EXAMINING THE INFLUENCE FACILITY MANAGERS HAVE WITHIN THE URBAN DOMAIN: A CASE STUDY OF THE CAPE METROPOLE AREA

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ABSTRACT

Examining the influence facility managers have in the urban domain is the focus of this research. Facility managers are custodians of the largest collective asset base within cities.

Facility managers' daily operations, such as maintenance, cleaning, gardening, beautification, parking, and security, could ensure not only preservation of the urban precinct but improvement thereof and minimise wastage. The researcher applied rigorous analytics on data garnered from the small purposive sample by means of unstructured interviews.

The study engaged a variety of respected, and qualified built environment stakeholders active in the Cape Metropolitan Area to examine their lived reality. Facility managers, as a collective, have an influence in the greater urban domain, and could, as a collective, add significantly to property values and land value capture. This, in turn, can secure a greater revenue stream for municipalities, providing funding for improved service delivery in a cyclical fashion. Not only for the Cape Metropole Area (CMA), but potentially for increasing city populations globally, to meet the predicted demand to accommodate 70% of the worlds' population by 2025. Urban facilities management - not clearly defined nor adequately resourced may benefit from facility managers' expertise. They could be best positioned to fill professional roles as urban facilities managers to maintain and improve public precincts and the relevant infrastructure. A minor shift in the collective mindset of a large group of facility managers could be the key to urban sustainability.

To examine the subject and answer the research question, a grounded theory method, using unstructured interviews, and an inductive analysis of the data gleaned performed. In the main, findings drawn from the interviews with various built environment professionals, echoed the fact that facility managers do have an influence, and could improve the urban domain. Participants considered facility managers' actions as enablers of safe, improved, sustainable and salubrious precincts which could bring about land value capture.

The research discusses the validation of the findings and the substantive theory, adding to the body of knowledge that underpins sustainable urban facilities management. It concludes with recommendations for further similar studies which

could deliver a formal theory. Furthermore, the study suggests that the development of policy, legislation, and regulation, may enable organisations to deploy resources to benefit urban facilities management. Finally, recommending transferring the experience of facility managers' skills to inexperienced facility managers by way of mentoring or formal academic tutoring is recommended. This could improve precincts for all walks of life.

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LIST OF ABBREVIATIONS AND ACRONYMS

BE	Built Environment
BFM	Building Facilities Manager
BMP	Best Management Practices
BRT	Bus Rapid Transit
BSI	British Standards Institute
CABE	Chartered Institute of Building Engineers
CAQDAS	Computer Aided Qualitative Data Analysis Software
CBD	City Business District
CbFM	Community Based FM
CID	Central Improvement District
CTMSDF	Cape Town Municipal Spatial Development Framework
EBE	Engineering and Built Environment
EiR	Ethics in Research
EWWF	Energy Water Waste Forum
FM	Facilities Management
FMs	Facilities Managers
GBCSA	Green Building Council South Africa
GT	Grounded Theory
GTM	Grounded Theory Method

HR	Human Resources
IDP	Integrated Development Plan
IFMA	International Facilities Management Association
KPA	Key Performance Area
KPI	Key Performance Indicator
LVC	Land Value Capture
MFMA	Municipal Finance Management Act
QDAS	Qualitative Data Analysis Software
CMA	Cape Metropole Area
RICS	Royal Institution of Chartered Surveyors
ROI	Return on Investment
SAFMA	South African Facilities Management Association
SDG	Sustainable Development Goals
SDF	Spatial Development Frameworks
SLA	Service Level Agreements
TCM	Town Centre Manager
UCT	University of Cape Town
UFM	Urban Facilities Management
UN	United Nations
WHO	World Health Organisation

