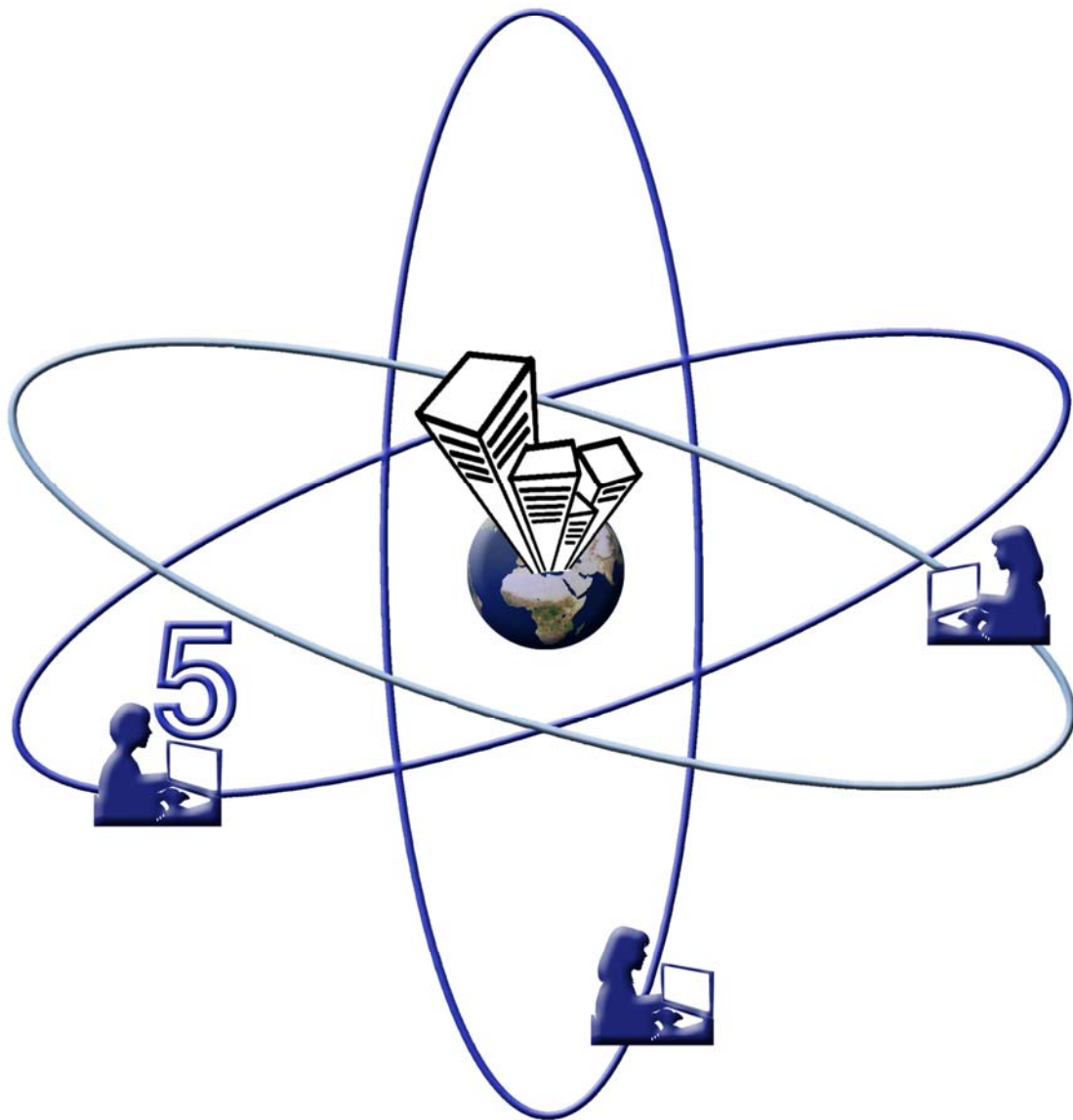# The management of
people, processes and places
in the virtual workplace

MANAGEMENT FRAMEWORK

CHAPTER 5: MANAGEMENT FRAMEWORK FOR PEOPLE, PROCESSES AND PLACES IN THE VIRTUAL WORKPLACE

> *"This is why Gadamer tells us that to understand is always to understand differently."*
>
> **Bernstein (1983)**
> **Beyond objectivism and relativism: science, hermeneutics, and praxis**

5.1   INTRODUCTION

The ***people, processes and places*** components were discussed individually in chapter 4. The objective of this chapter is to discuss the proposed framework as derived for the management of people, processes and places in the virtual workplace based on the relationships identified.

Experiences shared by the participants and virtual workers and covered in the preceding chapter exposed different matters of concern within the people, processes, place components, such as the management style, performance management, business process governance and standards as well as network accessibility and its limitations.

The discussion of the management framework is structured around the management approach, technology and practice components thereby structuring people, processes and places into a framework. This discussion framework is depicted in figure 5.1.The detail related to each component and the reasons for including it in the framework will be discussed according to the section numbers indicated and summarised with a corresponding figure.

Although this thesis focuses on the management of people, processes and places and the relationship between these components, associated links with technology, as an indispensible part of the virtual environment, and process modelling components are also included.
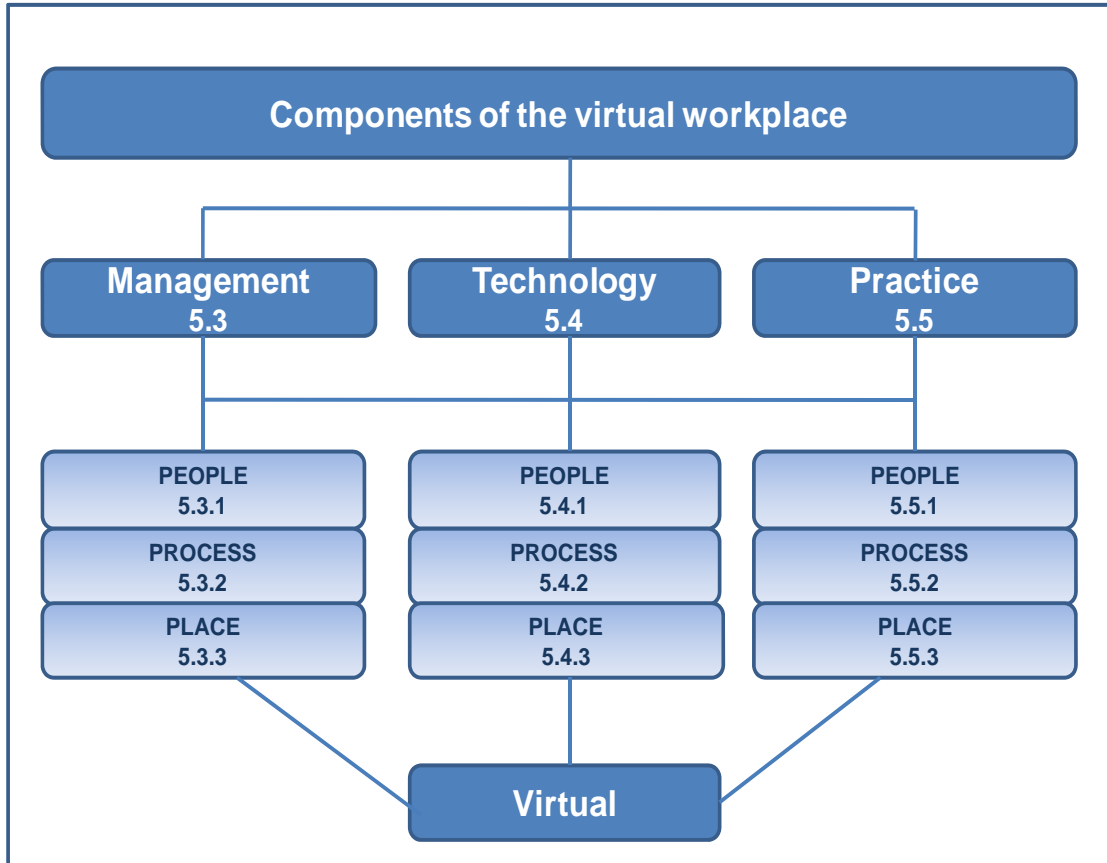
Figure 5.1: Components of the virtual workplace

This chapter will be followed by the concluding chapter, reflecting on the application of the Extended Hermeneutic Circle of Learning as developed in chapter 2, including recommendations, limitations and future topics for research.

