



Knowledge exchange in improving strategic flexibility in an inter-organisational strategic alliance

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ABSTRACT

The financial environment within which organisations compete has fast become uncertain and dynamic due to rapid technological and operational changes. The challenges that organisations face today, and in the future, require them to pursue strategic initiatives by equipping themselves with the necessary knowledge to compete. Organisations have entered into inter-organisational strategic alliances to compete in this dynamic uncertain environment but more importantly they need to practice strategic flexibility to respond swiftly to environment changes and opportunities. This study explores how knowledge exchange can be used to improve strategic flexibility within an inter-organisational strategic alliances.

A qualitative research was conducted based on 9 semi-structured interviews with senior leaders and executives in the financial environment of South Africa that are currently in an inter-organisational strategic alliance. The deductive approach applied Nonaka's knowledge management model which is commonly adopted to improve knowledge exchange within an organisation. Nonaka's Model has seldom been applied within the inter-organisational context and especially in the attempt to improve strategic flexibility. Nonaka's Model explores the four different modes of knowledge exchange being socialisation, externalisation, combination and internalisation. These modes are conceptual in nature and therefore the gap of conceptual versus practical was explored in this study by attempting to identify underlying factors affecting knowledge exchange and further by suggesting improvements.

The findings of the study highlighted trust, coordination, governance, inter-organisational relationships and ease of business as the major themes influencing knowledge exchange impacting strategic flexibility within a strategic alliance. From a practical view, the Nonaka model was found to be an effective theory based tool to identify factors within these themes influencing knowledge exchange between partners within a strategic alliance and facilitate the attempt to improve them through the utilisation of the model's four modes to increase strategic flexibility.

KEYWORDS

Knowledge exchange; Knowledge management; Strategic flexibility; Strategic alliances; Nonaka model

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

David Breetzke

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CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1 Introduction

Organisations are seeking new methods of succeeding and improving competitiveness as a result of the financial environment becoming ever more volatile, uncertain, complex and ambiguous (VUCA) in nature, coupled with the rapid changes being experienced in technologies, ideas, products and services (Stroińska & Trippner-Hrabi, 2018). The VUCA financial environment poses complex questions which may be answered through the formalisation of partnerships between organisations along with their ability to respond quickly to changes and opportunities. This ability for organisations, and their partners, to respond quickly is called agility. Organisations practice agility in their approach to problem solving by using knowledge exchange as a key enabler. To be agile is to be strategically flexible, as supported by Brozovic (2018) and Fraser (2016), which is the ability to adapt, change and respond to changes and opportunities in the VUCA financial environment. An organisation not implementing effective knowledge exchange to improve strategic flexibility may have their business operations and models disrupted by new entrants that are able to adapt and respond quicker to changes and in the market and therefore capitalise on new opportunities (Kamasak, Yavuz, Karagulle & Agca, 2016).

Many organisations attempt to address the challenges of a VUCA financial environment by entering into inter-organisational strategic alliances to either create or capture value (Panico, 2017). These inter-organisational strategic alliances enable organisations to respond to the challenges through shared competencies, abilities, resources and in particular knowledge management. Knowledge management continues to be a critical challenge for organisations to implement within their organisations and has a major impact on organisational performance and shapes their current and future decisions (Kozjek & Ovsenik, 2017; Fazey, Evely, Reed, Stringer, Kruijsen, White & Blackstock, 2013; Oliveira, Caldeira & Batista Romão, 2012). It is crucial that knowledge, tacit and explicit, is acknowledged within the processes and divisions of an organisation to create a competitive advantage (Akhavan & Philsoophian, 2018, Oliveira et al., 2012). But it is how this knowledge is exchanged, with whom and how it is utilised to create a competitive advantage which is critical. Therefore, the importance of the knowledge exchange process between partners within an inter-organisation strategic alliance is key

(Chen, Lin & Yen, 2014; Fazey et al., 2013). This process is not without its challenges as partners face knowledge leakage and opportunistic behaviours which impedes the knowledge exchange process (Jiang, Li, Gao, Bao & Jiang, 2013; Mohr & Puck, 2013).

The effectiveness to respond to the VUCA financial environment, for such strategic alliances, is dependent on the level of knowledge exchange effecting strategic flexibility within the inter-organisational strategic alliance (Islam, Hossain & Mia, 2018; Kamasak et al., 2016). This approach of knowledge exchange combined with strategic flexibility will enable the alliance to compete and respond to changes and opportunities as a union leveraging off each partner's competencies to increase the likelihood of success. To date, knowledge exchange has been primarily focused on the intra-organisational exchange whereas this study has used the Nonaka model, traditionally an intra-organisational model, to explore the inter-organisational exchange of knowledge (Nonaka, Toyama & Konno, 2000).

The Nonaka model, although a conceptual framework, has been successfully used within an organisation to illustrate knowledge exchange and regarded as 'highly respected' in its contribution to knowledge literature (Majid, Mehran, Zarei & Somaye, 2013; Bratianu, 2010; Nonaka et al., 2000). This study attempted to apply the Nonaka model in an inter-organisational context to explore its relevance and potential insights into improving strategic flexibility through knowledge exchange. The Nonaka model was used to analyse which factors affect knowledge exchange and then how to improve strategic flexibility within the context of knowledge exchange through the different modes of the framework being socialisation, externalisation, combination and internalisation.

Scholars have highlighted the strengths of the Nonaka model as being an aspiration model to promote awareness of the importance of knowledge exchange but in the same stance criticised its applicability in the global context and its inability to adapt to changing modes of communication (Bandera, Keshtkar, Bartolacci, Neerudu & Passerini, 2017; Sarayreh, Mardawi & Dmour, 2012; Bratianu, 2010). Overall, Nonaka created a 'signature model' which created awareness to the importance of knowledge, how it's transferred, how it's managed and then used within an organisation (Bandera et al., 2017; Sarayreh et al., 2010). This study used the Nonaka model as it was generally accepted as a good knowledge exchange model and was rarely modified to apply within an inter-organisational context, therefore it was well suited for the aim of this research.

The study identified the financial environment, knowledge exchange, strategic flexibility and inter-organisational strategic alliances while being underpinned by the Nonaka model as key constructs. Each of these constructs and the Nonaka model will be further explored and analysed throughout the study, together with their interconnectedness.

1.1.1 Financial environment

According to Schwab (2017) of the World Economic Forum, “South Africa remains one of the most competitive countries in sub-Saharan Africa, and among the region’s most innovative”. This statement quantifies South Africa’s competitiveness within the sub-Saharan Africa context and its important role in growing the local and regional economy through its willingness to be innovative in a VUCA financial environment.

With South Africa being recognised as a destination of increased business activity and competitiveness, organisations now face numerous challenges within its VUCA financial environment. These challenges are: new entrants that increase competition; price wars between organisations for consumer demand; and buyers’ power due to the increased supply/alternatives in the market (Porter & Heppelmann, 2014). Furthermore to these challenges, organisations need to navigate through a VUCA financial environment which is considered to be more complex and competitive than ever before due to the increased connectivity, technology advancements and disruptive business models (McDowell, Murphy, Rahnema & Page, 2016). These aspects are further emphasised as businesses and individuals are experiencing higher levels of uncertainty as technology and other forces begin to reshape the economic landscape, therefore stressing the need for knowledge backed improvement of strategic flexibility (Schwab, 2017; Majid et al., 2013).

1.1.2 Knowledge exchange

Knowledge exchange is the transfer of knowledge, tacit and implicit, between individuals and/or organisations in the attempt to share insights and experiences (Sarayreh et al., 2010). Knowledge exchange is needed to empower strategic flexibility within partners within an inter-organisational strategic alliance to respond to these challenges highlighted in the financial environment (Chen et al., 2014). Therefore, organisations are no longer solely faced with the traditional competitive forces, as described by Porter &

Heppelmann (2014), but rather need to remain competitive and agile in a VUCA financial environment with unknown technological, marketing and innovative product challenges.

A strategic response to these changes and challenges are for organisations to adopt strategic flexibility in their usage of knowledge management, operations, resource management and strategy development to remain competitive and increase performance (Kozjek & Ovsenik, 2017; Majid et al., 2013). All these responses require organisations to be agile in their strategic response which cannot be achieved without knowledge exchange and strategic flexibility within their organisation and/or in their inter-organisational strategic alliance. Therefore this study has focused on this disrupted financial environment.

1.1.3 Strategic flexibility

The clarification of the financial environment has provided certainty that organisations need to act and react to changes and challenges in the environment efficiently and quickly to remain competitive. These challenges and their associated actions lead to the need for organisations to identify and understand their threats, trends and opportunities within the described environment and then be able to act on them in a timely and efficient manner. This type of action is known as strategic flexibility as defined by Hitt, Keats and Demarie (1998) as “the capability of the company to proact or respond quickly to changing competitive conditions and thereby develop and/or maintain competitive advantage”.

With political, regulatory and policy uncertainty affecting the performance, growth and recovery of the South African financial market (Bank, 2018), it is important for organisations to practice strategic flexibility in their approach to operations, resource management, knowledge management and strategy development to remain competitive (Eryesil, Esmen & Beduk, 2015). The question is whether implementing strategic flexibility as a construct is sufficient enough to remain competitive within a VUCA financial environment and still achieve the desired economic growth and increased organisational performance.

Another strategy to overcome the aforementioned challenges raised by the VUCA financial environment, is for organisations to enter into inter-organisational strategic alliances to: strengthen their market position; expand their market; gain and leverage

knowledge; and acquire resources (Islam et al., 2018; Anderson, Christ, Dekker & Sedatole, 2013). This strategy coupled with strategic flexibility could enable an organisation through an inter-organisational strategic alliance to retain their competitive advantage and compete within the changing financial environment.

1.1.4 Inter-organisational strategic alliances

The collaboration of different organisations working together to achieve a common objective can be viewed through many lenses. This collaboration can be seen as intergroup collaboration, strategic alliance, inter-organisational alliance or inter-organisational strategic alliance. The core concept is that there is a relationship established between two or more organisations to achieve mutually beneficial strategic outcomes through access to key resources such as knowledge. Therefore, the study defined the term 'strategic alliance' as a voluntary collaboration of organisations to achieve a shared, beneficial, mutual outcome (Gulati, 1998).

It is attractive for organisations to enter into strategic alliances to overcome the identified challenges faced. This strategy takes the form of organisations exchanging knowledge to enable strategic flexibility within an strategic alliances to create shared market value, leverage off partners product offerings, increased business development, access to new ideas, development of new capabilities, product innovation and achieve quicker market penetration (Islam et al., 2018; Mehrotra, 2017; The Economist Intelligence Unit, 2015; Porter & Heppelmann, 2014; Anderson, Christ, Dekker & Sedatole, 2013), and then exercise improved strategic flexibility to respond quickly to environment changes and opportunities as a collective.

This approach of strategic alliances does come with its disadvantages of reduced profit sharing, trust erosion, knowledge leakage, lack of accountability and, most notably, the loss of control over strategic direction (Mehrotra, 2017; Jiang et al., 2016; Mohr & Puck, 2013). Another disadvantage with the aforementioned strategic alliance strategy is the capability, willingness and behaviour of each stakeholder towards each other (Mohr & Puck, 2013) and how these behavioural and relationship factors affect the ability to exchange knowledge and its effects on strategic flexibility to respond to changes in a VUCA financial environment.

A further concern is how these strategic alliance partners respond together as a

collaborative partnership to environmental changes and whether their strategies, resources, knowledge and organisational structures are aligned to achieve mutual beneficial outcomes. Strategic flexibility is internal to the organisation's culture, core values and brand which influences how they respond to changes in the environment (Sushil, 2015). The process of aligning knowledge between partners becomes challenging and complicated when there needs to be collaboration between the different organisational culture and values.

Each organisation in the strategic alliance has its own implementation of strategic flexibility but there needs to be alignment and willingness from each partner in the strategic alliance to share knowledge and be collaborative with each other's strategic objectives. Therefore there needs to be strategic flexibility at a strategic alliance level. This level of strategic flexibility will be the focus of this study.

1.2 Significance of research

1.2.1 Theoretical justification

There has been a considerable amount of research performed on both strategic alliance and strategic flexibility as shown in Table 1 and Table 2. The amount of research, in supporting the statement, is evident in the nature of the research moving across from exploratory to a more formalized approach (Gomes, Barnes & Mahmood, 2016) but the research has been limited when exploring the two concepts in union. This statement is further supported by the researcher's observation of limited recent articles containing and exploring the two concepts in their union, and further to the effect of applying the Nonaka model with its relation to knowledge exchange in improving strategic flexibility within a strategic alliance.

The existing literature has focused on strategic alliance and strategic flexibility as individual theoretical concepts and marginally expanded on their practical application which has been identified as a limitation of the existing literature (Brozovic, 2018; Kang, 2014; Guo & Cao, 2014; Jiang et al., 2013; Combe, Rudd, Leeflang & Greenley, 2012). These theoretical concepts are then defined and expanded upon to better understand their effect and function but, barring an article authored by Young-Ybarra & Wiersema (1999) titled "Strategic flexibility in information technology alliances: The influence of transaction cost economics and social exchange theory", this area still remains suitable

to provide academic contribution by exploring these two concepts as a union in a research paper compounded with the expansion of application of the Nonaka Model in using knowledge exchange to improve strategic flexibility within a strategic alliance.

This identified limitation was advised by Brozovic (2018) to be an area of further research as he suggested that “another valuable endeavour will be the exploration of strategic flexibility in relation to other constructs and theoretical streams regarding the abilities of firms that contribute to managing changes in dynamic environments”. This study therefore researches the union with strategic alliance being the “other construct and theoretical stream”.

Through the literature review, it was evident that the Nonaka model has not been extensively applied to the union of strategic alliances and strategic flexibility. In addition, the Nonaka model is based on intra-organisational behaviour and knowledge management (Takeuchi, 2013; Nonaka et al., 2000), therefore the expansion of this theory to be applied in an inter-organisational context will provide theoretical contribution into the model’s practicality in this condition.

This is unlike to the existing dominant academic theories being the Resource Based View (RBV) and the Transactional Cost Theory which many authors have referred to in their exploration of the individual concepts (Jiang, Bao, Xie & Gao, 2016; Moghaddam, Bosse & Provance, 2016; Eryesil et al., 2015; Nkala, 2015; Kortmann, Gelhard, Zimmermann & Piller, 2014; Christoffersen, 2013; Sambasivan, Siew-Phaik, Mohamed & Leong, 2013; Bock, Opsahl, George & Gann, 2012). It is researcher’s view that the theoretical contribution would be less valuable when applying these theories and therefore utilised the Nonaka model.

1.2.2 Business justification

It has been established that there is a need for organisations in this VUCA financial environment with rapid technological change, environment uncertainty and increasing competitive rivalry to be agile in their internal and external operations and relationships to exercise strategic flexibility to remain competitive (Stroińska & Trippner-Hrabi, 2018). This reality is further argued by Mehrotra (2017) in illustrating the effectiveness of companies to be competitive and gain market share in a short period of time. This shorten time period coupled with the prevalence of financial organisations entering into

strategic alliances to leverage off partners' core competencies to widen their product range and open new opportunities is of business interest to gain a better understanding of these trends within the financial environment (Srinivas, Fromhart, Goradia & Wadhwani, 2018; Mehrotra, 2017). This fast-paced adoption and reaction to trends in the financial environment can be achieved by organisations exchanging knowledge as an enabler to improve strategic flexibility in their operations and strategy development (Kamasak et al., 2016).

This study will explore these areas of concern and provide a framework for organisational leaders to use to assist in identifying factors influencing knowledge exchange within their business and how they can be improved to increase strategic flexibility and ultimately the performance of the strategic alliance.

1.3 Research aims

The study aims to understand the effect of knowledge exchange on improving strategic flexibility within a strategic alliance by applying the Nonaka model. This in turn highlights partners' capabilities to respond to changes and opportunities within the environment with respects to knowledge management. The study will attempt to identify the factors that affect knowledge exchange and then how to improve them, through insights gained from semi-structured interviews by the defined population, which will ultimately improve strategic flexibility

1.3 Scope of this study

The insights gathered from the semi-structured interviews will then be analysed to inform the research aim on whether knowledge exchange can improve strategic flexibility within a strategic alliance by applying the Nonaka model.

The business contribution will be a detailed analysis of the effect the Nonaka model on improving strategic flexibility within a strategic alliance. This information will: assist in improving knowledge exchange; identify problem areas within the knowledge exchange process; assist organisations evaluate potential strategic alliance partners against research supported criteria; assist organisations within a strategic alliance to evaluate their current operational, knowledge and strategic development structures to identify

their appropriateness with their desired strategic goals of all their partners; and promote aspects that improve strategic flexibility resulting in positive effects within a strategic alliance. The limitation of a lack of practical application was identified through the literature review and therefore this information will provide practical knowledge to organisational leaders (Kang, 2014; Guo & Cao, 2014; Jiang et al., 2013; Combe et al., 2012).

The academic contribution of this study will be the expansion of the area of research of knowledge exchange in improving strategic flexibility within a strategic alliance as a union through the use of the Nonaka model. This understanding of knowledge will be able to provide organisations with crucial insights on how to manage knowledge exchange within their alliances and improve strategic flexibility to address the already detailed research problem. In addition, the study will attempt to expand the usefulness of the Nonaka model in an inter-organisational context. These two aspects will provide prospective researchers recommendations of study topics to expand this area of knowledge. These two aspects will provide prospective researchers recommendations of study topics to expand this area of knowledge.

1.4 Conclusion

The study may provide valuable insights into the scholarly expansion of the Nonaka model in the inter-organisational context while providing a practical framework for business leaders to use within their own strategic alliances to improve strategic flexibility through knowledge exchange.

The subsequent sections of this report are structured as followed:

1. A review of the literature to be used in the study. The literature explores the concepts of knowledge exchange, strategic flexibility and strategic alliances. In addition, the literature review has been shown through a matrix structure for ease of reference of factors.
2. This is then followed by a description of the research questions utilised.
3. This is then followed by a description of the research methodology utilised.
4. Finally, the results, a discussion of the results, findings and recommendations for further research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The previous chapter introduced and contextualised the research problem and argued for the business and academic relevance and contribution for this study. This chapter is a representation of the relevant, current academic literature that assisted in the understanding and formulation of the constructs to be explored in this study.

The literature review is a compilation of academic peer-reviewed journals, master's level theses and research articles. The literature has been discussed in their individual constructs, their relevance to the research topic and their relationship with the other constructs to explain, support and motivate the need for the research.

In addition to the text, the literature has been represented in table format illustrating the different factors for ease of reference and assistance in the comparison of the different schools of thought and ideas contained in the literature.

2.2 Context of business environment

Majid et al. (2013), stated that, "in today's global economy, knowledge is overturning the old rules of strategy. Global competition as the foundation of industrialized economics has shifted from natural resources to intellectual assets in such a way that current era is titled knowledge era". Leading from this statement, organisations need to adjust their concept of strategy, how they respond to changes and opportunities, how they treat and utilise knowledge within an inter-organisational context to compete in this VUCA financial environment (Chen et al., 2014).

Knowledge is an important enabler to provide a sustainable competitive advantage within the VUCA financial environment and the Nonaka model is perfectly aligned to facilitate the leveraging and utilisation of knowledge exchange, creation and management to improve strategic flexibility to compete successfully (Fazey et al., 2013; Majid et al., 2013; Oliveira et al., 2012).

2.3 The role of knowledge management today

“Information becomes knowledge when it is interpreted by individuals and given a context and anchored in the beliefs and commitments of individuals.”

