

Managing IT knowledge workers in the South
African Financial Services Industry

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ABSTRACT

This study was undertaken within the Financial Services industry in South Africa and respondents were drawn from three banks and one insurance company. The focus of this study was to gain insight into the challenges of managing IT knowledge workers, and suggests ways to overcome them.

To unpack these challenges, five key areas pertinent to management were explored as part of a framework that underpinned this study. These focus areas were employee expectations, employee motivation, employee training and development, collaboration with peers and employee mobility or tenure.

The researcher used the qualitative methodology to inform his approach to data collection. The technique of semi-structured interviews was chosen as an appropriate data collection tool. These interviews held with the respondents were recorded and later transcribed. The Cognitive Mapping technique was then employed to code, interpret and analyse the data.

A key finding of this study was that money cannot be used as a motivator when managing IT knowledge workers. Another key finding was that knowledge workers currently tend to stay much longer in their roles than the literature on this topic suggests.

This research conveys the message that knowledge workers need managers that demonstrate trust in them, are willing to give them an opportunity to make their own decisions and be held accountable for them. They need careers that offer them personal growth, and are motivated by challenging environments. They regard training and development as key to the progress of the entire team, and acknowledge that collaboration with their colleagues leads to a better understanding of where business is headed.

DECLARATION

I, Edward Mzwandile Ngubane, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to this or any other university.

Edward Mzwandile Ngubane

Signed at Parktown, Johannesburg

On the day of 2015.

DEDICATION

To my dearest and loving partner, Nkateko Nkhwashu, for stabilising my life so that I could complete this MBA.

And to my two boys, Lwandile Thando Ngubane and Aphiwe Lonwabo Ngubane.

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this study was to investigate the challenges around managing IT knowledge workers within the Financial Services industry in South Africa.

1.2 Context of the study

In the early centuries, prior to the 17th century, mankind lived off the land. This was a period during which societies were rural and agrarian. During the 17th century, the Industrial Revolution took place; starting in Great Britain first, and then in the USA later – during the 18th and the 19th century – and subsequently spread to the entire world, including South Africa. Industrialisation did not only change people's lives; it also introduced the concept of wage labour for people to sustain themselves.

The latter part of the 20th century saw another shift in the world economy to a new era, called the "Information Age" or the "Information-Centric Economy". Unlike the "Industrial Age" or "Economy" – this era was and is still characterised and driven by the advances in "Technology". It is during this era that the "knowledge worker" emerged. This worker has undergone a tremendous transformation from the early wage labourer – both in terms of what he offers the organisation and what he expects from the organisation.

Table 1 below (Gulke, 2008a:58) provides a distinction between the "wage labourers" – who dominated the "Industrial Era" and the "knowledge workers" – who dominate the "Information Era" or "Knowledge Era":

Table 1: Changing profiles of workers

Wage Labourers (Industrial Era)	Knowledge workers (Knowledge Era)
Repetitive skills	Knowledge to deal with the unexpected

Wage Labourers (Industrial Era)	Knowledge workers (Knowledge Era)
Risk avoidance	Risk taking
Focusing on politics and procedures	Collaborating with people

During the Industrial Age, a number of management theories whose main objectives were to predict and control employee behaviour in organisations emerged. However, Nkomo (2009:13) states that “the old command and control model of leadership has little place in information and knowledge based organizations”, and argues that “due to intangibility of knowledge, knowledge workers cannot be managed in the traditional way”.

This study then was informed by the desire to explore and investigate whether managers in the information age understand what is required to manage these knowledge workers. And if they are, have they adjusted their management practices and/or styles to optimise the productivity of these workers? Mládková (2011:826) argues that “as the work of knowledge workers cannot be observed and directly controlled, managers have problems to manage them. Traditional tools based on control fail”.

1.3 Problem statement

1.3.1 Main problem

The main problem of this research was to analyse and evaluate the challenges faced by management in dealing with IT knowledge workers within a Financial Services industry.

1.4 Significance of the study

Management is a phenomenon that has been researched and well documented from the Industrial Age to the Information Age. This is evidenced by the existence of various schools of thought and theories on management. However, little has

been done in terms of how managers are dealing with the Information Age generation. There is paucity of literature and/or research on the challenges faced by management in this era. As a result, little guidance has been developed and provided to managers on how the Information Age generation should be managed.

The researcher hopes that this study will help to provide insights in terms of what these challenges are. And that the findings might provide guidance that could help organisations to improve their management training and/or development programmes – the latter being an important aspect of a manager development programme. Rees (1996:07) argues that “the acquisition of management skills is probably best done by a combination of on-the-job coaching supplemented by formal training”.

Effective management development programmes could contribute positively in the improvement of the relationships between managers and their employees – which, in turn, could assist in the reduction of staff turn-over. It is a widely held belief that employees do not leave their jobs, but they leave their managers. This is a threat to the skills and knowledge drain, as confirmed by Hvide and Kristiansen (2012:817): “a range of evidence supports the idea that departing knowledge workers pose a threat to firms”. With improved relationships between the two, there could be fewer employees who find it necessary to leave their managers to pursue better opportunities elsewhere.

1.5 Delimitations of the study

Knowledge workers span a number of disciplines within the knowledge economy. This study was **not** an attempt to investigate the management of knowledge workers in all disciplines of the economy, because this would not have been feasible. However, its focus was within the IT environment in the Financial Services industry.

While it was acknowledged that organisational culture could be responsible for the dynamics where the relationships between the workers and their managers unfold, this concept was **not** explored in this study. Furthermore, globalisation,

which has acted as a catalyst in the transition of workers from wage labourers to knowledge workers, was also **not** explored in this study.

The concept of knowledge management, as a discipline, was also **not** part of this study, although it was acknowledged that it is part of the knowledge workers' environment.

1.6 Definition of terms

The researcher found it necessary to define “knowledge” as a concept first, before defining “knowledge workers”. This was done purely to create proper context for the concept “knowledge workers”.

1.6.1 *What is Knowledge?*

Huber (1991) as cited by Nayir and Uzuncarsili (2008:142) states that “knowledge can be seen as a justified belief that increases an entity’s capacity for effective action”. In this context, the entity whose capacity to perform an effective action or actions is the worker. Grailova and Andreeva (2012:523) also argue that “contemporary management theory views knowledge as one of the key sources for the creation and maintenance of a sustainable competitive advantage in a post-industrial economy”.

Widen-Wulff and Suomi (2007:47) have the following to say about knowledge: “(it) lies in human minds and exists only if there is a human mind to do the knowing”. Mohamed, Stankosky and Murray (2006:107) then add the following: “we can safely say that knowledge is human-driven and depends heavily on human relationships and community communication and interaction”.

This places a strong emphasis on knowledge acquisition and sharing, and is relevant to the dynamics of the relationship between the IT knowledge workers and their managers.

Another important dimension of knowledge is shared by Nayir and Uzuncarsili (2008:141) in their argument that “to sustain a competitive advantage, a company must create, share and utilize the knowledge it possesses”. Misch and Tobin

(2006:134) place further emphasis on the importance of knowledge in the corporate world, when they argue that “knowledge has been recognised as the driver of productivity and economic growth (OECD, 1996) and as a significant source of economic value”.

Joshi, Sarker and Sarker (2006:326) state that “the accumulation of experience in an activity facilitates communication and understanding of relevant knowledge”. This talks directly to the level of experience of the managers – do they have insightful understanding of the people they are managing. Only through enough knowledge will the managers be able to provide appropriate guidance and direction to their generation X and generation Y employees. It can be noted that “knowledge, however, is an intangible asset; its elusiveness and intangibility create myriad challenges; how to manage it, how to contain it; how to measure it; how to process it”, (Bogdanowicz and Bailey, 2002:125).

1.6.2 *Who is the IT knowledge worker?*

Smith and Rupp (2004:146) define a knowledge worker as “a new kind of employee who is characterised by being paid not to create, produce or manage a tangible product and/or service, but rather to gather, develop a process and apply information that generates profitability to the enterprise”. The main element that distinguishes him from other workers is that he owns the means of production (Lester, Parnell and Carraher, 2010).

Ramsey and Barkhuizen (2011:02) provide further insight into the concept of knowledge workers when they state that “knowledge workers are highly qualified and well-educated professionals whose work consists largely of using their expertise to convert information into knowledge”.

No specific definition of an IT knowledge worker could be found, however, it could be inferred that an IT knowledge worker is an individual defined as above, who works within an IT environment. However, Tripathi (2010:01) states that “knowledge workers may be found across a variety of information technology roles.”

1.6.3 Managers

Managers are defined as those individuals who are “positioned in the middle of the organization and serve as vertical links between the strategic decision-makers and the first-level supervisors as well as front-line employees in their business units” (Qiao and Wang, 2009:71). They are held accountable to translate the organisation’s strategy into actions that result in the delivery and/or realisation of that strategy. They play a critical role in the achievement of the organisation’s goals through the teams they lead.

King, Fowler and Zeithaml (2001:98) note that “middle managers play an essential, but often unappreciated, role in successful strategy making”. There is another view and different reality associated with managers, as highlighted by Clarke (1998:191) that “the middle manager has also come to represent the great dampener of organisational creativity, the imposer of bureaucratic rules that frustrate spontaneity and creativity”.

1.6.4 Knowledge Economy

Brinkley, Fauth, Mahdon and Theodoropolou (2009:09) define knowledge economy as a ‘transferred economy where investment in ‘knowledge based’ assets such as R&D, design software, and human and organisational capital has become more dominant form of investment compared with investment in physical assets – machines, equipment, buildings and vehicles.”

1.7 Assumptions

This study was undertaken with the following assumptions:

- The respondents would have the information required for this study.
- They would be willing to share this information.
- They would be honest about their views and/or opinions.
- They would be accessible for interviews.

- They would be available for vetting the interview transcripts to ensure accuracy.

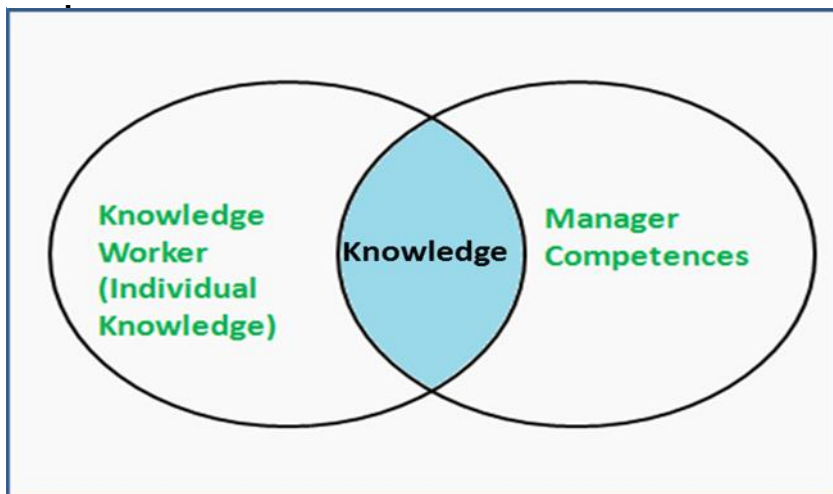
CHAPTER 2. LITERATURE REVIEW

This was an exploratory study, “whose aim was to gain insights and ideas” (Sekaran, 1992) in Ahmad and Ali (2003), around the dynamics of managing knowledge workers. The key question was “what are the challenges that stand in the way of an effective management of these workers, and how can these challenges be overcome?” In the section that follows the researcher provides an in-depth discussion of what the literature says on knowledge, IT knowledge workers, and management of knowledge workers. He then provides a discussion of how these concepts are interlinked and feed into each other in my summary of the Literature Review.

2.1 Definition of topic or Background discussion

As indicated in Chapter 1, there is dearth of research done and/or literature written directly on challenges facing managers of IT knowledge workers. However, there is a great deal of literature on knowledge, knowledge workers and management. This study was an attempt to incorporate these concepts and provide a synthesis thereof. Pictorially, the relationship between these variables

Figure 1: The overlap between manager and knowledge



In the Knowledge Economy, knowledge is at the centre of the relationship between the IT knowledge workers and their managers. In some cases, the workers have more technical knowledge than their managers, and in other they have less. The level of this knowledge can play a role in determining the dynamics of the relationship. In the sections that follow, the researcher unpacks this relationship further.

2.2 IT knowledge workers

2.2.1 *The Concept of Knowledge*

The concept of knowledge should not be viewed from the IT knowledge workers' perspective only – i.e. in terms of what they know – but should also encompass the managers' perspective. Therefore, this implies that the concept of knowledge – from the managers' perspective – can be extended to include business knowledge, which refers to “knowledge of business strategies, organizational work processes, firm's products and services, industry recipes for success, and competitor strengths, weaknesses, and potential actions” (Amstrong and Sambamurthy, 1999:307).

Knowledge – whether viewed from workers' or managers' perspective – is typically classified into explicit and tacit knowledge. Bassellier, Reich and Benbasat (2001) make this distinction quite clear. According to them **explicit** ISD knowledge refers to the technical knowledge such as knowledge about applications and technologies required for gathering information from the users or for developing the information system application, while the **tacit** ISD knowledge refers to managerial knowledge related to system development. The challenge with tacit knowledge is that it exists in the human's mind, unlike the explicit knowledge which has been codified and stored somewhere either in the form of files, books and/or exercises. The explicit knowledge is easy to transmit to and share with the other person. It can be read from the books.

They further argue that explicit knowledge itself is not enough to describe competence, because knowing the rules of chess and being able explain to them

to someone else does not make one a chess champion. One needs to be able to apply these rules in the game of chess to be competent. Without a proper understanding of how knowledge is classified, managers of knowledge workers will find it difficult to gain an insight into how best to support, motivate and manage their workers effectively. This is because “in order for tacit knowledge to properly emerge, people must first be surrounded by a supportive environment” (Ehin, 2008:340).

Nayir and Uzuncarsili (2008:141) further argue that “tacit knowledge, on the other hand, is difficult to interpret and transfer as it resides in the human mind, behaviour and perception. This dimension of knowledge is expressed in skilful actions. Typical tacit knowledge examples are intuitions, insights, beliefs and values”. In the same breath, “the ability to perform well is tacit knowledge, or ‘know-how’. Practice, or experience, where the individual modifies his action based on the results of previous actions, builds competence through enrichment of know-how” (Bassellier, et al, 2001:164). These views have huge implications for managers and their level of competence (technical and non-technical) to deal with issues relating to management of IT knowledge workers.

2.2.2 Knowledge Workers in the Knowledge Economy

With the economic evolution from Industrial to Knowledge Economy, the classification of the workers has also evolved from wage labourers, baby boomers, generation X and most recently, generation Y. Cibangu (2003:279) argues that “half a century ago, visionary Peter Drucker coined the term ‘knowledge worker’ to describe a new class of workers who would shape the future of business in an economy driven by information as opposed to the production of goods.” Ehin (2008:337) concurs with this view when he argues that “since we have entered the Knowledge Age, the world economy is increasingly dependent on knowledge workers and the continuous pursuit of intellectual capital.”

Bergeron (2003) defines knowledge workers as “individuals who contribute to the intellectual capital of their organisation” in Van Staden and Du Toit (2011:81). In the present day, we cannot ignore what Hvide and Kristiansen (2012:815) say

that “knowledge workers make up a significant proportion of advanced economies’ workforces. Their expertise is important for numerous organizations around the world, but we still have limited insight into how firms incentivize and retain such workers”. And in these “knowledge-intensive situations, knowledge workers play a direct, vital role in increasing the financial value of a company” (Tripathi, 2010:01).

Van Staden and Du Toit (2011:82) state that “even though knowledge workers may be educated in a specific knowledge area, they are continually learning”. According to Gurteen (2006) in Steyn and Du Toit (2009) knowledge workers are self-motivated, do not take ‘No’ for an answer, and no one tells them what to do. Davenport (2005), argues that “knowledge workers are responsible for sparking innovation and growth in an enterprise. They invent new products and services, design marketing programmes and create strategies” in Steyn and Du Toit (2009: 01).

The researcher’s focus was on IT knowledge workers (as a subset of knowledge workers), with specific reference to generation X and generation Y workers. Elsdon and Iyer (1999), cited in Lester, Parnell and Carraher (2010:127), state that generation X is “unlike baby boomers who preceded them, generation Xers cannot and do not seek life-long employment, but they do crave life-long learning. They seek employability over employment: they value career self-reliance”. As knowledge workers, Xers bring to the party their technical skills, education, learning and experience – and these are qualities which make them valuable to an organisation and in high demand (Lester, Parnell and Carraher, 2010:128).

Martin (2005) is of the view that generation Y workers are even more demanding than the generation X workers, because they are blunt and techno-savvy. This generation of knowledge workers (the younger siblings of generation X) believes that “technology is as transparent as the air, diversity is a given, and social responsibility is a business imperative” (Martin, 2005:39). He further states that these workers want clear directions and managerial support. But at the same time they also demand the freedom and flexibility to get the task done in their own way, at their own pace. Their managers should be prepared to give the generation Y workers room for “trial and error”.

The Table below (content adapted from Barrett, 2010) presents the characteristics of the generation Y Knowledge Workers.

Table 2: Generation Y characteristics

Characteristic	Description
High expectation of self	They aim to work faster and better than other workers.
High expectations of employers	They want fair and direct managers who are highly engaged in their professional development.
Ongoing learning	They seek out creative challenges and view colleagues as vast resources from whom to gain knowledge.
Immediate responsibility	They want to make an important impact on Day 1.
Goal-oriented	They want small goals with tight deadlines so they can build up ownership of tasks.

An understanding of both generation X and generation Y workers is critical for all managers so that they can overcome the challenges they face in managing them. Table 3 below provides a fusion of generation X and generation Y behavioural traits. It is based on research findings by Martin (2005) on generation Y and Lester, Parnell and Carraher (2010) on generation X. It is intended to provide a single view of the traits of the two generations of knowledge workers.

Table 3: Generation X and Generation Y traits

Trait	Generation	Comment
Commitment	Gen X	They change jobs frequently, on average every 18 months.
	Gen Y	Their long-term commitment to an organisation actually means 1 year.
Expectation	Gen X	If an employee is to add value in the form of human intellectual capital to the company, the company must reciprocate.
	Gen Y	They expect daily feedback to stay or get back on track.
Motivation	Gen X	They are motivated by variety, relevancy, stimulation and constant change.
	Gen Y	They like new challenges and new opportunities (these result in an adrenaline rush).
Career ambition	Gen X	They are preparing for careers; and not tenures in specific organisations and are increasingly career self-reliant.
	Gen Y	They want to play meaningful roles doing meaningful work on teams of highly committed and motivated co-workers.
Incentive	Gen X	They value self-advancement over corporate advancement.
	Gen Y	They have every intention of making a great deal of money while building their ideal career and personal life.
Urgent sense of immediacy	Gen X	They may be perceived as unwilling to pay dues and not amenable to delayed gratification by life-long employees.
	Gen Y	They want to know: What value can I add today? What can I learn today? What will you offer me today? How will I be rewarded today?

2.3 Challenges facing management

Grulke (2008b:56) argues that “the reason why organisations worldwide are changing is that the environment in which they operate have changed drastically over this period and the pace of that change is accelerating”. As part of this change, workers have undergone transformation as well, because the “advances in technology and the increasing importance of information management have enabled knowledge workers to be more productive” (Lester, Parnel and Carraher (2010:247)).

According to Cortada (2001:16) this shift from Industrial to Information Age has “certain features that present businesses with new types of economic opportunities and threats”. Given the nature and ownership of knowledge, managers in this era have “to deal with a spectrum of problems and issues that can be summarised as a combination of living simultaneously in the old (the Industrial Age) and in an emerging one (the Information Age), or more precisely, in the Digital Economy” (Cortada, 2001:20). Furthermore, Ehin (2008:337) argues that “as the value of knowledge rises daily, we are discovering that knowledge workers cannot be managed in the traditional sense.”

Drucker (1999) is cited by Cibangu (2003:281) when he states that “**increasing the productivity of knowledge workers** is the greatest challenge facing management in the twenty-first century”. Hunter and Scherer (2009:01) state that “if companies are going to be profitable, if our strategies are going to be successful, if our society is going to become more advanced – it will be because knowledge workers did their work in a more productive and effective manner.”

It is for this reason that Gavrilova and Andreeva (2012:523) argue that “the question of what managers can do (if anything) to transform their employees’ knowledge into organizational knowledge, or at least to share it as much as possible among various individuals in an organization, remains largely open”. Undoubtedly, the challenge of increasing productivity requires “major changes in attitude by the knowledge workers as well as management of an enterprise” (Steyn and Du Toit, 2009:01).

The concept of the new “gold-collar” workers, who are educated, smart, creative, computer literate and equipped with portable skills (Bogdanowicz and Bailey, 2002) is posing various challenges for management. Furthermore, Mládková (2011:830) argues that “management of knowledge workers is tricky business. Managers cannot observe the most important part of knowledge worker’s work and they often manage people who know about their work much more than they do”. And the fact that, “knowledge is difficult to manage because it is multi-faceted, complex, distributed, often tacit, abstract, and contextual (Blacker, 1995) makes things worse. There is a **lot of co-operation** that is required by

management because workers carry and own this powerful resource (Drucker, 1989)” as cited by O’Neill and Adya (2007:413).

Because knowledge workers are now “self-managing, work on their own initiatives, and are responsible for their own contribution”, Drucker (1999) as cited by Wang and Ahmed (2003:08), it creates all kinds of challenges for managers. They need to constantly seek better ways of balancing “supervision” with “freedom” without totally abandoning the workers, while at the same time giving them enough room to do their jobs. To support this point, Wang and Ahmed (2008:08) again cite Drucker (1999) when he argues that “instead of exerting control over them, managers should direct knowledge workers as if they were unpaid volunteers, tied to the company by commitment to its aim and purposes and often expecting to participate in its governance.”

The other challenge faced by managers of knowledge workers is captured by Lester, Parnell and Carraher (2010:247), in their argument that “in an age when knowledge workers require regular and effective personal discourse with their superiors, managers avoid direct contact with subordinates, choosing instead to play politics, look busy, and blame a lack of progress in their workgroup on budgets and superiors”.

The question Martin (2005:41) poses to the manager is “are you poised to utilize the skills of young workers who may know more about technology than you?” Pogson (2003:01) argues that “when managers try managing experts who are brighter than they are, it can often end in tears”. He further argues that this is because “managers find themselves leading people who are smarter and better qualified in their area of expertise than they are. Many may have completed a qualification that did not even exist a decade ago” (Pogson (2003:09). Knowledge workers are particular about “individual treatment”, and they “respond to leaders that they can respect”. They also require “new organisational structures” of a kind that have not been invented yet (Pogson, 2003:10).

Managers also need to realise that “there is no shortage of work opportunity in the world – only a shortage of skills and ideas! The trouble is that the skills that will fuel the new economy are not based on muscle power, but on the ability to

harness the power of the mind. We need thinking skills, fundamentally different knowledge and service skills” (Grulke, 2008a:58). To overcome this challenge, managers need to be aware that “**lifelong learning throughout the career of a knowledge worker** is essential to stay competitive and deliver value to the organisation” (Van Staden and Du Toit, 2011:89).