Steps 7 to 9 of the Extended Hermeneutic Circle of Learning as depicted in figure 5.2 form the basis for this chapter's discussion. These steps are also covered in chapter 6 in the discussion on the application of the Extended Hermeneutic Circle of Learning which was used as research guideline in this thesis.
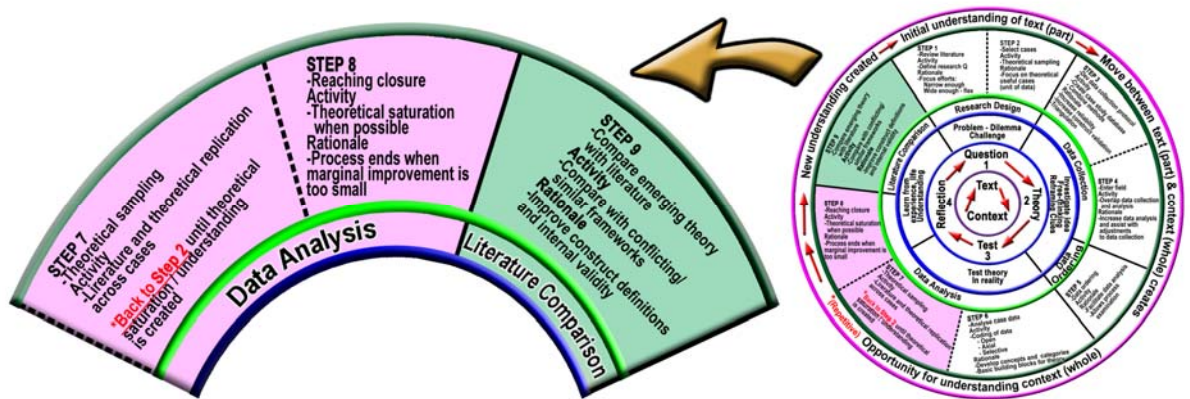
Figure 5.2: Steps 7 to 9: Data analysis, literature comparison

Throughout this chapter the literature as discussed in chapter 3 and the research findings as discussed in chapter 4 are compared and combined to formulate the framework for the management of people, processes and places in the virtual workplace, including technology.

5.2 PEOPLE, PROCESSES AND PLACES

The relationship between people, processes, places and technology as discussed in chapter 1 and depicted in figure 1.1 illustrated that processes are executed by people from different locations or workplaces using technology. This was expanded in figure 1.2 to show business process management as a manner in which people, processes and places interact.

The relatedness of the management, technology and practice components as seen in figure 5.1 expand figures 1.1 and 1.2 and serve to provide structure to the people, processes and places categories. Managing people, processes and places in context to the virtual workplace and incorporating technology as a necessity is discussed in this chapter and depicted in figure 5.3.
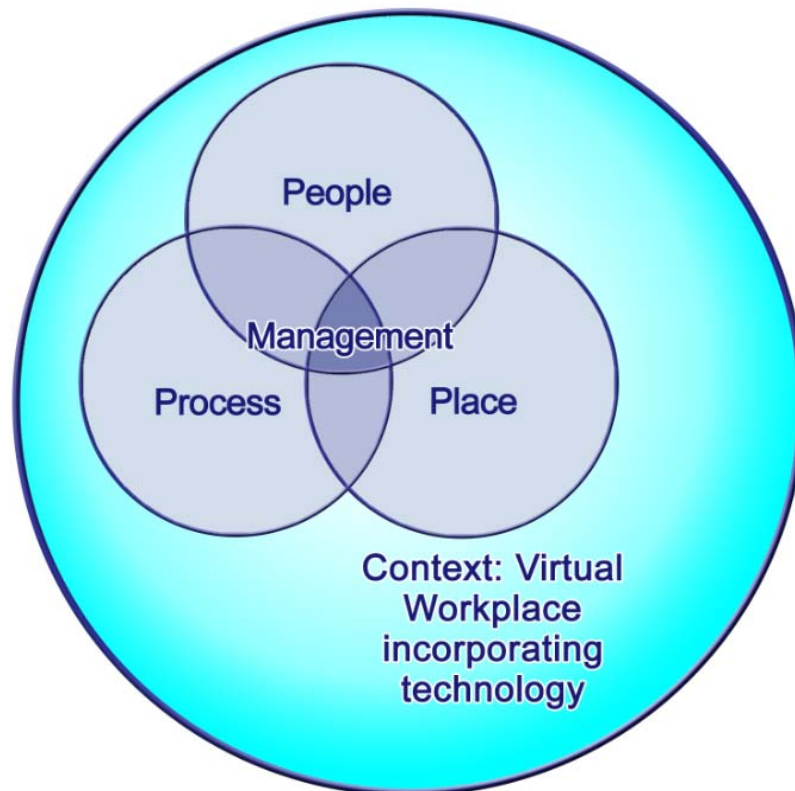
Figure 5.3: Management – people, processes and places

in context of the virtual workplace

5.3 MANAGEMENT

The management component relates to the structured approach as defined in section 3.5.1 and is discussed in the following section following the central theme of this thesis, namely people, processes and places. This can be seen in figures 5.1 and 5.3.

5.3.1 Management: people

The areas of attention related to business process maturity, understanding of business process management, active change realisation and the establishing of an enabling culture and support structure are discussed. It is part of the management component and is discussed in the section below.

5.3.1.1 Determine business process maturity

For an organisation to move towards supporting business process activities in the virtual workplace, it needs to determine its business

process management maturity level. A business process management maturity assessment needs to be done as discussed in section 3.7.1. Such an assessment is essential as it will provide invaluable inputs into determining the organisation's strategy towards business process support in the virtual workplace. This translates into alignment with and supporting business process support in the virtual workplace as well as growth in business process maturity.

In the context of this thesis business process maturity relates to people's experience of business processes in the organisation, their awareness and their business processing skills.

Different business process maturity assessment tools are available in the market. It is important to investigate and evaluate the different business process maturity assessment tools, instead of randomly selecting a tool. Appendix F is an example of an online business process maturity assessment tool.

Business process maturity is a specialised field on its own and the execution of a business process maturity assessment as such cannot be covered in detail in this thesis (section 3.7.1). It is however important to recognise the different levels of business process maturity and the need to establish the organisation's level of business process maturity. This translates into organisations displaying different management strategies matching their needs in line with their business process maturity level, such as *ad hoc* or *initial* levels of business process maturity which consist of undefined and chaotic processes compared to an organisation with *integrated* or *optimised* business processes which may include *process measurement and management systems* (section 3.7.1). This shows a relationship between process and management. The people aspect is also incorporated as the business process maturity level has a close correlation with the business process skills, roles and responsibilities of the business process owners and business process modellers as well as

development (sections 3.3.3.6, 3.4.6, 4.3.4 and 4.4.1.2), as defined roles and responsibilities and well-trained resources could possibly be indicative of the higher business process maturity level. Business process maturity has a link to integration of business process tools as discussed in sections 3.7.1, as well as 5.4.1.2 and 5.4.2.3.

5.3.1.2 Create an understanding for business process management

A clear understanding of the difference between business process management and business process improvement (sections 3.5.1 and 3.6.1) needs to be created through suitable communication and training channels (sections 3.3.3.6, 3.3.3.8, 4.3.4, 4.5.4.1 and 4.5.4.2). Business process management is the structured, management approach which includes policies, methods and standards, whereas business process improvement involves the step-by-step rectification of "*broken processes*" (section 3.6.1). Uniform, unambiguous communication and training which conveys the same business process message to all people involved will assist in creating a common business process management understanding within the organisation and align the development of business process resources (sections 3.3.3.6, 3.3.3.8 and 4.3.4).

A defined communication plan is recommended as it deals with communication in a structured manner (section 3.3.3.8). This communication function should be done by the communication and a change realisation expert with the support of the change agents with the emphasis on the relationship between clear-cut communication and active change realisation. Appendix E is an example of a high level communication framework followed by a software company.