- Nonaka et al., (2000)

Knowledge management is the utilisation of knowledge, through the forms of knowledge exchange, storing and learning empowered by collaboration and coordination at an inter-organisational level (Jiang et al., 2016; Jiang et al., 2013). Knowledge can be broken down into two types: tacit and explicit knowledge (Nonaka et al., 2000). Tacit knowledge is deeply rooted in actions, experience drive, routines, procedures and is not formally recorded while explicit knowledge is formal, systematic, recorded in specification, manuals and journals (Bandera et al., 2017; Takeuchi, 2013; Nonaka et al., 2000).

Knowledge exchange, as defined within this study, is the sharing of explicit and tacit knowledge between partners within the strategic alliance and how they can access and leverage off this knowledge to achieve their strategic objectives by responding to changes in the financial environment. Therefore the Nonaka model is applied to facilitate the knowledge creation process. This process in turn is affected by other factors which will be identified through the chapter.

To further understand knowledge, the differentiation between information and knowledge needs to be understood. Information is knowledge without context. Knowledge is created when information is provided, which is believed to be truthful, within a context from which it becomes interpretable, useful and actionable. Therefore this study followed Nonaka & Von Krogh (2009) definition of knowledge being “justified true belief” along with contextual relevance.

In today's financial environment, the ability to create, convert and use knowledge is considered to be a source of an organisation's sustainable competitive advantage (Bandera et al., 2017; Nonaka & Toyama, 2003; Nonaka et al., 2000). This competitive advantage can be attained through the appropriate use of knowledge and used within the financial environment to compete with incumbents and new entrants (Majid et al., 2013).

numerous factors. Cooperation, as a factor, between partners effects the level of knowledge exchange which in turn is effected by the level of trust between the alliance partners (Squire et al., 2009). Therefore it is essential that not only does information convert into knowledge but that the relationship between alliance partners is cooperative in their approach to knowledge exchange to enable strategic flexibility. Without this cooperative approach, knowledge exchange will be hampered by trust issues leading to unwillingness to share useless knowledge and know-how which should have been utilised for the betterment of the alliance (Jiang et al., 2016). Therefore the continuous creation and exchange of knowledge is crucial for an organisation and strategic alliance to compete in the current VUCA financial environment.

2.4 Knowledge creation model

Nonaka and has colleagues co-created the knowledge creation model where they described knowledge creation through three elements: the SECI model; ‘*ba*'; and knowledge assets (Takeuchi, 2013; Nonaka et al., 2000). It was argued that these three elements contributed to knowledge creation, exploitation and management of an organisation (Nonaka et al., 2000).

Traditionally, the knowledge creation model focused on intra-organisational knowledge creation. The differentiating aspect of this study was to explore whether the Nonaka model could be applied to facilitate knowledge exchange within the inter-organisational context of a strategic alliance. In addition, the study focused on the application of the first element of the knowledge creation model being the Nonaka model and assuming that ‘*ba*' and knowledge assets elements were present and consistent. This objective was approached by breaking down the various components of knowledge exchange being the Nonaka model and the factors that influenced the four different modes.

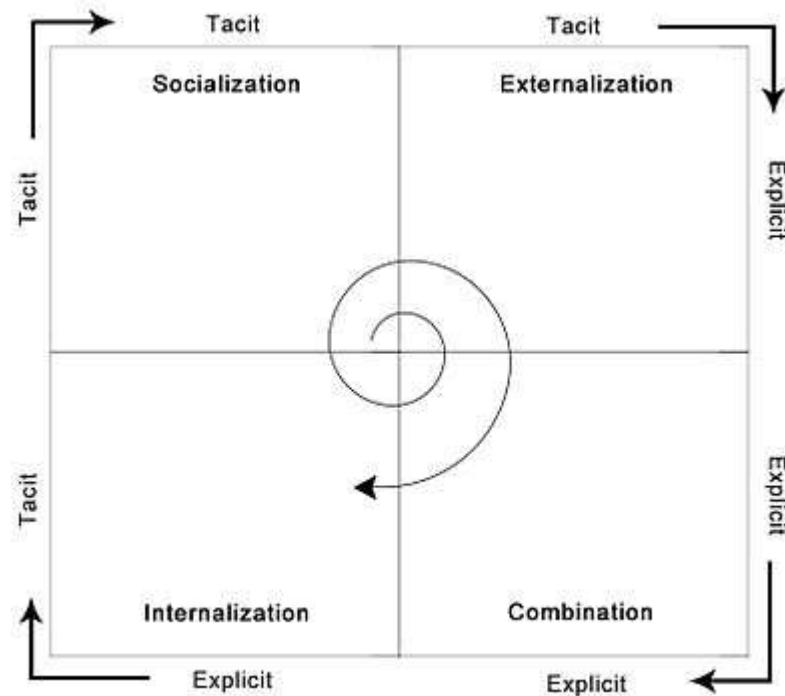
2.4.1 The Nonaka model

As defined by Nonaka et al. (2000), the Nonaka model is “the process of knowledge creation through conversion between tacit and explicit knowledge”. Explicit knowledge is formal, organised and expressed in manuals, specifications and policies while tacit knowledge is more informal, emotional, and personal and based on shared experiences and difficult to articulate in a formal manner (Takeuchi, 2013; Nonaka et al., 2000). The

model was based on an intra-organisational structure but the study attempted to apply the model in an inter-organisational structure to ascertain whether knowledge exchange can improve strategic flexibility within a strategic alliance (Nonaka et al., 2000).

Knowledge management is the leading factor in strategic flexibility, per Table 1, and therefore if knowledge management can be improved through improved knowledge exchange, then strategic flexibility can be improved. With this objective in mind, the Nonaka model, as depicted in Figure 1, comprises of four modes of knowledge creation being: socialisation (tacit to tacit); externalisation (tacit to explicit); combination (explicit to explicit); and internalisation (explicit to tacit). A mode as defined in this study is an area of knowledge conversion within which knowledge is converted between tacit and explicit through the different characteristics of the specific mode (Nonaka et al., 2000). Further to the understanding, knowledge conversion is defined as the conversion of different types of knowledge due to the interactions between individuals within the environment (Nonaka & Toyama, 2003; Nonaka et al., 2000).

Figure 1 The Nonaka model



Knowledge is created through the interactions of individuals (Takeuchi, 2013). These interactions transfer knowledge in forms of explicit and tacit knowledge. These two types of knowledge are the basis of the Nonaka model in its attempt to convert tacit knowledge

into explicit knowledge and vice versa. This conversion will ultimately enable a spiral of knowledge conversion and creation through the four different modes within the Nonaka model in the context of a strategic alliance.

The knowledge spiral within the Nonaka model is a depiction of continuous knowledge conversion and creation. The concept is that the Nonaka model is continuous and that the four modes will continue to feed into each other through the enablement of dialectical thinking empowered by structural support i.e. senior management encouragement (Nonaka et al., 2000).

2.4.2 Factors affecting the Nonaka model

A factor is defined within this study as an element which contributes to a result. To further understand a factor in this context, the construct of a factor will be broken down into two sub constructs as: social and functional. Both social and functional factors affect the operations, behaviour, interactions and cooperation between strategic alliance partners and will shape the relationship of mutual beneficial outcome success or failure.

The exploration of factors will be broad to ensure an extensive understanding of the existing factors but this study will focus on the specific factors influencing: knowledge exchange by applying the Nonaka model; strategic flexibility as a construct; and strategic alliance as a construct.

2.4.2.1 The socialisation mode

Socialisation is “the process of converting new tacit knowledge through shared experiences” and interactions between individuals within the environment by means of hand-on exposure to tacit knowledge (Nonaka et al., 2000). The socialisation mode is characterised by inter personal interactions and behaviours (Takeuchi, 2013). The tacit knowledge creation within this mode is social in nature and therefore the main factors influencing knowledge exchange within in mode are also social. Main factors affecting this mode are that of trust, cooperation and relationship management (Jiang et al., 2016; Squire et al., 2009)

Within the context of a strategic alliance, this is explained by the exchange of tacit knowledge between alliance partners through shared time shared with the partners. An

example of socialisation is when individuals informally discuss and share knowledge through practical on the job learning.

2.4.2.2 The externalisation mode

Externalisation is “the process of articulating tacit knowledge into explicit knowledge” through the formalisation of the tacit knowledge gained through socialisation of a process and/or control (Nonaka et al., 2000). The externalisation mode is characterised by the formalisation and articulating of tacit knowledge into explicit knowledge and is therefore more functional in its nature. Therefore the main factors influencing knowledge exchange within in mode are trust and the cooperative approach to transfer knowledge formally (Majid et al., 2013).

Within the context of a strategic alliance, this is explained by the exchange of tacit knowledge between alliance partners to formalise a process and/or control. This formalisation can be the recording of an enhancement to a manufacturing procedure, proprietary knowledge on operating a shared initiative or inter-organisational product development know-how. A practical example of externalisation is when a business analyst gathers business requirements and understanding through observation and/or interactions to records it formally in a specification document.

2.4.2.3 The combination mode

Combination is “the process of converting explicit knowledge into more complex and systematic sets of explicit knowledge” through the collection of explicit knowledge from within and outside the organisation to create new knowledge housed systemically and shared with the organisation (Nonaka et al., 2000). The combination mode is characterised by the systemic modelling of knowledge (Takeuchi, 2013). The explicit knowledge creation within this mode is functional in nature. Main factors affecting this mode are that of coordination flexibility and resource flexibility (Yi et al., 2017).

Within the context of a strategic alliance, this is explained by the exchange of explicit knowledge between alliance partners through formalised channels and documents. This shared knowledge between alliance partners is used to create new joint knowledge of shared processes and procedures. This is then distributed within the strategic alliances partners for consumption by employees. An example of combination is the joining of

alliance partners' product development concepts into a jointly created product design, as well as the combination of data originally held by each partner in a single centre database for a complete analytical view.

2.4.2.4 The internalisation mode

Internalisation is “the process of embodying explicit knowledge into tacit knowledge” through the ‘learning by doing’ concept and then individuals embody the explicit knowledge in their actions and practices throughout the organisation (Nonaka et al., 2000). The internalisation mode is characterised by the embodiment of knowledge through practice and is considered social in nature (Takeuchi, 2013). Main factors affecting this mode are that of learning, knowledge transfer and relevance (Majid et al., 2013).

Within the context of a strategic alliance, this is explained by the exchange of explicit knowledge between alliance partners through combined training sessions and/or workshops where best practices and operational procedures are discussed and taught. An example of internalisation is an individual undergoing an on boarding training program. The individual is taught using explicit knowledge, manuals and specifications, and then embodies the knowledge through actions and practice on the job. This explicit knowledge now becomes tacit knowledge through their interactions.

2.5 Strategic flexibility

“The measure of intelligence is the ability to change.”

— Albert Einstein

Strategic flexibility is defined as an organisation's ability to rapidly respond and/or adapt to any internal and external environment changes and be able to exercise strategic leadership, build dynamic core competence, deploy effective information technologies, implement new organization structure and promote an innovative culture (Eryesil et al., 2015; Cingöz & Akdoğan, 2013; Hitt, Keats & Demarie, 1998). Strategic flexibility is further elaborated to be the reactive and proactive strategic actions of an organisation within the internal and external environment by leveraging off the organisation's core competencies, culture, values and strategic positioning (Sushil, 2015). In this study the

researcher defines strategic flexibility as the ability to use knowledge gathered through partners to respond to changes and opportunities within the VUCA financial environment.

These definitions indicated a clear established relationship between an organisation's ability to initiate a strategic initiative within the internal and external financial environment to achieve its strategic positioning and the desire to achieve a sustainable competitive advantage through organisational flexibility.

An organisation could implement strategic flexibility to respond to changes and opportunities within a VUCA financial environment but these organisational actions require knowledge exchange to be deployed effectively. The effective exchange of knowledge will enable an organisation to build a sustainable competitive advantage and respond to the challenges detailed by the research problem (Nonaka & Von Krogh, 2009; Squire, Cousins & Brown, 2009; Nonaka, Toyama & Konno, 2000).

2.5.1 Common factors influencing strategic flexibility

There has been a considerable amount of research performed on the construct of strategic flexibility, as shown in Table 1, with the focus being on the theoretical definition and the various functional and social factors effecting strategic flexibility within organisations.

A prevalent factor throughout the strategic flexibility literature is the utilisation of resource flexibility and coordination flexibility to effectively pursue innovation projects and support effective product development (Kortmann et al., 2014). These factors of effective resource management are effected by the factor of organisational structure and its ability to support strategic flexibility through the correct strategic mind set (Fraser, 2016).

2.5.1.1 Social factor

The most common social factor, as identified in Table 1, is 'coordination flexibility'. This factor was identified by its reference in the different literature reviewed for the study and falls within the study's definition of cooperation.

2.5.1.1 Coordination flexibility

“With higher coordination flexibility, the firm can integrate and deploy existing resources and find new resources and new use of existing resources more effectively”

- Yuan, Zhongfeng & Yi, (2010)

Coordination flexibility is defined as the capabilities of an organisation to create new internal and external process combinations by the deploying and integrating of flexible resources to support strategic objectives (Yi, Gu & Wei, 2017; Wei et.al, 2014; Sanchez, 1997). Coordination flexibility comprises of three main areas: firstly for an organisation to define how the resource will be applied; being able to configure and draw resources from a network to add value; and finally being able to deploy resources to the targeted strategic objective (Yuan et al., 2010; Sanchez, 1997).

This definition of coordination flexibility has its origins set in resource management. This resource management is the defining, configuring and deploying of resources to achieve a strategic objective of an organisation or strategic alliance. An organisation within a strategic alliance needs to be able to perform the three main areas of coordination flexibility to support strategic flexibility. Further to this school of thought, the defining, configuring and deploying of resources could be effected by the level of trust and cooperation between strategic alliance partners and their belief and/or support in the alignment of resources to their strategic objectives. This study identifies knowledge as a key resource and therefore coordination flexibility is the ability to effectively coordinate knowledge for the betterment of the strategic alliance.

Yuan et al. (2010), and Sanchez (1997) further referred to strategic flexibility being comprised of both resource flexibility and coordination flexibility. Therefore it is not unexpected that the most common functional factor through the literature review was resource flexibility.

2.5.1.2 Functional factors

The most common functional factors, as identified in Table 1, are ‘resource flexibility’ and ‘knowledge management’. These factors were identified by its reference in the different literature reviewed for the study.

2.5.1.2.1 Resource flexibility

“Higher resource flexibility indicates firms’ capability to have a larger range of alternative uses to which one type of resources can be applied.”

- Yi et al., (2017)

Sanchez (1997) defined resource flexibility as the capability “to identify and acquire the use of flexible resources that can be used in alternative courses of action”. This is further defined by Yi et al. (2017), to include an organisation’s acquiring of resources that are fit for multiple purposes therefore broadening their resource to allow for appropriate resource matching to a strategic objective.

The definition entailed that an organisation that performed resource flexibility is capable of easily and cost efficiently reassigning resources to changes and opportunities in the environment while keeping the deployment time low (Yuan et al., 2010; Sanchez, 1997). An organisation’s capability to practice resource flexibility needs to acquire resources, internally or externally, to achieve strategic objectives. Resource flexibility effects the implementation of strategic objectives and this effects the strategic flexibility of the strategic alliance and ultimately the achievement of mutual beneficial outcomes (Combe, Rudd, Leeflang & Greenley, 2012). Once again, this study identifies knowledge as a key resource and therefore the reassigning knowledge resources to the correct areas easily and cost efficiently will enable strategic flexibility for the betterment of the strategic alliance.

2.5.1.2.2 Knowledge management

“Importance of timely, effective interpretation of information and knowledge in developing strategic flexibility”

- Fernández-Pérez et al., (2013)

Knowledge as a concept was defined earlier within the chapter but it is utilised and can be gathered differently within the context of strategic flexibility. Knowledge can be gathered through and from individuals across social networks (Fernández-Pérez et al., 2014), alternately through shared experiences (Nonaka et al., 2000). Strategic flexibility is being able to adapt to changes in the financial environment and knowledge is the

enabler of that ability as supported by Eryesil et al. (2015), stating that “strategic flexibility is an ability of a company to respond to uncertainties with the support of the knowledge.”

Knowledge is evolving and changing and therefore needs to be exploited to gather the most value from when it is relevant as described by Wei (2017), as “firms should conduct exploitative learning to exploit existing knowledge and simultaneously perform exploratory learning to explore new knowledge.”

Table 1 Strategic flexibility factor summary

Strategic Flexibility Summary	Factors										
	Senior Management	Social Networks	Product Design	Coordination Flexibility	Knowledge Management	Innovative Practices/Perf	Competitiveness	Organisational Structure	Organisational Culture	Resources Flexibility	Operational Efficiency
Reviewed Literature - Factors											
Guo & Cao, (2014)	█		█		█		█		█		
Fernández-Pérez, Jose Verdu-Jover & Benítez-Amado, (2013)		█			█				█		
Nimble CEOs need social networks Strategic flexibility boosted by gaining knowledge. (2013)		█			█		█				
Fernández-Pérez, Javier Llorens Montes & Jesús García-Morales, (2014)		█	█		█		█	█	█		
Xiu, Liang, Chen & Xu, (2017)			█			█	█				
Combe, Rudd, Leeflang & Greenley, (2012)	█					█	█		█		
Kamasak, Yavuz, Karagulle & Agca, (2016)					█	█	█		█		
Cingöz & Akdoğan, (2013)	█					█	█	█			
Yuan, Zhongfeng & Yi, (2010)			█	█			█		█		
Kortmann, Gelhard, Zimmermann & Piller, (2014)				█			█		█		
Wei, Yi & Guo, (2014)			█	█			█		█		
Bock, Opsahl, George & Gann, (2012)	█				█		█		█		
Fraser, (2016)	█				█		█		█		
Eryesil, Esmen & Beduk, (2015)				█	█		█		█		
Yi, Gu & Wei, (2017)				█	█		█		█		
Sushil. (2016)							█	█			
Sushil. (2015)							█	█			
Brozovic, (2018)	█	█	█	█	█	█	█	█	█	█	
Count	8	4	4	6	6	4	6	6	4	10	1

2.5.2 Generally used theories for strategic flexibility

The construct of strategic flexibility is for organisations to be agile enough in their thinking and structure to be able to shift from one strategy to another (Cingöz & Akdoğan, 2013). The generally used theories indicated that organisations attempted to achieve strategic flexibility and its associated outcomes by adopting the Social Network Theory to leverage off executives' large external social network to reach higher levels of strategic flexibility by promoting cooperative initiatives and idea sharing (Fernández-Pérez, Javier Llorens Montes & Jesús García-Morales, 2014; Fernández-Pérez, Jose Verdu-Jover & Benitez-Amado, 2013), alternatively by adopting the Resource Based View (RBV) to promote strategic flexibility within an organisation in its managing and allocation of valuable, rare, hard to imitable and organised (VRIO) resources to support strategic initiatives in achieving competitiveness through flexibility (Eryesil et al., 2015).

The application of Social Network Theory and RBV are the generally used theories and both theories will be explored and examined to provide a broad understanding and insight into the various interpretations of the topic but the study will focus on the Nonaka model as the chosen theory to explore knowledge exchange.

2.5.2.1 Social Network Theory applied to strategic flexibility and knowledge exchange

Social Network Theory focused on the interaction/ties between social nodes/actors within their social networks (Liu, Sidhu, Beacom & Valente, 2017; Katz, Lazer, Arrow & Contractor, 2004; Seibert, Kraimer & Liden, 2001; Wasserman & Faust, 1994). These social networks ties enabled communication and interactions between the actors to share knowledge and therefore improve strategic flexibility, as supported by Katz et al. (2004), in stating that "network ties facilitate flows of knowledge within the group, thereby reducing the need for each group member to possess skills or expertise available elsewhere in the group."