Ramsey and Barkhuizen (2011:01) argue that “it appears that current organisational designs do not emphasise optimising the expertise of knowledge workers”. And, according to Covey (2004), managers still apply the Industrial Age control model to knowledge workers. Wang and Ahmed (2008:06) argue that “the different features of knowledge workers require companies to motivate, monitor and evaluate knowledge workers in a different way from traditional workers.” It must be said that these workers prefer not to be limited to a job role, which has defined boundaries, but would rather be stretched out of their comfort zone as part of their learning and development process. As a result, they do not do well in bureaucratic and rigid environments. In such environments, it is highly likely to find them disengaged, and less productive.

Martin (2005:42) argues that “young workers will challenge you almost every step of the way. Don’t be insulted when they throw an ‘of course, there are other ways to do this’ attitude at you”. Furthermore, he argues that “gen Y sees increasing responsibility not as a burden to be avoided but as a proving ground for their skills and talents. Like Xers, generation Yers request – even demand – more responsibility”. Thus, managers should not hesitate to give generation X and generation Y workers responsibility, because by refraining from doing so, they are sending them the wrong message. They are actually saying ‘I don’t trust that you are good enough to do this, and I would like to micro-manage you’ – a style that both generations find unacceptable.

Generation Yers, especially, struggle with time management, and thus the **managers need to be able to coach them** in terms of how to handle day-to-day tasks and responsibilities. Managers should also realise that generation Yers demand change, and are looking for places where they can move “from project to project, position to position, department to department, location to location”, (Martin, 2005:42). If the manager does not create a climate that constantly

provides new challenges linked to growth and development, these workers will seek opportunities elsewhere. This applies to career advancement opportunities as well. They are very ambitious in terms of career growth, and will leave a company quickly if these opportunities are non-existent.

Managers need to understand the four key motivators associated with knowledge workers. Myers and Tampoe (1996), as cited by Carter and Scarbrough (2001), in Van Staden and Du Toit (2011:82), identified four key career motivators for a knowledge worker who has moved beyond career entry. These are *personal growth*, *operational autonomy*, *task achievement* and *money*. Understanding these motivators can go a long way towards retaining IT knowledge workers. This view is confirmed by Templer and Cawsey (1999) in Van Staden and Du Toit (2011:89): “the ability of an organisation to attract and retain IT knowledge workers is central to its present and future success in the knowledge economy”.

2.4 Conclusion of Literature Review

In presenting the literature view, the researcher focused on the three key concepts which he felt were the cornerstone of this study. He started by looking at what the literature says in relation to knowledge. The main message of this exercise was that knowledge is a personal thing. Even before organisations can build and develop their knowledge-base, they need to “negotiate” with individuals who possess personal knowledge, so that this knowledge can be exploited for the good of the organisation.

Then he also looked at who the knowledge worker is. He provided a brief historical background that traces the origins of the concept of knowledge worker, i.e. from inception to the current version of this profile, viz. the generation X and Y employees. Through the review, he presented the characteristics of both the generation Xers and Yers.

The researcher then presented a literature review of the challenges managers of knowledge workers face. These challenges could be broadly summarised under the following areas of focus, viz:

- 1) How the knowledge workers expect to be managed?
- 2) Their need for continuous training and development.
- 3) What keeps them motivated at their workplace?
- 4) Does the work environment allow them to collaborate with colleagues?
- 5) The ambition to move on to the next career level – the growth aspect.

The next step of this study then was to get the views of the knowledge workers and their managers to establish whether they concurred with what the literature says on this topic.

2.4.1 Research Propositions

To gauge whether management is able to overcome challenges associated with managing IT knowledge workers, the researcher looked into the following factors:

- **Employee Expectations** – IT knowledge workers are highly educated individuals, who are sometimes more knowledgeable, in what they do, than their managers. This can easily lead to misalignment in terms of how they are managed and how they expect to be managed.
- **Continuous Learning** – IT knowledge workers work in an ever changing environment because of the rapid pace with which technology changes. This means that they have to consistently keep their skills up to date.
- **Knowledge sharing and collaboration** – To successfully implement projects in the IT space, IT knowledge workers are expected to collaborate with each other. This is also because of the complexity of the systems that integrate to bring business value.
- **Motivating factors** – IT knowledge workers easily get bored if they work on mundane and boring projects. This is because of their skills and education level.
- **Employee Mobility** – Because IT knowledge workers possess skills that are highly sought after in the market, it is not easy for management to get them to stay in one organisation for more than two years.

CHAPTER 3. RESEARCH METHODOLOGY

Based on the objective of this study, which was to examine “human behaviour in the form of attitude, opinions and/or perceptions” (Family Health International, 2005:02), the qualitative methodology was used. This approach “provides information about the ‘human’ side of an issue – that is, the often contradictory behaviours, beliefs, opinions, emotions, and relationships of individuals”, (Family Health International, 2005:02).

It is worth noting that “human beings are indeed a complex system and, when coupled with the complexities of business organizations, the task of understanding how they interact is a daunting task one”, (Fornaciari and Lund Dean, 2001) as cited by Thomson (2011:80). The researcher did not choose the quantitative methodology because the latter is “concerned with describing rather than explaining the relationship between variables” (Ahmad and Ali, 2003:01).

3.1 Research methodology /paradigm

Qualitative methodology aims to “probe for deeper understanding rather than examining surface features” (Johnson, 1995), as cited by Golafshani (2003:603). Merriam (2009:13) takes this clarification even further, when she argues that “qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world”. Thus this study was about describing how the experiences, beliefs and perceptions of IT knowledge workers and managers influence and affect the dynamics of their relationship.

Expanding on this point, this study was meant to be phenomenological and descriptive in nature, because of the researcher’s desire to understand the challenges faced by management in managing IT knowledge workers. Bryman (2013:30) describes phenomenology as “a philosophy that is concerned with the question of how individuals make sense of the world around them and how in particular the philosopher should bracket out preconceptions in his or her grasp of the world”.

3.2 Research Design

The technique that was used to collect data for this study was unstructured interviews, because they “resemble everyday conversations, although they are focused (to a greater or lesser extent) on the researcher’s needs for data”, (Miller and Brewer, 2003:15).

Bryman (2013) argues that there are various advantages and disadvantages of using unstructured interviews over structured ones. As advantages, he lists the following: respondents can answer in their own words; the researcher may get answers that he would not have contemplated as possible; the questions do not suggest any answers to the respondents and the salience of issues for respondents can be explored further. As disadvantages, he argues that unstructured interviews are time consuming; answers have to be coded; and they require greater effort from respondents because they have to talk.

However, the unstructured interviews approach was regarded as the best tool to use by the researcher because it provided a way of generating data by talking to people about what they do in their everyday life (Miller and Brewer, 2002). Also, “qualitative research is based on subjective, interpretive and contextual data”, (Thomson, 2011:78), and the researcher felt that the interviews would be ideal to collect such data.

Furthermore, the unstructured interviews allowed the researcher to gain an understanding of how the respondents (IT knowledge workers and their managers) felt about the dynamics of their relationships. The focus then was to gather more information from fewer participants, which was, hopefully, going to lead to an in-depth understanding of the issues at hand. All interviews were conducted personally by the researcher. In the next section, the researcher provides more details on the population, the sample and the schedule of the interviews.

3.3 Population and sample

3.3.1 *Population*

Bryman (2013:714) defines population as “the universe of units from which a sample is to be selected”. In this study, the population was IT knowledge workers and managers within the Financial Services industry in South Africa. This population was made up of Software Developers, Software Testers, Business Analysts, Systems Analysts, Portfolio Managers, Heads of Development and Test Managers. The plan was to use the following companies:

- First National Bank
- Standard Bank
- Investec
- Liberty Life

However, because respondents at Standard Bank and Investec could not be secured, the following companies were used:

- FNB
- ABSA
- WesBank
- Liberty Life

3.3.2 *Sample and sampling method*

Bryman (2013:12) argues that “samples should be chosen on their appropriateness to the purposes of the investigation”. All the respondents chosen for the interviews were IT professionals.

The number of respondents that the researcher planned to interview was 16, however, but the actual number interviewed was 14, and the table below presents a categorisation of these respondents per job title.

Table 4: Respondents by job title

Respondents job title	Number of respondents
Business Analyst	2
Test Analyst	3
Systems Analyst	1
Systems Developer	2
Test Manager/Head of Testing	2
Development Manager /Head of Development	2
Business Analyst Manager/ Team Lead	1
Head of Project Management	1

The job titles of the respondents were evenly spread as initially planned. Six managers (from different aspects of the IT domain) and eight knowledge workers (also from different aspects of the IT domain) were interviewed. Slightly more Test Analysts were interviewed, while no Project Managers were interviewed. However, the mixture of respondents seemed to be balanced for this research.

The table below presents the view of respondents by sector in the Financial Services industry.

Table 5: Respondents by sector

Sector within the industry	Number of respondents
Banking	10
Insurance	4

The majority of the respondents were drawn from the banking sector, thus the study is heavily skewed towards this sector. This was mainly because the researcher was employed in the banking sector and therefore had easier access to respondents within this sector, than in the insurance sector.

3.4 The research instrument

Two interview sheets were prepared, one for the managers' interviews and another one for the IT knowledge workers' interviews. These sheets contained a list of questions that were asked to the respondents. The questions were designed based on the literature review. The full interview guides are provided in Appendices A and B.

3.5 Procedure for data collection

The researcher emailed a letter of introduction to each interview respondent (see appendix C) to request an interview. When this request was accepted, he sent a formal meeting request via email to the respondents. The list of questions was sent as part of the agenda. This was done to allow respondents enough time to prepare for the interviews. At the start of each interview, the researcher sought verbal permission from the respondent to record the interview, and the respondent was assured that his/her responses would be treated as confidential.

Hand written notes were made during each interview to pick up any additional information that was going to help with gaining insight into the answers.

Questions were asked according to the guide prepared, and further probing was done – based on the responses given by the respondents.

The planned data collection period was about two weeks, but due to challenges around the availability of the respondents, this process took about two months to complete.

3.6 Data analysis and interpretation

To analyse data for this study, the researcher used the “Cognitive Mapping” technique. Miles and Huberman, 1994, as cited by Walker and Myrick (2001:549), argue that “data analysis in qualitative research manages words, language, and the meanings these imply”.

Therefore, it is necessary to use cognitive mapping because it allows for a “graphical representation of an individual’s understanding of a particular issue, domain or problem (Spicer, 2000), which if elicited properly, potentially allows for deeper and more integrative understanding and insights for the researcher”, (Ahmad and Ali, 2003:03).

The advantage of cognitive mapping is that it “offers structured thought through symbolic and graphical representation rather than linear layout, managing a large amount of qualitative information, and can improve interview capability” (Ahmad and Ali, 2003:04).

Willment (2010:161) argues that “one way we provide meaning to our world is through the development of mental representations. It is through our ability to code, store, recall, and decode information about the locations and attributes of objects in our world that we are able to discriminate and classify phenomena”.

The knowledge workers and managers were asked five questions. The first four questions posed to the two groups of respondents were similar in terms of the concepts. However, the difference was that the knowledge workers were expected to describe how they viewed their managers or their managers’ actions around those concepts; while the managers were expected to describe their actions or how they view themselves around those specific concepts. This was

done with the intention of getting views about the same concepts from two different points of view.

Each respondent's responses were coded into five distinct maps – each map focusing on the response to each question. Following this, combined maps per responses to each question were then compiled. This was done because “these maps, which represent the views of individual respondents, suggest a number of common themes” (Van der Linde, 2013:28). This iterative process was followed to discover underlying themes from the responses, while at the same time taking great care of not over simplify these responses.

3.7 Limitations of the study

It was not possible to interview the entire base of IT Knowledge workers, and thus the size of the sample poses a limitation in terms of what can be inferred from the interviews. This size (4 organisations, 14 respondents – all drawn from the Gauteng province) could also mean that the results of this study may not be transferable to other contexts or even other Financial Services organisations that were not part of the study.

Time constraints also provided limitations to this study, because approaches like triangulation could not be applied during the data collection phase. The benefit of triangulation is that it increases the validity of the study. But Thurmond (2001) argues that one of the primary disadvantages of triangulation is that it can be time-consuming.

This is because collecting more data requires greater planning and organisation. The researcher did not have enough time, because, inter alia, the resource was not always available. Therefore, the researcher was not able to apply various data collection techniques, but only relied on one technique, viz. unstructured interviews.

3.8 Validity and reliability

Tichapondwa (2013:34) provides a clear distinction between internal and external validity in his statement that “internal validity is the extent to which research results can be accurately interpreted while external validity is the extent to which the research results can be generalized to populations and conditions”. However, qualitative study, especially where a small sample size is used, like in this case, cannot be generalised across the entire population.

Tichapondwa (2013:34) further argues that “in qualitative research the researcher must always seek a useful balance between internal validity (ability to interpret the result with reasonable certainty) and external validity (ability to generalize information obtain”. Bryman (2013:173) says “although reliability and validity are analytically distinguishable, they are related because validity presumes reliability”.

Therefore, if the researcher can show that his study has validity – through the data collection techniques used, it then implies that the conclusions drawn from it are reliable. In the next section, the researcher demonstrates how he ensured the data collection technique used guaranteed validity of this study.

3.8.1 External validity

Shenton (2004:69) cites Merriam (2009) in his discussion of external validity, that it “is concerned with the extent to which the findings of one study can be applied to other situations”. The challenge around external validity lies in demonstrating that the results of the study can be applied to the wider population, i.e. generalisable.

Although two of the four big retail banks, a leading asset finance bank and one of the leading long-term insurance organisations were used for this study, the sample size from each company cannot be said to be representative of this population. Therefore, this study cannot claim ‘generalisability’ or transferability of its results to other situations, because only a small number of knowledge workers and managers were interviewed.

This was something that the researcher did not find unusual for a qualitative research, as pointed out by Thomson (2011:79): “for qualitative research generalisability is problematic. Qualitative research is concerned with the concepts and idiosyncratic characteristics of a select group; therefore, the findings or theory may only be applicable to a similar group”.

3.8.2 *Internal validity*

What is applicable and key to this study is internal reliability, which is used to ensure that the study measures or tests what it is actually intended to measure (Shenton, 2004). To ensure that this happened, the researcher gave the respondents an opportunity to refuse to participate in the interview sessions. This ensured that they were genuinely willing to participate and were willing to respond freely. Also, the respondents were selected because of being in the IT field within a Financial Services environment, to ensure that they present relevant data. Frankness and honesty were encouraged through showing them that all answers were acceptable.

An audio recorder was used to ensure that the data represented exactly what the respondents said. The completed transcripts were then sent to the respondents who confirmed the accuracy and correctness of the transcripts. Therefore, the researcher is comfortable to say that internal validity was achieved.

3.8.3 *Reliability*

Lincoln and Guba (1985) state that “since there can be no validity without reliability, a demonstration of the former [validity] is sufficient to establish the latter [reliability]”. And Patton (2002) argues that reliability is a consequence of the validity of the study.

The researcher can therefore argue that, having taken all the necessary steps indicated above to ensure internal validity during the data collection and transcription phases, the results of this study could be regarded as reliable. Tichapondwa (2013:35) argues that “in qualitative research reliability is measured in terms of dependability, confirmability and observer agreement”. The three

points that he mentions were achieved by adhering to the process of ensuring internal validity.

3.9 Demographic profile of respondents

Table 4 below provides a profile of the respondents that the researcher had originally planned to interview, together with the companies they were going to be drawn from. The plan was to interview 4 managers and 12 knowledge workers.

Table 6: Planned profile of Respondents

Role Company	Liberty Life	First National Bank	Standard Bank	Investec	Total Per Role
Manager	1	1	1	1	4
Business Analyst	1	1	1	1	4
Software Developer	1	1	1	1	4
Tester	1	1	1	1	4
Total per company	4	4	4	4	
Total Number of Respondents					16

The interviews were conducted with 6 managers and 8 knowledge workers, as set out in Table 7 below:

Table 7: Actual profiles of Respondents

Role Company	First National Bank	ABSA Bank	WesBank	Liberty Life	Total Per Role
Portfolio Manager	0	1	0	0	1
Head of Development	0	0	0	1	1
Head of Project Management	0	0	0	1	1
Test Manager	1	1	0	0	2
Business Analyst Team Lead	0	0	1	0	1
Total number of managers					6

Role Company	First National Bank	ABSA Bank	WesBank	Liberty Life	Total Per Role
Business Analyst	0	0	1	1	2
Systems Analyst	1	0	0	0	1
Software Developer	1	0	1	0	2
Test Analyst	1	0	1	1	3
Total number of knowledge workers					8
Total per company	4	2	4	4	
Total Number of Respondents					14

The researcher is of the view that the difference between the two samples has had little or no impact on the themes that emerged from the results. The profiles of those respondents that were interviewed satisfied the criteria of IT knowledge workers and managers of knowledge workers.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

The results of each interview are presented below in the form of cognitive maps. Each map was compiled based on the propositions identified in Section 2.4.1 above. The themes in these propositions were identified as:

- Employee Expectations
- Employee Training and Development (continuous learning)
- Employee Mobility or Tenure
- Motivating factors
- Collaboration with peers

The maps are presented in two sections:

- a) The first section presents the interview responses of the knowledge workers
- b) The second section presents the interview responses of the managers of the knowledge workers.

To help contextualise these maps, each respondent's position and company's profile and industry focus are mentioned.

