trust, respect and integrity of people (and its universalism) – in some industries the character of corporate life is harsh, in others magic. So my journey has included developing a more realistic and positive expression of challenging industries, and understanding how change happens in companies.

Through the DPROF I have reflected on the values that I hold strongly toward developing more considered and sustainable frameworks and processes. Personal development and practical knowledge of self and others can build skills that far extend change in organisations and individuals. Given that I have had the opportunity to impact real change in this way, I strongly connect academic research to the development of self, leadership and how to construct organisations that are empowering for people to work in. Thus my career has strongly influenced my conception of what I consider a practical solution to considered work design and the framework presented in the research. I believe that more considered design can reduce the challenges that organisational process, structure and resource has on the way in which people normally live. This journey has given me an incredible space to ponder on my purpose and activities through which the research is enacted.

The DPROF has been a tool for understanding how to formulate practical, real-world methodology. It began with the RAL claims which were useful in identifying threads, and gauging the amount of knowledge I had gained. It gave me a better understanding of the ontological and epistemological dimensions of the world. The journey began with several proposals for research. Small projects became larger, and the research focus shifted. So too did the scale of the research which, after three years, became streamlined and focused on psychological factors that improve or constrain safe behaviour: firstly as a case study, secondly as practitioner interviews, and thirdly as verification by a growing network of OD and change specialists. I can now appreciate the challenges, timings, opportunities, and stakeholder management which are relevant for real-world research and the creation of practical outputs. The time and effort given to such a project helps to hone your purpose as a practitioner – it is this that provides me with the motivation to deliver such a project: knowing that I may contribute and influence the management of organisations in future.

At times the DPROF has been challenging in keeping discipline, particularly when the route is unclear and challenges seem to limit its potential. It is in this sense that I think of it as a journey – of not knowing clearly where the end is or what events you may encounter on the way but continuing anyway. The research has honed my confidence in analysis, the practice of reflection, using different ways of thinking about a problem to extend it, and developing a capacity to hold more ambiguity around a "wicked problem".

Since completing the project, there has been work around other tools that allow for better use of the model including a survey or focus group questionnaire to assess factors, work on the methodology of application for an organisation, and practitioners that are in support of its use.

The practical application of the framework is in early stages and there is more opportunity for development around its use. It's been primarily through my work abroad that I've noticed differences in values and behaviour that in my view needed consolidation; into an approach that I could use. However, as noted, my influences are primarily western and so too is the field of organisational development. These cultural differences are a 'double-blind' as they not only change what we discuss when it comes to partnering with people who are culturally different, but also change the whole approach (if a framework or any concept of planning and organising as I know it is indeed used). With that in mind, I wonder where the starting point is for partnering with others, and if it's knowable. This framework is an opportunity to put across something that I see as feasible, with the hopes that it can ignite the recognition in others that a starting point is necessary (for me).

An advantage of working abroad is the development of intercultural fluency: the ability to recognise my own and others cultural landscape, and develop ways of relating that establish a working relationship. There is more work to be done in developing my own skillset in appreciating and interacting with new cultures; and there is a huge amount of work to do in understanding value-based differences, the nonverbal tensions they create, the internalised attributes of self and others, and how to create environments that can feel safe to learn. During my experience abroad I have engaged in multiple inductions focused on cultural awareness, unconscious bias training and attempting to bring awareness of intercultural and communication skills. I've met many authors and practitioners working hard to address some of the sharp edges of diversity and gender issues, as well as navigate corporate politics within this landscape. This has been particularly interesting, and also challenging – pushing me to discover my own moral and ethical choice-making. Interestingly, I think it takes some skill for individuals to understand others viewpoint and values without assigning assumptions or judgement. The landscape is far more fascinating in discussing (from a relativism perspective) culturally-based values and mores rather than a utilitarian code of behaviour. This means that the framework itself (its conceptualisation and assumptions) and the research question itself is something created from my (western) viewpoint, and can be dramatically changed and evolved through discussions with others.

The framework developed within the DPROF is a comprehensive examination of the factors that make the performance of an organisation successful. Through continued work on understanding the business, and its strategy, and having worked in the people operations side of the organisation I have a specific insight into not only improvement of the performance of the organisation (its output), but the way in which work is done that impacts on its goals. Due to my study within psychology there is great opportunity for making sense of how business is

felt by individuals – what works to improve behaviour and what can constrain it. Having worked in implementation for an on-the-ground workforce, and through psychological profiling and feedback I have good working knowledge of what motivates individuals, and how theory is made practical for businesses. The framework is therefore a good adjunct to current practices, and although the scope is large and my method comprehensive, the suggestions made, its principles and methodology work to overcome the bigger challenges that are encountered when practitioners are working in unique and diverse environments. I am uniquely placed having worked across several countries to suggest how to address the gap between national culture and business development, which has only been the purview of academics in more recent years.

Notes

The framework has been proposed to some organisations and is undergoing product iteration to bring it to market.

The framework has been featured in the following publication(s):

HR Magazine: https://www.hrmagazine.co.uk/content/features/applying-organisational-diagnosis-to-design-rewards-for-an-international-workforce-part-1

https://www.hrmagazine.co.uk/content/features/applying-organisational-diagnosis-to-design-rewards-for-an-international-workforce-part-2

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Appendices

Appendix 1 – Stage 2: Thematic Analysis

Appendix 2 – Stage 3: Workshop Feedback

Appendix 3 – Stage 3: Workshop Materials

Appendix 4 – Consent Forms