People will resist business process management if they do not know what it is or what benefits it brings (sections 4.3.2 and 4.3.5). The need for communication (sections 3.3.3.8 and 4.5.4.1), information and training (section 4.3.4) is echoed by Scheer et al (2003:5) as part of organisational change management (sections 3.3.3.3 and 4.3.5) as

well as business process change (sections 4.4 and 4.4.3) as the genetics of the organisation is changed when business process changes occur.

5.3.1.3 Active change realisation

Changes within the organisation and its business processes can occur as a result of new market offerings, mergers and acquisitions, legal requirements and outsourcing (section 3.3.3.3). Changes related to where people work also occur, as the workplace changes from office-bound to virtual. Active change realisation or change management, as it is also known, focuses on communication and interaction, information (sections 3.3.3.8 and 4.5.4) and training (sections 3.3.3.6 and 4.3.4) and has business processes as its foundation.

Change realisation is the comprehensive management approach implemented by an organisation as an ongoing process to smooth the progress of change (section 4.3.5), which is very closely linked to people management and business process management (sections 3.5.1, 4.4.1 and 4.4.1.1), as high maturity with regard to business process assists change management initiatives. It relates to the organisation's unique transformation to obtain sustainable, long-term success. It also contributes to the ongoing improvement of the organisation's business processes as discussed in sections 3.6.1 and 4.4.3. The communication provides guidance on the communication needed to support information sharing as part of change realisation and training pointers (section 3.3.3.8 and appendix E).

Active change realisation and its enablers (section 3.3.3.3), together with the discussions on communication and interaction (sections 4.5.4, 4.5.4.1 and 4.5.4.2), support for and understanding of business process management (section 3.5.1), trust (sections 4.3.1 and 4.3.2.2), personal responsibility (sections 4.3.2.3 and 4.3.3) and governance (section 4.4.1) need to be addressed. Active change realisation links

to the establishing of an enabling culture which will be discussed below.

5.3.1.4 Establish enabling culture

An enabling culture supports employees who work in a virtual environment in explicit ways, such as day care assistance for mothers. An enabling culture also has trust, responsibility, loyalty and integrity as essential components (sections 3.3.3.1, 3.3.3.2 and 4.3.1) and is heavily influenced by management attributes and style (sections 3.3.3.4, 4.3.2.1, 4.3.2.2 and 5.3.1.5).

New behaviour and socialisation processes are formed in the virtual workplace, as the structure is fluent and change impacts on the culture of the organisation (section 4.3.1).

The establishing of an enabling culture requires active change realisation (sections 3.3.3.3, 4.3.5 and 5.3.1.3), straightforward communication (section 3.3.3.8 and 4.5.4.1) and needs to be supported by means of partnerships and a collaborative management style. This also has a connection to performance management, as the focus needs to be on output management and not people management (sections 3.3.3.7 and 4.3.2.3). Leading by example (section 4.3.2.1) with passion for processes (sections 3.3.3.5, 4.3.2.1 and 4.3.3) are also crucial for the establishing of an enabling culture.

5.3.1.5 Establish business process support structure

The active leadership chain is discussed in sections 3.3.3.3 and 4.3.5 as part of successful change and depicted in figure 3.6 and links to a participative and supportive management style displaying trust, responsibility and accountability (in sections 4.3.2, 4.3.2.1 and 4.3.2.2). These are essential components for the establishment of a business process support structure as part of the framework for the management of people, processes and places in the virtual workplace.

The structure supporting employees in the virtual workplace (section 4.5.3.2) has to have clearly defined roles and responsibilities (sections 3.4.6 and 4.4.1), thus providing clear reporting lines. Controls as seen in section 4.5.3.1 can assist in aligning people and business process activities. Help desk support for virtual workers is also required (section 4.5.3.2).

Crucial to the business process management structure is business process governance and a defined business process methodology (sections 3.4.5.1 and 4.4.1.1) that enables a common and unified understanding of business processes. Included in the business process support structure are infrastructure components (sections 3.3.5, 4.5.2, 4.5.2.1, 4.5.2.2, 4.5.2.3 and 5.3.3.4), as well as infrastructure requirements as part of the place portion within the technology component (section 5.4.3.1) and practice (section 5.5.3.1).

5.3.1.6 Involve the right resources

Firstly, involving the right resources relates to a stringent recruiting process (sections 3.3.3.5 and 4.3.2.4), identifying and employing those people whose culture and values are discussed in section 4.3.1 who fit the organisation and secondly, involving people with a passion for processes (section 4.3.2.1). Cognisance needs to be given to the personality traits (sections 3.3.3.5, 4.3.3 and appendix D) of those people working in the virtual workplace and that this includes a passion for business processes. It is also important to note that the virtual workplace is not a suitable environment for everybody as discussed in sections 4.3.2 and 4.3.2.4.This translates into the virtual workplace, the people and the job having to fit together. Involving the right resources also means having the right stakeholders on board (section 3.4.5.1, table 3.9, stakeholders).

5.3.1.7 Develop skilled resources

Proper designed training empowers and equips employees with the necessary skills and can take on different formats, namely informal

when training is done at a person's own pace and is assisted via the internet using electronic courses, computer-controlled exercises or formal, being classroom and facilitator-based. It is important to select the appropriate type of training and acknowledge personal preference.

The following subjects need to be included in standardised training material, namely clarification of business process management, the need for business process management governance, business process modelling and business process analysis (sections 3.3.3.6, 3.4.5.1, 4.3.4, table 3.9, practice of modelling and table 3.11). Development of resources also links to performance management (sections 3.3.3.7 and 4.3.2.3). Resources require training that is relevant to aid them in the execution of their job and to increase their job performance.

5.3.1.8 Retain skilled resources

Telecommuting and different types of virtual workplaces (sections 3.3.2 up to and including 3.3.2.7) offer the opportunity to retain critical, scarce skills. This can also be seen in the discussion of the advantages offered by the virtual workplace (sections 3.3.6.1 and 4.5.7.1). This refers specifically to retaining already employed employees with critical skills. This correlates further with recruitment (sections 3.3.3.5 and 4.3.2.4) in the identification of motivated, responsible and accountable employees with a passion for processes according to the discussion on personality traits (sections 3.3.3.5 and 4.3.3). Recruiting of people with scarce skills is possible when they are offered the flexibility of the virtual workplace. Existing scarce skills can thus be retained by offering the necessary staff members the opportunity to work remotely with flexible hours and other scarce skills can be obtained in the same manner.

5.3.2 Management: process

Following on the people component as discussed above is the process portion related to management. The process portion has a correlation with business process maturity (sections 3.7.1 and 5.3.1.1), understanding

business process management (sections 3.5.1, 5.3.1.2 and 5.3.2.1) and the business process support structure as discussed in section 5.3.1.5.

5.3.2.1 Determine business process maturity

Within this context, business process maturity relates to the level to which business process governance (as discussed in section 4.4.1.1) has been defined, including the process level, process model types and process characteristics as can be seen in sections 3.4.1 up to 3.4.4 as well as section 4.4.2 up to and including sub-sections 4.4.2.5. The level to which business processes have been defined and documented has relevance to the level of process maturity as mentioned in section 3.7.1. The different levels of business process maturity are also included in section 3.7.1. The business process maturity level has a close correlation with the business process skills, roles and responsibilities of the business process owners and business process modellers as discussed in sections 3.4.6 and 4.4.1.2, as well as development (sections 3.3.3.6 and 4.3.4) since defined roles and responsibilities translate into a higher level of maturity (section 3.7.1). Defined business process change control governance and procedures are also indicative of the level of business process maturity (sections 3.4.7 and 4.4.3).

Different business process maturity assessment tools are available in the market and a proper analysis of the available tools needs to be done in order to select the most appropriate business process maturity assessment tool for the specific organisation (section 3.7.1). It is essential to determine the business process maturity, as the strategy forward may be impacted on by the business process maturity level. Part of this assessment will be to establish the extent to which existing process tools can, and are integrated. This relates to section 5.4.2.3 reflecting on an integrated business process management tool.