4.2 Results pertaining to knowledge workers

Figure 2: Cognitive Map For Interview Number 1

Company Profile : Financial Services – Insurance

Industry Focus : Long-term Insurance

Respondent's Role : Business Analyst

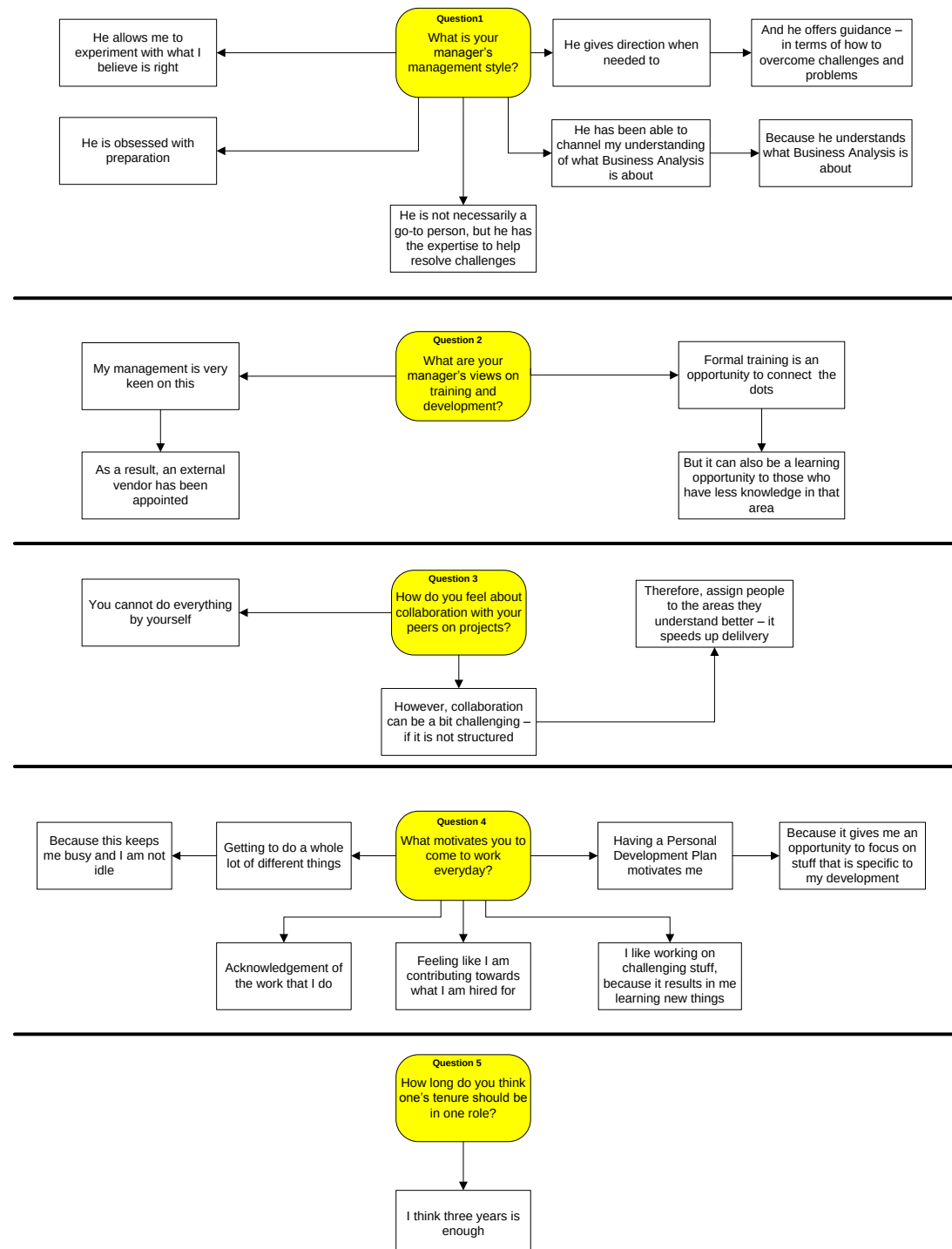


Figure 3: Cognitive Map For Interview Number 2

Company Profile : Financial Services – Asset Finance

Industry Focus : Vehicle Finance

Respondent's Role : Business Analyst

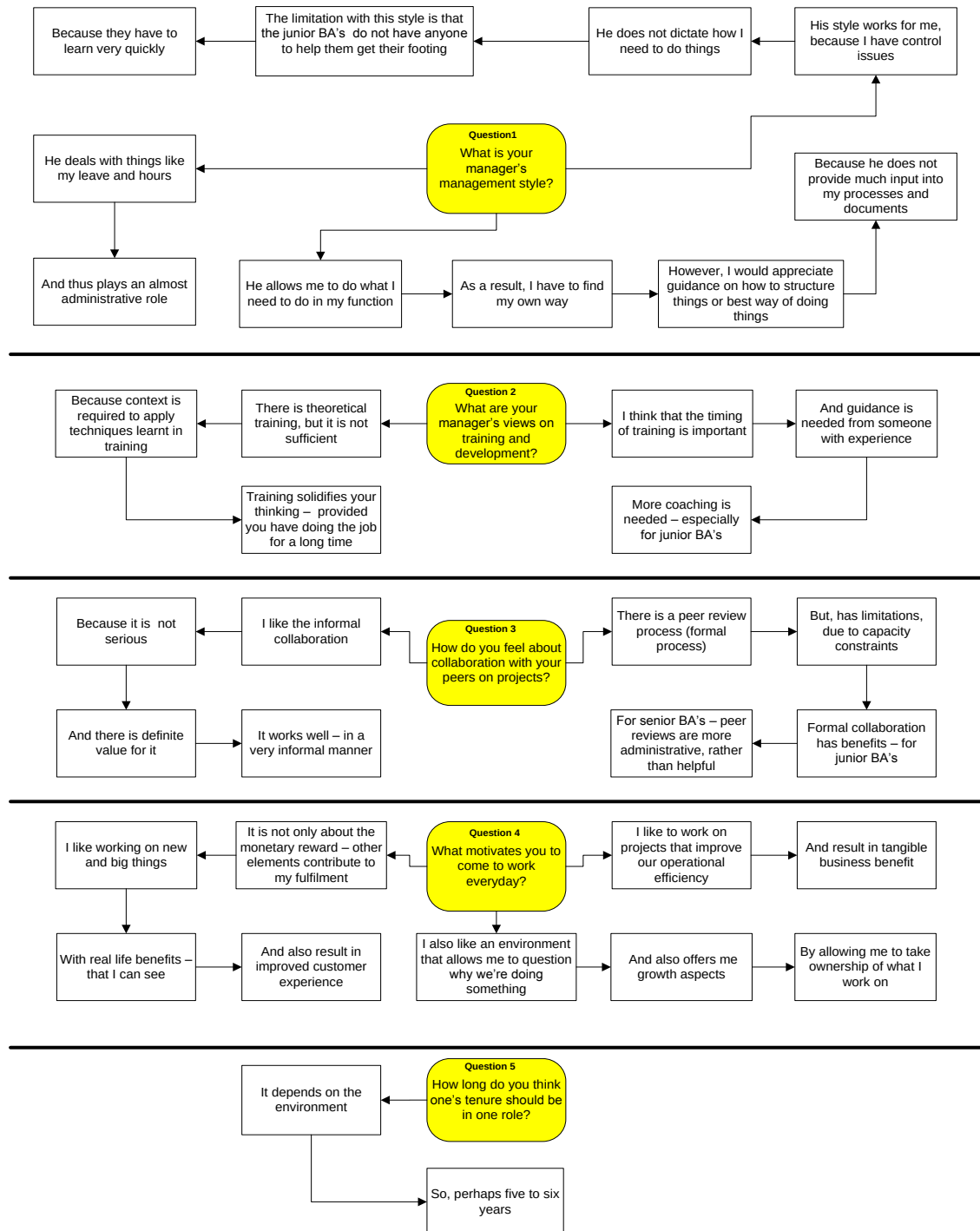


Figure 4: Cognitive Map For Interview Number 3

Company Profile : Financial Services – Banking

Industry Focus : Retail Banking

Respondent's Role : Systems Analyst

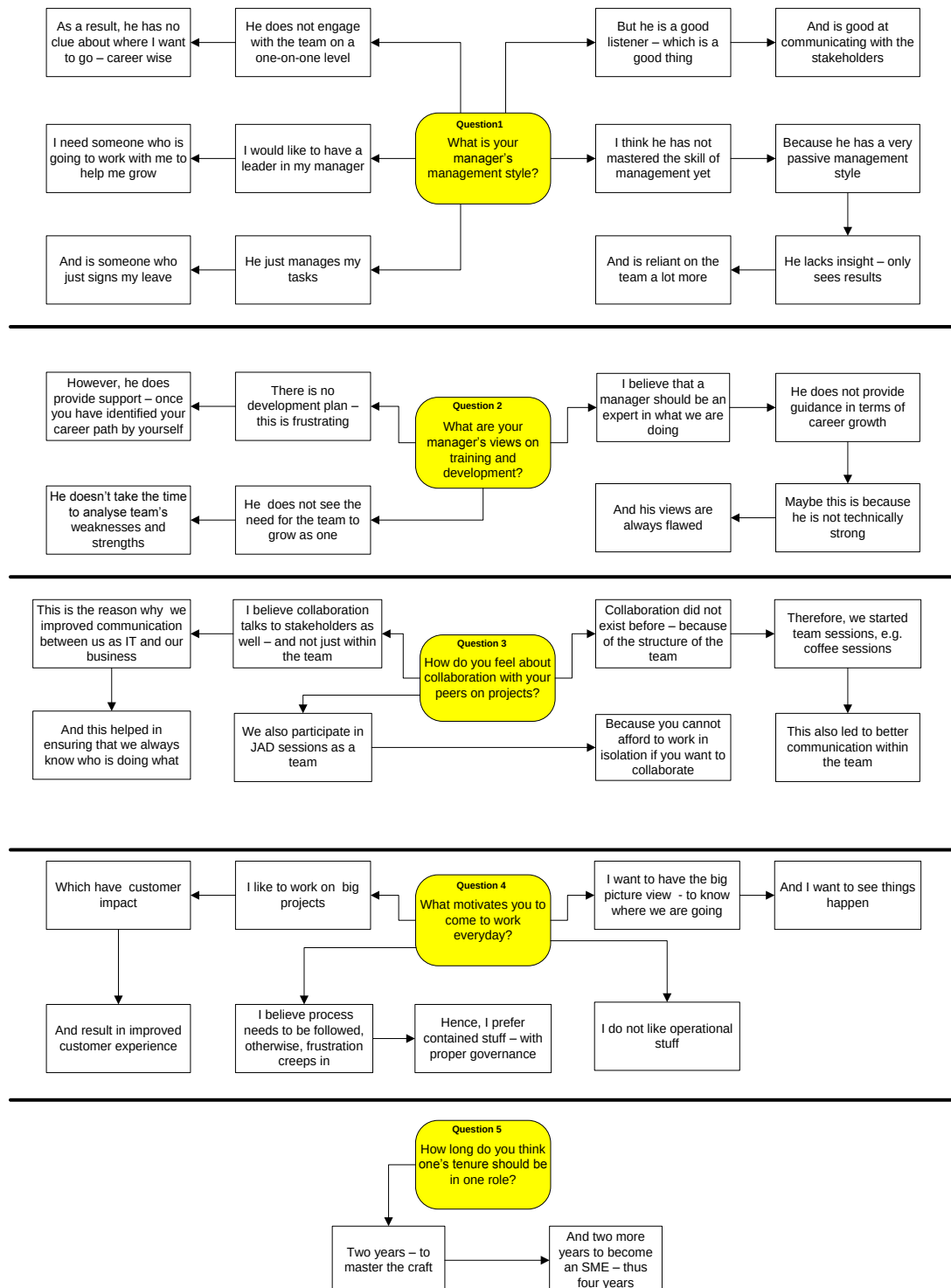


Figure 5: Cognitive Map For Interview Number 4

Company Profile : Financial Services – Insurance

Industry Focus : Long-term Insurance

Respondent's Role : Test Analyst

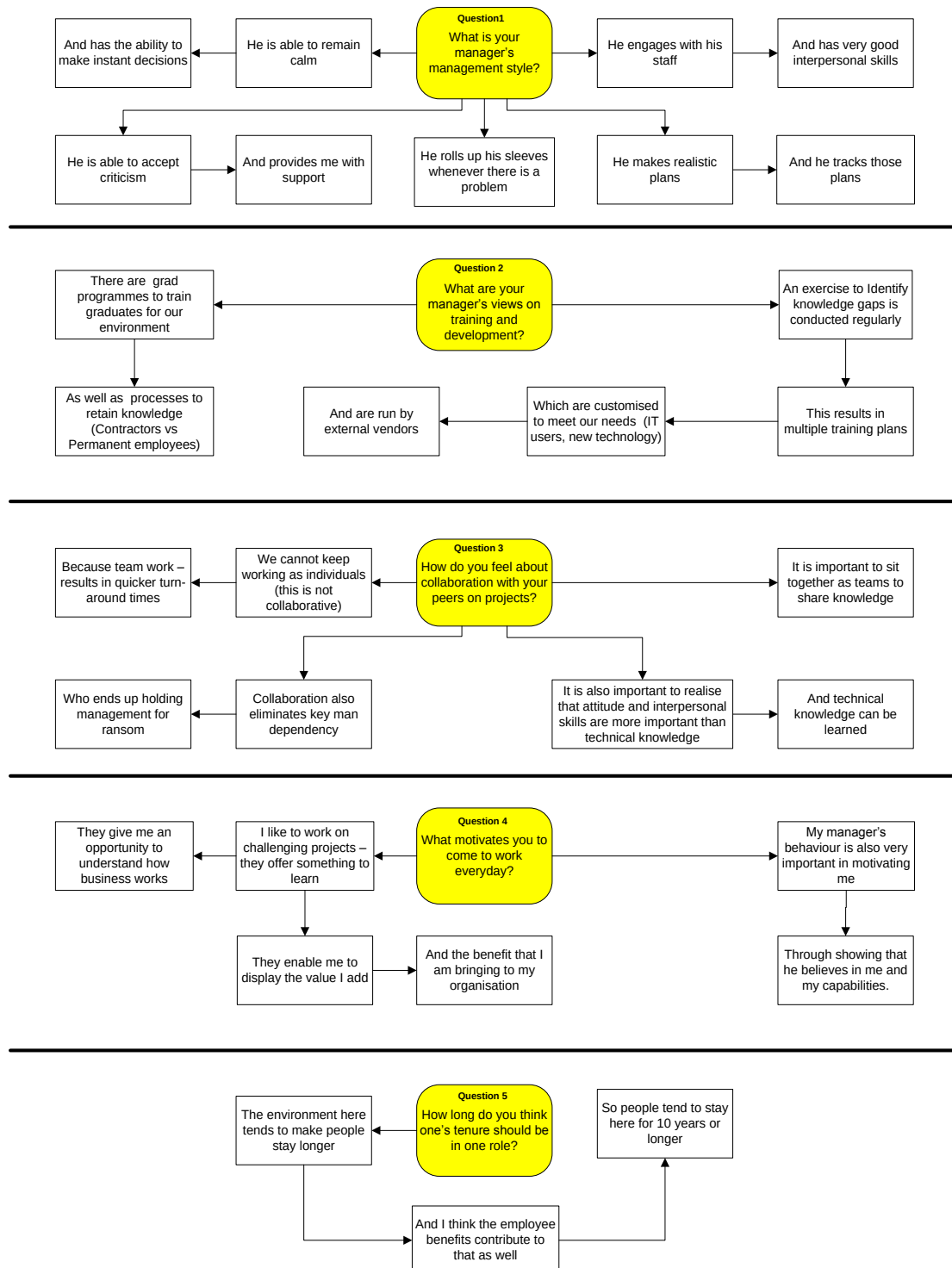


Figure 6: Cognitive Map For Interview Number 5

Company Profile : Financial Services – Asset Finance

Industry Focus : Vehicle Finance

Respondent's Role : Test Analyst

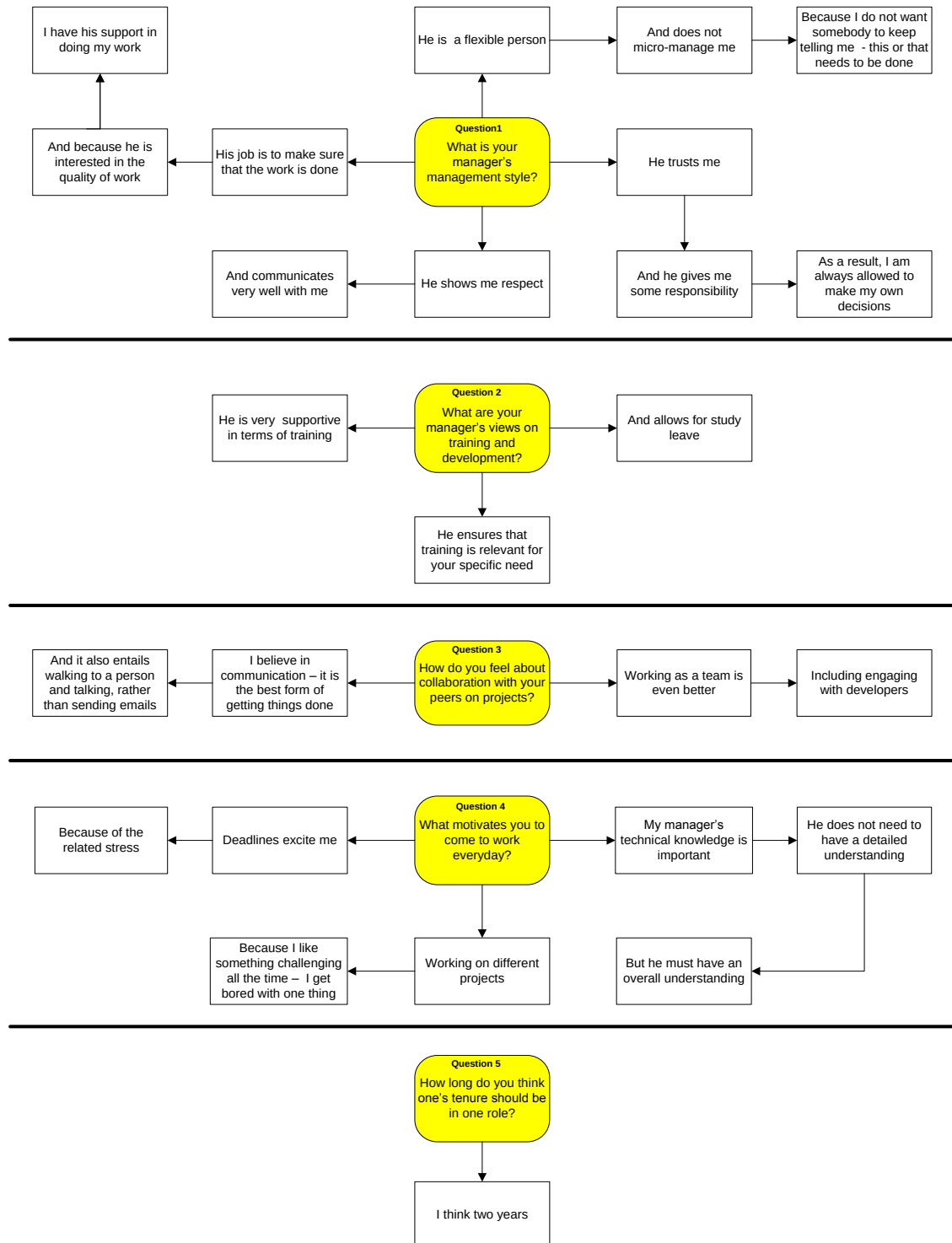


Figure 7: Cognitive Map for Interview Number 6

Company Profile : Financial Services – Banking

Industry Focus : Retail Banking

Respondent's Role : Test Analyst

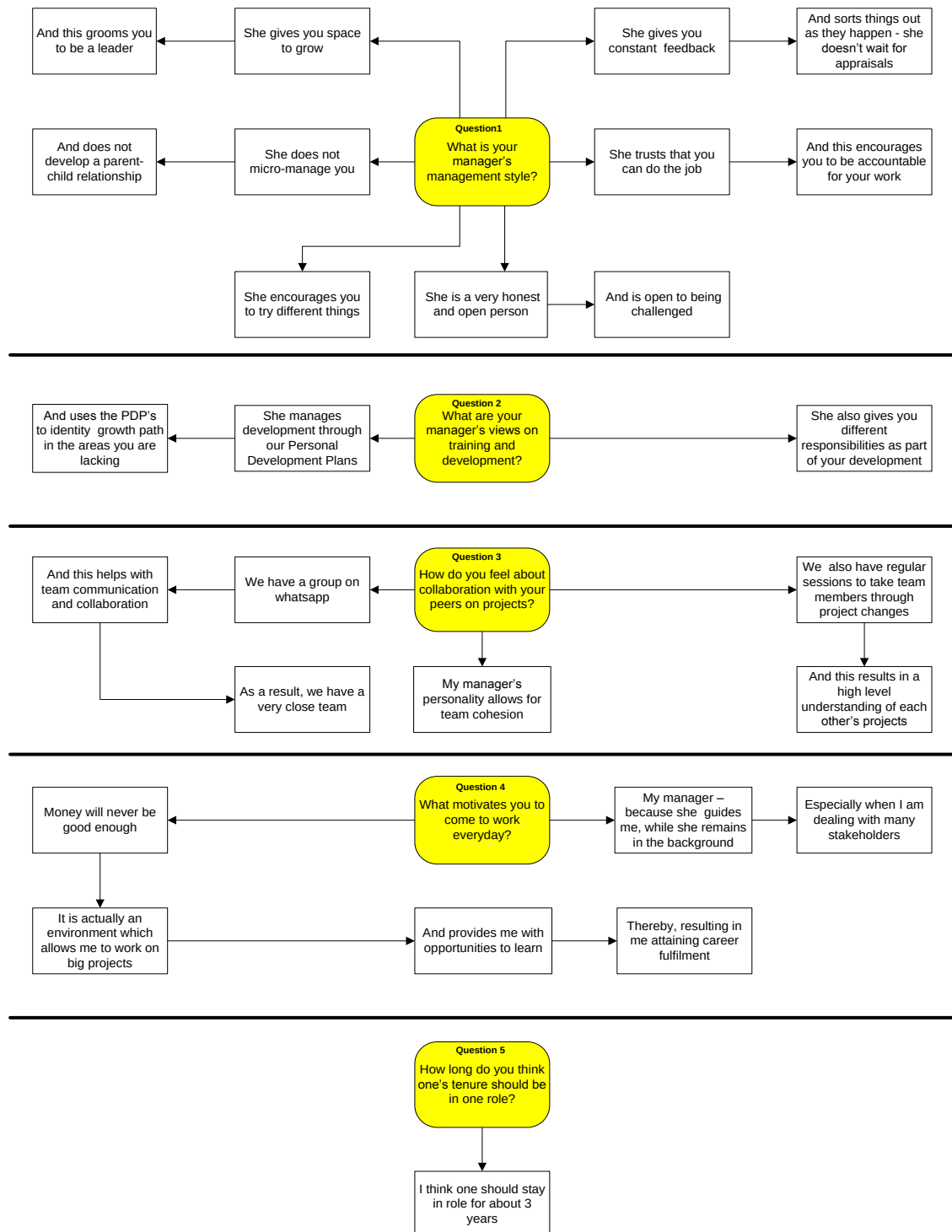


Figure 8: Cognitive Map For Interview Number 7

Company Profile : Financial Services – Asset Finance

Industry Focus : Vehicle Finance

Respondent's Role : Software Developer

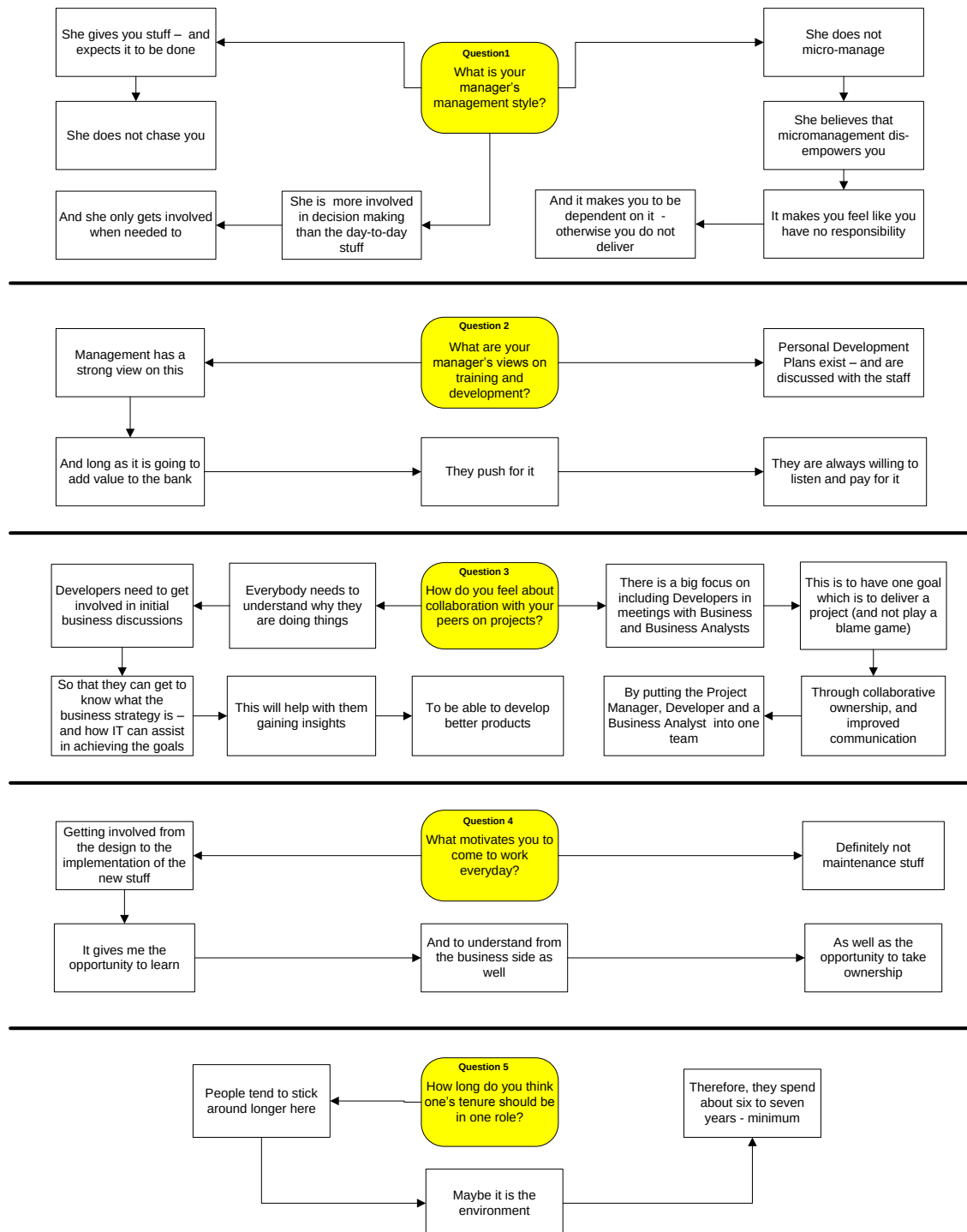
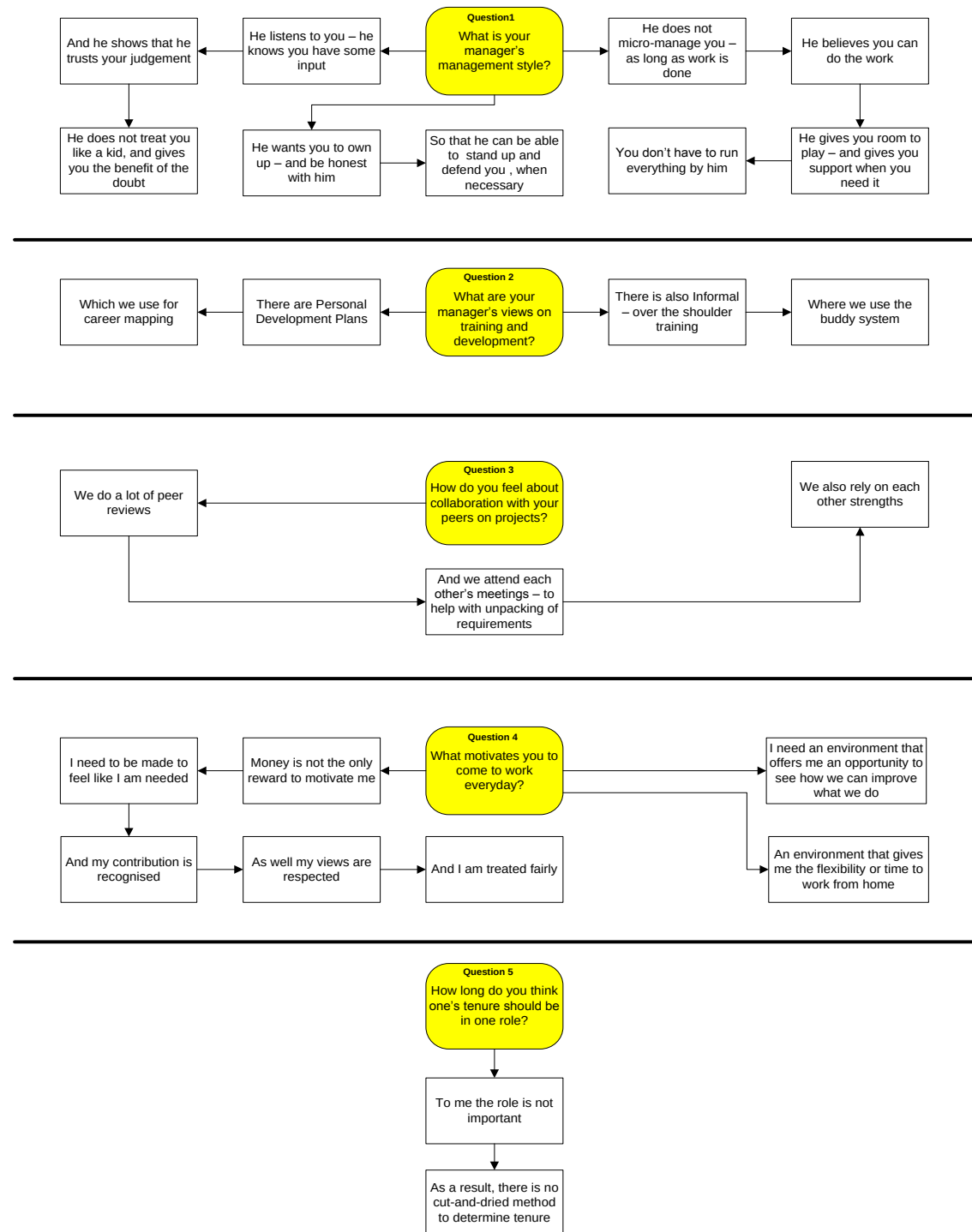