As explained by Katz et al. (2004), nodes/actors are defined as individuals and/or organisations that enter into relationships with other actors. These relationships are defined as ties which can either be strong or weak. Weak ties are classified as acquaintances while strong ties are between close actors such as family and/or long term friends. These strong ties have a correlation with the level of trust between actors,

the higher the level of trust the higher the strength in the tie, which makes these ties valuable. This ties back to personal interactions between actors where interactions has been identified as the key enabler for the Nonaka model and knowledge exchange (Takeuchi, 2013; Nonaka et al., 2000).

Social networks are defined as a group of actors, two or more, that form a community or network with the relationships they establish between one another. Liu et al. (2017), explored the idea that a social network's interconnections among actors can be measured by their cohesion which leads into the thinking of the relevance of social networks in their value creation in respect to strategic flexibility.

“Information and knowledge management is critical in the development of strategic flexibility”

- Fernández-Pérez et al., (2014)

Social networks, according to Fernández-Pérez et al. (2014), and Fernández-Pérez et al. (2013), enabled collaborative work and facilitates the sharing of ideas, information and knowledge among network members. These enabled areas, along with a supportive senior management team, will introduce “higher levels of strategic flexibility” especially “when their CEO’s social networks are larger”.

The goal of Social Network Theory within the context of knowledge exchange and strategic flexibility is to be able to respond quickly to changes in the environment through the knowledge, resource and information that members in the organisation can gather and leverage through their ties with other members in their social network (Katz et al., 2004) . This can be seen as social capital, which is the “sum of the resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992).

2.5.2.2 Resource Based View applied to strategic flexibility and knowledge exchange

“Strategic flexibility relates to the flexible allocation of resources along the internal value creation process”

- Kortmann et al., (2014)

RBV focused on the nature of firms and utilising resources as the key to unlocking enhanced firm performance (Lockett et al., 2009). RBV explored the concept that for a resource to be valuable it needed to be: valuable; rare; costly to imitate; and organised to capture value (VRIO). If a firm's resource is VRIO, then it contributed to achieving sustained competitive advantage (Moghaddam et.al, 2016; Rothaermel, 2015; Lockett et al., 2009).

In short, RBV focused on the nature of firms utilising VRIO resources, theirs or their partners, as the key to unlocking enhanced firm performance, value creation and achieving strategic initiatives (Moghaddam et al., 2016; Rothaermel, 2015; Lockett et al., 2009). This study identified knowledge as a key resource and therefore the utilisation of knowledge is a VRIO resource and key to unlocking enhanced firm performance and improving strategic flexibility.

In the context of RBV, "strategic flexibility supports the adaptive use of resources" (Kortmann et al., 2014). This idea is further explored in the identification of distinctive resources and their deployment which can lead to the creation of a competitive advantage together with the reallocation of unproductive resources to new strategic initiatives (Eryesil et al., 2015; Wei, Yi & Guo, 2014; Bock et al., 2012)

It is deduced that efficient allocation and usage of resources will lead to a competitive advantage in the financial environment. This combined with the organisation's approach to adopt strategic flexibility in their exchange of knowledge to address changes and pursue opportunities in the environment will ultimately result in building a sustainable competitive advantage.

2.5.3 Interconnectedness of knowledge with the identified factors and general theories

It has been considered that the higher the coordination flexibility, the more equipped an organisation is to be able to handle strategic change but this skill is effected by the level of cooperation between partners to reconfigure and deploy resources (Yi et al., 2017). Cooperation ties back to trust and the willingness between partners to reconfigure and

deploy knowledge resources for the strategic objectives of the alliance and/or its partners.

As discussed by Sanchez (1997), strategic flexibility can be seen to be comprised of coordination flexibility and resource flexibility. The underlying concept is that if an organisation, or strategic alliance, has a broad base of resources and is able to configure them to changes in the environment in a well-coordinated, timely, cost effective manner, an organisation can achieve strategic flexibility and ultimately lead to improved achieving strategic objectives and firm performance (Kamasak et al., 2016).

Knowledge exchange is considered key in enabling strategic flexibility (Eryesil et al, 2015) but this relates back to efficiency of cooperation between partners and the coordination of resources. Therefore knowledge exchange can be seen as a resource that needs to be managed correctly and be utilised to respond to changes in the VUCA financial environment.

2.6 Strategic alliances

Gulati (1998), defined strategic alliance as “voluntary arrangements between firms involving exchange, sharing, or codevelopment of products, technologies, or service” and Owen & Yawson (2015) further elaborated strategic alliance as an “inter-corporate agreements that bring together two or more independent firms to focus resources on a mutually beneficial activity”. Strategic alliances can also be viewed as collaboration as defined by Phillips et al. (2000), as “a co-operative relationship among organisations that relies on neither market nor hierarchical mechanisms of control.” This definition infers that collaboration is between organisations and their interactions between each other to achieve a certain outcome. These definitions indicated a clear established relationship between organisations to collaborate in a VUCA financial environment to achieve mutually beneficial goals and strategic objectives through the cooperative nature of sharing and exchange of knowledge, resources and processes. In this study, the researcher defined strategic alliances as the interaction between organisations to leverage off partners knowledge in responding to changes in the VUCA financial environment to achieve mutual strategic initiatives and firm performance.

Hogg, Van Knippenberg & Rast III (2012), explored the idea that to reach firm performance there needs to be efficient intergroup collaboration but this can be

challenging where different groups, partners within a strategic alliance, compete for the scarce resource and/or prioritise different aspects of the collaborative strategy. This idea lends itself to the thought that within a strategic alliance there is an internal struggle between the partners for resources and how collaboration influences the exchange of knowledge as a resource.

“...strategic alliance outcomes are determined by all partners’ actions...”

- Sambasivan et al., (2013)

Strategic alliances can create value and build competitive advantage for an organisation but only within the correct environment with organisational and partnership support. Implemented correctly, strategic alliances can be seen to be an appropriate strategic response to the defined research problem. The mutual beneficial goals, ranked by priority, as listed by The Economist Intelligence Unit (2015) are: expanding into new markets; developing new customer segments; developing new products and service; and developing new capabilities. These can all be achievable with the appropriate approach to leveraging off successful strategic alliance partners enabled by knowledge exchange.

These thoughts are aligned with the idea that knowledge exchange is a reason why organisations will enter into a strategic alliance (Chen et al., 2014). There is clearly a need for knowledge within a strategic alliance. How this knowledge is exchanged and created are defined by the alliance’s collaboration and trust. This idea is further explored by Anderson et al. (2013), where they discuss the reasons for collaboration within a strategic alliance are to “enhance resources and information sharing”.

It is deduced that the Nonaka model is appropriate in explaining the knowledge needs of a strategic alliance. That partners will enter into strategic alliances to gain access to knowledge but this knowledge will only be accessed through the willingness of partners to collaborate and how they conduct business with each other. This willingness to collaborate is effected by numerous factors and therefore these factors effect strategic flexibility which is required to respond to changes and opportunities in a VUCA financial environment.

2.6.1 Common factors influencing strategic alliances

There has been a considerable amount of research performed on the construct of strategic alliances, as shown in Table 2, which has primarily focused on the theoretical definition of the construct and the various functional and social factors effecting strategic alliance relationships.

A prevalent factor throughout the strategic alliance literature is the influence of trust and utilisation of knowledge management that impact the strategic alliances ability to achieve a sustainable competitive advantage and mutual success (Kang, 2014).

2.6.1.1 Social factor

The most common social factor, as identified in Table 2, is trust. Trust is identified to be a leading factor for strategic alliances as well as an influencing factor on other factors effecting strategic alliances.

2.6.1.1.1 Trust

Kang (2014) defined trust as “the willingness to take risks under the situation where something important can be lost” which was further elaborated by Morgan & Hunt (1994) as the confidence in the reliability and integrity of your exchange partner. Trust, as defined, is needed in the effective operating of a strategic alliance to navigate the dynamic environment, business complexity and the interaction between partners (Jinyeong, 2015). The need for trust supports the previous explanation of the Transaction Cost Theory and its effect on strategic alliances where the interaction between the parties can either create or destroy value. This inference is supported by Jiang et al. (2013), by stating that increased trust can reduce transactional cost.

Trust is suggested to be a influencing factor in the operating of a strategic alliance (Albers, Wohlgezogen & Zajac, 2016; Gomes et al., 2016; Jiang et al., 2016; Jinyeong, 2015; Nkala, 2015; Kang, 2014; Christoffersen, 2013; Mohr & Puck, 2013; Jiang et al., 2013). As further argued by Mohr & Puck (2013) that trust contributes to the efficient operating of a strategic alliance by discouraging opportunistic behaviour and promoting mutual beneficial behaviour. Therefore trust promotes the behaviour of partners to conduct themselves within the acceptable principles and rules of integrity.

It is portrayed through the literature review that trust, as a social factor, is important for the effective operating of a strategic alliance. The formation of trust and the leveraging of it can promote other factors within a strategic alliance such as knowledge management, firm performance and collaboration (Squire et al., 2009).

As stated by Kang (2014), “understanding the roles of trust is essential because it is considered to have a substantial impact on the collaboration among alliance partners, and as a result, on the achievement of alliance objectives”. It is deduced that trust effects the willingness of partners to collaborate within a strategic alliance and therefore effect the willingness of partners to share knowledge, cooperate and support strategic objectives. This willingness effects the use of knowledge between partners to achieve these strategic objectives which ultimately erodes mutual beneficial outcomes. Therefore it is crucial to understand the effect of trust on knowledge exchange and its influence of strategic flexibility.

2.6.2.1 Functional factor

The most common functional factor, as identified in Table 2, is ‘knowledge management’. Trust is identified to be a leading factor for strategic alliances as well as an influencing factor on knowledge management. Trust influences the willingness and sharing of knowledge between partners and is therefore explored in that context.

2.6.2.1.1 Knowledge management

The literature has shown that the factor of trust influences the factor of knowledge management and exchange. Trust is a key component to encourage openness between partners to share sensitive information, knowledge based products and service to achieve a strengthened strategic alliance partnership (Jinyeong, 2015). This idea is further detailed that knowledge is gained between partners in a strategic alliance through observation of operational activities (tacit knowledge) and that there is an underlying fear between partners that knowledge exchange is not mutual which may lead to a breakdown in trust, which will reduce the cooperation between the partners and ultimately their willingness to exchange knowledge (Kang, 2014). This in turn will break down the knowledge creation process from tacit to explicit and the overall process of the Nonaka model.

It is deduced that knowledge exchange between partners within a strategic alliance can be considered a key resource. Knowledge, or know-how, can be considered a resource to achieve a sustainable competitive advantage (Nonaka & Von Krogh, 2009) through the effective dissemination of knowledge to effectively implement and operate a strategic initiative. The understanding of knowledge exchange will be explored through the application of the Nonaka model and how it can be used to improve strategic flexibility.

Table 2 Strategic alliance factor summary

Strategic Alliance Summary	Cultural Understanding	Leadership	Trust	Control	Knowledge Management	Inter-organizational Relationships	Co-operation	R&D Intensity	Competitiveness	Organisational Size & Structure	Risk Management	Similar Competencies	Communication
Reviewed Literature - Factors													
Gomes, Barnes & Mahmood, (2016)													
Hogg, Van Knippenberg & Rast III, (2012)													
Owen & Yawson, (2015)													
Mohr & Puck, (2013)													
Albers, Wohlgezogen & Zajac, (2016)													
Moghaddam, Bosse & Provance, (2016)													
Kang, (2014)													
Amici, Fiordelisi, Masala, Ricci & Sist, (2013)													
Anderson, Christ, Dekker & Sedatole, (2013)													
JinYeong, (2015)													
Christoffersen, (2013)													
Nkala, (2015)													
Bodnaruk, Massa & Simonov, (2013)													
Jiang, Li, Gao, Bao & Jiang, (2013)													
Jiang, Bao, Xie & Gao, (2016)													
Christoffersen, Plenborg & Robson, (2014)													
Sambasivan, Siew-Phaik, Mohamed & Leong, (2013)													
Count	3	1	9	3	8	5	8	4	2	4	1	1	2

2.6.2 Generally used theories for strategic alliances

With the fore mentioned goals stated by The Economist Intelligence Unit (2015), the literature has shown that certain of these goals can be achieved through applying established theories. The RBV was applied to explain the functional factors of strategic alliances by exploring the usage and allocation of resources between partners as well as their effective utilisation to develop new capabilities and services (Jiang et al., 2016; Moghaddam et al., 2016; Christoffersen, 2013; Sambasivan et al., 2013) while the Transactional Cost Theory was applied to explain the social factors of strategic alliances by exploring the transactional behaviour between institutions performing their joint operation to add value (Jinyeong, 2015; Kang, 2014; Christoffersen, 2013; Jiang et al., 2013; Sambasivan et al., 2013; Young-Ybarra & Wiersema, 1999) which leads into trust and its link between partners to prevent opportunistic behaviour breaking down the collaborative intentions and ultimately the level of strategic flexibility (Mohr & Puck, 2013).

The overview of the common factors effecting strategic alliances, identified through the literature, is shown in Table 1. From strategic alliances literature, the application of Transactional Cost Theory and RBV are the prevalent theories. Both theories will be explored and examined to provide a broad understanding and insight into the various interpretations of the topic but the Nonaka model will be used to explain knowledge exchange.

2.6.2.1 Transactional Cost Theory applied to strategic alliances and knowledge exchange

The Transactional Cost Theory was conceived by Ronald Coase in his book titled "The Nature of the firm" (1937) where he explored the reason why firms exist and focused on whether firms should internalise activities or outsource them depending on the transactional nature and costs incurred by firms to provide such activities. The main idea from the theory was the "buy" or "make" decision to be made by firms in their decision to enter into a strategic alliance and their related costs (Kang, 2014; Coase, 1937).

As defined, a strategic alliance is a voluntary involvement between organisations in their pursuant of a mutually beneficial outcome through operational, knowledge and/or resource sharing. The Transactional Cost Theory can be utilised by organisations to

evaluate whether to enter into a strategic alliance or not depending on the transactional cost within the market. This decision is based around the transactional cost incurred by organisations to either build ("buy") the desired competency, functionality and/or knowledge, or to enter ("make") into a strategic alliance to gain the desired competency, functionality and/or knowledge.

Where transactional costs are high, it is argued that vertical integration is dominate over outsourcing, while the opposite is true where transactional costs are lower (Lockett, Thompson & Morgenstern, 2009). Therefore, potential strategic alliance partners need to analyse the environment, their selected partners, their opportunities and their costs before making a decision to enter into a strategic alliance.

As discussed by Kang (2014), Sambasivan et.al (2013), and Williamson (1985) the advantages of the Transactional Cost Theory are that of risk reduction, transaction cost reduction and uncertainty reduction. It is deduced that these advantages will assist strategic alliances to enter and compete in a VUCA financial environment by granting the strategic partners access to knowledge and know-how to gain market share by providing competitive product offerings at an affordable price through short lead times.

It is evident through the commonality of this theory through the literature that Transactional Cost Theory affects functional and social factors and their roles they play within a strategic alliance. This theory also reveals the need for reduced transactional cost between knowledge exchanges. This study views these transactions as interactions which is the basis for the Nonaka model and will therefore knowledge exchange will be explored through the four modes of the model. The model will identify the factors effecting knowledge exchange (i.e. the interaction pain points) and then attempt to improve them to reduce transactional cost.

2.6.2.2 Resource Based View applied to strategic alliances and knowledge exchange

"The degree of dependence of one firm on another is related to the amount of resources needed and the availability of alternatives"

- Sambasivan et al., (2013)

Continuing for the RBV definition earlier in the study, Moghaddam et al. (2016), explored the idea that firms often enter into strategic alliances with other firms to access their VRIO resources, and in turn these firms will attract new strategic alliance partners due to these VRIO resources, and in turn create value for all the firms involved in the strategic alliance. This idea was supported by Sambasivan et al. (2013), where they listed a motive of a strategic alliance in the context of the RBV as being the “acquisition of resources”.

It is deduced that knowledge exchange can be considered a VRIO resource and is key to the strategic success of an organisation. Therefore the management of knowledge between partners within a strategic alliance is critical in achieving their mutual beneficial outcome. This management of knowledge could be compromised by factors effecting the alliance's strategic flexibility, such as social and functional factors, as focused within this study by applying the Nonaka model to identify and improve these factors effecting strategic flexibility.

Strategic flexibility within a strategic alliance may affect the partner's ability to exchange knowledge due to their ability or inability to manage knowledge through the different modes of the Nonaka model. The attractiveness of a strategic alliance is diminished without the access, or reduced access, to VRIO resources and therefore the strategic objectives of the strategic alliance are at risk. This in turn affects the ability of the strategic alliance to react to changes and opportunities within the environment. This in turn affects the competitive advantage of the strategic alliance and its overall existence.

2.6.3 Interconnectedness of knowledge with the identified factors and general theories

“The effort to protect their own knowledge makes firms less cooperative in sharing their key knowledge.”

- Kang, (2014)

From the discussion, it can be deduced that both social and functional factors have an influencing effect on the strategic flexibility of strategic alliances. Trust enables cooperation through sharing activities and mutual beneficial actions, this in turn promotes knowledge exchange between partners through the understanding of mutual understanding and respect, which in turn will influence the effectiveness of strategic

flexibility.

2.7 Link between knowledge exchange, strategic flexibility and strategic alliances

There has been limited current research performed on strategic alliances and strategic flexibility as a union as well as the use of the Nonaka model within the inter-organisational context. Brozovic (2018) referenced, in his literature review of strategic flexibility spanning over 37 years, the paper written by Young-Ybarra & Wiersema (1999) as the only authors to approach strategic flexibility within the context of strategic alliances. Therefore the study aimed to take these two concepts and investigate their union while focusing on knowledge exchange applied through the Nonaka model on improving strategic flexibility within a strategic alliance.

In a paper written by Young-Ybarra & Wiersema (1999), the authors discussed the impact that strategic flexibility has on firms within a strategic alliance. Key findings of their paper were that strategic flexibility is crucial in a dynamic, hypercompetitive market, as argued in the research problem, and that trust is a main factor for both strategic flexibility and strategic alliances especially in the role trust plays in communication, knowledge management, information sharing and shared value.

Earlier in the literature review, all the constructs of the topic were isolated, defined and explained in their context to the topic and each other. Strategic alliances, in their voluntary nature to derive mutual beneficial outcome, is a favourable strategy to adopt to gain access to knowledge. This knowledge is then effected by the strategic flexibility of the partners within the strategic alliance. The assumption is that each partner will practice strategic flexibility through resource flexibility and coordination flexibility to the betterment of the alliance and in the assistance of promoting joint and individual strategic objectives. This is further broken down in the study to assume that increased knowledge exchange between partners will improve strategic flexibility within a strategic alliance.

In proving the above assumption, strategic flexibility needs to be understood and practiced by the partners within the strategic alliance. As mentioned, strategic flexibility is effected by knowledge exchange, trust and willingness of partners to engage and share resources. Partners within a strategic alliance have access to these resources due to the strategic alliance but strategic flexibility and the nature of the strategic alliance

will affect the deployment and usage of these resources. The study is to investigate whether knowledge exchange can improve strategic flexibility within a strategic alliance. This is achieved by understanding the factors affecting knowledge exchange and then understanding how these factors can be addressed to improve knowledge exchange, which in turn improves strategic flexibility.

2.8 Conclusion

The purpose of the research is to understand the effect of knowledge exchange on improving strategic flexibility within a strategic alliance by applying the Nonaka model. Through the literature review, it was established that strategic flexibility, as a single construct, is a strategic initiative to respond promptly to changes and opportunities in the environment. It was also established that strategic flexibility is affected by many factors of which knowledge exchange was prevalent.