5.3.2.2 Create an understanding for business process management

This links to the difference between business process management and business process improvement (sections 3.5.1, 3.6.1 and 5.3.1.2). Creating an understanding for business process management through uncomplicated communication and training (sections 3.3.3.6, 3.3.3.8, 4.3.4, 4.5.4.1 and 4.5.4.2) is required. This will assist in creating and supporting a uniformed business process understanding within the organisation and its people working remotely. It will also align the focussed development of business process resources (sections 3.4.5.1, 3.3.3.6 and 4.3.4).

5.3.2.3 Establish business process support structure

The business process domain requires a business process support structure to support and grow it. In this context the term "business process support structure" translates into business process governance (section 4.4.1.1) and the defined business process methodology or standards which are discussed in sections 3.4.1 up to 3.4.4 as well as sections 4.4.2.1 up to and including 4.4.2.5. This is necessary in order to establish a common understanding and consistent approach to business processes management, including business processes management in the virtual workplace. The business process management structure and business process governance link to ongoing business process improvement (section 3.6.1) as well as active change realisation (sections 3.3.3.3 and 5.3.1.3), since active change realisation supports the business process domain in its various activities through communication and information sharing (sections 3.3.3.8, 4.5.4.1 and 4.5.4.2).

5.3.2.4 Sustainability of business processes

Sustainability of business processes relates to processes being well defined and documented including inputs, outputs and cycle times (sections 3.4.1 up to 3.4.5, 4.4.2.5 and figure 3.7), which in turn relates to the maturity of the business processes (section 3.7.1). Sustainability further translates into business processes being transparent and

constantly providing repeatable results (sections 3.4.4 and 3.7.1). Sustainability of business processes can be seen as the spin-off result of a defined and structured business process structure and methodology (sections 3.4.1 up to 3.4.4, 4.4.2.1 up to and including 4.4.2.5) which facilitates growth and high-performance ways of working (section 3.4.4), thus supporting business process management in the virtual workplace.

5.3.3 Management: place

The virtual workplace has specific management challenges as the workplace is off-site or remote and sometimes outside the borders of the country. The discussion below focuses on establishing an enabling culture, the types of virtual workplaces, the types of work appropriate for the virtual workplace and infrastructure requirements.

5.3.3.1 Establish an enabling culture

An enabling culture fostering trust, responsibility and accountability is crucial for effective functioning in the virtual workplace, simply because of its remoteness (sections 3.3.3.1, 3.3.3.2 and 4.3.1). This corresponds closely with the management attributes which have been identified (trust, constructive support, involvement, and so forth) and collaborative management style (sections 4.3.2.1 and 4.3.2.2) including the business process support structure as reviewed in sections 5.3.1.5. This enabling culture is crucial as employers have less control over virtual workers and employees should be assessed on output as discussed as part of performance management (sections 3.3.3.7 and 4.3.2.3).

5.3.3.2 Virtual workplace

The distributed or virtual workplace can have distributed locations, such as at home, a hotel or an airport (sections 3.3.1 and 4.5.1), with section 4.5.5 reflecting on the type of workplaces used by participants.

Due to the distributed nature of the virtual workplace, bridging of time and space occurs as discussed as part of the changing nature of work (section 1.1.2), including the people component (in section 4.3) and the time zone examples (given in section 4.5.1). The bridging of time and space with time as an instance in space is depicted in figure 1.3. The advantages offered by the virtual workplace, such as flexibility, decentralisation and time saving due to less commuting can be seen in sections 3.3.6.1 and 4.5.7.1. The disadvantages relating to irregular and longer working hours due to time zones, alienation from the organisation and internet capacity problems are reviewed in sections 3.3.6.2 and 4.5.7.2. Infrastructure related details, namely internet capacity, intranet and server access including the minimum requirements for efficient functioning in the virtual workplace are discussed in sections 3.3.5 and 4.5.2, up to and including section 4.5.2.4. This also has a bearing on feasibility of infrastructure (section 5.3.3.4).

In order to facilitate working in the virtual workplace, cognisance needs to be given to the impact of time zones and the extended working hours that translate from it. Arrangements facilitating the establishment of a support structure that enables employees to meet each other half way needs to taken into account to limit extended working hours due to time zones (section 4.5.1).

Management also needs to consider the type of virtual workplace suitable to its activities as there are a number of viable options, such as those discussed in section 3.3.1.

5.3.3.3 Determine types of work

The virtual workplace suits asynchronous types of work, which is work that does not require face-to-face interaction such as computer programming, technical work, desk support, documentation and business process modelling (sections 3.3.4, 4.5.6 up to and including section 4.5.6.3). Thus, care needs to be taken that the right type of

work is selected for execution in the virtual workplace. The virtual workplace is also viable for synchronous work, which is work with "real-time" interaction although not face-to-face, such as telemarketing.

5.3.3.4 Feasibility of infrastructure

The virtual workplace is heavily dependent on sustained internet capacity as discussed in sections 3.3.5 and 4.5.2.1, as well as access to network servers, with access limitations often imposed on contractors (section 4.5.2.2). Included in the network accessibility challenges are the number of user ids and passwords needed (section 4.5.2.2). The possibility of single sign-on to streamline server access could be investigated, but its feasibility in terms of protection measures needs to be evaluated by every organisation individually. Providing acceptable server access relates back to the support structure as discussed earlier (section 5.3.1.5), as well as to sections 5.3.3.2 and 5.4.3.1 reflecting on the infrastructure requirements and the virtual workplace.

5.3.4 SUMMARY: MANAGEMENT

The management challenges related to the management of people, processes and places in the virtual workplace have a multiple relationship, thus emphasising that the components cannot be viewed in isolation. This connectedness is evident in the establishing of an enabling culture, understanding business process management and the need for a business process support structure together with the infrastructure component. Figure 5.4 gives a summary of this discussion.

Components of the virtual workplace

Management 5.3

PEOPLE 5.3.1

- **Determine business process maturity**
  - assessment, process skills, roles and responsibilities, integration of process tools
- **Create an understanding for business process management**
  - BPM, BPI, communication, training, change management
- **Active change realisation**
  - communication, information, training, BPM, interaction, enabling culture
- **Establish enabling culture**
  - management attributes and – style, passion for processes, lead by example
- **Establish business process support structure**
  - active leadership, supportive management style, roles and responsibilities, reporting, governance, infrastructure
- **Involve right resources**
  - recruiting, culture, passion for processes, personality traits
- **Develop skilled resources**
  - training, BPM, governance, modelling, performance management
- **Retain skilled resources**
  - critical, scarce skills, flexibility, advantage

PROCESS 5.3.2

- **Determine business process maturity**
  - process governance, levels, roles, responsibilities, process change control, maturity assessment
- **Create an understanding for business process management**
  - BPM, BPI, uncomplicated communication, training
- **Establish business process support structure**
  - process governance, defined methodology, standards, active change realisation
- **Sustainability of business processes**
  - defined inputs, outputs, transparent, structure