Figure 9: Cognitive Map For Interview Number 8

Company Profile : Financial Services – Banking

Industry Focus : Retail Banking

Respondent's Role : Software Developer



4.3 Results pertaining to managers of knowledge workers

Figure 10: Cognitive Map For Interview Number 9

Company Profile : Financial Services – Banking

Industry Focus : Retail Banking

Respondent's Role : Test Manager

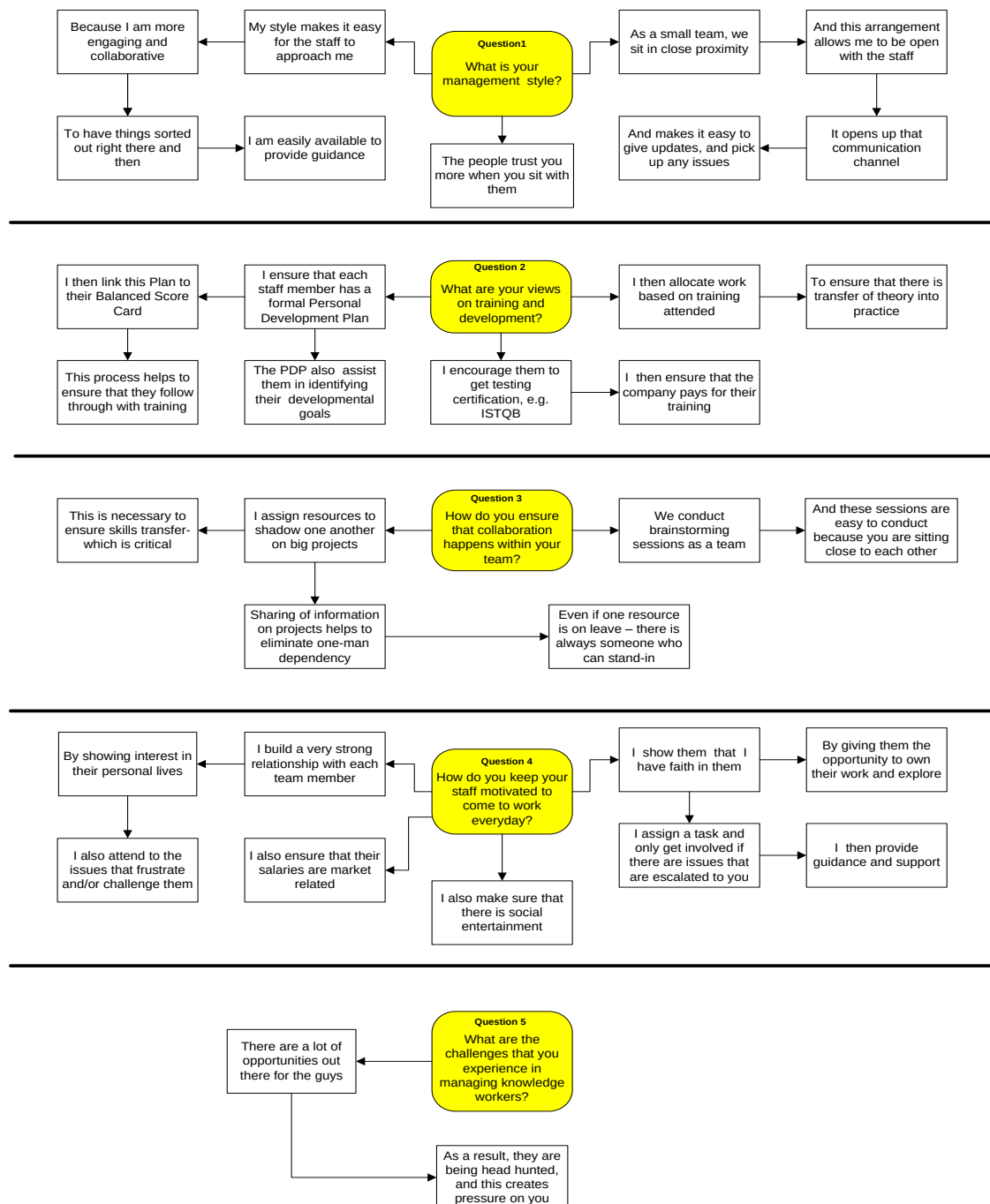


Figure 11: Cognitive Map For Interview Number 10

Company Profile : Financial Services – Banking

Industry Focus : Retail Banking

Respondent's Role : Test Portfolio Manager

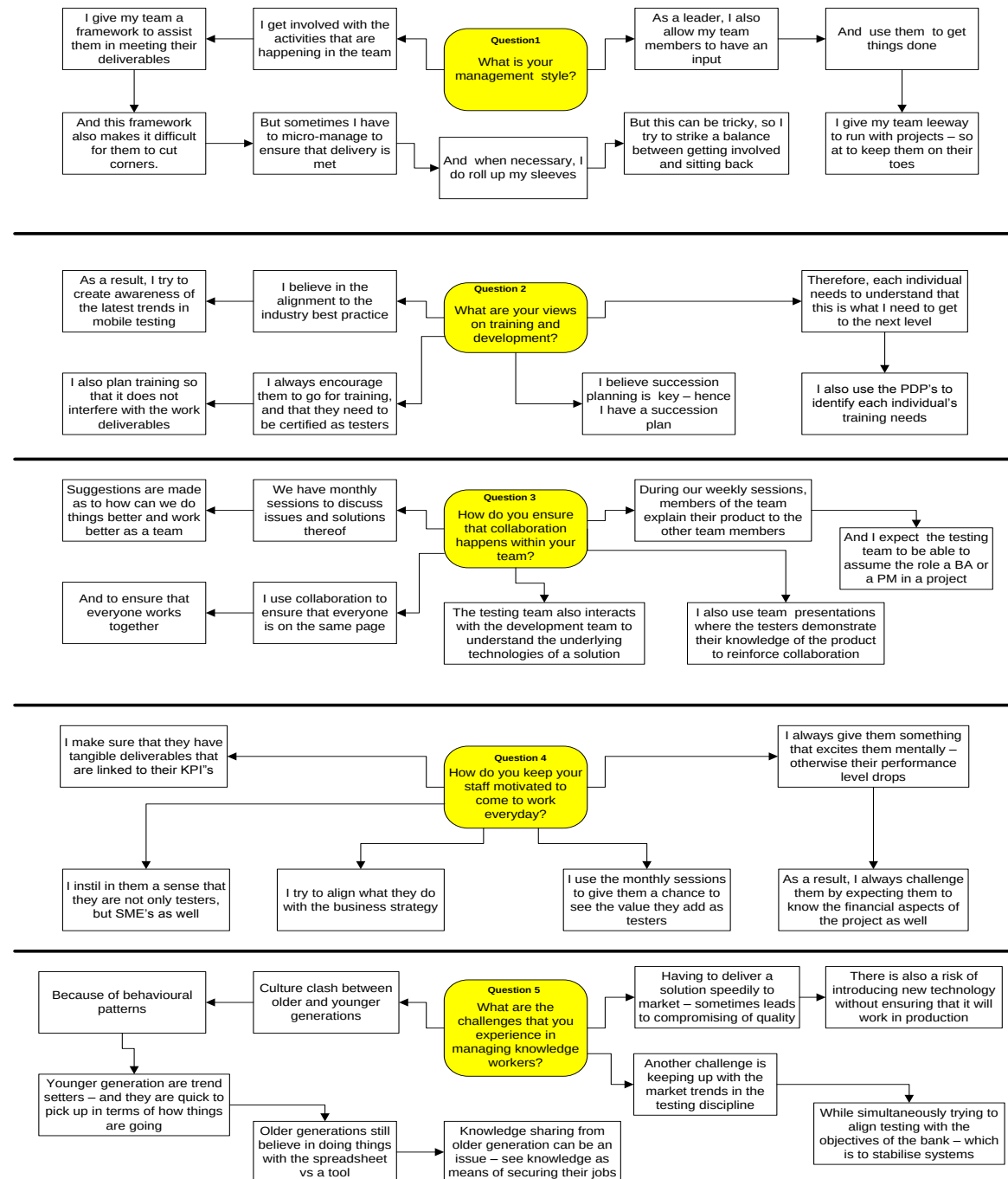


Figure 12: Cognitive Map For Interview Number 11

Company Profile : Financial Services – Asset Finance

Industry Focus : Vehicle Finance

Respondent's Role : Business Analyst Team Lead

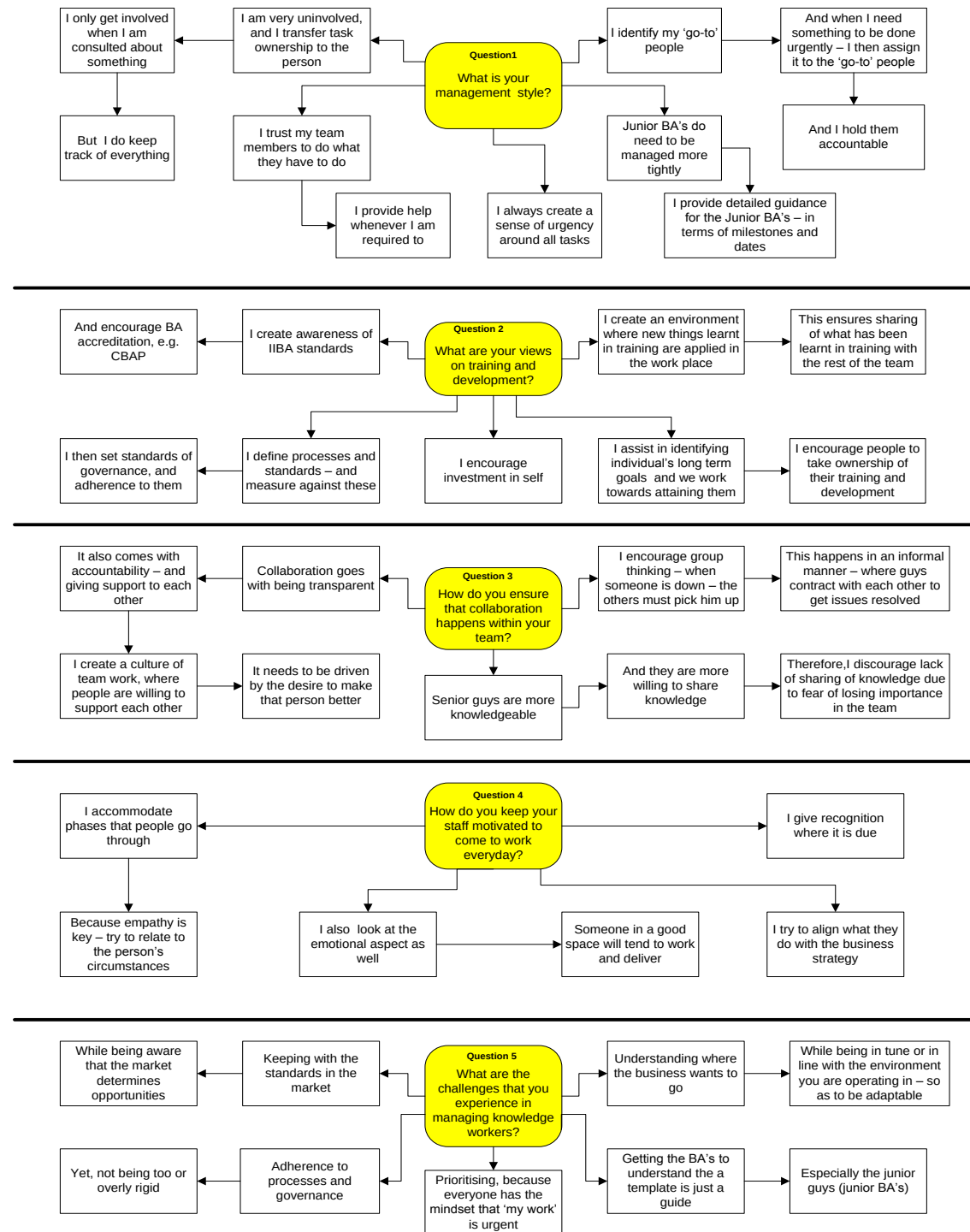


Figure 13: Cognitive Map For Interview Number 12

Company Profile : Financial Services – Banking

Industry Focus : Retail Banking

Respondent's Role : Portfolio Manager

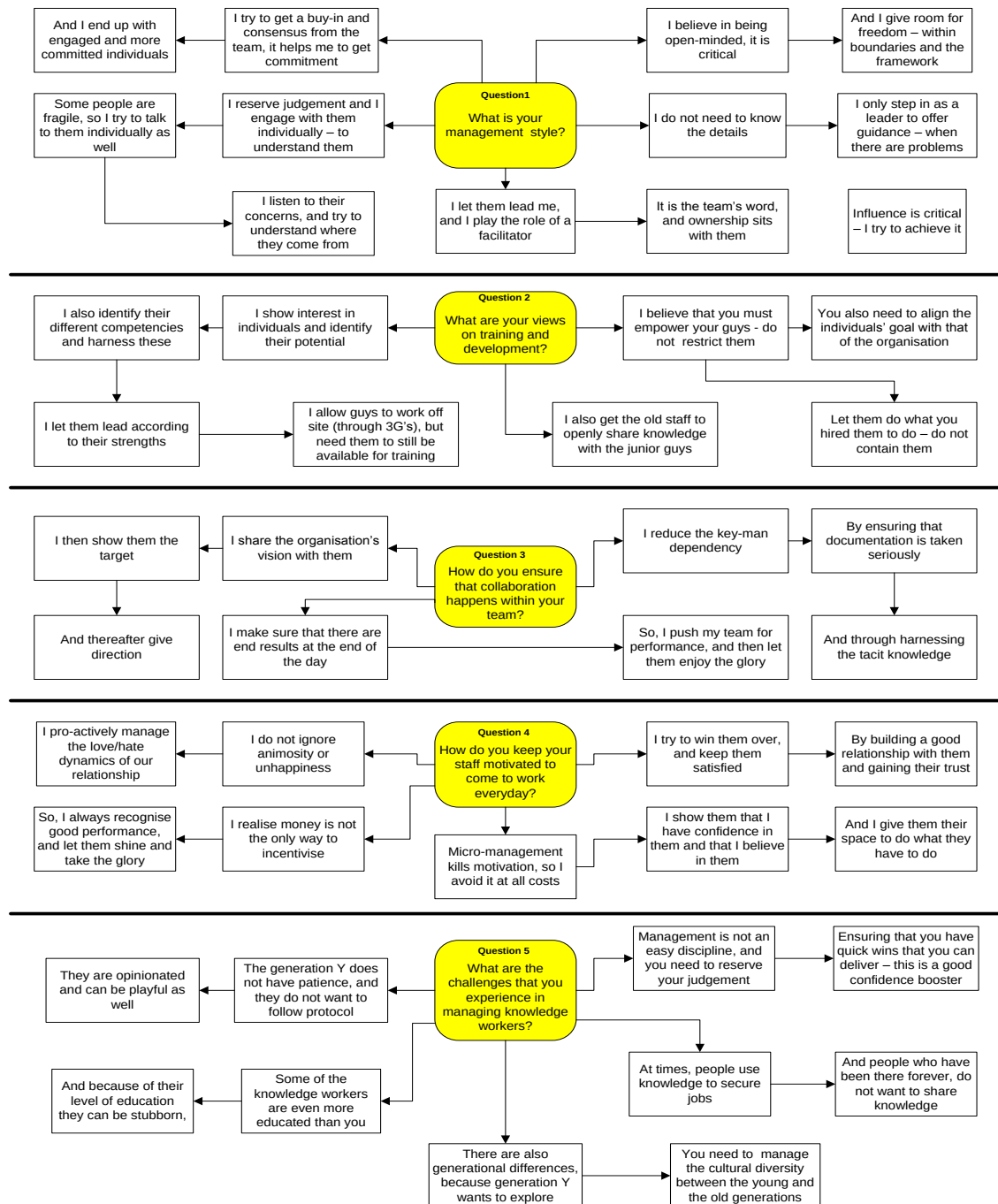


Figure 14: Cognitive Map For Interview Number 13

Company Profile : Financial Services – Insurance

Industry Focus : Long-term Insurance

Respondent's Role : Head of Development

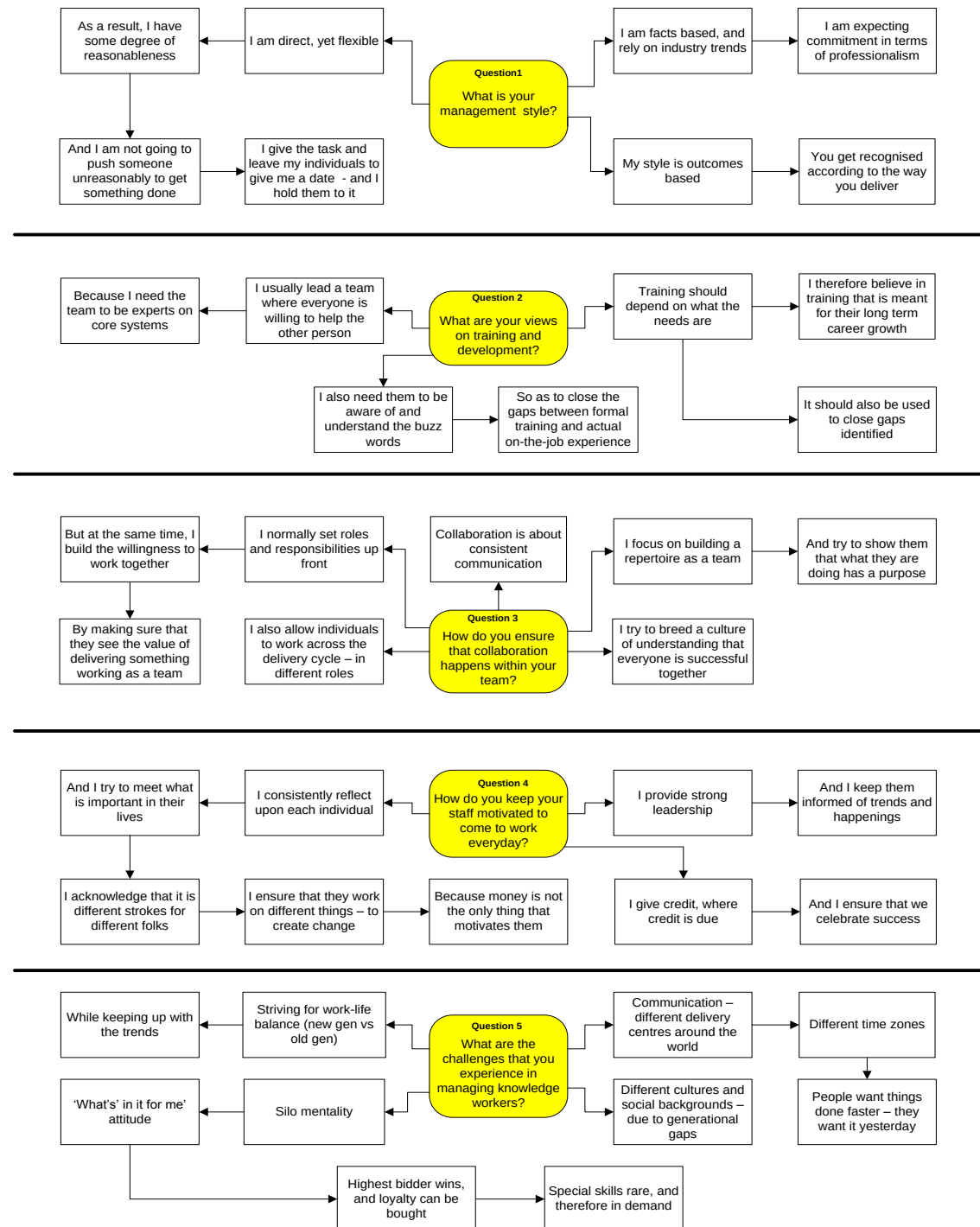
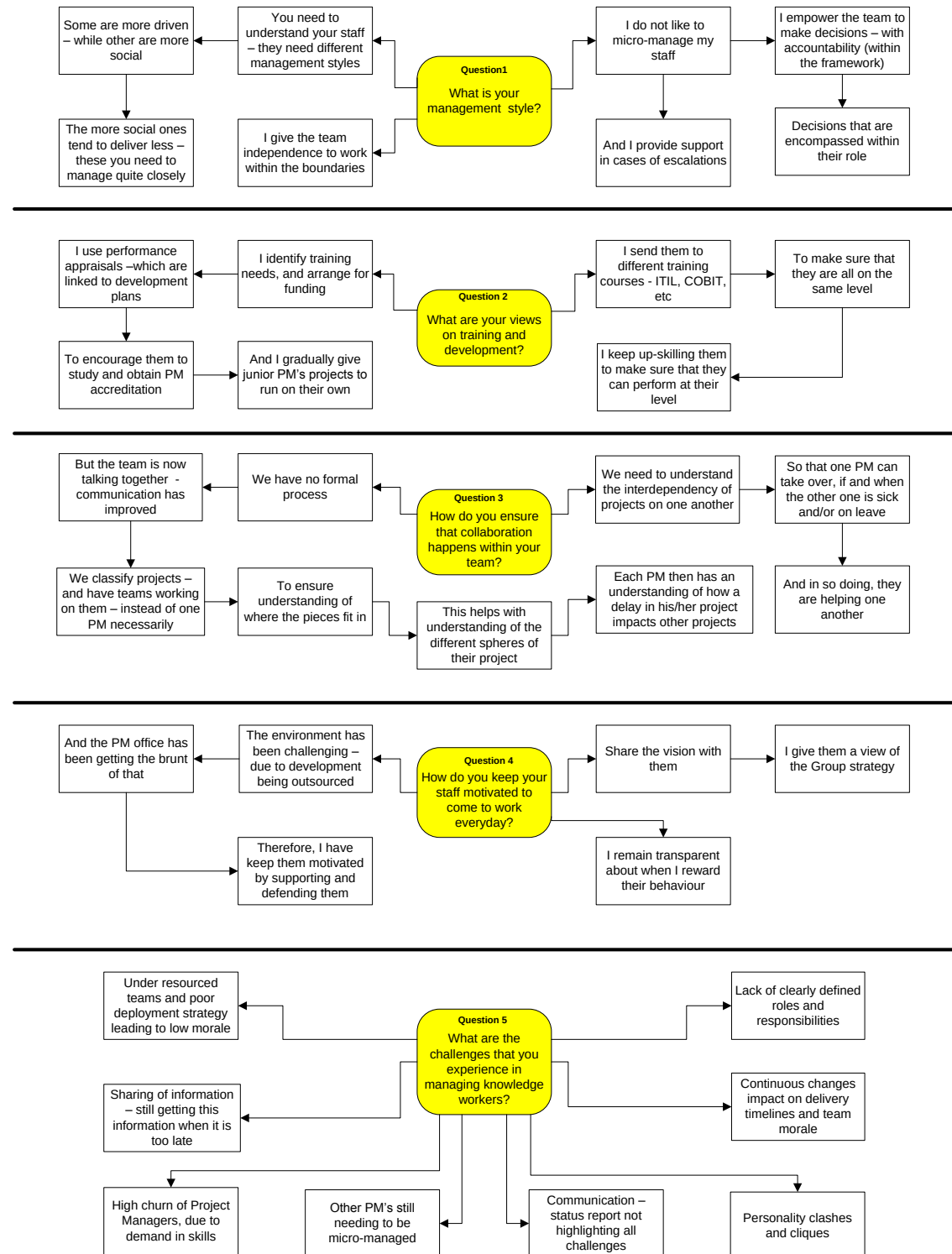