It was established that entering into a strategic alliance is a strategic initiative to compete in a VUCA financial environment through access to partners' resources, market access and knowledge. Therefore, the construct of strategic flexibility within a strategic alliance should enable partners to compete and respond more efficiently to changes in a dynamic and uncertain environment.

The effectiveness of this position is influenced by the factors effecting the two constructs in a positive or negative manner. With this, knowledge management, as the prevalent strategic flexibility factor, was identified as a critical factor in the effectiveness of inter-organisational strategic flexibility. The Nonaka model, as the theoretical grounding of the study, was used to incorporate the two constructs into a single reality of observation.

The literature proposes that improved knowledge exchange and management will lead to improved strategic flexibility. Therefore the introduction of strategic flexibility within a strategic alliance should have a similar result. Therefore the use of the Nonaka model will provide a framework to understand knowledge exchange and management under this position by exploring what factors effect knowledge exchange in a strategic alliance and how these factors can be improved to ultimately improve strategic flexibility.

CHAPTER 3: RESEARCH QUESTION

3.1 List of research questions

With the literature review conducted, the following research questions are required to further explore the research problem:

3.1.1 Research question 1

1. What are the factors affecting knowledge exchange in improving strategic flexibility within an inter-organisational strategic alliance:
 - 1.1 In the socialisation mode?
 - 1.2 In the externalisation mode?
 - 1.3 In the combination mode?
 - 1.4 In the internalisation mode?

3.1.2 Research question 2

2. How can knowledge exchange be improved to improve strategic flexibility within an inter-organisational strategic alliance:
 - 2.1 In the socialisation mode?
 - 2.2 In the externalisation mode?
 - 2.3 In the combination mode?
 - 2.4 In the internalisation mode?

Following the answering of the research questions, analysis will be conducted on the output to best answer the research problem and provide academic and business contributions.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Choice of methodology

4.1.1 Nature of study

The nature of the study best fitted the qualitative approach over the quantitative approach due to its subjective and deductive nature in attempting to understand and identify cooperation in a previously limited researched area (Park & Park, 2016), as argued for in the literature review, and establish whether knowledge exchange will improve strategic flexibility within the context of strategic alliances by applying the Nonaka model. The study leveraged off the existing Nonaka model and aims to build onto this theory base by expanding its use from intra-organisational structures to include inter-organisational structures.

According to Marshall & Rossman (2014), “qualitative research typically: takes place in the natural world; draws on multiple methods that respect the humanity of the participants in the study; focuses on context; is emergent and evolving rather than tightly prefigured; is fundamentally interpretive”. The study followed this description as the research was interpretive in nature as the aim was to identify whether knowledge exchange will improve strategic flexibility within the context of strategic alliances by applying the Nonaka model within the natural world, through multiple semi-structured interviews with the defined sample.

4.1.2 Philosophy

The interpretivism philosophy was followed over the positivism philosophy to perform the research, as the aim was to identify the effect of knowledge exchange, through explorative semi-structured interviews with individuals through an interactive and cooperative approach (Pizam & Mansfield, 2009), in improving strategic flexibility within the context of strategic alliances with the intention to create practical insight for business contribution.

With assistance of Table 3 by Pizam & Mansfeld (2009), as a philosophy assessment process, the interpretivism philosophy was chosen over the positivism philosophy due to: the subjective nature of multiple instances of reality of the population; the search to

understand a weakly understood area of research as positioned in the literature review; the close interaction of the researcher with the identified population through semi-structured interviews in the search for distilling meaning from the multiple sources of data; and how the data can assist address the posed research questions.

Table 3 Basic Differences between Positivism and Interpretivism

Assumptions	Positivism	Interpretivism
<i>Nature of reality</i>	Objective, tangible, single	Socially constructed, multiple
<i>Goal of research</i>	Explanation, strong prediction	Understanding, weak prediction
<i>Focus of interest</i>	What is general, average and representative	What is specific, unique, and deviant
<i>Knowledge generated</i>	Laws Absolute (time, context, and value free)	Meanings Relative (time, context, culture, value bound)
<i>Subject/Researcher relationship</i>	Rigid separation	Interactive, cooperative, participative
<i>Desired information</i>	How many people think and do a specific thing, or have a specific problem	What some people think and do, what kind of problems they are confronted with, and how they deal with them

Saunders & Lewis (2012) explained that “interpretivism relates to the study of social phenomena in their natural environment” and Khan (2014) further explained that “an interpretivist view of the world is subjective, where individuals form their own reality of the world in different contexts through interactions with others.” The study followed Saunders & Lewis (2012) and Khan’s (2014) interpretation of interpretivism, by addressing diversity through multiple subjective responses through numerous individuals’ experiences, understanding relationship dynamics and interactions between parties in the reality of strategic alliances to understand the effect of knowledge exchange on improving strategic flexibility by applying the Nonaka model.

The interpretivism philosophy supported the explorative, interpretive nature of qualitative research (Park & Park, 2016) and therefore this approach was followed in gathering data as it extracted subjective data from the individuals that met the population criteria.

The study acknowledged that there was a disadvantage to choosing the interpretivism philosophy, due to its subjective nature and its inability to generalise to the larger population due to the quality and trustworthiness of the data and the researcher's potential bias (Research Methodology, 2018). These aspects were addressed by the researcher through the clarification of the measurement instrument.

4.1.3 Approach

The deductive approach is a characteristic of qualitative research (Park & Park, 2016) and therefore was followed instead of the inductive approach. This is due to there being limited prior research performed in this area but the study attempted to further the understanding of the union through knowledge exchange to generate a better understanding of its effect on improving strategic flexibility within the context of a strategic alliance by applying the Nonaka model. This approach will also allow the study to expand on the Nonaka model theory base to include inter-organisational structures.

This was aligned with Wilson (2014) statement detailing the deductive approach as "developing a hypothesis (or hypotheses) based on existing theory, and then designing a research strategy to test the hypothesis". The study aimed to broaden the understanding of knowledge exchange, strategic flexibility, strategic alliances and the Nonaka model.

4.1.4 Methodological choices

Mono research method was used as the study was only took a qualitative approach.

4.1.5 Purpose of research design

A deductive study was performed as the focus was to understand the effect of knowledge exchange on improving strategic flexibility within the context of a strategic alliances by applying the Nonaka model. This was achieved by exploring the personal

experiences, subjective views and insights of the identified population through personal semi-structured interviews.

Semi-structured interviews were chosen as the preferred data collection method due to the deductive qualitative approach of the study to gather subjective data at a high percentage of participation (Zikmund, Babin, Carr & Griffin, 2013). In addition, the interviewer was able to assist and provide clarity to the interviewee if and when the interviewee requested assistance, but this could also be a disadvantage of the data collection method as the assistance could introduce interviewer bias into the conversation (Zikmund et al., 2013). The interaction between the interviewer and interviewee with reference to assistance and/or guidance through the interview questions was limited or completely avoided if possible to avoid bias skewed data.

4.1.6 Strategy

The study relied on primary data collected through semi-structured interviews conducted on the defined identified sample from the defined population. The semi-structured interviews consisted of an introduction, as shown in Appendix 1, and a list of multiple questions, as shown in Appendix 2. A question was aimed at understanding the respondents experience in the strategic alliance environment. The interviewee's answer was analysed to confirm whether they had an understanding of the strategic alliance environment as a construct or not. If the respondent indicated a lack of experience and/or understanding of the theoretical understanding of a strategic alliance, as defined in the literature review, then the respondent's interview was disregarded. This was a control test to ensure quality.

Then questions were asked to uncover what factors could affect knowledge exchange within a strategic alliance. This question was expanded to uncover what factors effect knowledge exchange in each of the Nonaka model's four modes. This was then followed by a question to identify how these factors could be addressed to improve knowledge exchange which in turn would improve the strategic flexibility of the strategic alliance.

The resulting outcome were the results for discussion. These questions did not limit and/or guide the respondent to respond with a positive or negative response but rather encouraged the respondent to explore the question and answer through experiences and understanding of the topic.

The study's strategy was to analyse strategic flexibility from the interviews and create a framework that will have a practical insight across the financial environment. This was to educate stakeholders within strategic alliances, or plan to enter strategic alliances, within a VUCA financial environment on knowledge exchange and its effect on the partnerships in improving strategic flexibility in a strategic alliance for the betterment of all stakeholders. In addition, how the Nonaka model could be used to improve inter-organisational knowledge exchange resulting in improved strategic flexibility.

4.1.7 Techniques and procedures

The study first begun by approaching the individuals who met the defined population criteria and requested permission to interview them. The individuals were interviewed through the course of a 25 minutes to 45 minutes consisting of an explanation of: the Nonaka model; the Nonaka model's relation to knowledge exchange; the four modes of the Nonaka model; the knowledge exchange's relation to strategic flexibility; and finally the context of a strategic alliance. Once the interviews have been completed, the interviewees' responses were transcribed into text, as this will be the output of the interview and used as data for analysis.

4.2 Population

The defined population for this research are individuals who satisfied these screen criteria:

- Led or have been involved within a strategic alliance in the past 5 years;
- Currently hold a strategic and/or managerial position within their organisation;
- Are employed for organisations that operate within South Africa;
- Interact with external stakeholders which maybe local and/or cross-border;
- Organisation employed more than 200 employees; and
- Operates within the financial sector;

According to Fernández-Pérez et al. (2013), and as shown in Table 2, there has been a shift in strategic management literature to focus on strategic flexibility due to the unstable and dynamic environment businesses find themselves competing in as described in the research problem. In these VUCA financial environments, there are individuals that use their social networks, leadership skills and performance drivers to create a competitive advantage for their organisations (Brozovic, 2018; Fernández-Pérez et al., 2014; Fernández-Pérez et al., 2013) and who are imperative to the success and

implementation of strategic flexibility within their organisations in these dynamic environments. For these reasons, the study shaped the criteria of the population to align with the literature review.

4.3 Unit of analysis

The unit of study were individuals within organisations that were directly involved in a leadership position with relationship management exposure with understanding of the operational collaboration within the context of a strategic alliance in a VUCA financial environment. These identified individuals were an appropriate source of information as organisational employees hold the knowledge from their experiences and insights from being within an organization operating in a strategic alliance (Squire et al., 2009).

4.4 Sampling method and size

The sample size for a qualitative study is contextual and partially dependent on the paradigm the researcher adopted (Boddy, 2016). The study's paradigm was described in the research methodology which takes an interpretivism approach which required fewer data sources to that of positivism due to the data collection method (Boddy, 2016).

The complete population of individuals, as defined, cannot be identified and listed and therefore the research was contained to individuals that are identifiable and accessible to the study. The study attempted to identify 12 individuals for data collection through semi-structured interviews as an adequate amount of data (Boddy, 2016).

The study used the non-probability sampling technique due to the qualitative nature of the study. Further to the non-probability sampling technique, the researcher used purposive sampling to select the individuals that met the defined criteria due to time and cost restraints.

The purposive method of selection was preferred over the other non-probability methods due to the specific criteria the individuals needed to meet to qualify. The other methods could not guarantee the same appropriate data collection due to their determined selection process. In addition, the probability sampling methods did not allow for adequate and appropriate selection of qualified individuals due to their random selection process.

Further to clarifying the type of purposive sampling, homogeneous sampling allowed the study to describe and explain themes common to a specific group of individuals within the defined population (Saunders, Lewis & Thornhill, 2016). The study selected homogeneous sampling over heterogeneous sampling to avoid maximum variability in the data collection in an attempt to achieve quality data.

The sample size was projected to be 12 individuals but this was dependent on data saturation. The study followed Saunders, Sim, Kingstone, Baker, Waterfield, Bartlam & Jinks (2017), Fusch & Ness (2015) and Morse (1995) interpreted definition of saturation as when there is enough information, or data adequacy, to replicate the study when the ability to obtain new information adds no further benefit.

Although Boddy (2016) suggested that 12 data point for a qualitative study is sufficient, Fusch & Ness (2015) and Morse (1995) discussed that the exact quantity of data to reach saturation in a qualitative study is subjective but there needs to be proof of such saturation through a valid data collection model. To achieve this requirement, the researcher used semi-structured interviews, which is a valid data collection method (Fusch & Ness, 2015), and tested for saturation during the course of the projected 12 interviews.

Saturation was tested by: assessing whether any new coding and/or themes emerged from the semi-structured interviews; whether there is a reoccurrence of coding and/or themes in the semi-structured interviews; and that the analysis of such coding and/or themes is meaningful. Coding and/or themes and the meaning of them needed to be analysed and understood to reach saturation, this was referred to as “code saturation” and “meaning saturation” (Saunders et al., 2017).

The study chose to aim for saturation as this is important in a qualitative study as it impacts on the quality of the data gather which affects the overall outcome of the study (Saunders et al., 2017; Fusch & Ness, 2015; Morse, 1995). By reaching saturation, the study’s data was rich, comprehensive and complete which positively contributed to the academic and business contributions (Morse, 1995).

4.5 Validity, reliability and objectivity

It is difficult to prove validity and reliability in a qualitative study as some argued that the human nature is unique and cannot be generalized (Golafshani, 2003) and others argued that there is no concept of validity and reliability in a qualitative study (Davies & Dodd, 2002; Stenbacka, 2001).

A discussed approach to remedy the reliability and validity relevance in a qualitative research was to redefine the concepts of reliability and validity and their associated criteria (Lincoln & Guba, 1985). These redefined proposed concepts for qualitative research are that of trustworthiness, dependability, rigor and quality (Davies & Dodd, 2002; Stenbacka, 2001).

The study aligned with the suggestion made by Davies & Dodd (2002), Stenbacka (2001) and Lincoln & Guba (1985), that reliability and validity should rather be determined by quality and trustworthiness.

There are two constructs, discussed by Golafshani (2003), which can be used in a qualitative research to provide validity or, in the case of this study, trustworthiness. These two constructs are triangulation and constructivism. "Constructivism values multiple realities that people have in their minds" which leads to proving trustworthiness through collection of data through multiple sources, even across multiple paradigms, whereas "triangulation is a step taken by researchers to involve several investigators or peer researchers' interpretation of the data at different time or location" (Golafshani, 2003).

The study followed the triangulation construct in proving trustworthiness as this is within the confines of the research. The research approach is mono, therefore does not allow for a combined qualitative and quantitative approach to data collection which will then exclude the constructivism approach. The study defined the criteria for the triangulation approach by stating that data will be collected from multiple sources to gain different perspectives of the research problem to prove trustworthiness.

The data sources were identified as semi-structured interviews and the literature review. This criteria was adopted due to limited time to perform the research report which constrains the use of both quantitative and qualitative approaches, and the addition of data sources.

4.6 Data gathering process

The study collected primary data gathered through semi-structured interviews as the measurement instrument. The interviews were classified as researcher-completed instruments as the researcher conducted the interviews and captured the interviewees' responses to the questions for analysis. The complete semi-structured interviews were then transcribed into text for the researcher's use. The text was then analysed to identify the different themes emerging from the individual interviews, as shown in Appendix 3. These themes were analysed, counted and represented in a tabular form for ease of interpretation.

Once all the data is represented in a tabular form, these themes were analysed against themes identified through the literature review shown in Table 1 and Table 2. These differences and findings were the beginning of the results analysis.

4.7 Ethical considerations

The researcher requested permission for the use of the data for a specific purpose in protection of the interviewees, GIBS and the researcher. The interview data was kept confidential and the use of such data was analysed by the GIBS Ethic Committee to ensure anonymity and that the true intention of the interviewees' responses were captured without prejudice and manipulation. Therefore, consent was required from the interviewees as shown in Appendix 4.

The interviewee understood that these interviewees may currently be in strategic alliances that are a going-concern and will be operational after the research report had been submitted. Therefore the interviewees' identities and organisations were kept anonymous.

4.8 Analysis approach

Once data saturation was reached through the defined process, the study began to analyse the data. The researcher stored and indexed all the transcripts through their own representation and filing method. Once indexed, the researcher identified common themes throughout the different transcripts following the trustworthiness and quality criteria.

These identified themes were analysed against the pre-existing factors influencing strategic flexibility as identified by the literature review as well as leveraged off the Nonaka model which was aligned with the deductive philosophy.

Analysed, as used by the researcher, is defined as: list all the themes relating to factors in a table; total count of each theme to determine their prevalence; record their effect on knowledge exchange on improving strategic flexibility within a strategic alliance; and identify outlier themes.

From the analysis, the study created a framework for business contribution. The framework will: concentrate on the factors effecting knowledge exchange; suggest improvement to knowledge exchange can be cultivate within partners to improve strategic flexibility in the context of a strategic alliance; and provide recommendations to business leaders through the results analysis.

4.9 Limitations

Quality and trustworthiness of the study may be questioned as this research was a qualitative study, but the study attempted to mitigate these limitations as detailed in the measurement instrument section.

Sample size adequacy and selection were a concern which may have introduced sampling errors (Saunders et al., 2016). To mitigate the sample size limitation, the study attempted saturation and interviewee selection was peer reviewed.

The objectivity of the purposive sampling technique may have been a limitation to the study. The study may have interviewed individuals from organisations with a pre-existing insight and/or cognitive bias into the strategic alliance relationship. To mitigate this limitation, the selection of individuals was peer reviewed to ensure objectivity.

CHAPTER 5: RESULTS

5.1 Introduction

This chapter presents the data captured through nine semi-structured interviews conducted with leaders that met the criteria set in Chapter 4. The interview questions were mapped around the research questions presented in Chapter 3. The questions in the semi-structured interviews were aligned with the intent of the research questions, the literature review that came to be understood and in accordance to the methodology as detailed in Chapter 4.

There were nine semi-structured interviews conducted. All the interviews were conducted face-to-face, recorded and transcribed to identify the related themes to the research questions.

5.2 Interviewees representation

All the nine interviewees met the sample criteria as defined in Chapter 4. All interviewees appeared to be creditable as their experience within the financial sector was evident in the quality of responses provided to the interview questions as detailed within this chapter. The study attempted to identify 12 individuals, as recommended by Boddy, (2016), but reached saturation at the ninth interview which was testament to the interviewees' insights of their experience and knowledge of the constructs.

Table 3 Interview data

Qualify	Interviewee 1								
Title	Interviewee 2								
	Interviewee 3								
Does your organisation operate within South Africa	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Environment Sector	Financial	Financial	Financial	Financial	Financial	Financial	Financial	Financial	Financial
Number of years' experience in an inter-organisational strategic alliance environment	5	18	10	10	46	5	7	5	6
Are you currently in a strategic alliance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Do you interact with your strategic alliance partners	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Length of interview	25	37	47	37	34	29	34	47	34
Organisational size > 300	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

5.3 Observations during the interview process

The researcher observed that the length of the interview was not an indication of the interviewees understanding of the concepts and/or their understanding of what was required from them. The researcher observed through two interviews that the interviewees were hesitate to share details around their experiences with specific strategic alliance partners, especially when the two organisations were still in commercial agreements. Even through the names of the interviewees and their organisations will remain anonymous, they were still concerned that through inference their organisation could be identified with a great deal of confidence. The researcher reassured the individuals that their responses and insight will be a representation of their true intentions and that their identities and the identities of the organisation would remain anonymous throughout the entire data gathering and analysis process.

5.4 Presentation of results

The research questions presented in Chapter 3 are mapped to the interview questions as per Table 4 for ease of reference. The interviews were transcribed verbatim and therefore the quotations used within this chapter may contain grammatical errors but this was done to maintain the trustworthiness of the data captured through the semi-structured interviews as a measurement instrument.