PLACE 5.3.3

- **Establish enabling culture**
  - trust, responsibility, accountability, management attributes, less control, output driven
- **Virtual workplace**
  - distributed, hotel, home, airport, bridge time and space, time zones, flexibility, longer working hours, infrastructure, advantages, disadvantages
- **Determine types of work**
  - asynchronous, technical, documentation, select right type of work
- **Feasibility of infrastructure**
  - sustained internet capacity, access to network servers, single sign-on, support structure
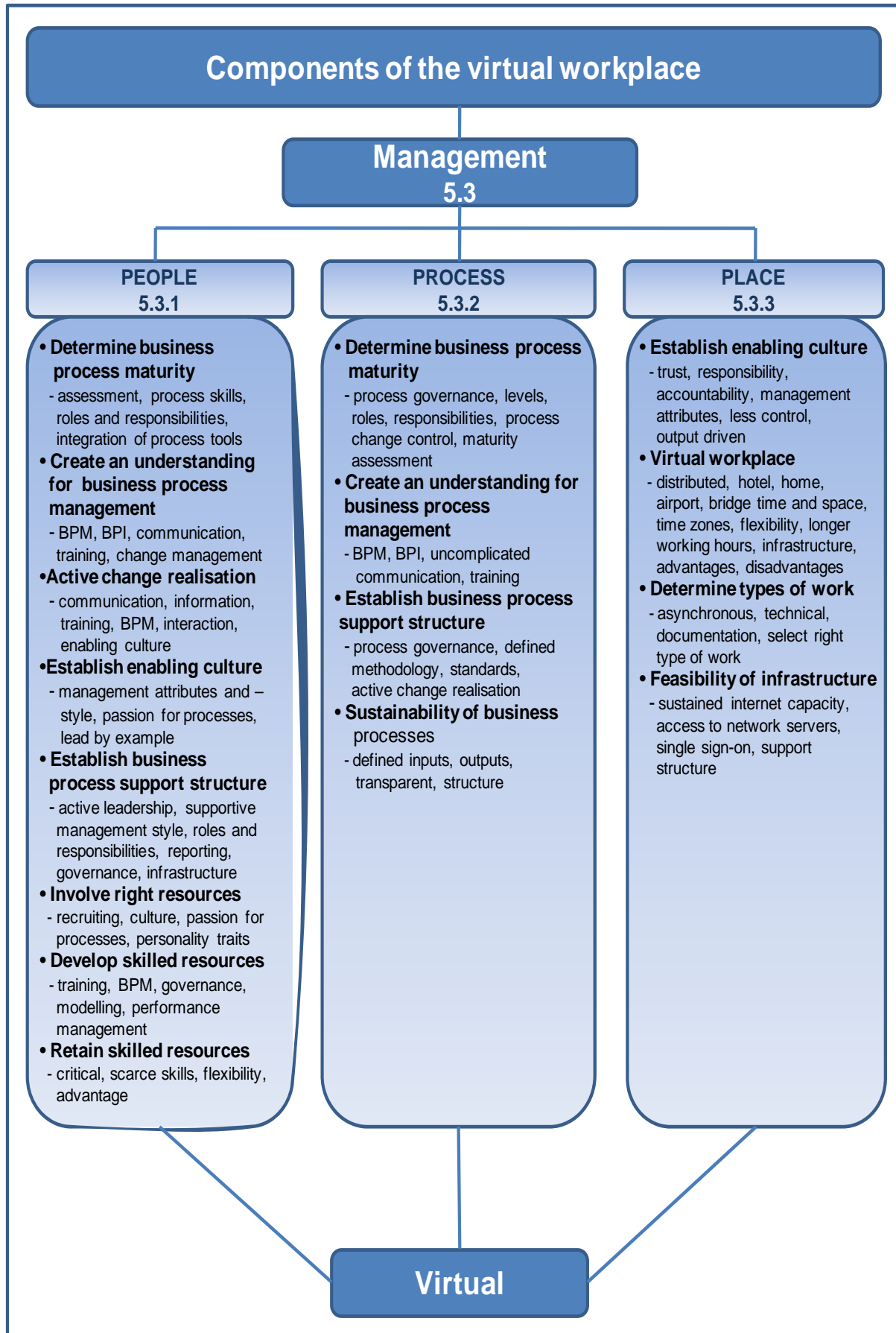
Virtual

Figure 5.4: Components of the virtual workplace – management summary

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5.4 TECHNOLOGY

The following discussion focuses on the technology component related to the management of people, processes and places in the virtual workplace as depicted in figures 5.1 and, 5.3. Technology is covered as an essential part of the virtual environment. The discussion follows the people, processes and places structure according to the central theme of this thesis.

5.4.1 Technology: people

Streamlined network accessibility and the need for integrated business process tools were identified as areas requiring attention and are discussed in chapter 4. It is discussed as part of the people portion related to technology in the section below.

5.4.1.1 Determine streamlined network accessibility

The possibility of streamlining network accessibility through the use of single sign-on, thereby minimising user ids and passwords as reviewed in sections 4.5.2.2 and 5.3.3.4 could be investigated. Part of the management responsibility in this instance relates to the evaluation of security related matters, such as firewalls (sections 3.3.5 and 4.5.2.2). This responsibility is related to section 5.3.1.5, namely the business process support structure. This also has a bearing on the limitations experienced by contractors in comparison to permanent employees with specific reference to accessibility of documentation. The availability of, and access to documentation can be facilitated through the use of shared folders on shared servers (section 4.5.2.2). This corresponds to the need for integrated tools (sections 3.7.1, 4.4.4 and 4.4.2.5) and has a corresponding link to section 5.4.1.2 below. It is also covered in table 3.9 as part of practice of modelling.

5.4.1.2 Determine standardised integrated tools

The need for integrated business process tools is discussed in section 3.7.1 as well as sections 4.4.2.5 and 4.4.4 which reflect on the documenting of business processes and the use of integrated business

process tools. This has a matching link to the proper selection of business process modelling tools as it facilitates standardisation of business process modelling tools (section 4.4.4). This has a further link to section 5.4.2.1, establishing of a single source. The use of integrated business process tools and a single source are also covered in sections 3.4.5 and 3.4.5.1, table 3.9 as part of the strategy and governance, as well as tools and related requirements segments. Table 3.11 also reflects on integrated tools. Shared folders on shared servers aid asynchronous work done in the virtual workplace (sections 3.3.4 and 4.5.4.2) which has relevance to documentation (section 4.5.6.2), as well as the discussion related to network accessibility (sections 3.3.5 and 5.4.1.1). This needs to be read in conjunction with section 5.3.1.1 (which reflects on business process maturity) and section 5.4.2.3 related to the integration of business process management tools.

5.4.1.3 Usage of virtual work tools and social networks

Various virtual work tools which enable synchronous and asynchronous interaction are available today, such as tele- and videoconferencing, email, facsimile and mobile phones as discussed in sections 3.3.3.9, 4.5.4.3 and 4.5.4.4 and table 3.5, depicting representative virtual work tools. The cost associated with some of these tools, such as videoconferencing can be high and it is, therefore, important to get a balance between interaction or the communication required and the cost involved. Low cost social networks, as reviewed in section 4.5.4.4 and portrayed in figure 4.5 are important to today's younger generation employees. The extent to which these networks can and may be used for official purposes in the virtual workplace needs to be evaluated.

5.4.2 Technology: process

The process portion of technology relates to process technologies, such as single source and process support, including data integrity as will be discussed in the following section.

5.4.2.1 Establish single source

Establishing single sources of information for documentation, such as a document management system (DMS) and a business process repository, assist in keeping documentation and business processes valid and aid in the distribution of the required documentation as discussed in sections 4.4.2.5, 4.4.3 and 4.5.2.3. Generating documentation from the single business process source for training purposes (section 4.3.4) and information purposes and as part of active change realisation (sections 3.3.3.3, 4.3.5 and 5.3.1.3), is a necessity as it ensures the alignment of training with business activities and change realisation initiatives.

Business process change control (sections 3.4.5, 3.4.7 and 4.4.3, table 3.9, modelling success and maintenance) is supported and streamlined when using a single business process source. This also offers the organisation the opportunity to move towards obtaining an end-to-end view of its business processes as reviewed in section 3.5 as part of business process management. This has a corresponding link with business process maturity, processes, as well as process governance (sections 3.7.1; 4.4 and 4.4.1.1). The topic of a single source for documentation and business processes needs to be reviewed in conjunction with server access (section 5.4.1.2 and 5.4.3.1), including the need for integrated tools (sections 3.4.5, 3.4.5.1, 3.7.1, 4.4.4 and 4.4.2.5), including table 3.9 as part of the strategy and governance, as well as tools and related requirements portions. Table 3.11 can also be seen for the need for the integration of tools. This has a further link to the enabling of distributed work processes which is assisted through shared server access and shared folders (section 4.5.2.2), including distributed communication and workflow as discussed in section 4.5.2.3. The roles and responsibilities supporting business process management is discussed in section 4.4.1.2 with specific reference to the updating and maintenance of the business process repository and the generation of documentation from this single business process source.

5.4.2.2 Determine computer-supported processes

The development of technology over time has led to the development of computer-supported processes, thereby changing the nature of work, as routine, mundane activities became automated. The changing nature of work and the waves of change are discussed in sections 3.2.1 up to and including 3.2.1.6. Computer-supported processes are discussed in terms of the different types of processes, namely manual, semi-automated and automated processes (sections 3.4.1 and 4.4.2.3) as well as process characteristics (sections 3.4.4 and 4.4.2.4). Computer-supported processes go hand in hand with standard processes which assist in streamlining activities and are thus essential for business process support in the virtual workplace (section 4.4.2.4).