Figure 15: Cognitive Map For Interview Number 14

Company Profile : Financial Services – Insurance

Industry Focus : Long-term Insurance

Respondent's Role : Head of Project Management



4.4 Summary of the results

The focus of this chapter was to present results in the form of cognitive maps – without discussing them. These results were presented in a manner that demonstrated two views, the first part being that of the knowledge workers, and the second part that of the managers of knowledge workers. The next chapter provides a discussion of these results against the propositions presented in chapter 2.

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

The objective of this research was to investigate the challenges around managing IT knowledge workers. This was done to gain insight which could assist management in overcoming these challenges. The propositions which were developed, based on the literature review, were on the following five areas of focus: **employee expectations; employee mobility or tenure; employee motivation; collaboration with peers and employee training and development (continuous learning).**

The responses to the questions on these areas of focus were presented as individual cognitive maps in the previous chapter. In this chapter, those individual cognitive maps were then combined through an iterative process to identify emerging themes per focus area.

The first section is a presentation of the composite maps for knowledge workers, and the second section focuses on the composite maps of the managers of knowledge workers. After each composite cognitive map discussion, pictorial depictions of the emerging themes against themes identified from literature review are then presented. This is done to highlight similarities and/or differences between the emerging themes and the themes identified in literature review. A concluding discussion, with the focus on the new findings per focus areas, follows.

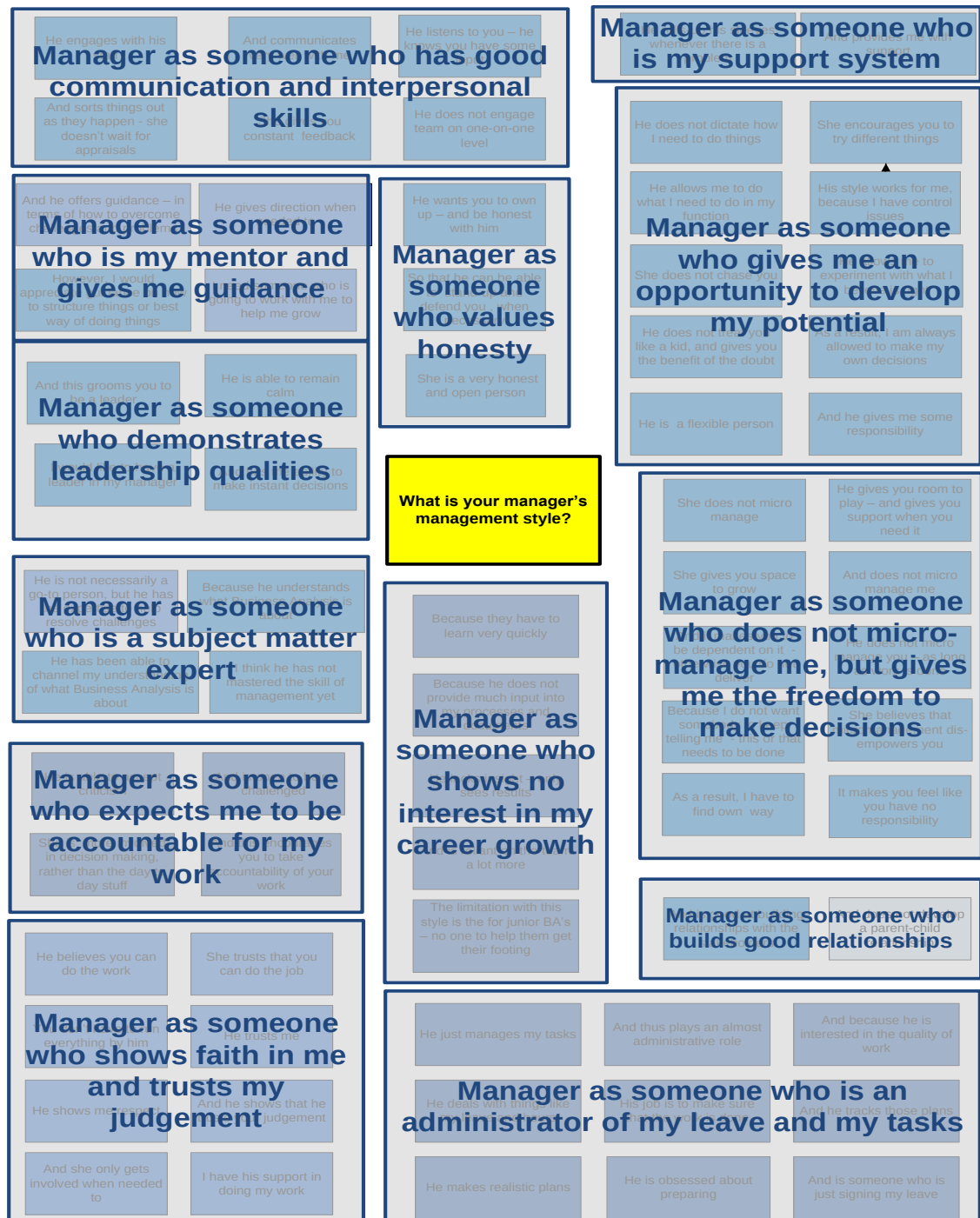
5.2 Knowledge Workers Composite Cognitive Maps

This section focuses on the responses of the knowledge workers.

5.2.1 *Discussion pertaining to knowledge workers expectations*

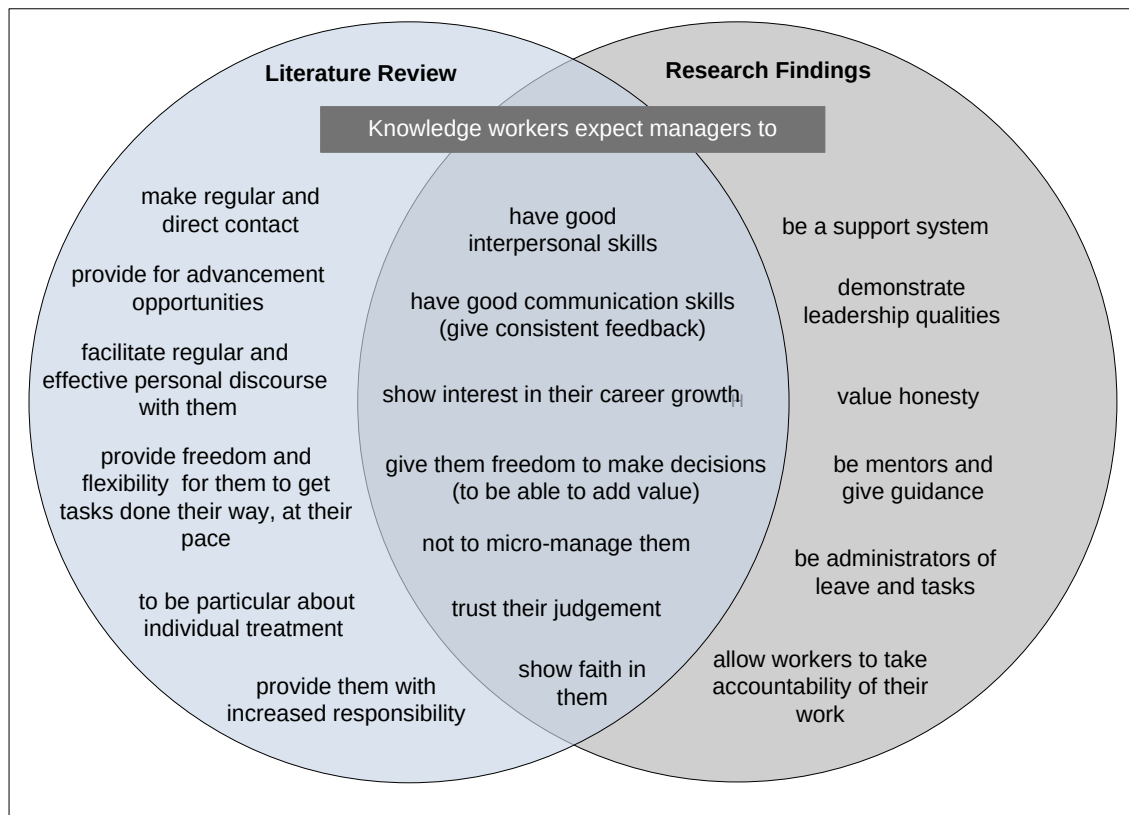
The figure below depicts themes that were identified from responses received on the question of what knowledge workers expect and/or perceive the management style of their managers to be.

Figure 16: Composite Cognitive Map - Employee Expectations



These themes were then compared to the literature review about knowledge workers' expectations from their managers, and the following pictorial view emerged:

Figure 17: Employee Expectations – Literature Review vs Research Findings



Based on the above, the following new findings were established – knowledge workers expect their managers to be their support system. In some cases, this expectation was voiced as a need for 1) technical support (i.e. managers are expected to be subject matter experts in the fields); and 2) emotional support (for office politics issues or knowledge workers' personal challenges). There was a strong expectation that managers need to demonstrate leadership qualities. This was qualified as the display of calmness in hostile situations and the ability to take decisive actions when necessary. Included in this expectation was that the managers should be able to connect and/or link the organisations' strategies to what the knowledge workers do.

Knowledge workers also indicated that they expect their managers to be honest individuals. This expectation was also in line with a demonstration of strong leadership, which is underpinned by strong ethics and good conduct.

The expectation of managers as mentors, who are able to provide guidance, was also seen to be more prevalent among the workers who expected their managers to be subject matter experts. In this regard, managers were expected to be the 'go-to' persons. This expectation was voiced mainly by junior knowledge workers who had less work experience, and exhibited a need for more guidance.

An interesting finding was made with regards to the senior knowledge workers with more than five years work experience. These workers' expectation of their managers was that they should merely play an administrative role of approving their leave and/or hours. These workers expected to be given more space and room to be accountable for their work.

5.2.2 Discussion pertaining to what motivates knowledge workers

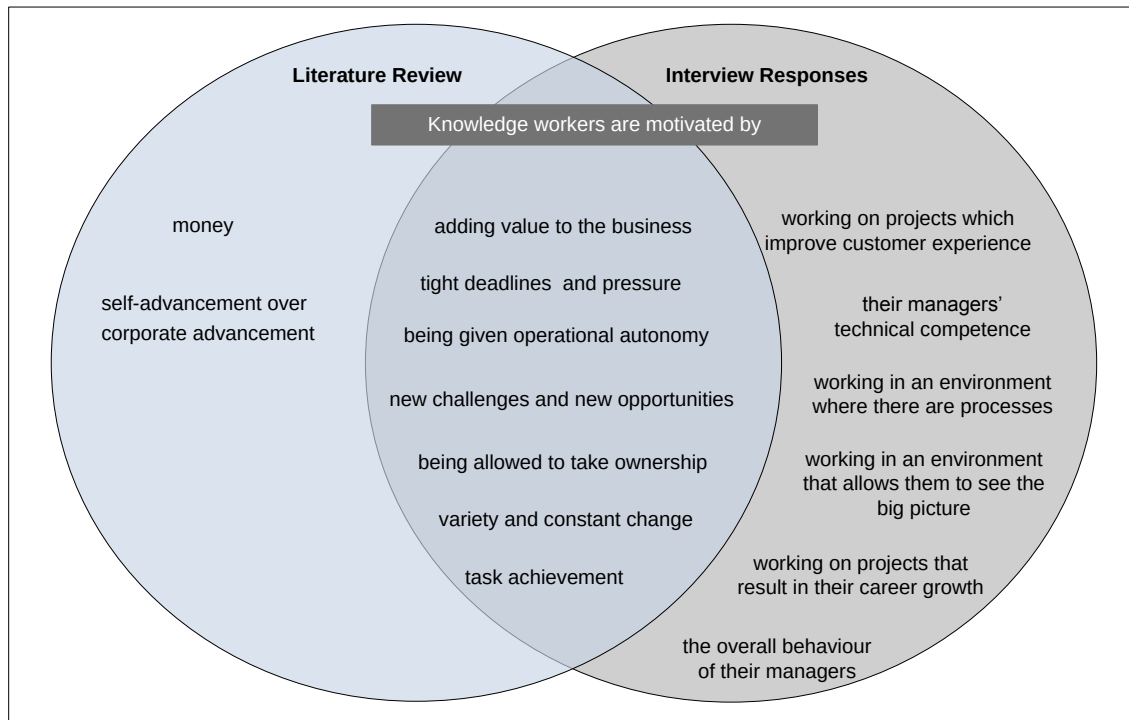
For the second proposition, the knowledge workers were asked what motivates them to come to work and perform at their peak. The themes highlighted in the figure below were then identified.

Figure 18: Composite Map – Employee Motivation



These themes were juxtaposed to the literature review on the motivation of knowledge workers, with a view of identifying recurring, overlapping and new themes. The figure below is a pictorial presentation of this comparison.

Figure 19: Employee Motivation – Literature Review vs Research Findings



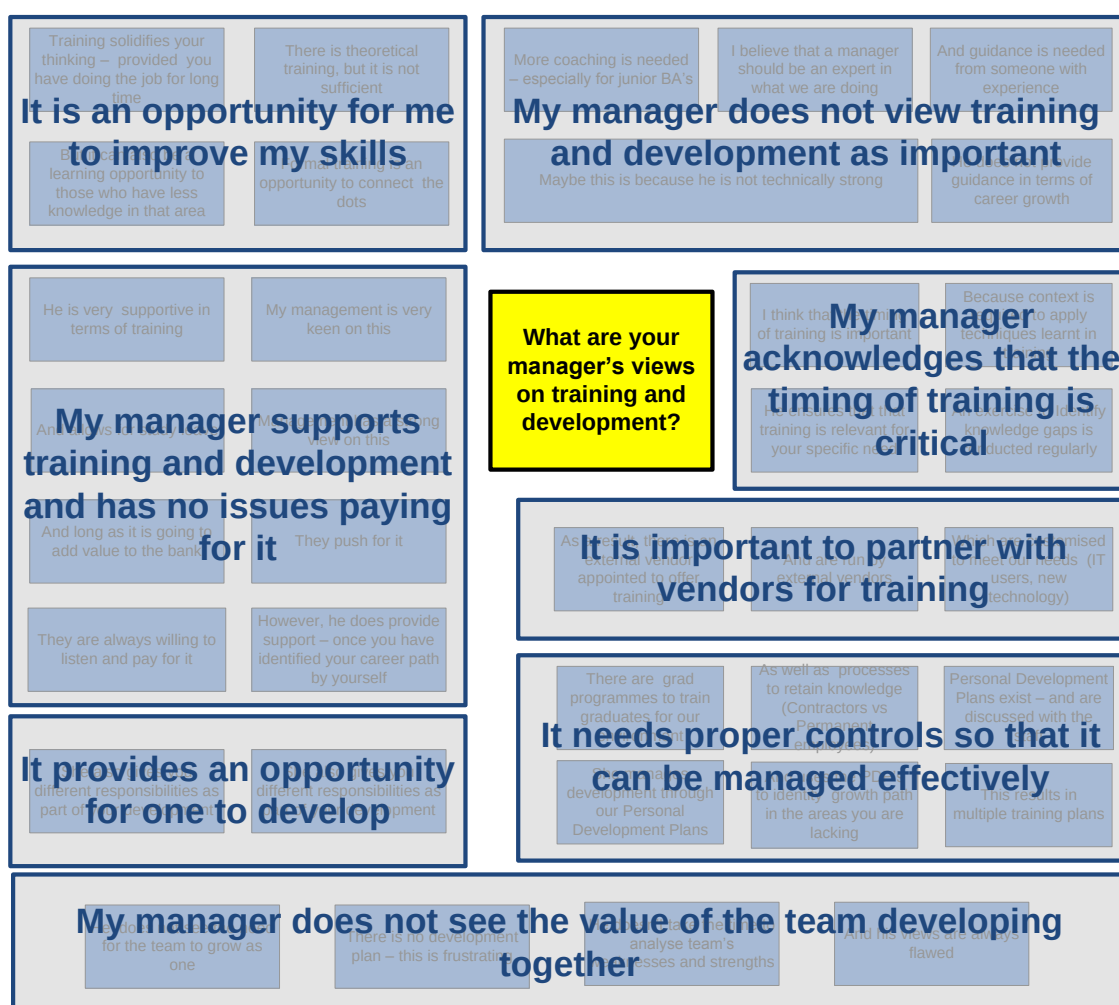
Although the literature lists “money” as one of the key motivator for knowledge workers, all the respondents who participated in this study stated the opposite. They stated that money could never be enough to motivate them to do their jobs. The key factors cited as responsible for motivation were, inter alia, working on projects that led to personal growth, while simultaneously resulting in improved customer experience and tangible business benefits. Thus, these workers indicated a need to be part of something that adds value, not only to the organisations’ bottom line, but to the end users as well. They also highlighted the need to feel valued, and to be given a chance to make a difference.

The junior respondents still indicated the role of their managers in motivation, i.e. how their manager engages with them as well as his technical competence. A mature and organised environment, with clearly defined processes, was also seen as contributing to a morale boosting atmosphere. The workers emphasised their desire to be given a big picture view of where the organisation is going, to understand where they fit in, and how can their contribution can help in achieving the organisation’s strategy.

5.2.3 Discussion pertaining to managers' views on training and development as perceived by knowledge workers

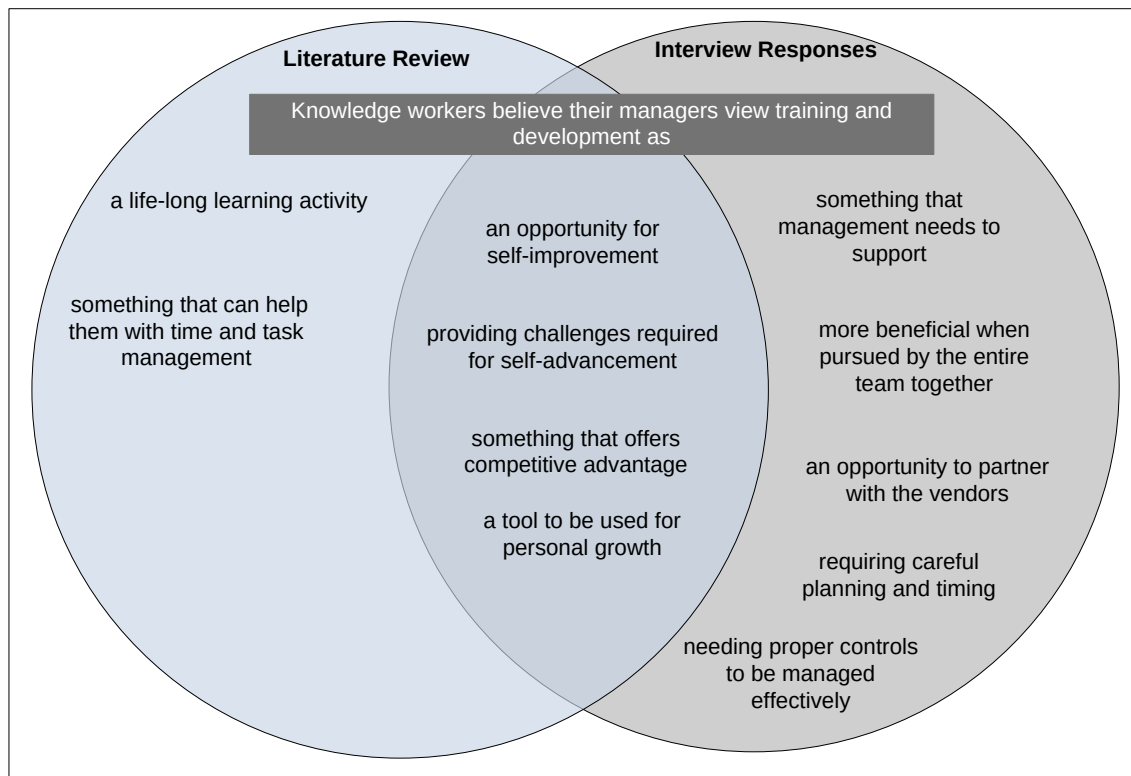
The figure below presents a consolidation of the responses from knowledge workers on how they view their manager's attitudes and perceptions towards their training and development. Themes from these responses were identified and highlighted as set out below.