Table 4 *Mapping of research questions*

	Research Questions	Interview Questions
1.0	What are the factors affecting knowledge exchange in improving strategic flexibility within an inter-organisational strategic alliance:	
1.1	In the socialisation mode?	Socialisation. What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
1.2	In the externalisation mode?	Externalisation. What are the factors affecting knowledge exchange between

		inter-organisational partners within this mode?
1.3	In the combination mode?	Combination. What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
1.4	In the internalisation mode?	Internalisation. What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
2.0	How can knowledge exchange be improved to improve strategic flexibility within an inter-organisational strategic alliance:	
2.1	In the socialisation mode?	Socialisation. What can be done to improve knowledge management between inter-organisational partners within this mode?
2.2	In the externalisation mode?	Externalisation. What can be done to improve knowledge management between inter-organisational partners within this mode?
2.3	In the combination mode?	Combination. What can be done to improve knowledge management between inter-organisational partners within this mode?
2.4	In the internalisation mode?	Internalisation. What can be done to improve knowledge management between inter-organisational partners within this mode?

5.5 Results from the interview data questions

The researcher gathered initial personal and organisational data through the interview data questions from the interviewees to ensure that: the interviewee's organisation operated within South Africa; the interviewee met the required years' experience within a strategic alliance environment; the interviewee was within the financial sector; and

ensure the interviewee interacted with a strategic alliance partner within a leadership position. These questions were asked to ensure that the interviewees met the criteria set out in Chapter 4. All interviewees passed the criteria.

The interviewees were asked to provide their title as this was used as the primary identifying marker, neither the interviewee's name nor their organisation were identified and/or captured throughout the data gathering session. The interviewees were advised, by the researcher, not to mention their name or organisation throughout the recorded interview. A single interviewee mentioned their organisation's name within the interviewee but the name was not recorded in the verbatim transcript.

5.6 Results from research question 1

Research question 1: What are the factors affecting knowledge exchange in improving strategic flexibility within an inter-organisational strategic alliance

Question 1.0 was intended to frame the overarching theme of the question which was to identify the factors affecting knowledge exchange on a strategic alliance by going through the individual modes of the Nonaka model. This approach provided the interviewee with a framework to respond to the questions that followed.

5.6.1 In the socialisation mode

Question 1.1 intended to focus the interviewee to respond to factors they believed affected knowledge exchange in the socialisation mode. The question was designed to extract the factors from the interviewee through their experiences, whether positive or negative.

Table 5 Factors affecting knowledge exchange in the socialisation mode

Priority	Factor	Frequency	Theme
1	Level and depth of interactions and behaviour	9	Inter-organisational relationships
2	Organisational structure and communication	8	Ease of Business
3	Openness, willingness to share and acceptance of knowledge	3	Trust

The view of the participants were skewed towards the inter-organisation relationship theme. The main factor within this theme was personal relationships which contributed for 100% of the frequency followed by ease of business and trust. Inter-organisational relationships, as a theme, was the dominate social theme within this question. The identified factors included lack of interactions and established relationships with individuals and organisations, negative employee behaviour and receptiveness of individuals receiving knowledge.

Interviewee 1:

"And other than that, we are not on the same premises and also it helps if you have a personal relationship with someone, someone you work with every day, and then you can actually chat, sit over lunch, have informal chats like that, but when it's an external partner, it's a bit more difficult to exchange information in a social setting."

Interviewee 4:

"it mustn't be that the only time you interact with your alliance partners is when there's an issue or it's only about work, it must be more than just about the work it must be about the people."

The second theme within this question was ease of business. The participants responded that the way and how a problem is approached within a strategic alliance partner is a key factor affecting knowledge exchange. The participants mentioned communication, key individual allocation and organisational structures were the key influencers within the ease of business theme.

Interviewee 2:

"Communication, definitely a factor and how you communicate and how you approach communication as well, because depending on how you actually approach a problem, or, or to get resolution, if there is an issue that's come up. How you approach and resolve it through communication is very key. If you actually attack somebody and say, this is wrong, and whatever, and you don't actually do proper interaction with them to get resolution, you actually hit a wall and you not getting anything done, especially if you are working with another

entity. And it's not all into internally discussed, it's sometimes very difficult personalities, and I don't know if its egos. But it's also definitely personalities that clash, you've got to be very cognizant of how you approach somebody to get resolution for issues that have cropped up very, very difficult, I find it. You got to be very tacit in how you actually approach it. Because sometimes if you actually both go ahead and say, you got this wrong, and as opposed to saying, listen, we found a problem, can you actually assist in resolving it, you get more, what's the word, faster resolution if you actually approach it in a particular way."

Interviewee 3:

"So it's not just what they say to each other, that's how they behave together with each other can also be an exchange of transfer, sort of knowledge transfer."

Interviewee 6:

"Well it was hearing their concern and instead of just pushing them to our overseas support, we would try and address the problems here locally. And we wanted them to understand that their problems are our problems and that we wanted to get them onto the solution that they prefer, that they wanted."

Interviewee 5:

"I think finding the key people in each organization is also very important, because once you have the key people, be there one or two on each side of that relationship, they will facilitate a better relationship. So once you've identified them, and they have a vested interest in success, they will, will drive it and take the others with them."

5.6.2 In the externalisation mode

Question 1.2 intended to focus the interviewee to respond to factors they believed affected knowledge exchange in the externalisation mode. The question was designed to extract the factors from the interviewee through their experiences, whether positive or negative.

Table 6 Factors affecting knowledge exchange in the externalisation mode

Priority	Factor	Frequency	Theme
1	Appropriate knowledge formulation and transfer	8	Knowledge Formulation
2	Organisational structure and communication	7	Ease of Business
2	Framework to share knowledge and govern interactions	6	Governance
2	Openness, willingness to share and acceptance of knowledge	6	Trust

The participants responses varied across multiple themes, and within this themes, multiple factors as resulted in four themes being identified. The knowledge formulation theme was identified as the leading theme with 89% of the frequency. Within the knowledge formulation theme, appropriate knowledge formulation and transfer were the leading factors. A participant expressed their frustration with a partner's knowledge transfer as well as their interaction was less than satisfactory.

Interviewee 2:

“It's how you actually documented it as well, you've got to put it at a level where the person understands it. And if it's industry related stuff with a documentation actually needs clarity, you got to have to, it's going to go hand in hand with the tacit knowledge. And in this something that you've got, your formal documentation. You've got to give you an example, somebody at PASA always says she needs pictures to be drawn.”

Interviewee 8:

“They should actually refer to the manual, they should, they should refer you to section that is relevant, okay, and they don't. So the tacit stuff, there is no tacit, you don't talk to these people there, they don't talk to you, unless they really have to.”

Ease of business as a theme was the second theme within this mode with 78% frequency. Once again, the ease of business related to how the communication and interaction within the organisation, and between the organisations, was encouraged and promoted within the organisational structure and operating principles to improve

knowledge conversion from tacit to explicit. A participant expressed their challenge of overcoming internal organisational alignment constraints before being able to overcome strategic alliance constraints.

Interviewee 5:

"Well, even internally, when it's two departments, or two divisions within the same organization. That sharing of knowledge, some people find it very threatening. Once they see that there's a common benefit, you can sometimes break it down, but that's easier to break down. But eventually, you have to get past it."

The governance theme was identified as the strong theme with 67% of the frequency which was not identified through the literature review. Within the governance theme, intellectual property protection was an insight provided by a participant that led to the creation of a governance framework which in turn governed the interactions being held.

Interviewee 3:

"So so typically, organizations would have a couple of standard terms in their agreements around intellectual property protection around no hire agreements on staff, etc. So they would be a degree of comfort in their interactions in exchanging information. That doesn't mean that a party or both parties might behave, either by habit, or specifically to the relationship in terms of some paranoia about sharing."

Interviewee 5:

"Um, so one is confidentiality needs to cross the barrier of what you can share and what you can't share."

Interviewee 7:

"So what we do in our organization is we work very closely with the compliance and legal environment. So if we are very unsure, so I think let's go back first to prior to that, as, as an employee of the organization, we go through rigorous training, especially when we're dealing with competitors, okay. And one of the key factors there is, anything that you feel uncomfortable about, always seek advice

from the subject matter expert. So effectively, what used to happen is, if you as an employee felt that you know, you're not comfortable sharing certain things, there was always an avenue, where is going into an SME environment say, are we comfortable to share this kind of information with this kind of, with this with this partner, and we get the necessary advice around it."

The governance theme was elaborated by one participant when they introduced a competitive dynamic where the strategic alliance partner became their competitor. This relationship dynamic changed the relationship between the strategic alliance partners and how they exchanged knowledge.

Interviewee 7:

"So this is a very interesting one with our strategic alliance partner, in a sense that the, the partner was a pure partner at a stage and then also as a partner and a competitor. Okay, so it became a very interesting, so we were, we thought it would be infringed upon competitive issues, it became a much more formalized knowledge share. Okay, whereas, where an environment is not as competitive, so for instance, we talk about, a specific product that is it was sold by that organization that we didn't actually cater for, it was more about using that alliance to get more value out of this specific product. And, and I think for me, the regulatory environment forced us into a much more formal knowledge sharing so that we didn't get into trouble. And the other factors that allowed for this is also where we needed to keep the boundaries clear in terms of what is it that we went out of the partnership, being my organization, and what is it that they wanted out of this partnership, being that organization there, that's effectively what helped us in terms of sharing that, that knowledge between the two parties."

Trust was also a major theme within the externalisation theme with 67% frequency. A participant expressed their understanding of trust. The trust theme, along with its associated factors of openness and willingness affected the acceptance of knowledge being exchanged.

Interviewee 1:

“Trust is very important because if you’re receiving information or data or knowledge from an organization that you don’t have trust in, then you won’t really be able to disseminate that information and make it useful because you don’t trust the source. So trust is very important and also having a common strategic vision between the two organizations.”

5.6.3 In the combination mode

Question 1.3 intended to focus the interviewee to respond to factors they believed affected knowledge exchange in the combination mode. The question was designed to extract the factors from the interviewee through their experiences, whether positive or negative.

Table 7 Factors affecting knowledge exchange in the combination mode

Priority	Factor	Frequency	Theme
1	Knowledge source and continuity	9	Coordination
2	Framework to share knowledge and govern interactions	6	Governance
2	Organisational structure and communication	6	Ease of Business
3	Openness, willingness to share and acceptance of knowledge	4	Trust

100% of participants acknowledged that coordination as a theme was a main influencer of knowledge exchange. Within this theme, knowledge continuity and sources of knowledge were factors affecting knowledge exchange. These factors related to knowledge storage, access and the coordination thereof.

Interview 2

“Having a single view of all of that data to be quite honest, you’ve got a lot of this information that you’ve got floating around. One single view of it actually makes it easier between the two companies to actually come to see eye to eye in terms of producing other reports managerial report, or whatever it is that you require out of the system, if you have multiple views of it, you might not get the same results you’re looking for.”

Interviewee 2:

"You've got one point where all your entries and your data actually isn't one person, querying it from one entity from entity A and compare it to entity B. B might be looking at it with different queries or from a different logic perspective. And A might be looking at it from a very streamlined, simplistic view, and they might be missing each other if they using the wrong, well two different databases. That is, you know, using the same false reporting, makes it very difficult. I think that's one of the keys in in data mining and big data, you actually have to have one set of things that you is your source of truth, so to speak, from there, you can actually expand on them."

Interview 3:

"So the temporal dimension is a real problem here, because the combination of knowledge, and explicit knowledge in particular, but the combination of knowledge occurs over time. So what happens is, is that at the beginning of the relationship, there's not a lot made explicit except maybe, what's contractual, as we've said. And then as time goes by, more and more is made explicit at the knowledge ages, and new people coming, remember, the relationship between entities is not the relationship between individuals. Okay, so over the life of the contract, which could be example, five year contract, that's last 10 years, you know, with time before the time after, etc., that whole relationship has been a 10 year relationship even though the contract itself was five year contract. People have come and gone, even CEOs have changed, okay, so, but the contract has endured. Now, the knowledge, what we knew and understood back in 2013 is no longer relevant now. And what we know and understand now didn't exist, because it's composite knowledge. It's only it's only been put together, our understanding of things, understanding of the regulator domain, our understanding of market segments, and our understanding of risk management in the relationship has changed over time. So one of the, one of the things that we have to factor into this combination of knowledge is that the, not only the amount of knowledge grows over time, but that it ages, and that different people participate in the intercompany relationship at different points in time. So if you drop in now, and you only have access to the externalized knowledge, to the extent that it's been externalized now, you have no access to the implicit knowledge of all the years preceding if you land in the project"

now. So for me, the biggest threat is, is just assuming that when somebody joins a relationship, that they just will understand everything that's gone before, because a large portion of this combined knowledge is tacit, and even the stuff that's explicit has aged."

Governance was the second highest frequency theme. 67% of the participants mentioned that governance was a theme affecting knowledge exchange within this mode. The factors that affected within this theme were aspects of competitive dynamics, legal terminology and legal uncertainty on knowledge formalisation. A participant illustrated this theme's role within this mode by having legal and compliance presence in knowledge exchange interactions. This again relates back to the governance framework creation.

Interviewee 7:

"Firstly, there's, there's a proper document documented, there is a proper document or a manual that is created between the two organizations, okay. And then what happens is, obviously, based on the initial reading of that, then there's an almost meeting set up, there are formal meeting set up, thereafter and in the situation where we are uncomfortable having, we will have legal and compliance people sitting in those meetings to ensure that we don't cross boundaries."

5.6.4 In the internalisation mode

Question 1.4 intended to focus the interviewee to respond to factors they believed affected knowledge exchange in the internalisation mode. The question was designed to extract the factors from the interviewee through their experiences, whether positive or negative.

Table 8 Factors affecting knowledge exchange in the internalisation mode

Priority	Factor	Frequency	Theme
1	Appropriate knowledge formulation and transfer	8	Knowledge formulation
2	Organisational structure and communication	8	Ease of Business

3	Openness, willingness to share and acceptance of knowledge	4	Trust
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There were three themes provided by the participants within this mode. The main two themes were knowledge formulation and ease of business with each having 89% frequency among the participants. The factors affecting knowledge formulation are key to understand as knowledge exchange affects strategic flexibility. The participants expressed their factors related to how the knowledge was formulated, how it was being transferred and whether the individual sharing the knowledge was competent to do so.

Interviewee 1

“Okay, I think, how the type of material like the quality, so to speak of the manual. Is the manual, understandable, is it richer in a format that is easily that can easily be transferred from one person to the next. Is the stuff applicable to practical scenarios, so the stuff that's in the manuals is it just more theoretical is it practical, can it be applied to practical scenarios as well. The person actually passing on the knowledge, the trainer or the whoever, not a trainer, but whoever is passing on the information to the to the next person.”

Interviewee 1:

“The person the level of experience of the person that's handling the information or the knowledge that would affect how they actually combine it, or how they put it in a more formal structures, so level of training level, level of experience and their knowledge of the actual area that they're working with.”

Interviewee 9:

“Factors in this mode relate to the individual sharing the knowledge and the combination of the individual receiving the knowledge. It's not enough that the individual sharing the knowledge has a working understanding but can adequately and effectively share this knowledge. The individual retrieving this knowledge needs to adequately and effectively understand the information with which he is receiving. In instances where we are talking to individuals of business, legal, and technical specialties, we cannot use the same mode to communicate to these individuals and other countries as well, not just individuals. An example I want to

use is the competition training. So as a legal specialist, we have to ensure that the individuals working with our strategic partners understand the competition legislation underlying strategic alliances. In order to do this, the legal specialists put together a training manual or to educate the individuals concerned to ensure that they understand the competition legislation. What we've noted is that because the individuals responsible for putting together this training don't necessarily have a working understanding of the practical experiences where this training is going to be used. The training where seem to be too high level and impractical for it to actually apply to the people reading the training. It's also hard to make sure that this training manual is efficient enough for senior executives, as well as operational employees, and call center agents. Every individual in the value chain needs to do this training and understand the training to the same level. What we found is this training manual, if people don't understand part of the training, they disregard it and feel that it's irrelevant to them and move on. And that can happen if you don't relate it back to their own practical experiences. If they can't relate it to what they are doing in the everyday workspace, they will presume it's not for them and disregard it and might miss out on key information. So it's important to make sure that your target audience for which you are preparing this knowledge exchange, whatever it may be, whether it's a training manual, whether it's a legal brief, a document, that it caters for the people reading it, and all the different levels to ensure that they appreciate the information that is being shared, understand it and use it and don't just disregard pieces of the information because they may deem it irrelevant because it may be of a technical nature or other legal nature and won't apply to them."

Ease of business was once again a major theme with 89% frequency. A participant expressed their insight on how organisational alignment along with senior management leadership were key for promoting knowledge exchange between strategic alliance partners. Knowledge exchange needs to be recognised as a key function to be effective.

Interviewee 4:

"it is mostly about how you get judged, or how you get marked on, how you do your work. And if the person takes something that is not part of whatever the strategic alliances documented in terms of policies and processes and how they communicate and align with each other, if the person who's going to be doing my performance review at the end of the year, that is not very important to them, they're more internally focused, people are going to shy away from whatever that

strategic alliances is trying to do. So it's about the importance of that strategic alliance in the person's KPIs. And in the reward and recognition."

5.6.5 Summary of the factor results

Table 9 Summary of factors affecting knowledge exchange

		Modes			
Frequency		Socialisation	Externalisation	Combination	Internalisation
Themes	Inter-organisational relationships	9	-	-	-
	Ease of business	8	7	6	8
	Trust	3	6	4	4
	Governance	-	6	6	-
	Knowledge formulation	-	8	-	8
	Coordination	-	-	9	-

There was a total of six themes effecting knowledge exchange within a strategic alliance and its influence on strategic flexibility. The social theme of inter-organisational relationships was prevalent in the socialisation mode. This is due to the social aspect of interactions between organisations and individuals in tacit to tacit knowledge conversion.

The ease of business and trust themes were prevalent throughout all the different modes. This is due to the relevancy of the two themes in knowledge exchange through all the constructs in their individual and joint capacities. Governance is prevalent in the externalisation and combination modes due its more formal approach to knowledge exchange and the framework within it operates.

The knowledge formulation theme is prevalent in the externalisation and internalisation modes due to the nature of transfer, relevance and applicability of knowledge being initially formalised and then being embodied. The coordination theme is prevalent in the combination mode only due it is focus on ensuring a single trusted source and access to reliable explicit knowledge.

5.7 Results from research question 2

Research question 2: How can knowledge exchange be improved to improve strategic flexibility within an inter-organisational strategic alliance

Question 2.0 was intended to frame the overarching theme of the question which was to suggest actions to address the previously mentioned factors, or unmentioned factors, to improve knowledge exchange in a strategic alliance by going through the individual modes of the Nonaka Model. This approach provided the interviewee with a framework to respond to the questions.

5.7.1 In the socialisation mode

Question 2.1 intended to focus the interviewee to respond with suggestions that may be used to improve knowledge exchange in the socialisation mode. The question was designed to extract the improvements from the interviewee through their experiences, whether positive or negative.

Table 10 Improvement to knowledge exchange in the socialisation mode

Priority	Improvements	Frequency	Theme
1	Increase amount informal interactions	9	Inter-organisational relationships
2	Identify key individual to maintain consistent communication	3	Ease of business

The inter-organisational relationship theme was the dominant theme within this question with 100% frequency of the suggested improvements mentioned by the participants. Improvements included increasing informal interactions between individuals and organisations and increasing the frequency of team building sessions. Therefore due to the social nature of the theme, the participants' primary suggestion was to increase informal and formal interactions which should improve the social inter-organisational relationships between the organisations and therefore increase knowledge exchange within this mode and ultimately strategic flexibility.