5.4.2.3 Integrated business process tools

Integrated business process management tools have relevance to business process maturity as discussed in section 3.7.1. Integrated business process tools are covered in the business process strategy and governance in table 3.9, as well as in sections 3.4.5, 3.4.5.1 and 4.4.1.1. Section 4.4.1.1 also has a bearing on standardisation. Standardisation and integration of tools are also covered in table 3.11 under the tactical and operational columns. Standardisation and integration of business process tools are crucial to business process support in the virtual workplace. Business process tools embracing a single repository of business process information are discussed in sections 4.4.4 and 5.4.2.2 and covered in table 3.9 as part of strategy and governance. This has a linkage to sections 5.3.1.1 and 5.3.2.1 which reflect on the relationship between management, technology and practice.

5.4.2.4 Ensure data integrity

Process governance (section 4.4.1.1) assists in ensuring data integrity when using a single source or single business process repository. Data integrity is further supported through quality assurance, as executed by the business process custodian related to the roles and responsibilities

(section 4.4.1.2). Ensuring data integrity is mandatory, irrespective of the environment. Although data integrity is aided by quality assurance, it has not been covered specifically in the literature. Data integrity has been listed in section 6.12 as part of future research topics.

5.4.3 Technology: place

Technology supporting the virtual workplace relates to the feasibility of infrastructure and has a bearing on the management component discussed in section 5.3.3.4.

5.4.3.1 Feasibility of infrastructure

Feasibility of infrastructure supporting the virtual workplace relates to stable internet connectivity (sections 3.3.5 and 4.5.2.1), including remote accessibility of business process tools discussed as part of server access (section 4.5.2.3) and standardised integrated tools (sections 5.4.1.2 and 5.4.2.3). A supportive infrastructure has different technologies, such as 3G and video-conferencing. The cost involved in obtaining and using these technologies needs to be balanced with the benefit obtained as reflected upon in section 4.5.2.1. This is also addressed in sections 4.5.4.4 and 5.4.1.3 in the discussion related to virtual work tools. This also has a corresponding link to the type of workplaces as discussed in section 3.3.2.

5.4.3.2 Type of workplace

Different types of virtual workplaces have been discussed (section 3.3.2), such as telework centres which can address infrastructure related matters.

5.4.4 SUMMARY: TECHNOLOGY

The technology component's challenges related to the management of people, processes and places in the virtual workplace refer to streamlined network accessibility and establishing of an integrated, single source of information accessible from remote locations. There is a connection with the people, processes and places portions. This link emphasises that this topic

cannot be viewed in isolation The technology component is summarised in figure 5.5.
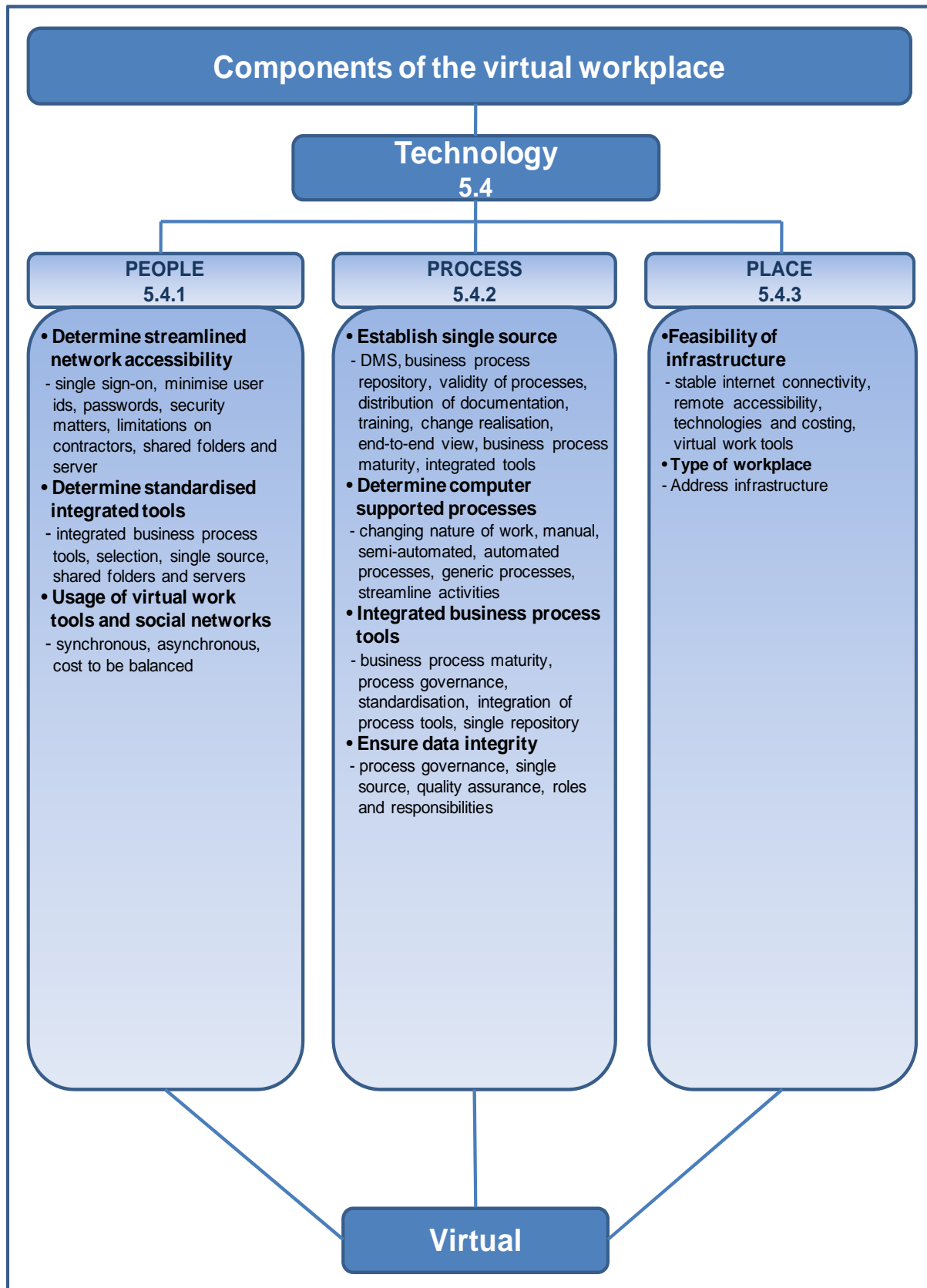
Components of the virtual workplace

Technology 5.4

PEOPLE 5.4.1	**PROCESS 5.4.2**	**PLACE 5.4.3**
• **Determine streamlined network accessibility** - single sign-on, minimise user ids, passwords, security matters, limitations on contractors, shared folders and server • **Determine standardised integrated tools** - integrated business process tools, selection, single source, shared folders and servers • **Usage of virtual work tools and social networks** - synchronous, asynchronous, cost to be balanced	• **Establish single source** - DMS, business process repository, validity of processes, distribution of documentation, training, change realisation, end-to-end view, business process maturity, integrated tools • **Determine computer supported processes** - changing nature of work, manual, semi-automated, automated processes, generic processes, streamline activities • **Integrated business process tools** - business process maturity, process governance, standardisation, integration of process tools, single repository • **Ensure data integrity** - process governance, single source, quality assurance, roles and responsibilities	• **Feasibility of infrastructure** - stable internet connectivity, remote accessibility, technologies and costing, virtual work tools • **Type of workplace** - Address infrastructure

Virtual

Figure 5.5: Components of the virtual workplace – technology summary

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5.5 PRACTICE

The discussion in the next section focuses on the third component of the management of people, processes and places in the virtual workplace, namely practice and is depicted in figures 5.1 and 5.3. The discussion follows the central theme of this thesis, namely people, processes and places.

5.5.1 Practice: people

Creating an understanding of business process management, developing skilled resources and having clear communication have been identified as areas requiring attention (chapter 4). These areas are discussed as part of the people portion embedded in the practice component below.