Figure 20: Composite Cognitive Map on Training and Development



In the figure below, these themes were then compared with what the literature says on training and development of knowledge workers with the intention of identifying similarities and/or differences. Some themes that were identified from the research responses were similar to the literature themes, and some were completely different and new.

Figure 21: Training and Development – Literature Review vs Research Findings



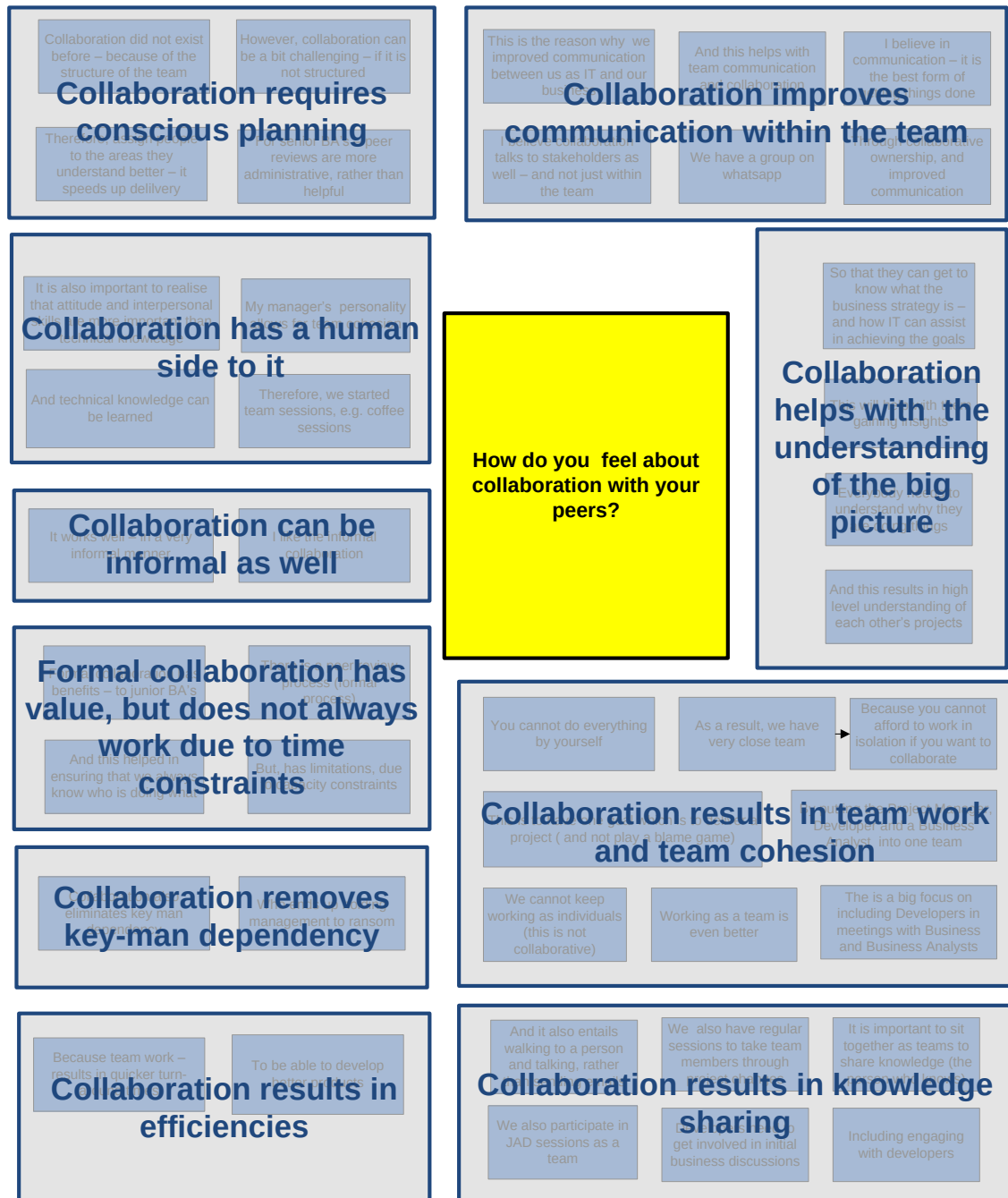
In terms of the new themes identified, the knowledge workers indicated that for training and development to be successful, it needs to be supported by management. An interesting point was made that management should see the value and benefit when they focus on team development through training, i.e. the team should develop together. It was also stated that without proper timing training can never be fully beneficial.

The timing was qualified as knowledge workers' readiness to assimilate what they had to learn and apply it in their work place, as well as the relevance of the content. Another essential component for effective training was the need to have proper controls to manage and measure it. This could be done through establishing and tracking Personal Development Plans (PDP's). Partnership with training vendors was also identified as a key component of effective training and development.

5.2.4 Discussion pertaining to collaboration with peers

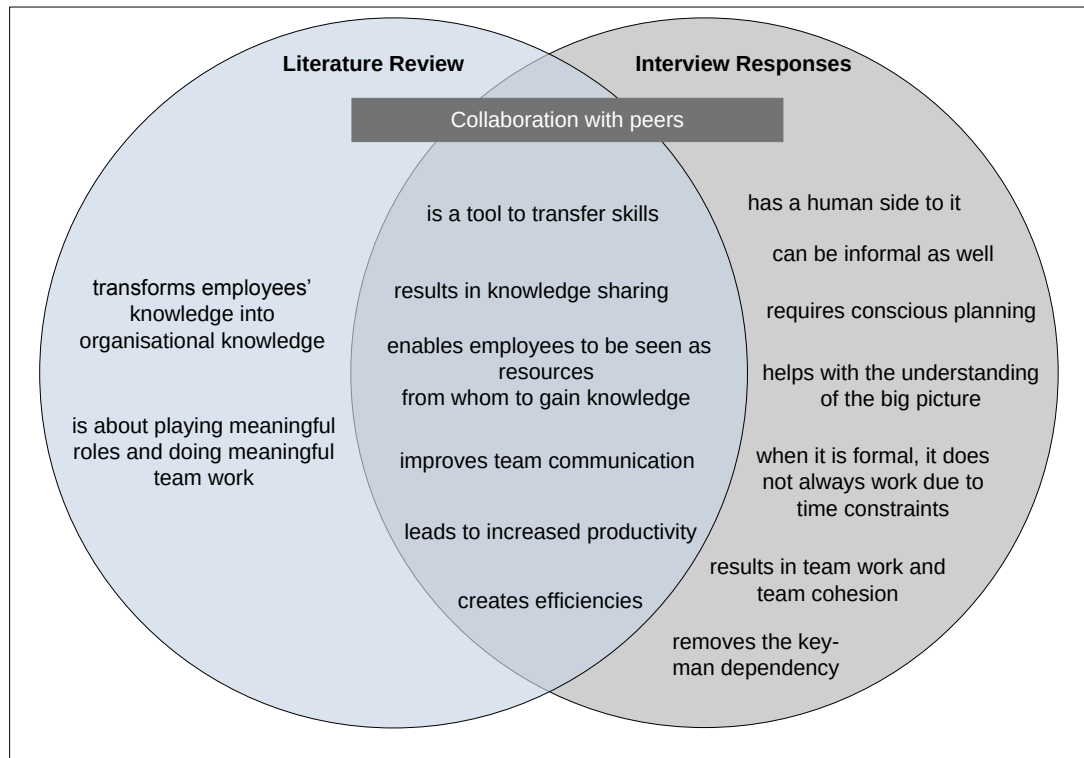
The responses relating to the concept of collaboration were consolidated and themes identified as set out in the figure below.

Figure 22: Composite Cognitive Map – Collaboration with Peers



The emerging themes were then compared to the literature review themes and presented in the figure below.

Figure 23: Collaboration with Peers – Literature Review vs Research Findings



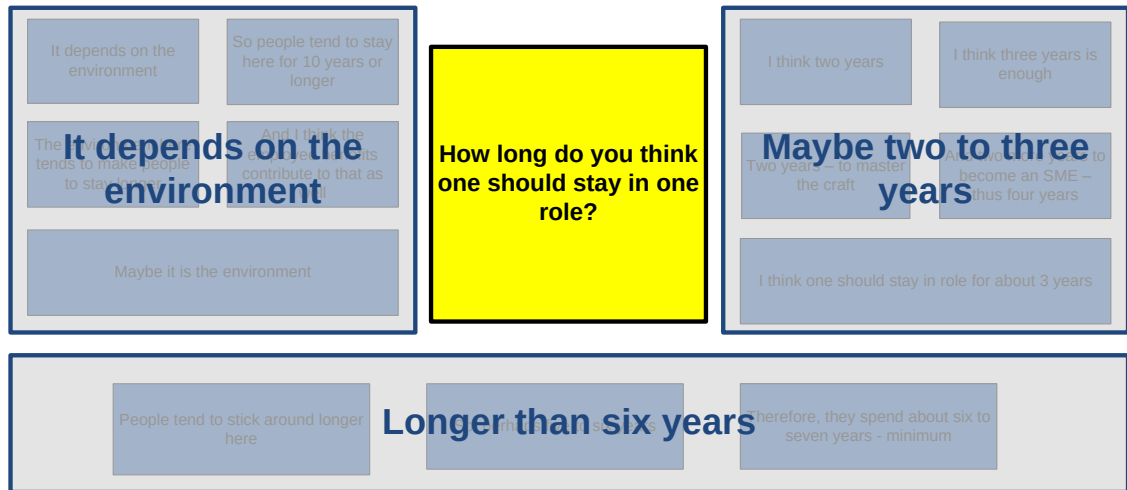
Knowledge workers indicated that collaboration can never be achieved in isolation; there is a need for colleagues to work together. Also, it cannot happen by accident, it needs to be planned and highlighted as a desired outcome, where the participants in the team acknowledge the fact that they depend on each other. The major benefits that were identified were the removal of key-man dependency, understanding of the big picture, improved communication within the team and strong team cohesion.

It was also noted that, while it needs to be a conscious effort that requires planning, it can also be informal. The senior knowledge workers seemed to prefer informal collaboration – where they would use coffee sessions or smoke-breaks to discuss solutions to business problems. The junior knowledge workers mainly preferred a formal and more structured collaborative approach to solutions design and implementation.

5.2.5 Discussion pertaining to employee mobility or tenure

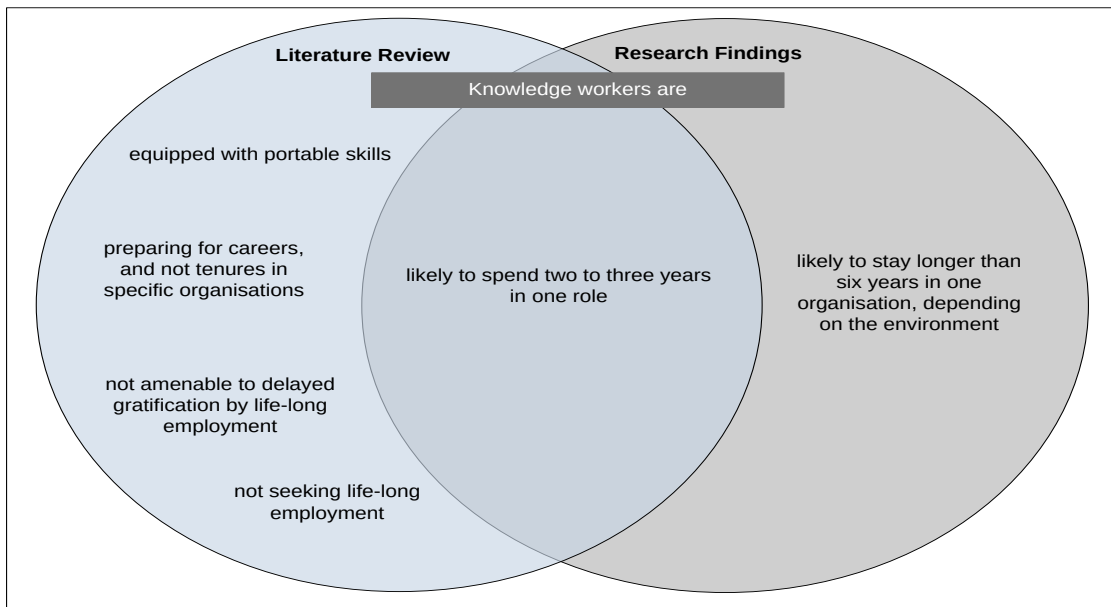
The proposition underpinning employee mobility was tested and the responses were then consolidated to identify common themes. The figure below is a presentation of those themes.

Figure 24: Composite Cognitive Map for Employee Mobility



Following the identification of the themes, the figure below was used to present these themes against the literature themes.

Figure 25: Employee Mobility – Literature Review vs Research Findings



The literature review consistently presented a view that knowledge workers tended to job-hop. They move from one job to another in a period of eighteen months to two years, looking for more money and/or new opportunities. However, the respondents in this study presented a different view. They highlighted a different factor that determines employee tenure within an organisation and/or a single role. This factor was identified as the environment and the effect it has on ensuring that the knowledge workers stay in one role for longer than 2 years.

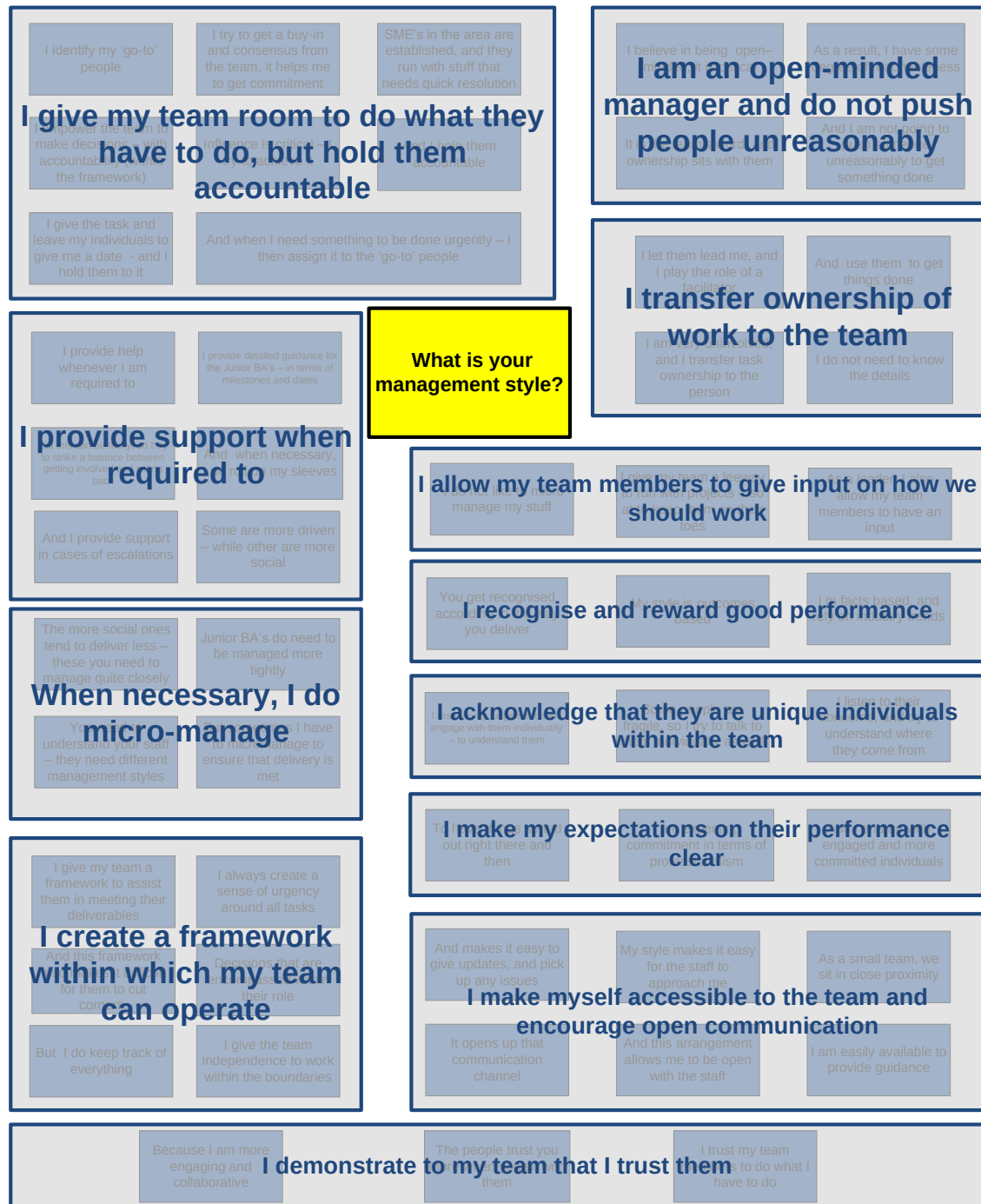
5.3 Managers of knowledge workers composite cognitive maps

This section focuses on the responses of the managers of knowledge workers. The question on employee tenure, which was one of the questions that the knowledge workers was asked, was replaced with the question (to managers) on challenges experienced in managing knowledge workers. The researcher felt that it was more appropriate to get the managers to point out challenges they face rather than ask them about reasonable employee tenure in their teams.

5.3.1 *Discussion pertaining to managers' management style*

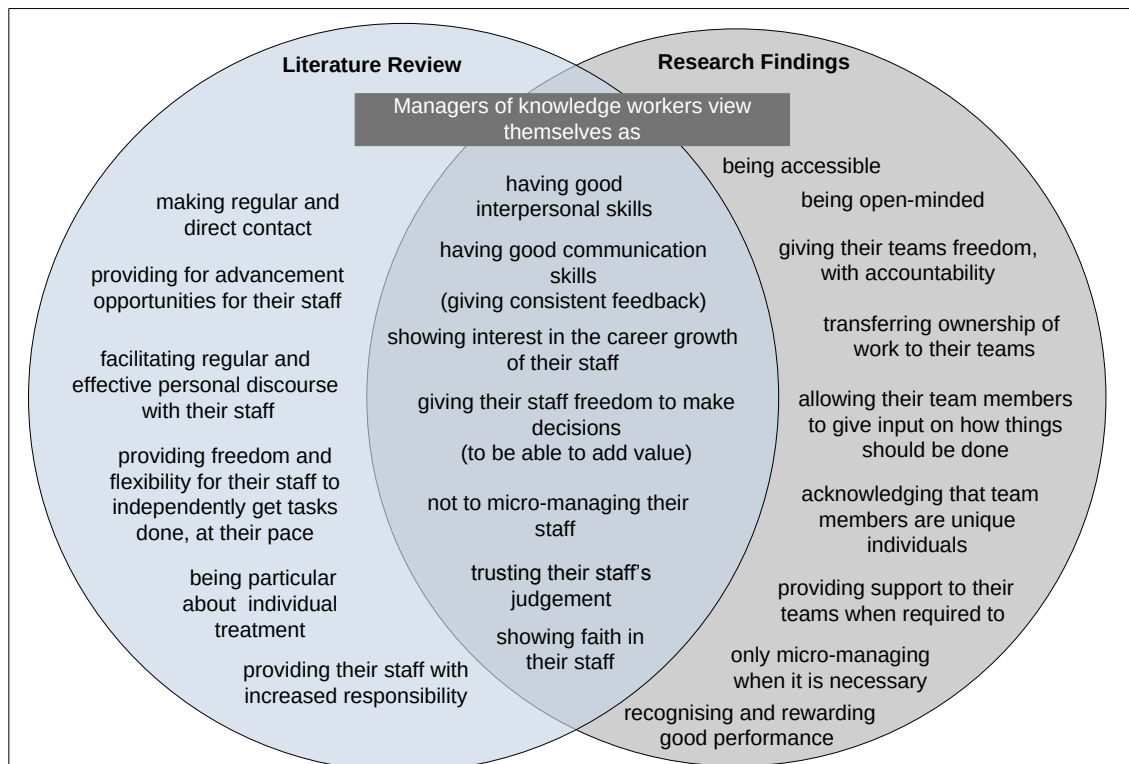
Managers were asked how they perceive their management style, and the consolidation of their responses was done with the aim of deriving themes from these responses. The figure below is a presentation of those themes.

Figure 26: Composite Cognitive Map – Manager's management style



The above themes were then combined with what the literature says on management styles in managing knowledge workers and presented in the figure below. Similarities and/or overlaps in the themes, as well as new or emerging themes, were identified.

Figure 27: Manager's management style – Literature Review vs Research Findings



Over and above what the literature says about management styles used to manage knowledge workers, the respondents provided new insights into this practice. They presented themselves as accessible managers, who are open-minded. They also believed that they give their team members freedom to do whatever they needed to do to get the job done, but within boundaries and/or defined frameworks. With that freedom, they indicated, came ownership of their work and accountability.

They also indicated that they allow knowledge workers to give input into how things should be done. They saw themselves as a support system for their workers, and only getting involved with the detail when necessary or when there are escalations. Some managers indicated that, while they remain uninvolved in the detail and give their workers freedom, **they do** micro-manage when necessary. They also acknowledged that team members are individuals who are unique and cannot be managed with the 'one-size-fits-all' approach or style.

5.3.2 Discussion pertaining to managers' views on collaboration within the team

The responses of managers on how they ensure that collaboration happens in their teams were consolidated and themes emerging from these responses are highlighted in the figure below.