Interviewee 1:

"Perhaps more frequent informal meetings, sort of more team building activities

maybe get the people to know each other in a less formal set up, maybe that will encourage more social interaction than the formal interaction.”

Interviewee 3:

“The primary way to improve the process is to improve the number of interactions that occur. Socialization doesn't occur unless the socialization occurring. So it's simply face time, you got to increase the amount of time that you're interacting. Like I said, in a modern world, those interactions could be video conferences, physical meetings, person to person telephone calls, involvement in common activities, like attending court cases or whatever, you know, but it's, it's it's doing things together.”

Interviewee 4:

“So the people must get to know each other, you must have, if you've got opportunities to do breakaways team building sessions and strategic sort of breakout sessions somewhere away from the office so that people get to know each other, that assists a lot.”

The second highest mentioned improvements by participants was improving knowledge exchange within the ease of business theme through the identification of key individuals to manage and maintain the flow of knowledge, as described by a participant.

Interviewee 5:

“I think finding the key people in each organization is also very important, because once you have the key people, be there one or two on each side of that relationship, they will facilitate a better relationship. So once you've identified them, and they have a vested interest in success, they will, will drive it and take the others with them.”

5.7.2 In the externalisation mode

Question 2.2 intended to focus the interviewee to respond with suggestions that may be used to improve knowledge exchange in the externalisation mode. The question was designed to extract the improvements from the interviewee through their experiences,

whether positive or negative.

Table 11 Improvement to knowledge exchange in the externalisation mode

Priority	Improvements	Frequency	Theme
1	Appropriate knowledge transfer method and relevance	7	Knowledge formulation
2	Establish Framework to share knowledge and govern interactions	5	Governance

There were two themes suggested from the participants with regards to improvements. The main theme within this mode was knowledge transfer with a frequency of 78% among the participants. Suggested improvements included reinforce knowledge exchange through Key Performance Indicator measurements, understanding the audience formalising the knowledge and ensuring a high standard of formal documentation.

Interviewee 2:

“Well, understanding who your audience is. That's the key. Because if you don't know that, you actually handing the documentation over to an IT person, they're going to look at it and go, well, what is if it's especially if it's accounting, and it's you trying to actually tell them, this is what the database is supposed to look like, and it's got debits and credits, they don't understand they might not understand a debit or credit or double entry principle, for example, you might have to explain that to them in a language they understand so to speak. You might actually have to get the lingo between IT and accounting to find a meeting of minds.”

Interviewee 5:

“I think if there's if there's formal documentation, formal knowledge, training courses that are available across the, the two areas, whether its internal or inter-organizational, those sometimes help because they level the knowledge playing field, but it does become, to a large extent a people issue.”

Governance was the second most frequent theme affecting knowledge exchange in the externalisation mode where improvements were suggested. The leading improvement suggested by participants was the establishment of a legal framework within which to

operate and share knowledge.

Interviewee 3:

"So I think the first thing is, is that your contractual arrangements need to be well thought out first. So if you think about the kinds of things that you need, you need process documentation, you need internal rules and compliance related documentation, you need specific business related reporting and dashboards, you need, you might need access to the business plans and product choices and planning. You need to anticipate what that explicit knowledge is that you are going to need in order to run that relationship and get that into your contract up front. That's the first thing. Or if you're going to do contract amendments, then amend your contracts to make sure that that's its including access to audit, etc, or audit reports and so on."

Interviewee 7:

"You don't want to share your competitive advantage with what the partner."

One participant introduced an improvement that went against the Nonaka model and its concept of the knowledge spiral. The participant suggested that the socialisation and externalisation modes, respectfully, should occur in parallel or go back and forth between modes to gather knowledge that is accurate and reliable.

Interviewee 9:

"I would suggest that this mode happens in parallel with your socialization mode. I don't think that the sharing of the knowledge needs to be removed from the formalization of the knowledge sharing itself, these two can happen together. And sometimes by putting socialization with externalization in parallel, it fosters a better collaboration culture between the partners. It's not seen to compartmentalize and the people and work in silos of one another. And for me, that just enhances the actual strategic partnership itself, working together, cooperating and coming to the same understanding together, not necessarily a back and forth and not necessarily and documentation of incorrect or incorrect information."

5.7.3 In the combination mode

Question 2.3 intended to focus the interviewee to respond with suggestions that may be used to improve knowledge exchange in the combination mode. The question was designed to extract the improvements from the interviewee through their experiences, whether positive or negative.

Table 12 Improvement to knowledge exchange in the combination mode

Priority	Improvements	Frequency	Theme
1	Shared data source and reporting alignment	8	Coordination
2	Establish ground rules and common understanding	5	Governance
3	Training and communication	3	Knowledge formulation

The participants provided a mixed response to this question. The mode had three themes but frequency prioritised coordination, governance and then knowledge transfer. Aligned with the coordination theme, 89% participants suggested and acknowledged that continuous recording of knowledge was an improvement to this mode. This improvement was in response to the participants expressed concerns through the factors of shared data source integrity, access and reliability. One participant provided an example of how they are currently attempting to implement this improvement. This input provided valuable, practical insights.

Interviewee 3:

"Well, I think that there needs to be ways of on boarding people into organizational relationships, such that they can come up to speed with what's gone before, including finding ways to get access to the tacit knowledge. I've recently started a new project and what I've done is I'm trying to, I'm experimenting, so this will be my suggestion, and I'm hoping that it'll work. But so far, it's working from what I can see. And what I've done is the following. Right from the beginning, I've recorded all the meetings, videos, and I have made those videos available in a portal for all the participants under the principle of a matter under what we produce, we publish it immediately. So whether it's a, whether it's a document, a specification, a business plan, or whatever, it's immediately published and made available, okay. And whether it's a meeting, the meetings are recorded, and the

same day are published, the videos are published, and the minutes are simply tagged on as notes to the video that's been published. This means that somebody joining the project, and we've had people recently joining the project, it's a multi organizational endeavour, they can go back as far back as they need to, and view the meetings, which is where they see the tacit knowledge coming out in the conversations and whatever. But they can also view the artifacts that were produced to see the explicit knowledge. And the tool I used, to use any tool, the tool I use was, was Facebook workplace, because it allows me to create groups and have access control and stuff around. But the point is, is that I did that on purpose, because I'm trying to find a way to deal with this temporal thing across a multiyear project, where you have a multi company relationship situation. Without telling you what it is, I can't be more explicit, but it gives you that idea. Think of a project involving three or four companies, where there's three or four relationships, over three or four years that this thing's going to run. People are coming and going from those various participants all the time. How do you keep track? How do you know what the thinking was two years ago? Well you can go back to the years on the timeline and look at the video of the meeting and listen to what people are saying."

Once again aligned with the coordination theme, another participant acknowledged that alignment, supported by senior management, were key for the organisation to improve combination.

Interviewee 4:

"Yes, senior management, being interested to know that all the work that is happening there is not getting lost, it's been documented some way and being fed back up to them to basically say, okay, we've worked on this piece of work., this is how both organizations and now have a process of aligning on whether it's requirements, whether it's resolving incidents, whether it's engaging the end clients, so they'll come back and say, listen, bi weekly, we have a client focus session where both of us come together to review what the offering is to our clients and what we're getting feedback on and you'd have those sort of structures feeding back into the project or the strategic alliance office, as it were, and then that needs to be summarized for the executives for them to make decisions going forward about what's working, what's not working and what requires attention."

David Breetzke:

"So so you're you're suggested improvements would be, with that in mind ,is the alignment of reporting lines, alignment of information, gathering of information at a at the correct level before passing it on to the executives?"

Interviewee 4:

"Yes."

The governance theme, with its suggested improvements, had a frequency of 56% among the participants. Improvements ranged from common understanding of terms, legal certainty around knowledge which could be combined to establish ground rules on how to engage with strategic alliance partners to combine knowledge.

Interviewee 9:

"It's not enough that these definitions exist. You are never going to reach alignment unless there is change management when it comes to these words. So as much as there exists a legal definition of the word authentication, it's not necessarily the case that this word has been adopted and embedded in the knowledge and understanding of the individuals using the word. We cannot trust that just because there is a definition that it's using the correct way. And this goes for a lot of other words, and it's not just between the institutions but between different countries. There exists different legislation and all the different countries that I work with and together in our strategic alliance, we need to come to a common understanding of different words and terminology. And we can't do that in isolation of one another and it's important to make sure that we all understand the words that were used, it's not enough that we've documented certain words, it's the use there of along all the links in the value chain that is important."

5.7.4 In the internalisation mode

Question 2.4 intended to focus the interviewee to respond with suggestions that may be used to improve knowledge exchange in the combination mode. The question was designed to extract the improvements from the interviewee through their experiences, whether positive or negative.

Table 13 Improvement to knowledge exchange in the internalisation mode

Priority	Improvements	Frequency	Theme
1	Related, reliable knowledge transfer	9	Knowledge formulation
2	Establish ground rules and organisational alignment	5	Governance
3	Shared data source	3	Coordination

The participants acknowledged that knowledge transfer was the major theme within this mode with a frequency of 100% among the participants. The remaining themes were governance and coordination with a frequency of 56% and 34% respectfully. The participants' suggested improvements were that increased practice of knowledge utilisation, applicability of knowledge being shared and to whom would assist in improving the internalisation knowledge.

Interviewee 3:

So my view is, if you want to internalize explicit knowledge you have to do, you have to actually put it into practice, you have to test, you have to experience that, you have to exercise whatever the appropriate verb is for the top of knowledge that we talking about, and then it gets reflected in thinking in values and interactions.

One participate suggested an improvement for the governance theme by incorporating internalisation and the prioritisation of knowledge and strategic alliance involvement into individuals' Key Performance Indicators which would assist in the alignment and success of this mode as well as the strategic success of the alliance. This incorporation established a governance framework to score individuals on their knowledge sharing and strategic alliance supporting functions.

David Breetzke:

"Okay. So that way, from an improvement point of view, we need to align KPIs, we need to align between the organization to say listen, let's focus on strategic alliance. So it's a conscious effort to say let's look at this, let's put it in the legals let's put it in the contracts things like that."

Interviewee 4"

"Yes, agreed, if that strategic alliance and what it's trying to achieve is not made important to both organizations, and especially the teams working on it or second to it from the organization's, people are not going to drive it. And they're not going to embody these policies and procedures and processes and whatever improvements has come out of the IP sharing. But another important thing, the, the, the IP and whatever comes out of it, in terms of processes, especially, must be realistic. You know, it must be something that, as you've said, is applicable and I can see that if I do this, that is the outcome and it's what is desired. Not all these additional things you're doing just to please a compliance tick box sort of exercise that needs to be done at another level. "

5.7.3 Summary of the improvement results

Table 14 *Summary of improvements affecting knowledge exchange*

Themes	Frequency	Modes			
		Socialisation	Externalisation	Combination	Internalisation
	Inter-organisational relationships	9	-	-	-
	Ease of business	3	-	5	-
	Governance	-	5	5	5
	Knowledge transfer	-	7	-	9
	Coordination	-	-	8	3

There was a total of five themes within which improvements were suggested to increase knowledge exchange within a strategic alliance to improve strategic flexibility. The social theme of inter-organisational relationships was prevalent in the socialisation mode as was it prevalent as a factor. This is due to the attempt to improve social interactions between strategic alliances and their individuals and leaders to increase tacit to tacit knowledge conversion.

The ease of business theme was present within the socialisation and combination modes but was prevalent in the combination mode only. This is due to the relevancy within modes where knowledge of the same kind of generated and the organisational

support provide to improve it. Governance was prevalent in the externalisation, combination and internalisation modes due its more formal approach to knowledge exchange and the framework within it operates. The establishment of a structured framework was a main suggested improvement to knowledge exchange.

The knowledge formulation theme is prevalent in the externalisation and internalisation modes due to the nature of transfer between tacit and explicit and the importance of how it is transferred, by whom it is transferred and in the correct method and standard. The coordination theme was prevalent in the combination mode and less so in the internalisation theme due to its focus of improvements being related to combining formal knowledge between organisations to a single knowledge sharing platform ensuring a trusted source and access to reliable explicit knowledge.

5.8 Results relating to strategy

The participants throughout their semi-structured interviews spoke to strategic flexibility, strategic objectives and/or strategic initiatives. The researcher in response explored this line of response to extract data which could be insightful to the research, in specific the underlying construct of strategic flexibility.

The insights gathered from the participants acknowledged that strategic alignment and transparency was important within a strategic alliance. This was in relation to knowledge sharing and to why knowledge was being shared between the partners. These insights spoke to the underlying topic of the study being whether knowledge exchange can improve strategic flexibility within a strategic alliance.

Interviewee 4:

There needs to be co ownership of the, the actual strategic intent of that alliance.

Interviewee 5:

"No, I really think in my experience, that the transparency has always been important. There a common view of what the goal is has been important and that as that changes, and it does, that that's properly communicate because you need to change your your focus when when those change and that it's, regardless of what you collecting, whether its knowledge or building strategic cohesion, it's still

a people issue and that's where the focus is but that's because I'm a people people"

One participant acknowledged that they may be instances where strategic alliance partners could cooperate with competitors to achieve a greater strategic objective than just within their own strategic alliance. The interviewee called the concept 'coopetitive'.

Interviewee 4:

"I think what I wanted to speak on without being specific to organizations and everything, but the environment that we are in, is in an interoperable competitive advantage, sorry, competitive market, but we have to be coopetitive amongst all these different competitors, for a greater good, for a strategic goal of the national payment system"

5.8.1 Changing strategic objective: A practical example

Further to the input from Interviewee 7 in section 5.5.2, the researcher explored the dynamic of when a strategic alliance partner becomes a competitor and how it affected knowledge exchange between them and ultimately the strategic flexibility of the strategic alliance as their strategic objectives were no longer aligned.

Interviewee 7:

"Yeah, so you see, for me, for me, where we are sitting right now, is a strategic partner has applied to become a bank. So it becomes a bit of a challenge."

David Breetzke:

"Would you say, that has completely changed the relationship?"

Interviewee 7:

"It has change it totally, it's absolutely changed because now we we almost met on competitive zone. And again, our our strategic objectives may be very different to their strategic objectives are purely because we sitting in this in this middle ground that we are in the same industry. Previously we were separated or

previously they were, in fact, we were shareholders of the organization, okay, so that they we were partners. But then what happened was we became, you know, we were no more had a majority shareholder, so we became strategic partners, and then we became competitors in certain aspects so it becomes more difficult to”

David Breetzke:

“And I just want to touch on that one point you said that, obviously, they have strategic objectives and now obviously now being transferring, still being a strategic alliance partner, their strategic objectives, I'm assuming from I'm inferring that they are now different to yours?”

Interviewee 7:

“Yeah”

David Breetzke:

“So with knowledge sharing, obviously, now you more restrictive in your knowledge sharing so that would, if you had to take the line and knock on effect, would knowledge management be more stricter as their strategic objectives is varying from yours. In essence, their strategic flexibility, as an organization now, has diminished because of the because of their change in their view now in their objectives. So your objectives are no longer aligned. “

Interviewee 7:

“Yeah, absolutely, absolutely. So, so. But again, we take we take into organizations, one being a fully-fledged bank that deals with how to meet strategic objective in South Africa in terms of financial inclusion and banking or whatever it may be, where as their strategic objectives is a bank, but the initial objectives may not be exactly what we doing is more probably, how do we use our existing base and bring them on board and become a fully-fledged bank on our exists so it's more organic growth before we get to other growth so they probably looking at a specific market. Whereas we in a in a, in to a market, they also looking at, you know, basic basic banking service initially, whereas we already a fully-fledged,

we've gotten some the complex products that are there already so again, it's how what do you share, and how do we sometimes will together in terms of strategic partnerships, that doesn't impact on the regulatory and competitiveness on both parties. So let's, let's give you a typical example. A loyalty scheme, okay, both parties are sitting would work rewards and loyalty schemes, okay, both parties have have very strong very strong loyalty schemes, whether we want to share that kind of knowledge in that space, we will not, okay, purely because we both sitting with strong brands, strong loyalty schemes, however, if we talking about let's talk about debit order collections. I'm quite comfortable to share some of the knowledge on debit order collections, okay, because purely because that product is not offered by them and they dont have any short term intentions to do collections. Okay. So there we will work together as partnership because ultimately, some of that book is held by us. So there we will share how do you get collections to get better, we are sitting with a certain percentage now, what are the issues, how do we change certain things to make sure that you have a better very successful rate versus a failure rate. That kind of conversation, absolutely, we would have but we would have it in a formal kind of environment because we don't believe that we are competing with each other. But if we talk about loyalty, very different."

5.9 Collecting data in accordance to the methodology

The researcher followed Davies & Dodd (2002), Stenbacka (2001) and Lincoln & Guba (1985) in their interpretation of reliability and validity of qualitative data as described in Chapter 4 by proving quality and trustworthiness. Trustworthiness was proved through triangulation as the researcher gathered data from nine independent sources and the literature review. Quality was achieved through the vetting of the data gathered in the interview data section of the semi-structured interviews along with the researcher's discretion of whether the interviewee adequately understood the various constructs.

According to Chapter 4, saturation would be tested by: assessing whether any new themes emerge from the semi-structured interviews; whether there is a reoccurrence of themes in the semi-structured interviews; and that the analysis of such themes is meaningful. The researcher reached saturation by the ninth interview. During interview 7, the researcher begun to identify the commonality in the interviewees' responses. These commonalities reoccurred in interview 8 and, by interview 9, the researcher confirmed that saturation was reached because there were no new themes emerging,

there was a reoccurrence of themes, and there was no new meaningful analysis of the themes.

5.10 Conclusion

This chapter represented the data gathered through the nine semi-structured interviews conducted by the researcher. The data was divided into interview data, used for quality and reassurance that the population sample met the criteria, and research data, used for analysis of the research topic. These results aligned with the literature review but there were dynamics where the results deviated from the literature and expanded on the Nonaka model. These findings will be discussed and explored further in Chapter 6.

CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

The purpose of Chapter 6 is to address the research questions raised in Chapter 3 using the data collected through the semi-structured interviews and presented in Chapter 5 against the literature review in Chapter 2. Each research question will be discussed through the findings, followed by a conclusion for each research question. This chapter's findings and conclusions will provide an understanding of the effect of knowledge exchange on improving strategic flexibility within a strategic alliance.

6.2 Discussion of results for research questions

6.2.1 Research question 1: What are the factors affecting knowledge exchange in improving strategic flexibility within an inter-organisational strategic alliance

This research question sought out to understand the factors that affect knowledge exchange within a strategic alliance using the Nonaka model and its influence on strategic flexibility. The objective was to identify factors within the four different modes of the Nonaka model as each mode is a separate step of the knowledge exchange process which ultimately leads to knowledge creation through the spiral (Nonaka et al., 2000), as described in Chapter 2.

The underlying construct of the research is that if knowledge exchange is affected, then strategic flexibility will be affected, as knowledge management is a major factor affecting strategic flexibility according to literature, as shown in Table 2. The Nonaka model, the underlying theory base, was used to understand its applicability within a strategic alliance context as well as further explore the effect of knowledge management being its core construct within the model. These highlighted constructs will be addressed through the following findings and conclusions.

This research question is linked to the academic contribution of the study of whether the Nonaka model's applicability in the inter-organisational strategic alliance context is relevant. In addition, the dimensions of the Nonaka model were challenged through the

analysis which will be discussed further within the chapter.

6.2.1.1 In the socialisation mode

The aim of this question was to identify the factors affecting knowledge exchange within the socialisation mode against those factors identified in literature.