5.5.1.1 Create an understanding for business process management

Creating an understanding for business processes, business process management and business process improvement (sections 3.4.1, 3.5.1 and 3.6.1) is required in order to empower people to understand the business process domain, its requirements and how it is supported through business process methodology and governance (sections 3.4.5 and 4.4.1.1). It also links to sections 5.3.1.2 and 5.3.2.2 as part of the management component. Empowering of employees as part of creating an understanding for business processes is done through training and development (sections 3.3.3.6 and 4.3.4) and structured communication (section 3.3.3.8).

Creating an understanding for business processes also has a bearing on business process levels and business process model types as discussed in sections 3.4.2, 3.4.3, 4.4.2.1 and 4.4.2.2 respectively. This also has a relationship with the understanding of the different audiences and their business process needs (sections 3.4.1, 3.4.5, 3,4,5,1, 4.4.2.1 and 4.4.2.3). Table 3.9 reflects on different audiences' requirements as part of the strategy and governance as well as practice of modelling sections. Understanding business processes in the virtual workplace is essential, since a lot of work is done remotely

through asynchronous interaction (sections 3.3.3.8 and 4.5.4.2). Thus, the better the understanding, the better the results can be.

5.5.1.2 Develop skilled resources

In this context skilled resources refer to people possessing business process modelling and analysis skills, including an understanding of the business process methodology used by the organisation. This is covered in the discussions on development (sections 3.3.3.6 and 4.3.4), process governance (section 4.4.1.1), as well as the developing of skilled resources (section 5.3.1.7). The development of skilled resources can be done formally through classroom facilitated training or informally through the internet with electronic courses and computer controlled exercises (sections 3.3.3.6 and 4.3.4). The issue of skilled resources is also covered in table 3.9 under stakeholders. Skilled expertise is also covered as part of business process management issues in table 3.11.

5.5.1.3 Encourage clear communication

Clear-cut communication is crucial for effective management of people, processes and places in the virtual workplace touching on all levels and on all activities (sections 4.5.4.1 and 4.5.4.2). The communication pointers (section 3.3.3.8) can be used for synchronous communication, that is face-to-face or real time communication and for asynchronous communication or indirect communication which is via electronic media such as email. The different types of synchronous and asynchronous communication methods are also indicated in table 3.5 reflecting the different types of virtual work tools. The essence is very unambiguous communication.

5.5.2 Practice: process

The follow section covers process technology, licensing and governance requirements as identified.

5.5.2.1 Integrated business process management tools

The integration of business process tools is helpful to support business process activities. It recounts business process maturity as discussed in section 3.7.1, including section 5.4.2.3. This also has a link to standardisation and business process governance (sections 3.4.5, 3.4.5.1 and 4.4.1.1), emphasising a single repository or source for business processes (section 4.4.4 and 5.4.2.2). It is also covered in the strategy and governance portions of table 3.9, as well as in table 3.11 as part of operational matters.   Reviewing and managing of business process licences has an impact on business process activities in the virtual workplace (section 5.5.2.2). This can be read in conjunction with having a business process modelling tool suitable for the organisation's requirements as covered in table 3.9, tool and related requirements.

5.5.2.2 Need for business process tool licences

Hand in hand with the availability of business process tool licences is the evaluation and selection of a proper business process modelling tool fitting the organisations needs as reviewed in section 4.4.4 as part of process tools. It is vital for an organisation to have the correct selection of business process tools and licences available, as it is part and parcel of working towards a single repository containing business processes modelled according to a standardised methodology. The extent to which business process management tools will be integrated relates to the business process maturity as discussed in sections 3.7.1 and 5.4.2.3. Table 3.9, tool and related requirements, also reflects on having the appropriate business process modelling tool fitting the organisation's needs, including table 3.11. This means that a higher level of maturity will be evident in a standardised, integrated architectural framework.

5.5.2.3 Need for business process governance

Business process governance as discussed in section 4.4.1.1 focuses on the necessity of business process standards, including the roles and responsibilities of business process owners and business process

modellers (sections 3.4.6 and 4.4.1.2). It is essential that a business process methodology be established that defines business process levels, business process model types, business process characteristics and the manner in which business processes need to be documented. This can be seen in sections 3.4.2 up to 3.4.5.1 and section 4.4.2 up to and including section 4.4.2.5. The lack of such a methodology will result in disparate business processes defeating the aim of having a uniform end-to-end view of the organisation's business processes. The lack of business process governance is covered in table 3.9, strategy and governance, as well as table 3.11 as part of strategy. Adherence to the business process methodology is crucial and should be mandatory as part of business process governance as discussed in sections 4.4.1 and 4.4.1.1, as well as business process change control (section 4.4.3) and table 3.9 in practice of modelling. Not adhering to the standards and methodology negates the effort of establishing business process management.

5.5.2.4 Need for business process change control

Formal business process change control needs to be in place as changes to business processes resulting from activities such as mergers, acquisitions, and so forth (sections 3.4.7 and 4.4.3) impact on work procedures, training (sections 3.3.3.6 and 4.3.4) and active change realisation as discussed in sections 3.3.3.3, 4.3.5 and 5.3.1.4 respectively. This emphasises the relationship between people, processes and places. It also has a close link to the continuous, structured approach to improving the organisation's business processes (sections 3.5.1 and 3.6.1).

5.5.3 Practice: place

Feasibility of infrastructure and help desk support as identified is discussed in the following section.

5.5.3.1 Feasibility of infrastructure

Feasibility of infrastructure and difficulties experienced relate to different matters, such as sustainable internet connectivity (sections 3.3.5 and 4.5.2.1), and accessibility of the intranet and remote servers (section 4.5.2.2).

Although sustainable internet connectivity is beyond the control of the employee and management, providing acceptable server access can be addressed as part of the support structure discussed in 5.3.1.5, which also links to single sign-on in section 5.4.2.1. Infrastructure requirements are also discussed in sections 3.3.5 and 5.4.3.1. This links to section 5.3.3.3 in the type of work that can be done.

5.5.3.2 Help desk support

Virtual workers require a help desk to support them with business process modelling tool related problems (section 4.5.3.2) as user manuals do not provide all the answers. This also has a link to the support structure as discussed in section 5.3.1.5. Help desk support relating to people, processes and places as such has not been covered in the literature.

5.5.4 SUMMARY: PRACTICE

The practice portion discussed the need to understand business process management and addressed the need for business process governance and a standardised business process methodology. The relationship with business process management tools, licences and the help desk support is also evident. Figure 5.6 depicts and summarises the discussion above.
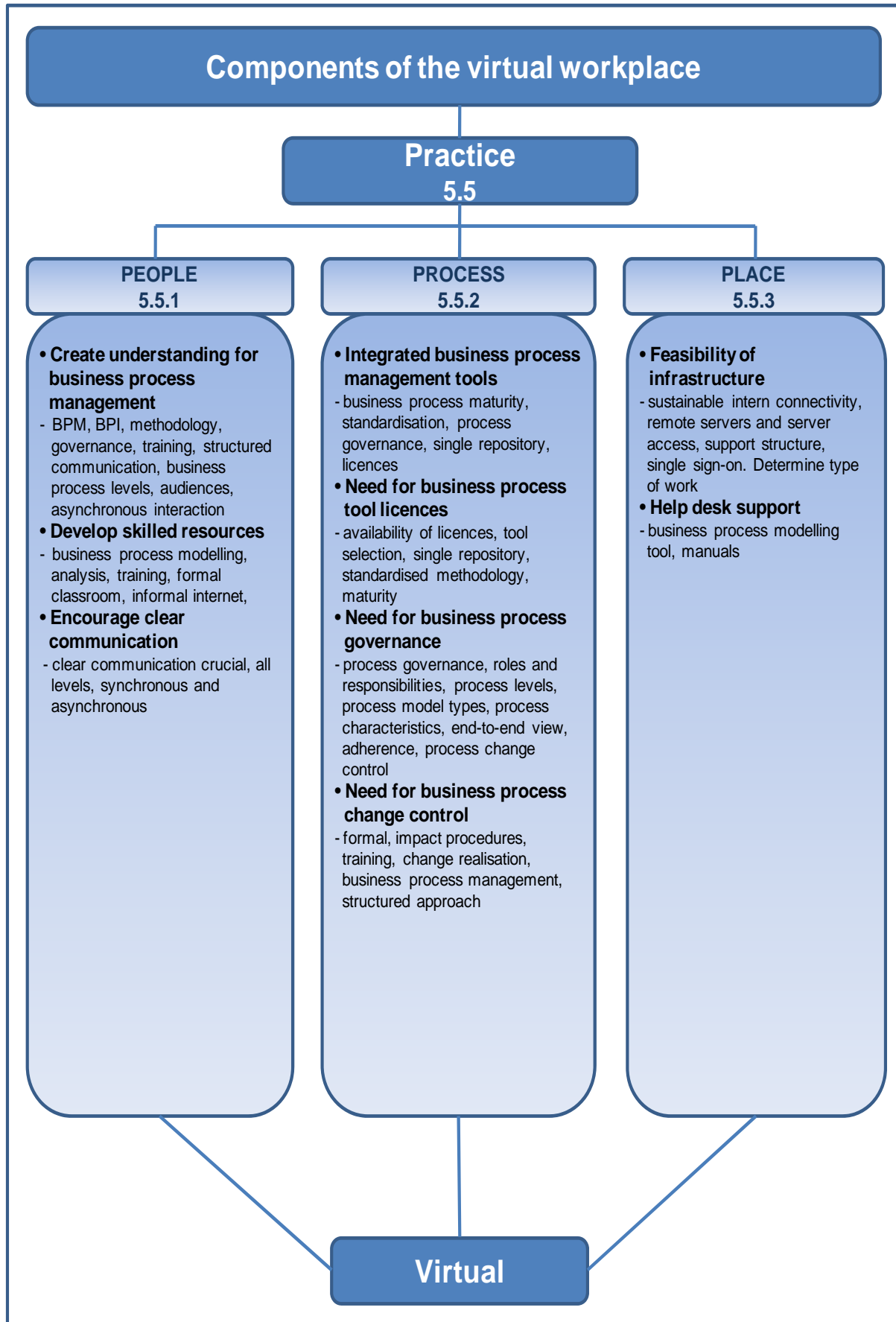
Components of the virtual workplace