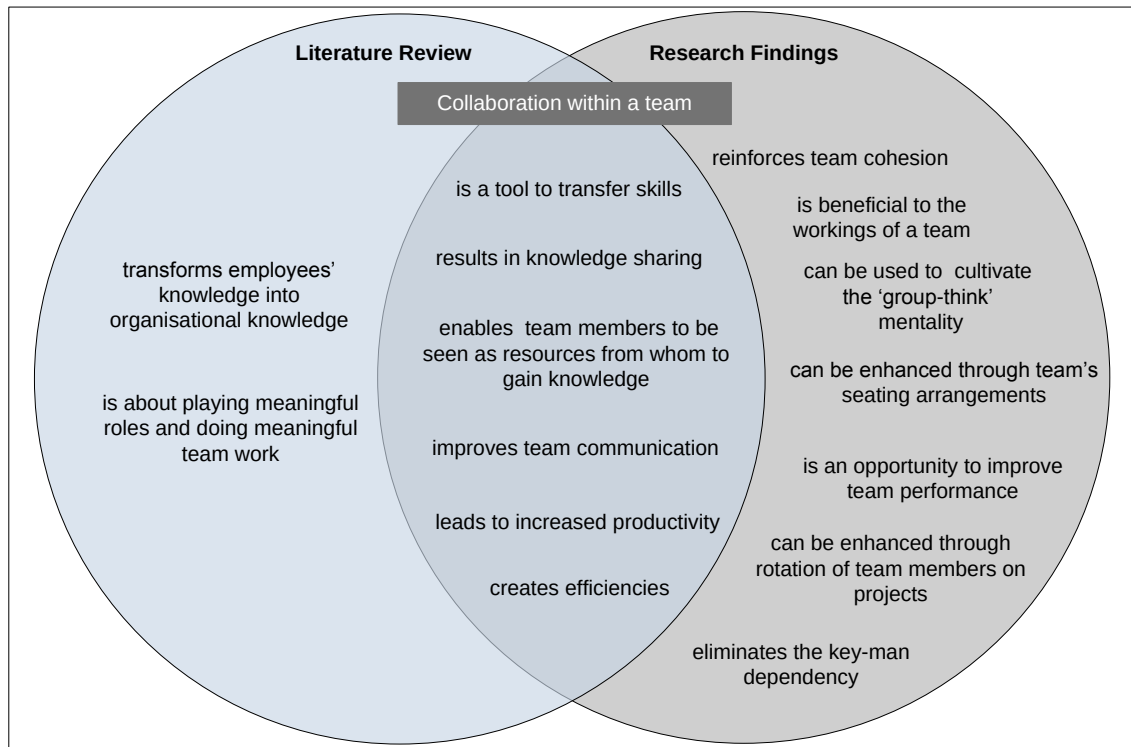
Figure 28: Composite Cognitive Map – Manager's views on collaboration



Managers indicated that, in their view, collaboration reinforces team cohesion. They stated that it is also beneficial to the workings of the team. Without it, an

organisation tends to be at the mercy of key individuals who sit with the organisation's intellectual property in their brains, and use this tacit knowledge to hold the organisation for ransom.

Figure 29: Team Collaboration – Literature Review vs Research Findings



If collaboration is promoted within a team, it can be used as a tool to cultivate the 'group think' mentality. The managers felt that it is important to stress the need for team members to see that the success of the team depends on the success of the individuals within it. As a result, the entire team benefits by helping those members who struggle. This brings them up to speed and on the same level of performance as the rest of the team members. This is why they felt that collaboration provides an opportunity to improve team performance.

The managers also shared a few strategies they use to ensure that their team members do collaborate, and these include simple tricks like seating arrangements, as well rotating team members within a project. Rotating team members might be difficult to implement due to time constraints in each project, as this does not allow the continuous introduction of new resources to any project.

5.3.3 Discussion pertaining to managers' views on training and development

The figure below represents a consolidation of responses on how managers view training and development within their team. The responses were grouped according to common views, and themes were then drawn from these commonalities.

Figure 30: Composite Cognitive Map – Managers' views on training and development

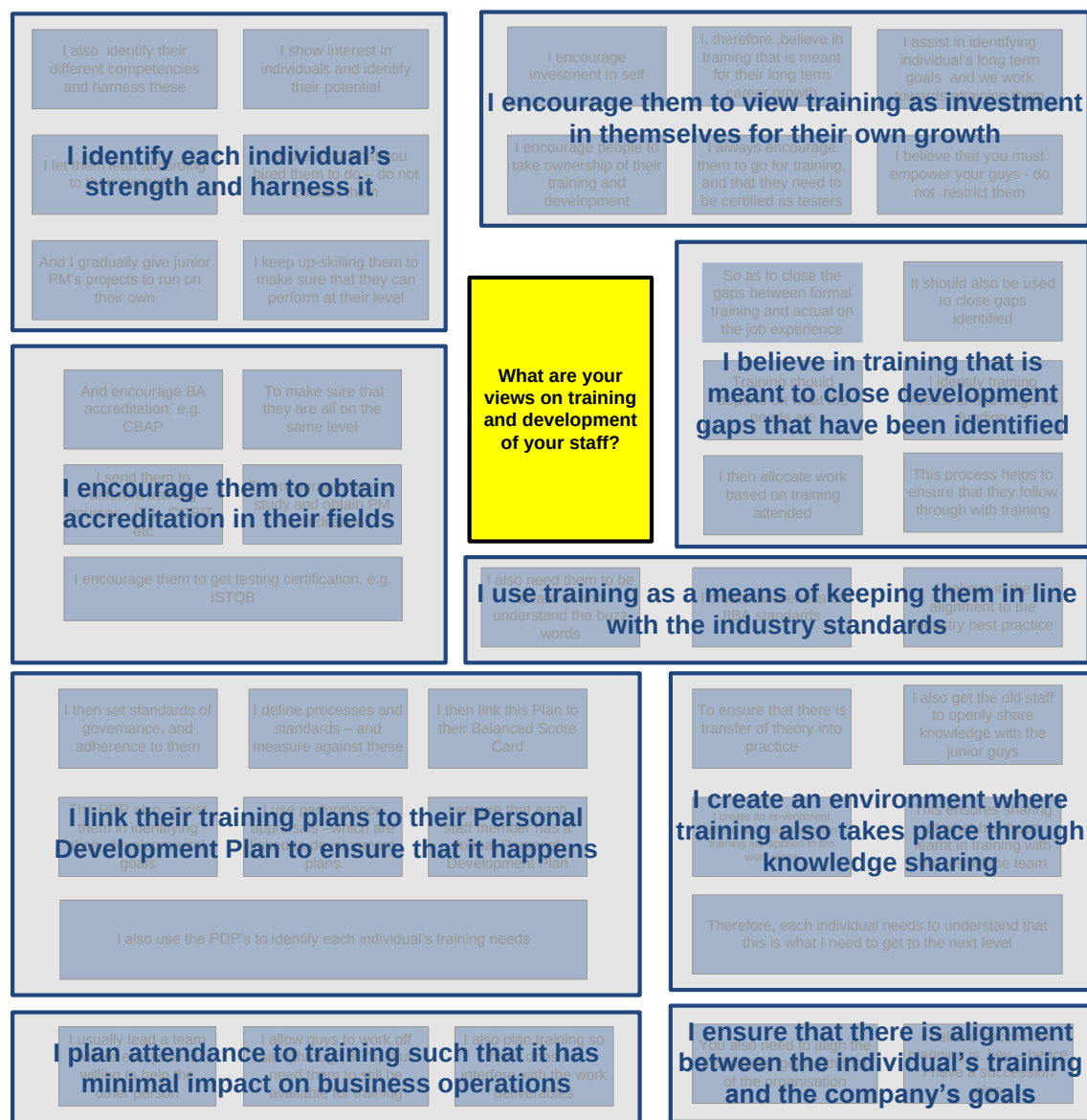
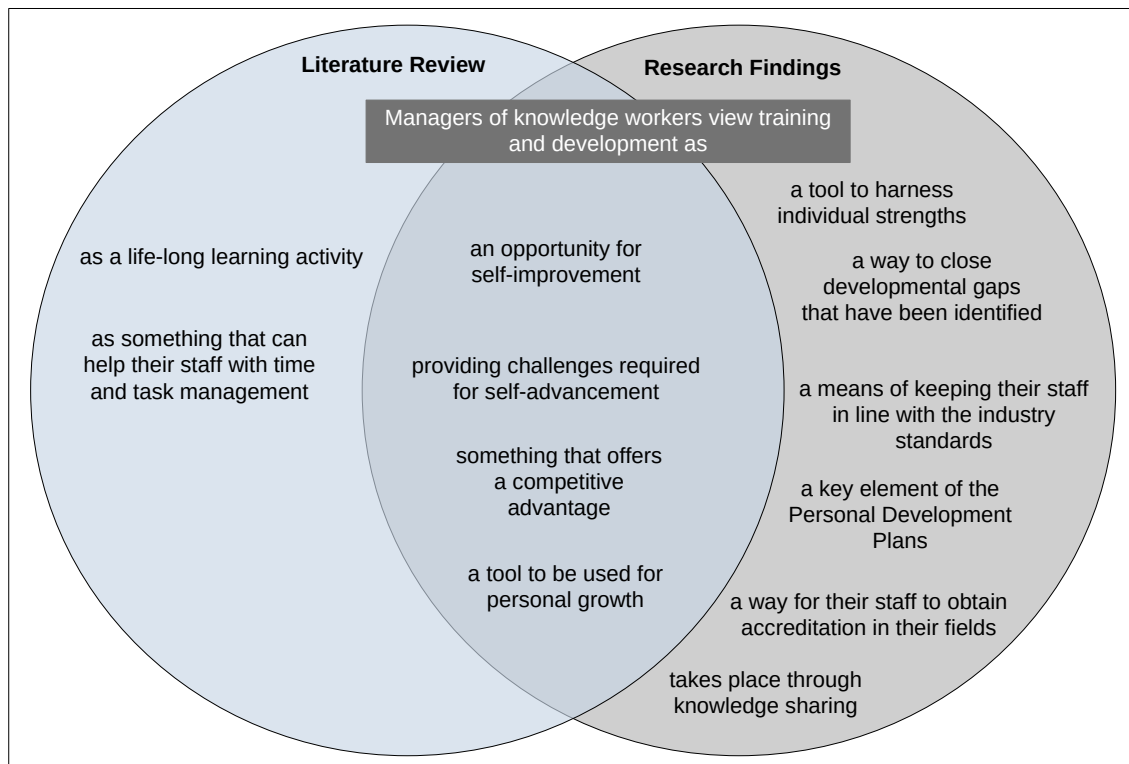


Figure 31: Managers' view on training and development – Literature Review vs Research Findings



Managers presented a view that training is a tool that can be used to harness the individual strengths of team members. However, training should not be conducted for the sake of training, but it should be used to close developmental gaps that have been identified. They also acknowledged that training is critical to ensure that team members are up to speed with what is happening in their industry, and remain up to date. To make sure that training is used to close gaps, they indicated that it should be linked to each member's personal development plan. This will ensure that there is an alignment between the individual career developmental path and the training they receive.

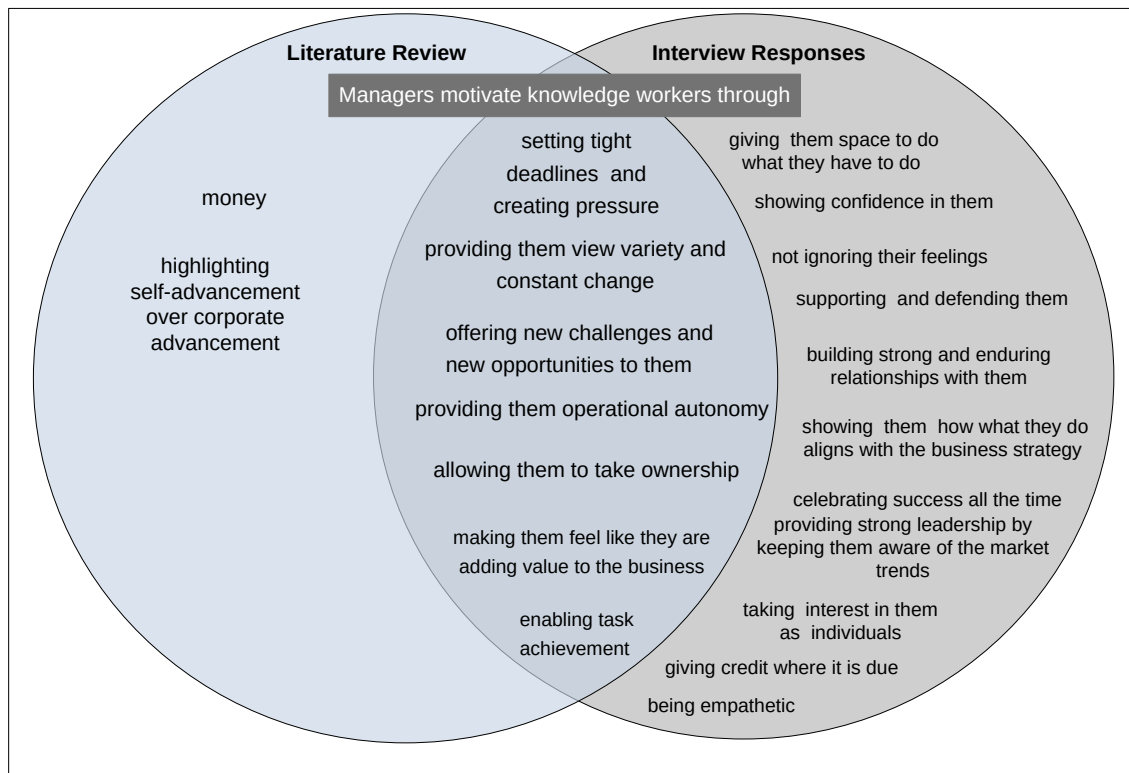
Most managers also emphasised the need for their team members to obtain accreditation in their respective fields through proper and formal training. However, they also noted that formal training is not the only way in which development happens. They cited knowledge sharing among the team members as another form of training, as it has huge benefits as well.

5.3.4 Discussion pertaining to how managers keep their employees motivated

Figure 32: Composite Cognitive Map – Keeping staff motivated



Figure 33: Keeping staff motivated – Literature Review vs Research Findings



While some of the managers noted that motivation is a tricky thing to achieve, because it has to come from within the individuals themselves (intrinsic motivation), there was an acknowledgement of the role of the environment in generating and promoting extrinsic motivation. They stated that individuals make up teams, and these individuals have unique qualities and needs. Therefore, to achieve any level of success in motivating their workers, the managers need to take an interest in their workers as individuals and show empathy when they are going through challenging times, both personally and professionally.

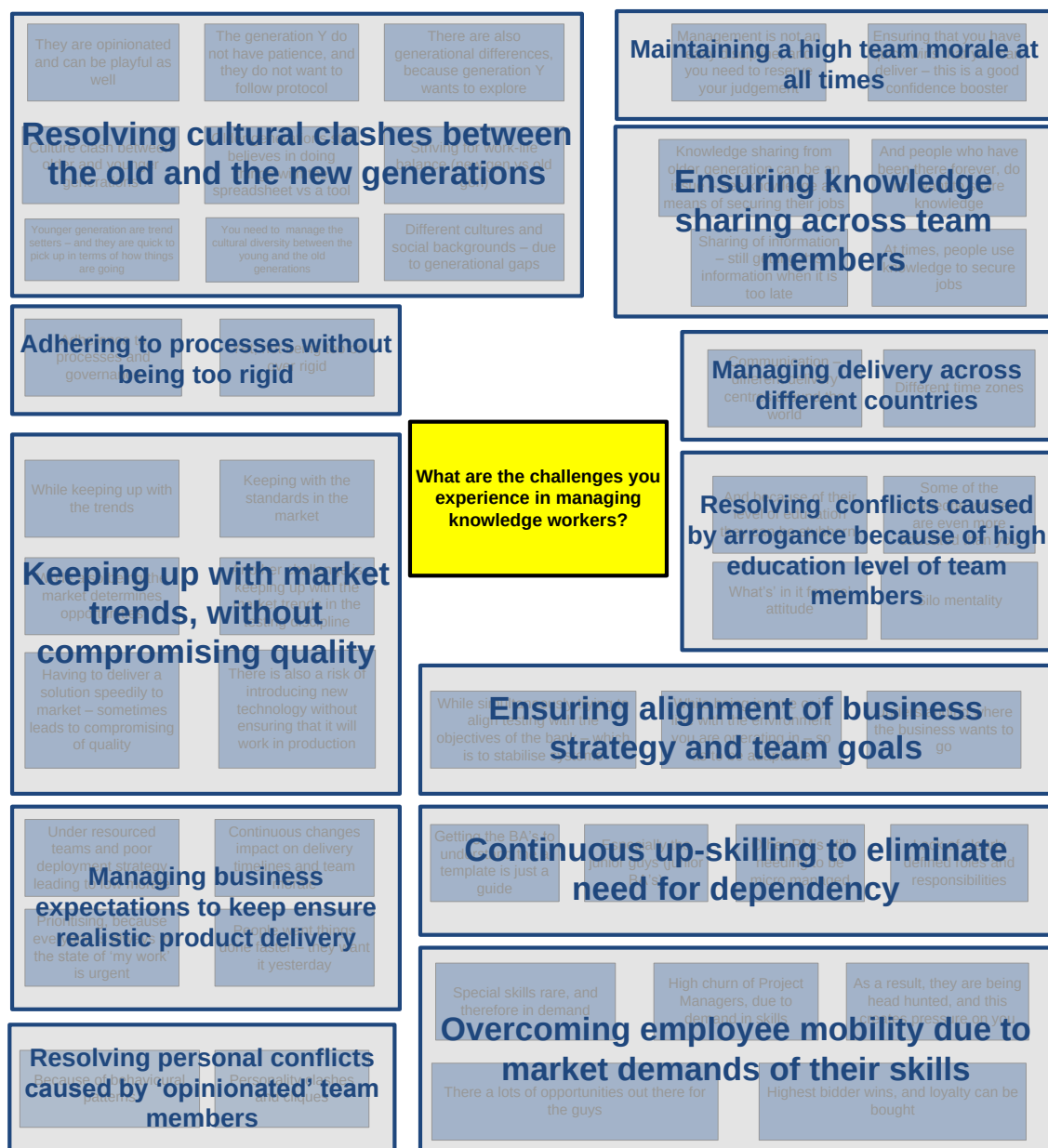
Managers acknowledged that, as part of motivation, they should show confidence in their employees by giving them space to do what they have to do, albeit within the boundaries of what is permissible. They indicated that the workers should not necessarily be granted limitless freedom as it might end up getting them into trouble or getting them fired. They also realised that the ability to defend and support their workers – especially in hostile and demoralising situations – is also critical in generating and maintaining employee motivation.

The acknowledgement of good performance and giving credit where and when it is due was also identified as key in motivating employees. Also, managers identified that employees require and/or expect management to display strong leadership so that they can remain motivated. Strong leadership is essential at times when an organisation goes through economic uncertainties and/or leadership changes.

5.3.5 Discussion pertaining to the challenges faced by managers in managing knowledge workers

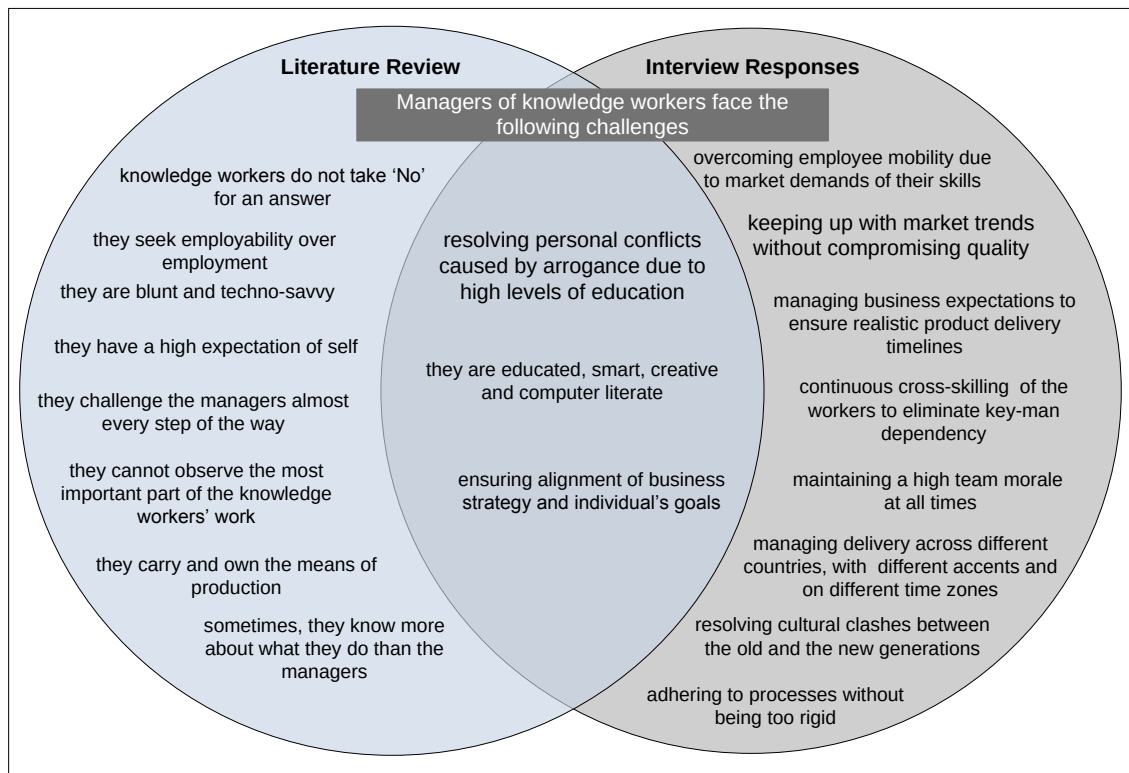
Managers were also asked to highlight challenges they experience in managing knowledge workers, and their responses were grouped according to common trends. This exercise identified underlying themes, which are presented in the figure below.

Figure 34: Composite Cognitive Map – Challenges facing managers of IT knowledge workers



The themes highlighted above were then collated and compared to what the literature says on the challenges experienced by managers. This comparison was done through the figure below and a discussion on new themes was then put together.

Figure 35: Challenges facing managers of knowledge workers – Literature Review vs Research Findings



Managers acknowledged that managing people is a tricky and difficult job to perform. They expressed a variety of challenges that they experience which are caused by the knowledge workers, market competitiveness as a result of, inter alia, the effect of globalisation and the need to satisfy the demands and expectations of their business partners.

The fact that the knowledge workers possess skills which are portable and easily transferable from one organisation to another creates constant demand for their services by competitors. The managers stated that loyalty has now been commoditised and can be bought. Therefore, they constantly find themselves faced with a challenge of convincing knowledge workers to stick around within the organisations longer. According to the findings on what motivates these workers, it was established that money is no longer the key motivator. This is because the knowledge worker can always get more money elsewhere. There is always someone who is willing to be the highest bidder out there.

The managers expressed that it is a challenge to make sure that they create an environment that is enticing enough to retain knowledge workers. They could, among other things, achieve this through keeping up with the latest trends (technology and business) in the market. Knowledge workers need to see that the environment they work in gives them an opportunity to work on projects and/or initiatives that are ground breaking, innovative and radical. The moment they feel that they are stagnant in their careers; they get bored and become unhappy. The managers also stated that they have to keep up-skilling these workers so that they can keep busy – knowledge workers do not want to be in slow environments where their career growth and personal development is non-existent.

The managers also highlighted the fact that in some cases the project teams are made up of resources that are spread across different geographical locations. This model presents a different set of challenges for them, such as different time zones and communication difficulties caused by different geographical accents, especially during teleconferences and video conferences.

Another challenge raised by managers was the role they have to play in preventing and/or defusing conflicts that result from cultural clashes. These are usually caused by the different views towards work held by the older generation versus the younger generation. The fact that some of the knowledge workers are highly educated and thus arrogant about what they know, and/or what they feel entitled to, also tends to create conflict among the team members and/or between the workers and the manager.