6.2.1.1.1 *Findings*

The results of this question in Table 5 show that the dominant theme affecting the socialisation mode was inter-organisational relationships. Inter-organisational relationships is social in nature and therefore it was expected to be represented in the results and hold relevance to the socialisation mode.

These results show that within a social mode, social factors affect the ability of individuals within the different strategic alliance partners to exchange knowledge in a tacit manner. For tacit knowledge to be shared, there needs to be interaction between the individuals both in a formal and informal manner to promote tacit communication and interaction as described by Bandera et al. (2017), Takeuchi (2013), Katz et al. (2004), and Nonaka et al. (2000). This aspect was evident in the responses from the participants whereby they mentioned that a break down in relationships between partners coupled with limited interaction negatively impacts the ability for partner to exchange knowledge.

Further to this social aspect, an increased level of interaction promotes increased trust which was a minor theme within this mode (Mohr & Puck, 2013). This provides insight that where relationships can be fostered which will mostly likely lead to the formulation of trust. This connection aligns with the thinking that Trust is a influencing factor in the operating of a strategic alliance and the corresponding knowledge exchange (Albers, Wohlgezogen & Zajac, 2016; Gomes et al., 2016; Jiang et al., 2016; Jinyeong, 2015; Nkala, 2015; Kang, 2014; Christoffersen, 2013; Mohr & Puck, 2013; Jiang et al., 2013).

Without this level of tacit inter-organisational relationships and trust, there cannot be a transfer of knowledge and progression to the next mode. This leads to the second priority theme within this mode which was ease of business. The major factors within this theme was how individuals and partners communicate between each other, especially in how individuals approach problem resolution, and whether the organisational structure supported it.

If there is tacit interaction, it was acknowledged by the participants that it's important how you approach the knowledge transfer. Knowledge transfer can be threatening for individuals and this will impact the receptiveness of the knowledge being communicated. This concern relates back to inter-organisational relationships and how individuals between partners interact with each other. The level and depth of the relationships governs the approach and willingness to share knowledge in a positive, non-threatening manner.

These findings and insights on the interconnectedness of the three themes largely align with literature. Sambasivan (2013) emphasised the need for personal relations to facilitate communication between individuals and, within this study, between partners to strengthen the bonds and align strategic objectives. This literature ties in both the inter-organisational relationships, trust and ease of business as a union that affect knowledge exchange.

Communication between the partners can be linked back to the interactions between the partners to coordinate resources and facilitate operations as discussed by Jinyeong (2015), Kang (2014), Christoffersen (2013), Jiang et al. (2013), Sambasivan et al. (2013), and Young-Ybarra & Wiersema (1999) and supported by the results in there relevance on trust and inter-organisational relationships. Kang (2014), then aligns further with the results as informal communication, which is defined as tacit knowledge exchange, can promote a deeper sense of learning and trust. This deeper sense of learning enabled by tacit knowledge exchange and established personal relationships affect knowledge exchange within this mode and ultimately the ability to transfer tacit knowledge to be used to align strategic objectives and then attain strategic flexibility through its access.

6.2.1.1.2 Conclusion

The results for this question largely support the literature review in Chapter 2. Inter-organisational relationships and ease of business are key influential factors of knowledge exchange. These factors were identified by literature as well as through the results.

However, the pronounced literature referencing of trust as a theme didn't present as strongly within the results as literature from Squire et al. (2009) and Jinyeong (2015)

expected us to believe that trust is needed to navigate and operate efficiently within a VUCA financial environment.

This deviation from the literature lead to the question of whether trust is as important as literature perceives it to be or is trust implied through strong personal relationships. This could be an area for further research.

6.2.1.2 In the externalisation mode

The aim of this question was to identify the factors affecting knowledge exchange within the externalisation mode against those factors identified in literature.

6.2.1.2.1 *Findings*

The results in Table 6 show knowledge formulation as the dominate theme. This theme was important to the participants as it was crucial that knowledge being converted from tacit to explicit was accurate, appropriate to the intended audience and transferred in a manner which can be easily relatable to the receiver. This relates back to Majid et al. (2013), where the formal recording and transferring of knowledge can lead to the establishment of a competitive advantage through utilisation of knowledge. Without this formalisation of tacit to explicit knowledge, the strategic alliance is unable to distribute knowledge throughout the strategic alliance to exchange knowledge to enable the alliance to leverage off this recorded knowledge to react and respond to changes in the VUCA financial environment. The participates and this studies view of this mode is aligned with Sushil (2015), understanding of strategic flexibility by organisations being able to leverage off partners' core competencies to compete in the VUCA financial environment.

Ease of business was the second priority within this mode. Once again, the conversion from tacit to explicit knowledge was centred on communication being supported and encouraged within the organisation. An organisation and strategic alliances suffered poor knowledge exchange when the organisational culture, structure and communication failed to encourage and supported knowledge exchange. It was difficult for partners to formally record knowledge when partners' organisational structures and strategic initiatives were not aligned.

The third priority themes were governance and trust. The governance theme was not

identified within the literature review and therefore was recognised as a deviation. The literature review did identify competitiveness as a theme, as listed in both Table 1 and Table 2, but the study differentiated between the competitiveness and governance themes by the fact that competitiveness related to market entry, product competitiveness and market share while governance related to the framework governing the transfer of knowledge which can relate to information detailing core competencies, anti-competitive behaviour and client sensitive information. With this differentiation, the governance theme was considered to be an outlier to the literature review.

The participants were mostly concerned that the tacit knowledge being, willingly or unwillingly, shared could be recorded formally into explicit knowledge without their consent and/or legal defence. Once recorded, this knowledge could be easily shared which could result in personal and/or organisational reputational and/or legal damages. Participants were well educated around their knowledge sharing ability and were aware this was a factor affecting the level of knowledge exchange.

The trust theme was aligned with literature. Trust was described as an influential factor of other factors and, in this case, influenced the willingness to exchange knowledge which ultimately effected the success of the strategic alliance's objective as described by Kang (2014) and Squire et al. (2009). The results show and align with literature by supporting that it is important to have the willingness to share knowledge between partners in a collaborative spirit to promote information sharing and enhancement of resources (Anderson, Christ, Dekker & Sedatole, 2013) but at the same time must trust the source of the knowledge and trust that it is acceptable. This is important as if knowledge cannot be transferred between tacit to explicit and formalised for distribution, then partners are unable to leverage off that knowledge to respond to changes in a VUCA financial environment and take full advantage of the strategic alliance structure and its strategic flexibility. These aspect were all concerns expressed by the participates.

6.2.1.2.2 Conclusion

The results of this question marginally support the literature review in Chapter 2 in terms of coordination, trust and ease of business but not in the case of the governance theme. The prominence of the governance theme introduced a new dynamic that the literature has not yet extensively investigated. In this VUCA financial environment, even strategic alliance partners are cautious in the manner in which they exchange knowledge. This has introduced increased governance by legal and compliance departments over the

knowledge which is being shared between partners. It is the researcher's view, that without an appropriate established governance framework, that increased governance effects the level and frequency of knowledge exchange and reduces the strategic flexibility of the strategic alliance as knowledge is not readability shared.

The results of this question have provided an academic contribution by identifying a theme which, to the literature review in Chapter 2, was previously unidentified and unexplored.

6.2.1.3 In the combination mode

The aim of this question was to identify the factors affecting knowledge exchange within the combination mode against those factors identified in literature.

6.2.1.3.1 *Findings*

The results of this question in Table 7 show that the major theme is coordination while the governance and ease of business themes are second priority. According to Table 1, resource coordination was the main factor influencing strategic flexibility. The study has classified knowledge as a core resource and therefore the coordination theme is aligned with the coordination theme which is interconnected to the resource flexibility factor as explained in Chapter 2. This concept of coordination and resource flexibility aligns with Kamasak et al. (2016) and Eryesil et al. (2015) understanding that knowledge management and resource configuration can lead to enabling strategic flexibility.

The participants expressed the concern that coordination of knowledge is a major factor when it comes to managing multiple sources of information and continuity of knowledge. This is aligned with the thought that knowledge as a resource needs to be deployable through a network to achieve a strategic objective (Yuan et al., 2010; Sanchez, 1997). It is clear through the results that knowledge continuity is a concern. The concern is how new or returning individuals are able to access knowledge so that not to be out of sync with the remaining of the organisation and/or strategic alliance. Knowledge continuity provides consistency and enables usage of knowledge that is necessary for a strategic alliance to respond to changes in the environment and gain a competitive advantage (Nonaka & Von Krogh, 2009). This enablement of continuity aligns strategic objectives between partners to ensure that knowledge is combined and maintained in such a way to empower individuals to use that resource as a strategic alliance.

The above concern was acknowledged and practically explained by Interviewee 3 in section 5.5.3. Therefore the need for an improvement of this factor is crucial to the knowledge exchange between partners. In addition, when there are multiple sources of knowledge, there can be inconsistent outcomes between partners which prevents a uniform response by the strategic alliance to a change in the environment therefore causing confusion within the strategic alliance and an inefficient response within the environment as supported by Interviewee 2 in section 5.5.3.

6.2.1.3.2 Conclusion

The results of this question support the literature of Yuan et al. (2010), and Sanchez (1997), where there is a need to coordinate resources that are to be applied by organisations to be able to draw resources from a network, to provide value and, then finally deploying resources in support of the strategic objective. The results show that not having alignment and continuity of knowledge and being unable to collate across multiple sources of knowledge, influences the ability to exchange knowledge. Strategic flexibility is affected if there is no continuous synced exchange of knowledge taking place between partners to assist individuals and leaders accessing the required knowledge to respond to changes in the VUCA financial environment.

6.2.1.4 In the internalisation mode

The aim of this question was to identify the factors affecting knowledge exchange within the internalisation mode against those factors identified in literature.

6.2.1.4.1 Findings

The results in Table 9 shows the dominant theme is knowledge formulation along with ease of business. It is important within the internalisation mode that knowledge is available to individuals and leaders in an appropriate manner for them to consume and then embody. This embodiment translates into on the job performance and know how. This increased performance is meant to improve efficiency and agility within the organisational resources.

Therefore the relevance of the knowledge and the process and format of the knowledge sharing is crucial, as listed in Table 8, to individuals and leaders so that they are enabled to utilise knowledge to achieve strategic objectives through the know how attained in the

internalisation mode. But this knowledge can only be exchanged and leveraged off with competent staff conducting the transfer of knowledge. This transfer of knowledge by an individual is aligned with Fernández-Pérez et al. (2014), related idea that knowledge gathering is dependent on social interactions. But this idea did not include and/or elude to the quality of the interaction and what format it should be best provided in.

The results provided a link between knowledge exchange and staff competency which was not in the literature review. Staff competency was not a factor identified in Table 1 and Table 2 and therefore is considered a theme outlier. A greater emphasis was placed on the individual performing the transfer of knowledge from explicit to tacit. The emphasis was on whether that individual was skilled enough, experienced enough, had the operational know-how, and was able to provide the knowledge in a related, relevant manner that best fits the individual receiving the knowledge. If the manner was incorrect, as this factor suggested, then the internalisation of knowledge was influenced and individuals of strategic alliance will not be embodying the knowledge needed to enable strategic flexibility to respond to changes in the environment as explored by Eryesil et al. (2015).

Organisational performance measurement structure set by senior management was raised as a factor under the ease of business theme. It was raised that individual will express higher level of commitment and focus to knowledge exchange if their performance measures were aligned with the task. This misalignment between knowledge exchangers and senior management was identified as a key factor effecting the effectiveness of knowledge exchange.

6.2.1.4.2 Conclusion

The results of this question marginally support the literature review in Chapter 2 but are limited by the absence of staff competency as a factor under the knowledge formulation theme. Staff competency as a theme needs to be investigated further to fully understand its influence on knowledge exchange as the results acknowledge that even if the knowledge being exchanged is relevant and is within the appropriate format, the success of the exchange and the ultimate embodiment of the knowledge is affected by the delivery method and staff.

6.2.1.4 Summary of the factor results

The social theme of inter-organisational relationships was prevalent in the socialisation mode. Tacit knowledge is characterised by its social aspect and therefore it is critical in facilitating knowledge conversion in this tacit to tacit knowledge creation mode (Takeuchi, 2013; Nonaka et al., 2000). There cannot be tacit knowledge transfer and creation without interactions, formal and informal, where leader and knowledge exchangers are afforded the opportunities to exchange knowledge for the betterment of the strategic alliance.

The ease of business and trust theme were prevalent throughout all the different modes. Ease of business spans across all modes as organisational structure and communication encouragement supports both tacit and explicit knowledge exchange and creation. But then it is linked to trust and whether the knowledge being exchanged through each mode is trusted and reliable and provided by individuals and leaders who are willing and open to exchange.

Governance is prevalent in the externalisation and combination modes as this is due to the formal nature of explicit knowledge. There is a connection between formal explicit knowledge and the formal nature of a governance framework. This framework governs the knowledge exchange within certain confines which relates to the formality of explicit knowledge.

The knowledge formulation theme is prevalent in the externalisation and internalisation modes due to how knowledge is converted between tacit and explicit knowledge. There is a risk that when the conversion between knowledge types occur that the knowledge is misinterpreted or inaccurately captured and therefore this theme is crucial to ensure reliable and consistency of knowledge.

6.2.2 Research question 2: How can knowledge exchange be improved to improve strategic flexibility within an inter-organisational strategic alliance

This research question sought out to understand the improvements that improve knowledge exchange within a strategic alliance using the Nonaka model and its influence on strategic flexibility. The objective was to identify improvements within the four different modes of the Nonaka model as each mode is a separate step of the

knowledge exchange process ultimately leading to knowledge creation through the spiral (Nonaka et al., 2000), as described in Chapter 2.

The underlying concept is that if knowledge exchange is affected, then strategic flexibility will be affected as knowledge management is the major factor affecting strategic flexibility according to literature. The idea is that if knowledge exchange is improved, then strategic flexibility will be improved. Yet again, the Nonaka model, as the underlying theory base, was used to understand its applicability within a strategic alliance as it has previously been used within an intra-organisational context. These highlighted constructs will be addressed through the following findings and conclusions.

This research question is linked to the business contribution of the study. Improvements were suggested by the participants on how to improve knowledge exchange within the different modes of the Nonaka model.

6.2.2.1 In the socialisation mode

The aim of this question is to identify improvements that could affect knowledge exchange within the socialisation mode.

6.2.2.1.1 *Findings*

The results of this question in Table 10 show that the dominant theme for improvements is inter-organisational relationships. The improvements suggested by the participants are social in nature which is a relevant response to address the main theme identified in Table 5 which was also the inter-organisational relationships theme.

It is evident that social interactions are required to promote knowledge exchange between partners (Takeuchi, 2013; Nonaka et al., 2000). The mentioned improvements to address the concern of underperformance in this mode are to increase the interactions between individuals and leaders through increased arrangements of informal engagements and team building sessions. This will allow the teams to celebrate milestones together and build inter-organisational relationships to facilitate knowledge exchange. This approach is aligned with literature from Chapter 2 that increased personal interactions will increase collaboration (Squire et al., 2009), and that knowledge exchange is created through interactions (Takeuchi, 2013; Nonaka et al., 2000). Therefore with increased interactions, through the mentioned techniques, they should

be an increase in knowledge exchange and therefore improve strategic flexibility. Squire et al. (2009), continued further to state that active management of partner interactions and behaviour is needed and important to promote collaboration.

As mentioned by a participant, inter-organisational relationships are about willingness to compromise and listen which relates back to the establishment of personal relationships between partners and governs their level of interaction (Kang ,2014; Mohr & Puck, 2013). Where there is a willingness to compromise and listen, comes the willingness to understand, increased patience and the openness to learn from the individual exchanging the knowledge. Knowledge cannot be exchanged if the receiving party is unwillingness to receive it, therefore it is critical to nature a positive sharing behaviour within your knowledge exchanger and culture within the organisation.

The key improvement out of the ease of business theme was the identification of a key individual. The identification of a key individual can assist this identification of an individual and promote inter-organisational relationship creation as it allocates responsibility and accountability to an individual to focus and apply resources to this objective/role. This role is critical to facilitate knowledge exchange, organisation relationship management and a starting relationship for all new employees joining each organisation.

6.2.2.1.2 Conclusion

The improvements listed in Table 10 align with literature in their pursuit to improve knowledge exchange to increase strategic flexibility as a strategic alliance. Christoffersen (2013), described the exchange of knowledge and information critical for a strategic alliance to reach its strategic objectives. Therefore the willingness to share knowledge begins in the socialisation mode as this mode is the beginning of the spiral and knowledge creation. Without this efficient mode of sharing knowledge, the following modes will be hampered.

6.2.2.2 In the externalisation mode

The aim of this question is to identify improvements that could affect knowledge exchange within the externalisation mode.

6.2.2.2.1 *Findings*

The result of this question in Table 11 show that the dominate theme is knowledge formulation. The improvements suggested by the participants are in response to the main theme identified in Table 6 which was also the knowledge formulation theme. The main improvement provided by participant was to ensure that the knowledge being converted from tacit to explicit was relevant to the audience capturing it and then consuming it which is aligned with Wei (2017), Majid et al. (2013), thinking that knowledge needs to be relevant to gather the most value from it. This foresight will lead to an understanding on how knowledge should be captured and at what standard. An example being that a high level document is needed for CEO level while an operational highly detailed document is needed for operational staff. Understanding the audience and how to relate the knowledge to them is key.

The second priority theme for improvements was that of the governance theme. The suggested improvement was the establishment of a governing framework from which individuals and leaders within the strategic alliance can operate and share knowledge. The establishment of a governing framework provides comfort to individuals engaging with their strategic partners in what they can and cannot share. This safe guard allows for due diligence when engaging, as it caters for a clear, auditable record of the knowledge exchanged between partners. This improvement was actioned by Interviewee 7 as shown Section 5.6.2 on how they have an established a legal governing framework.

6.2.2.2.2 *Conclusion*

The concept of competitive advantage and gaining a competitive advantage through strategic flexibility and knowledge was explored by Guo & Cao (2014), Combe et al. (2012), Yuan et al. (2010), and Cingöz & Akdoğan (2013), but they didn't explore competition and competitive advantage in the governance context. This question did explore this context and its results did not align with literature as there was no reference in Chapter 2 to a governance framework. The results of this question provide an academic contribution to the existing literature.

6.2.2.3 *In the combination mode*

The aim of this question is to identify improvements that could affect knowledge

exchange within the combination mode.

6.2.2.3.1 *Findings*

The results of this question show that coordination related improvements are needed to address the corresponding factor of coordination in Table 7. The major concern was whether strategic alliance partners could get reliable, shared, single source data where any individual at any time could access the knowledge and update themselves on the status of their strategic initiative.

To achieve this, the improvements suggested were to promote organisational reporting alignment so that individuals operating and exchanging knowledge were aligned and supported by the organisations' strategic objective. This alignment also includes individuals and their associated leaders in their reporting lines to promote and support knowledge exchange by the leaders emphasising the importance of strategic alliance commitments and knowledge sharing at an individual level through the setting of Key Performance Indicators related to those tasks. This promotion and support encourages a behaviour where knowledge is captured and stored continuously throughout an initiative's life cycle for the use of all partners. This thinking is aligned with Jiang et al. (2016), and Jiang et al. (2013) understanding of knowledge empowered by collaboration and coordination at an organisational level.

6.2.2.3.2 *Conclusion*

The findings to address coordination through improvements of organisational structure and knowledge management are aligned with the concept of deploying and integrating flexible resources, such as knowledge management, to support strategic objectives as discussed by Yi et al. (2017), Wei et al. (2014), and Sanchez (1997). This understanding is supported by the improvement listed to coordinate multiple sources of data into a single source of truth while being supported by organisational alignment.