Practice 5.5

PEOPLE 5.5.1

- **Create understanding for business process management**
- BPM, BPI, methodology, governance, training, structured communication, business process levels, audiences, asynchronous interaction
- **Develop skilled resources**
- business process modelling, analysis, training, formal classroom, informal internet,
- **Encourage clear communication**
- clear communication crucial, all levels, synchronous and asynchronous

PROCESS 5.5.2

- **Integrated business process management tools**
- business process maturity, standardisation, process governance, single repository, licences
- **Need for business process tool licences**
- availability of licences, tool selection, single repository, standardised methodology, maturity
- **Need for business process governance**
- process governance, roles and responsibilities, process levels, process model types, process characteristics, end-to-end view, adherence, process change control
- **Need for business process change control**
- formal, impact procedures, training, change realisation, business process management, structured approach

PLACE 5.5.3

- **Feasibility of infrastructure**
- sustainable intern connectivity, remote servers and server access, support structure, single sign-on. Determine type of work
- **Help desk support**
- business process modelling tool, manuals

Virtual

Figure 5.6: Components of the virtual workplace – practice summary

5.6 REFLECTING ON THE MANAGEMENT FRAMEWORK

The proposed framework for the management of people, processes and places in the virtual workplace has been developed based on the management, technology and practice components, thereby providing structure to people, processes and places as part of the virtual workplace. This framework addresses the requirements and concerns related to people, processes and places identified in the literature and research conducted. The relationship between people, processes and places components forms the core of this framework, thereby emphasising the fact that the components are not viewed in isolation.

The management, technology and practice components are also known as categories when referred to in terms of data triangulations. Data triangulation is discussed in section 6.6.6, data analysis. The management, technology and practice categories were developed and discussed with the focus on the relationship between the people, processes and places concepts (according to section 6.6.6) within each of the categories. Within each of the people, processes and places concepts, certain areas of concern were identified based on the research conducted. These areas of concern formed the building blocks of the people, processes and places concepts. The building blocks and concepts relevant to each of the categories, namely management, technology and practice have been discussed and are summarised in figures 5.3, 5.4 and 5.5.

This management framework was developed following the Extended Hermeneutic Circle of Learning as developed and discussed in chapter 2. When viewing this proposed framework for the management of people, processes and places in the virtual workplace from a hermeneutic learning experience the following can be stated. An initial understanding of the parts (people, processes and places) and the whole (virtual workplace) was formed through the literature study. The research questions were formulated and research was conducted into the people, processes and places components related to the virtual workplace. Through a constant movement between the parts (people, processes and places) an understanding of the relationship

between the parts has been obtained. By reflecting on this new understanding of the relationship between the parts on the whole, that is the virtual workplace; a deeper understanding of the whole in terms of the parts and the parts in context of the whole has been created. Thus, a deeper and new understanding of the relationship between people, processes and places and the management thereof in the virtual workplace has been created. This new understanding led to the development of the proposed framework for the management of people, processes and places in the virtual workplace as discussed in this chapter. The understanding created with reference to the relationship between the people, processes and places categories as derived from the discussion in this chapter is depicted in figure 5.7. The gap identified and depicted in figure 3.1 has now been covered.
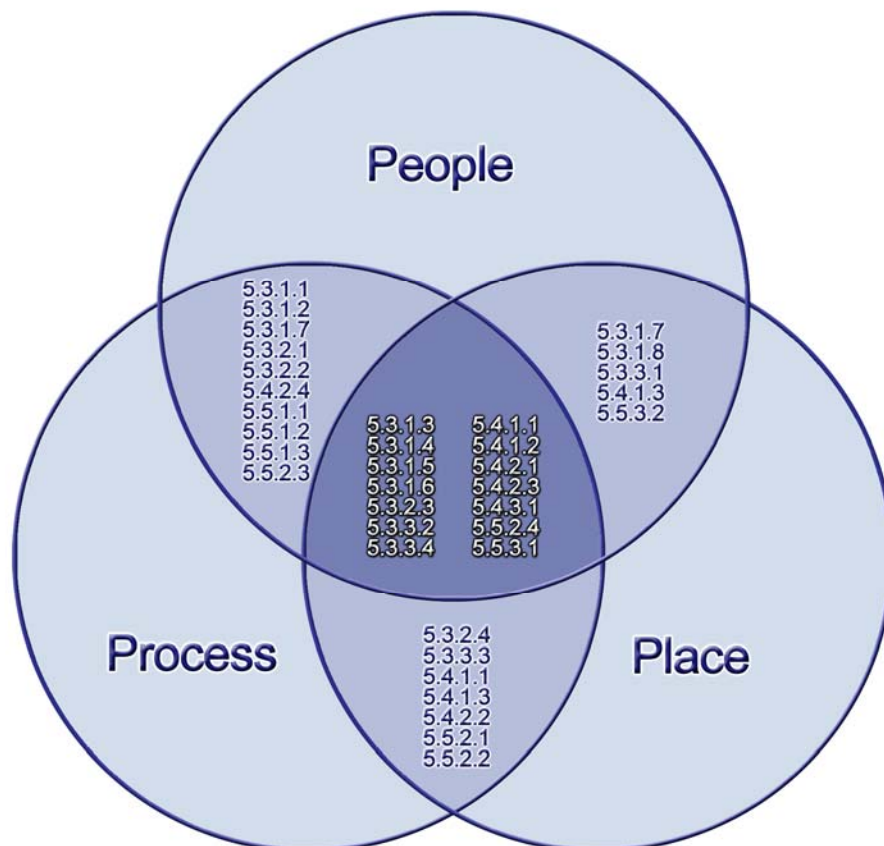

**Figure 5.7: Relationship between people, processes and places
in context of the virtual workplace**

A detailed discussion on the application of the Extended Hermeneutic Circle of Learning is covered in chapter 6.

5.7   CONCLUSION

The newly developed framework for the management of people, processes and places in the virtual workplace was discussed based on the management, technology and practice components as depicted in figures 5.1, 5.3, 5.4, 5.5 and 5.6. Each component was discussed following the central theme of this thesis, namely people, processes and places. The relationships identified and discussed, such as business process maturity, understanding of the difference between business process management and business process improvement, governance, support structure, integration of business process tools and feasibility of infrastructure is evident from the discussion and can be seen in figure 5.7. The framework covered the people, processes and places components, thus providing structure to the management of people, processes and places in the virtual workplace.