5.4 Conclusion

The focus of this chapter was to discuss the findings of the research and draw similarities and differences between these findings and the literature review. In doing this, the researcher discussed the findings pertaining to the knowledge workers first, and then later the ones that pertain to the managers of the knowledge workers. The findings for knowledge workers were discussed around the five focus areas identified in propositions – employee expectations, employee motivation, employee mobility or tenure, employee training and development

(continuous learning) and collaboration with peers. The findings for the managers of knowledge workers were discussed around employee motivation; employee mobility or tenure; employee training and development and challenges faced by managers of knowledge workers.

CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter offers a consolidation of the knowledge workers' views and those of the managers in each of the five focus areas. To assist with clarifying this presentation, the views of the knowledge workers and the managers on each focus area are presented in a pictorial manner. The overlaps and difference of knowledge workers' and managers' views on each focus area are emphasised through this presentation. Then a discussion to summarise the meaning of these findings per focus area follows.

The first section of each discussion focuses on views that are unique to the knowledge workers, and are followed by those that are unique to the managers. The discussion then focuses on the views that are common and/or shared by these two groups of respondents. Views that are discussed exclude those views that were derived from the literature review; the focus is only on new views and/or findings.

The chapter then provides recommendations. In this section, the researcher uses a similar approach, i.e. presenting recommendations per focus area. The last section of this chapter then presents suggestions for further studies that could be undertaken on the same or similar topic.

6.2 Conclusions of the study

Over and above what the literature review says around these focus areas, the researcher managed to uncover new themes and/or findings. Although these were new findings, most of them were not in direct contrast to what emerged from the literature. They further elucidated the existing assertions in the literature on the subject of managing knowledge workers. To the researcher this served as a justification of the relevance of the methodology used, i.e. qualitative, rather than

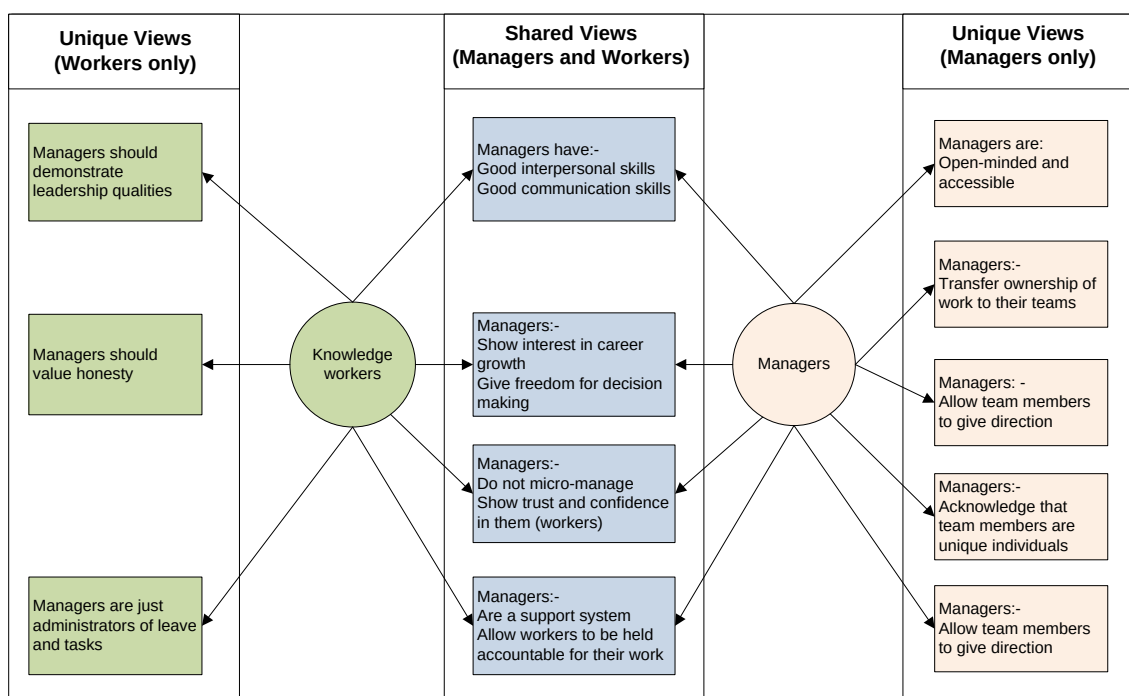
quantitative – because a better understanding of the key concepts around management of IT knowledge workers was achieved.

As mentioned previously, the areas of focus of this study were employee expectations, employee motivation, employee training and development, collaboration with the peers, employee mobility; and the sections below provide a detailed discussion of each focus area.

6.2.1 Employee expectations

Knowledge workers and managers seemed to share common views on some issues. However, there were issues that highlighted the lack of a common or shared view. The figure below presents a pictorial view of this.

Figure 36: Employee Expectations – Consolidated Views



It appears that knowledge workers felt that some of their managers do not show leadership qualities. They felt that the virtue of honesty does not reside or is not found in all managers. A disturbing view was that some knowledge workers felt

that the role of their managers was just an administrative one; that they were only concerned with tracking employee hours and approving leave.

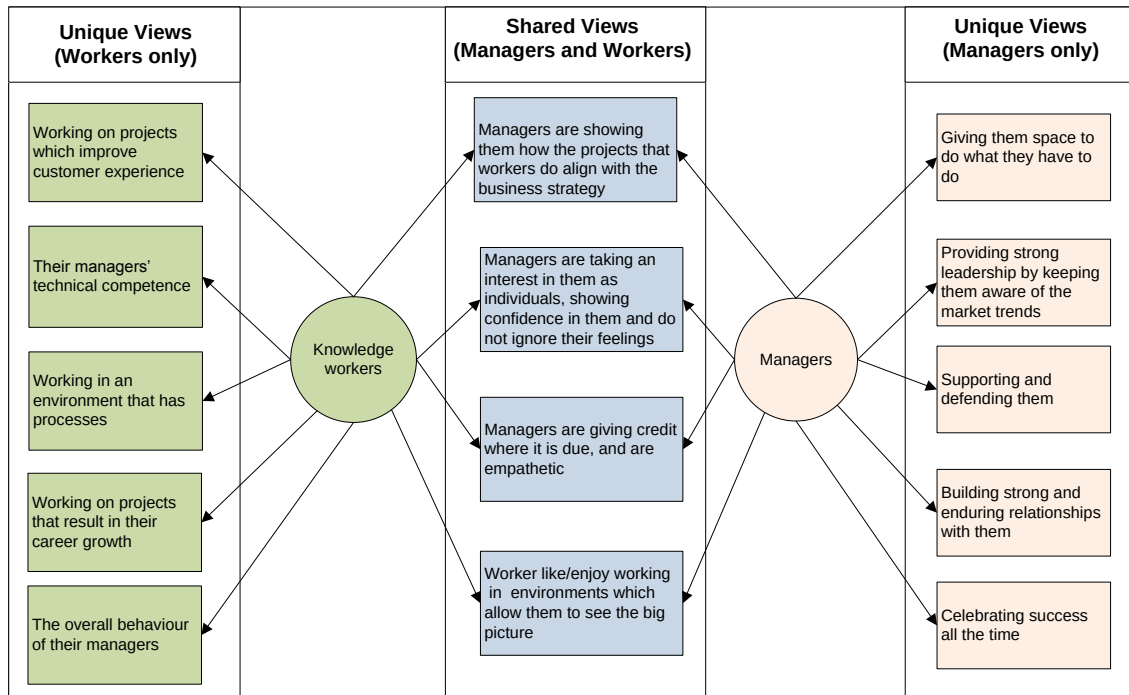
The managers felt that they were open-minded and accessible, and were transferring ownership of tasks to their teams by allowing the team members to give direction. They also felt that they were doing a good job in acknowledging team members as unique individuals within the team. This clearly indicates that there was a disconnect in terms of how they view themselves compared to how their team members view them. This can be viewed as the managers' blind spots.

Reassuringly, both the managers and the knowledge workers seemed to share a common understanding of issues like good interpersonal and communication skills. The workers also seemed to be in agreement with the fact that the managers give them freedom to make decisions, show interest in their career growth, do not micro-manage them and show confidence and trust in them. The managers allow the workers to be accountable for their work and provide them with a support system when they need it.

6.2.2 *Employee motivation*

It was interesting to note what both the managers' and the knowledge workers' views were on employee motivation and how it is achieved. The figure below presents a pictorial view of the similarities and differences of how each party views employee motivation.

Figure 37: Employee Motivation – Consolidated Views



On the difference in views, the employees felt that working on projects where they could see improved customer experience motivated them a lot. They also noted that they needed projects that result in their career growth, i.e. projects where they could learn and develop their skills. Interestingly, some employees highlighted the need for their managers to be technically competent in terms of the domain knowledge. They also indicated that working in an environment that is structured and has clearly defined processes is a motivating factor. The behaviour or conduct of their managers was also mentioned as a factor that has an impact on their motivation.

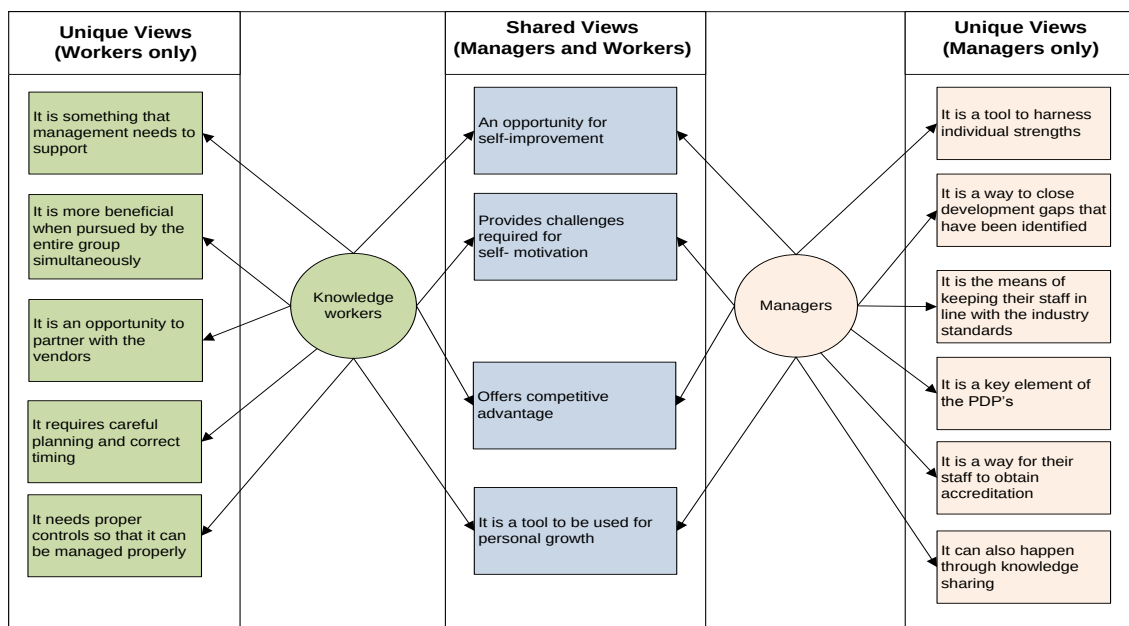
However, the managers felt that giving the workers space to do what they needed to do was good enough to motivate them. They also indicated that providing strong leadership by ensuring that they make the workers aware of the market trends was another motivating factor. Supporting and defending the workers, forming strong and enduring relationships and celebrating success were other factors that managers saw as employee motivators.

With regard to similar views, the managers and the workers agreed that aligning the organisation's strategy with what the workers do results in increased motivation. Taking an interest in the workers as individuals, as well as giving credit where and when it is due were also identified as key factors for employee motivation.

6.2.3 Employee training and development

With regard to training and development, the researcher also explored how each group views the significance of employee training and development. These views are summarised in the figure below.

Figure 38: Employee Training and Development – Consolidated Views



The workers felt that training and development is something that needs to be supported by management. And some of them also felt that it is not effective if it is not done by the entire team, to ensure that all the team members are on the same competency level. Interestingly, some workers saw training as an opportunity to partner with external vendors. They also indicated that it requires proper planning, proper control and correct timing to be successful.

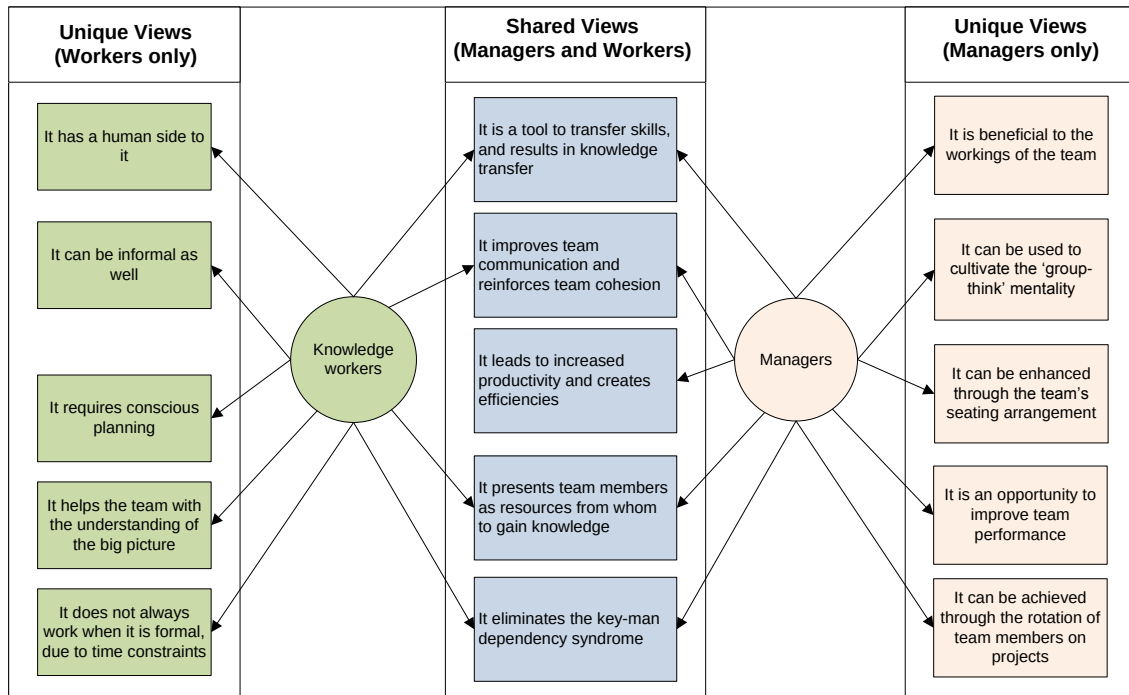
The view held by managers was that training and development could be used to harness individuals' strengths, and to close any development gaps that have been identified. Managers indicated that training and development should be part of the employees' Personal Development Plans. They also saw training and development as an opportunity for their employees to receive accreditation in their respective careers. The managers also argued that training and development could happen through knowledge sharing within team members, i.e. it does not always have to be formal.

Both the managers and the knowledge workers agreed that training and development could be seen as an opportunity for self-improvement. There was also consensus that it provides challenges that are required to test self-motivation and that it offers a competitive advantage. A common view existed that training and development can be used for personal growth.

6.2.4 *Employee collaboration*

Collaboration among the knowledge workers was another area that was investigated, i.e. in terms of how it is perceived by both the managers and the knowledge workers. The figure below presents a comparison of the views of the managers and the knowledge workers.

Figure 39: Collaboration with Peers – Consolidated Views



Knowledge workers expressed a view that collaboration, as an activity, has a human side to it, and that it should not be seen only as a formal process. However, when treated as a formal process, it requires conscious planning, i.e. it cannot just happen haphazardly. The challenges they mentioned for the formal process are time constraints, i.e. it tends to be hampered by the lack of and/or unavailability of time if it is formalised. They also indicated that it is a valuable tool that can assist the team in understanding the organisation's big picture, through knowledge sharing.

However, the managers believed that collaboration could be beneficial to the workings of the team. They felt that it could be used as a tool to cultivate the 'group-think' culture or mentality. To create a climate conducive to collaboration, they indicated that things like seating arrangement within a team, as well as rotation of team members within a project, play a critical role in this encouraging collaboration. Managers also felt that collaboration could result in improved team performance.

Both groups agreed that collaboration could be used as a tool to share knowledge among the team members, and thereby result in skills transfer. Other benefits identified by both groups were that it could improve team communication and result in better team cohesion. When cleverly engineered and orchestrated, it could result in increased productivity and efficiencies. They both agreed that, through collaboration, team members can become resources that can be used as sources of knowledge from whom other members could benefit. In line with the benefit of knowledge sharing, collaboration was identified as a strategy to eliminate the 'key-man' dependency situation.

6.2.5 *Contradictions to the literature review*

a. Employee mobility

The findings on employee mobility or tenure were in contrast to what the literature review says. According to the literature, knowledge workers do not stay in an organisation for longer than 18 months. The respondents who participated in this study held different views and indicated that there is a propensity for knowledge workers to stay in an organisation longer, because of other factors.

Coincidentally, when the researcher wrote this report, he read a report from Statistics SA (2015) on a research conducted on employee mobility within South Africa over the past eight years. This report states that "the amount of time people stay in their jobs in South Africa has increased since 2008" and further states that "Gauteng had the longest average job tenure in 2014, at 55 months, compared to 45 months in 2008". The findings published in this report served to substantiate and validate what the researcher uncovered through this study.

b. Money as a motivator

The view that **money** is a driver of motivation for knowledge workers was disproven by the respondents who were interviewed. They cited other factors as contributors to their level of motivation, and explicitly indicated that money was definitely not a motivating factor. This is contrary to what the literature indicates

about the role money plays. According to the literature, knowledge workers are highly motivated by money.

6.2.6 *Challenges experienced by managers*

This study made interesting findings on the challenges of managing knowledge workers to complement what is already documented in the literature. The key findings on the challenges can be summarised as follows: the portability and transferability of the knowledge workers' skills; different drivers of motivation (other than money); international projects teams; cultural clashes due to generational differences, and arrogance caused by high levels of education. All these factors make managing IT knowledge workers a job that requires insight and a great deal of reflective thinking by the managers. Such skills will help the managers to prevent ending up with dysfunctional teams and/or resolution of situations that could potentially be explosive.

6.3 Recommendations

The key learning from this research can be grouped as follows:

6.3.1 *Employee expectations*

While there seems to be an alignment between how the knowledge workers expect to be managed and how the managers perceive their management style, there are areas where managers can improve on. These areas are the following: demonstrating leadership qualities through showing the knowledge workers they are not just administrators whose job is to capture their leave and hours. In some instances, knowledge workers have indicated the need for their managers to demonstrate technical competence. Managers do not have to be experts in the field, but they should demonstrate some level of understanding of what is going on. This will go a long way to earn their workers' respect. Also, managers have to show decisiveness and provide guidance and direction to their workers, especially in times of uncertainty within an organisation.

6.3.2 *Employee motivation*

The managers have shown that they have a grasp of what motivates the employees, i.e. in terms of not using techniques like micro-management and/or empowering their workers through challenging projects and expecting them to be accountable for their work. However, there is room for improvement, especially around providing structure for their workers, i.e. ensuring that processes are clearly defined. Some workers are easily de-motivated when they are faced with a situation where they have to define processes and procedures themselves, because to them this resembles a chaotic environment. It is in cases like these that they expect to see their managers' technical competence and leadership qualities (discussed above). Also, managers should emphasise their workers' growth path more and demonstrate how their workers can achieve it through the projects they assign to them.

6.3.3 *Employee training and development*

The workers that participated in this study seemed to have more insight into the value of training and development for their teams than some of the managers who were interviewed. This was disturbing to the researcher as some of the managers seemed to view employee training and development simply as a box that needs to be checked. While it cannot be disputed that the workers should be accountable for their career growth and personal development, the managers can improve on this by providing a framework – through the Personal Development Plans – that workers can operate within. They need to show support of worker training by ensuring that issues like training budget or lack thereof are not used to discourage workers from developing themselves further. Where budget constraints for formal training are an issue, managers can encourage and facilitate knowledge transfer sessions as an alternative to personal growth and development.

6.3.4 *Employee collaboration*

Just like training and development, collaboration should be seen by managers as a tool that can help the team members achieve a better understanding of where the business is going. The workers expressed the view that managers should see the human side of collaboration. Managers should try and inspire their workers to work together for the betterment of the team. While managers should consciously plan collaboration, they should make the team realise that collaboration does not always have to be formal. The underlying benefit of collaborative approach to work, i.e. improved productivity, team cohesion and better communication should be emphasised by the managers.

6.3.5 *Employee mobility/tenure*

This study has uncovered that the rate at which knowledge workers are changing organisations is slowing down. Managers should use this to their advantage by ensuring that they create an environment that will result in employee retention. Such an environment could be created by open lines of communication, demonstration of strong leadership qualities through providing of direction and showing the relationship between the organisational goals and individual workers' goals. Furthermore, managers have to ensure that they keep the knowledge workers challenged through the work they give to them. It has been noted that most of these workers are highly educated, and therefore highly intelligent. The managers need to keep them stimulated mentally.

6.4 Suggestions for further research

The researcher is of the view that his findings have just touched on the challenges facing managers of knowledge workers. However, the fact that this study was conducted over a short period and used a limited sample size makes it difficult to generalise the findings across the entire population. The researcher recommends that the same topic be explored further, perhaps at doctoral level, where enough time and a bigger sample size will facilitate a conclusion that concurs with these

findings. For instance, the shift in factors that motivate knowledge workers opens up an interesting research area.

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6.5 Research Instrument

6.5.1 *Appendix A - Manager Interview Questions*

The following questions will be used as a guide to the manager's interview:

- 1) What is your management style?
- 2) What are your views on training and development of your staff?
- 3) How do you ensure that collaboration happens within your team?
- 4) How do you keep your employees motivated?
- 5) What are the challenges that you experience in managing knowledge workers?

6.5.2 *Appendix B - Employee Interview Questions*

The following questions will be used as a guide during the interviews of the IT knowledge workers:

- 1) What is your manager's management style?
- 2) What motivates you to come to work every day?
- 3) What are your manager's views on training and development?
- 4) How do you feel about collaboration with your peers?
- 5) How do you feel about collaboration with your peers on tasks/projects?

6.5.3 Appendix C – Letter of Introduction



22 April 2014

Dear Sir/Madam

I am currently undertaking research for the partial fulfilment of the requirements for the Master of Administration (MBA) through Wits Business School.

My research concerns the challenges of managing IT knowledge workers in the Financial Services industry in South Africa.

As a knowledge worker or someone who is managing knowledge workers, your views on this subject would be of significant value to this study. May I request an opportunity to ask you a few questions around this subject as a way of getting your views? The discussion will not take longer than an hour. I am planning to visit Liberty Life between 09/06/2014 and 13/06/2014 subject to your availability.

All information will be treated in the strictest confidence, and your name will not be published in the research report.

If you wish to receive a copy of the main findings of this research, please indicate so during our discussion so that I can make necessary arrangements.

Lastly, I would like to request your permission to use a recording device during our conversation. This will help me to ensure that I capture the entire conversation accurately and get the full benefit of your input.

Thank you for your participation in this study.

Yours sincerely

Edward Mzwandile Ngubane