6.2.2.4 *In the internalisation mode*

The aim of this question is to identify improvements that could affect knowledge exchange within the internalisation mode.

6.2.2.4.1 Findings

The results of this question in Table 13 show that knowledge formulation is key to improve knowledge exchange from explicit to tacit within this mode. The improvement of practicing the utilisation of knowledge between partners by promoting the use of knowledge to embed a certain behaviour to achieve a strategic objective. Anderson, Christ, Dekker & Sedatole (2013), mentioned that collaboration within a strategic alliance was to “enhance resources and information sharing” which within this mode is achieved through relatable, reliable knowledge exchange.

For the internalisation mode to enhance knowledge, the knowledge first needs to be applicable, relevant and usable by the individual expected to embody the knowledge so that they may apply the knowledge in responding to changes in the VUCA financial environment. If the knowledge is irrelevant and/or misunderstood, it will reduce effective knowledge utilisation and therefore result in a valuable resource being underutilised.

6.2.2.4.2 Conclusion

The mode of internalisation is crucial in the Nonaka model as this allows for knowledge to be embodied and then for new knowledge to be learnt to begin the spiral process over again. The concept of new knowledge is that the knowledge learnt through internalisation will be replaced with new knowledge gathered through the socialisation mode and so forth.

This is the knowledge spiral and critical to achieve new knowledge creation as new knowledge is required to respond to changes in the environment which do not yet have an established model and/or approach to resolving. This new knowledge enabled the strategic alliance to be strategically flexible in their knowledge exchange and in how they compete within the VUCA financial environment.

6.2.2.4 Summary of the improvement results

The social theme of inter-organisational relationships was prevalent in the socialisation mode as was it prevalent as a factor. The suggested improvements were aligned with the factors effecting the socialisation mode. Inter-organisational relationship improvements were suggested for Inter-organisational relationship factors. The improvements of this mode focused on the interaction aspect of human behaviour and

how to improve interactions through relationship building which, as hoped, will increase trust and collaboration between partners and improve knowledge exchange and ultimately strategic flexibility.

The ease of business theme was present within the socialisation and combination modes but was prevalent in the combination mode only. This is due to the collaboration needed between partners to integrate knowledge storages into a single shared platform which needs to be updated and maintained to keep the knowledge reliable and relevant. Governance was prevalent in the externalisation, combination and internalisation modes due to these mode formal approach to handling of explicit knowledge. The formal explicit knowledge needs a formal approach to management, therefore the establishment of a governing framework to governs formal interactions and knowledge conversion and combination is key.

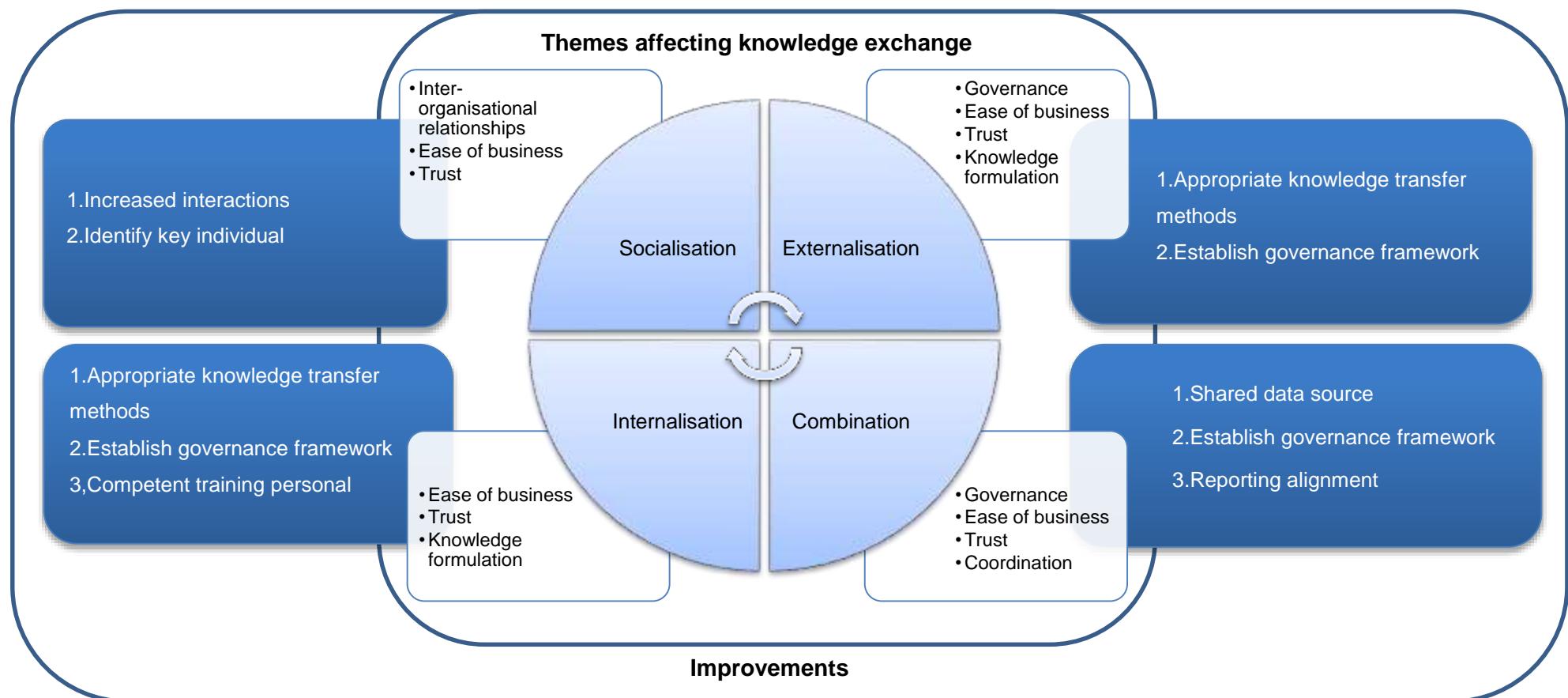
The knowledge formulation theme is prevalent in the externalisation and internalisation modes. This is due to the importance placed on converting knowledge to and from tacit and explicit. Without the correct conversion, there will be mistranslation of knowledge and a breakdown in the knowledge spiral process. The coordination theme was prevalent in the combination mode. Coordination is important when combining explicit knowledge to gain richer, more complex explicit knowledge. This combination requires a structures understanding and approach which is achieved through coordination of effort and resources.

6.3 Framework and conclusion

This chapter both supported or contested the literature review compiled in Chapter 2. The factors and improvements have been represented in Table 15 as a framework to be utilised by business leaders in their organisations to facilitate the identification of factors affecting knowledge exchange and then improve this factors with suggested improvements. The aim of the framework is to improve strategic flexibility within a strategic alliance through the efficient utilisation of knowledge exchange.

The Nonaka model held its relevance and applicability within an inter-organisational strategic alliance context. The different modes and their listed factors are aligned with the findings from literature with deviations occurring with the introduction of the governance theme and the idea of running modes in parallel and/or back and forth.

Figure 2 Framework



CHAPTER 7: CONCLUSION

7.1 Introduction

The purpose of Chapter 7 is to summarise the results presented in Chapter 5 along with the findings detailed in Chapter 6 to address the research problem presented in Chapter 1. Based on the findings presented and the discussion thereof, recommendations are provided for both business and academic consumption. Limitations of the study are also discussed along with areas for future research and culminating with a conclusion.

7.2 Principle findings

The study attempted to understand the effect of knowledge exchange on improving strategic flexibility within a strategic alliance by applying the Nonaka model. Srinivas et al. (2018), and Schwab (2017), stressed the importance of being strategically flexible in a VUCA financial environment and the use of strategic flexibility to remain competitive else suffer potential poor performance, financial and/or market share loss.

The study sought to understand the importance of knowledge exchange in improving strategic flexibility at a strategic alliance level by being agile enough to promptly respond to opportunities and changes in the dynamic financial environment. The results provided insights into this area of research through data gathered from the answers to interview questions. The interview questions centred on knowledge exchange within the four different modes of the Nonaka model and how they then relate back to strategic flexibility.

The contributions of the study are separated into two categories, namely business and academic, of which the results identified valuable lines of inquiry and discovery. The business contribution output is in the form of business recommendations while the academic contribution output is in the form of academic findings contrasted against the literatures relevance and potential for research expansion.

7.2.1 Business contribution

The first business contribution of the study showed that the governance theme is

important to govern knowledge exchange within a strategic alliance to improve strategic flexibility. The partners within a strategic alliance need to establish a clear governance framework from which to operate and share knowledge within in a safe, secure, private and secure manner. With the establishment of a governance framework, operational teams are able to effectively communicate without prejudice and/or concern of legal or other repercussions due to the nature of knowledge shared. This clear defined collaborative engagement platform aids the increase in knowledge exchange. The recommendation is for a clear governing framework to be drafted by the partners within a strategic alliance which specifically outlines the boundaries and manner of collaborative engagement around knowledge exchange, especially when the knowledge being exchanged can be seen to be the competitive advantage of either partner. The governance framework should provide clarity and legal protection to all parties involved and increase knowledge exchange which will improve the strategic flexibility of the alliance.

But this could only be successful if there was adequate trust between partners which leads to the second business contribution. Although the trust factor was not as prevalent as the literature perceived, trust was still a major influencer in the acceptance and willingness to share knowledge as supported by Mohr & Puck (2013). This willingness and openness was empowered by the governance framework to govern engagement and provide legal certainty to all stakeholders. Trust needed to be earned through increased interactions between alliance partners, through transparency of intentions and collaboration. The recommendations are for partners to promote increased formal and informal interactions between employees and leaders of the different organisations and appoint key individuals in each organisation to assist in building trust between the partners. This increase in trust will enable and facilitate the knowledge exchange process and increase strategic flexibility within the strategic alliance.

The third business contribution was that of identifying inter-organisational relationships as a key social factor for influencing knowledge exchange. This contribution is aligned with literature that associates knowledge exchange with interactions (Nonaka & Toyama, 2003; Nonaka et al., 2000). As previously mentioned, increased number of interaction improves trust which increases knowledge exchange between partners. Strategic alliances can increase interactions through formal and informal meets but the true contribution was that knowledge exchange needs to be supported and shared by competent individuals. The recommendations are to promote and encourage increased interactions between the different organisations' employees and empower

knowledgeable and competent employees to share knowledge in a relatable relevant manner.

7.2.2 Academic contribution

The first academic contribution of the study showed that the Nonaka model can be utilised in an inter-organisational structure as well as in an intra-organisational structure. The Nonaka model concept of knowledge exchange and management is applicable within this study and can provide valuable insights to business by identifying the factors influencing knowledge exchange. The academic finding is that the Nonaka model can be applied by a strategic alliance striving to improve strategic flexibility through knowledge management as the Nonaka model can be used to identify factors within each of the four modes and related them back to business in an actionable suggestion for improvement.

The second academic contribution was the expansion of research in the strategic alliance and strategic flexibility areas as a union in response to Brozovic (2016), recommendation. This study explored the link between the two concepts and how knowledge exchange can benefit a strategic alliance by improving their strategic flexibility. The academic findings were that knowledge exchange plays a crucial role in how a strategic alliance is able to respond to changes and opportunities in the environment as it is the knowledge which empowers the strategic alliance to make an informed strategic decision. The level of strategic flexibility is influenced by the level of knowledge exchange occurring between the organisations within a strategic alliance. But not only does this knowledge need to be reliable, relatable and relevant, the source of the knowledge needs to be trusted, consistent, accessible and conveyed by experienced and trained employees in a manner which is understandable. The increased level of knowledge exchange, increases the level of strategic flexibility which is an enabler for strategic alliances to respond to changes and opportunities in the environment.

7.3 Limitations of research

The limitations of the research methodology are listed in Chapter 4 along with the possible mitigations. Through the study, the following factors were identified as limitations to the study:

- All the interviewees were based within the Gauteng region which could introduce potential regional biases into their responses to the interview questions which could have affected the results.
- The researcher is within the financial sector which could have introduced potential biases in the selection of interviewees due to their experience, background and accessibility.
- The time period allowed for the research placed a limitation on the amount of data points that could have been used in the study along with what could have been a beneficial research into how strategic flexibility may change over the lifetime of the strategic alliance.
- The Nonaka model was used in isolation apart from the ‘ba’; and knowledge assets. This may have caused unintended influence on the Nonaka model as a standalone model on the insights gained on knowledge exchange and management from the results.

7.4 Further research

Although the individual concepts of strategic alliance and strategic flexibility have been well researched as explained in the Chapter 2, there is scope for expansion of research where the two concepts are presented as a union. This study explored this union and expanded on that area of research.

Through this study, areas of further research have been identified. The recommendations for further research are the following:

- The absence of the governance theme, as defined within this study, from the literature. Whilst there is literature detailing competition, which is a single aspect of the governance theme within this study, the utilisation of a governance framework was not fully explored and detailed in literature. There is an opportunity to further explore the impact and influence the governance theme may have on knowledge exchange between partners within a strategic alliance and its impact on strategic flexibility.
- The revision of the level of importance of trust within a strategic alliance when it

relates to the exchange of knowledge. There is an opportunity to explore the extent to which trust is implicitly gained through the governance framework and through established inter-organisational relationships.

- The extent to which the Nonaka model is applicable to other sectors that implement similar strategic initiatives such as strategic alliances. There is an opportunity to explain the population to include other sectors, other geographical areas and, without a time constraint, a continuous data gathering approach in an attempt to understand how knowledge exchange changes through a strategic alliance's lifecycle and its influence of strategic flexibility as eluded to in Section 5.7.1.

7.5 Conclusion

The study was motivated by the research problem identified in the Chapter 1 being how organisations can successfully compete in a VUCA financial environment. To remain competitive and/or retain market share, organisations need to be strategically flexible in their response to changes and opportunities within the environment, alternatively face the risk of poor performance and/or organisational closure (Kamasak et al., 2016). In response to these risks, organisations may select to enter into a strategic alliance to improve their competitiveness but they still need to remain strategically flexible as an alliance.

A total of nine interviews were conducted with individuals meeting the defined criteria to gather insights around their views on knowledge exchange within strategic alliances and its influence on strategic flexibility. The data was gathered and analysed to identify the key factors influencing knowledge exchange and how they may be improved. The findings of the study mainly aligned with the literature which suggested that trust, ease of business and knowledge management are the key factors influencing strategic alliances while coordination, resource flexibility and knowledge management are the key factors influencing strategic flexibility.

The common factor between the two concepts was knowledge management which lead the study to apply the Nonaka model to analyse whether knowledge exchange can improve strategic flexibility within a strategic alliance. The findings were once again aligned with literature where trust and collaboration in inter-organisational relationships and the promotion of increased interactions were crucial in improving strategic flexibility.

There was a misalignment to literature where the governance theme, as a concept, was not directly listed as a major factor but this factor was identified as a major factor within the study.

The recommendations provided within this chapter will provide business with a framework of which to improve their strategic flexibility if they operate within a strategic alliance by establishing a clear governance framework from which to promote inter-organisational relationships, personal interactions and foster competent staff to share knowledge which is reliable, relevant and transparent in its source and intention. The Nonaka model was also identified as a theory based tool that can be implemented by businesses to identify factors influencing knowledge exchange and attempt to improve them through the utilisation of the model's four modes.

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APPENDICES

Appendix 1 Interview introduction

OVERVIEW

The environment within which organisations compete has fast become uncertain and dynamic due to rapid technological and operational changes. The challenges that organisations face today, and in the future, require them to pursue strategic initiatives to equip themselves with the competencies and resources to compete. Organisations have entered into strategic alliances to compete in this dynamic uncertain environment but more importantly they need to practice strategic flexibility to respond swiftly to environment changes and opportunities. This study explores how strategic alliances can improve strategic flexibility knowledge exchange.

NONAKA SECI PROCESS

The Nonaka SECI Model focuses on the knowledge creation within an organisation. This knowledge creation is defined through four modes being: socialisation; externalisation; combination; and internalisation. This study is attempting to apply the Nonaka SECI Model in the context of an inter-organisation strategic alliance and its effect on improving strategic flexibility through knowledge management/creation.

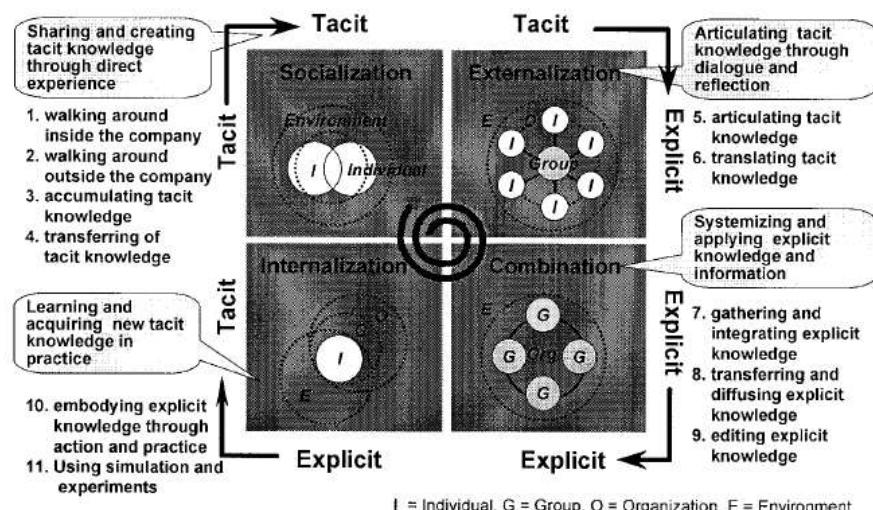


Figure 1 SECI model of knowledge creation.

Interviewer explains the Nonaka SECI Model and its different modes.

Appendix 2 *Interview schedule*

INTERVIEW DATA

1. Organisation:
 - 2.1 Does your organisation operate within South Africa
2. Environment Sector:
3. Title:
4. Number of years' experience in an inter-organisational strategic alliance environment:
5. Are you currently in a strategic alliance:
6. Do you interact with your strategic alliance partners:

RESEARCH QUESTIONS

7. Socialisation
 - 7.1 What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
 - 7.2 What can be done to improve knowledge management between inter-organisational partners within this mode?
8. Externalisation
 - 8.1 What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
 - 8.2 What can be done to improve knowledge management between inter-organisational partners within this mode?
9. Combination
 - 9.1 What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
 - 9.2 What can be done to improve knowledge management between inter-organisational partners within this mode?
- 10 Internalisation
 - 10.1 What are the factors affecting knowledge exchange between inter-organisational partners within this mode?
 - 10.2 What can be done to improve knowledge management between inter-organisational partners within this mode?

Appendix 3 List of codes

Codes	Corresponding colour
Inter-organisational relationships	Blue
Trust	Red
Ease of business	Pink
Governance	Yellow
Coordination	Brown
Knowledge formulation	Light Blue

Appendix 4 Consent form

Please note that your identity and data extracted from this interview will be kept confidential and anonymous. Your responses will be recorded to reflect the true intentions of your responses and captured without prejudice or manipulation.

CONSENT

I am conducting research on how knowledge management through the application of the SECI Model may improve strategic flexibility in an inter-organisational strategic alliance. I am investigating the factors that influence the interactions between strategic alliance partners with regards to knowledge management and its effect on improving strategic flexibility.

Our interview is expected to last about a 30 minutes, and will help us identify the factors effecting knowledge management and how to improve them. Your participation is voluntary and you can withdraw at any time without penalty. All data will be reported without identifiers. If you have any concerns, please contact my supervisor or me. Our details are provided below.

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Dr. Jeff Chen
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072 222 7119

Signature of participant : _____
Date : _____

Signature of researcher : _____
Date : _____