CHAPTER 1
OVERVIEW OF THE RESEARCH

1.1 INTRODUCTION

1.1.1 Background to the Research

This research examines the influence facility managers have within the Urban Domain, as a case study of the Cape Metropole Area (CMA). This chapter outlines the research field and describes the disciplines of both facilities management and urban management as well as the evolution of urban facilities management as a profession. Furthermore, the chapter aims to outline the potential influence facilities management professionals have in the greater urban domain or place-making, inferring the emergence of the novel profession referred to as urban facilities management. As professionals, facility managers by their actions, influence not only an individuals' experience of a space, but also the health and well-being of the wider population traversing the precinct. Facility managers may well actively enhance urban precincts in which their respective buildings or portfolio of buildings are situated, by implementing a range of proactive actions beyond merely good housekeeping and maintenance. A range of projects undertaken by facility managers' such as enabling transportation modes by introducing well-considered parkades and thereby improving the experience of building inhabitants, whether for the purpose of an office, home, or recreation. An article in Tourism Management indicates the significance of good signage, network connectivity, affordable parking, good quality lodgings, food offerings, and well managed and maintained convention centres for career and opportunity seekers attending conferences (Breiter & Milman, 2006). These are all in the domain of facility management, adding value to placemaking and liveability, which in turn ensures good urban facilities management. This may be an active or succinct decision by facility managers to improve urban spaces. Historically professional stakeholders were architects, landscape architects, engineers, planners, transport planners and urban designers (Larice & Macdonald, 2013). However, this research intends to illuminate a much-overlooked sector of the built environment, in facilities management. Referring to Bryson et al. (2006), Forsythe et al. (2020) suggests that healthy cities require a champion and an organisation that prioritises the health of the city, and that manages the city in a collaborative manner, thus cooperating with

bureaus, industry, and educational institutions. Similarly, Tibbalds (2007) indicates that wide collaboration could create places that matter (Carmona & Tiesdell, 2007). Larice & Macdonald's (2013) view is of numerous opportunities in the Built Environment, and particularly the need for individuals with a flair for collaboration and good communications skills. Temeljov's opinion aligns with the WHO Healthy Cities program in that Facilities Managers can encourage safe urban spheres (Bjørberg et al., 2019) across the entire lifespan of the consumer to ensure a healthy environment. Facility managers are custodians of the largest asset base in cities, yet the fact that they have a valuable role to play in urban cities, does not proliferate in the literature. The researcher felt that this sector have a valuable influence to maintain, improve and enhance liveability and ensure business continuity during and after shock events, either by their actions, involvement in the management of urban precincts or transferring skills. This chapter provides a brief background of the problem statement setting the framework for this research. It goes on to describe the research question, the aim of the research, the research premise, and the objectives. The methodology used for the research deliberated, and any limitations of the research discussed in the conclusion of this chapter.

1.1.2 Facility Management as a Profession Defined

Many definitions for facilities management abound, and subsequently an attempt follows to capture the essence of the key functions performed within this profession, and to illuminate the researchers' adoption of a particular stance or definition. For the purposes of this research the ISO41001:2018 definition of facilities management, released in April 2018, adopted, defining facilities management as a function of an organisation integrating people, place, and process of the built environment. The purpose of facilities management being to improve the productivity of the organisation, whilst enhancing the quality of life for people.

Referring to Bjørberg (2019), Lindkvist et al. (2019) emphasised the need to focus on four categories of building users – organisations, employees, facility managers, and visitors.

The South African Facilities Management Association (SAFMA) proposes that as enablers, facility management involves managing office environments, ensuring productive outputs, to ensure sustainability during the entire lifecycle, both for singular

buildings as well as a portfolio of buildings under their management (Kleynhans et al., 2016). Donald (1994) further states that the International Facilities Management Association (IFMA) supports this stance, defining facilities management as an occupation combining multiple resource elements within the built environment (i.e., people, process, and technology). As mentioned in the introductory paragraph, for this research the ISO41001:2018 definition of facilities management, released in April 2018, adopted, defining facilities management as a function of an organisation integrating people, place, and process of the built environment. The ISO definition resonates with the researchers' view. The purpose of facilities management is to improve the productivity of the organisation, whilst enhancing the quality of life for people. Adopting the ISO definition for facilities management, International Facilities Management Association (IFMA) describes facilities management as, rendering the built environment functional by integrating place, process, people, and technology (Bouwer and Kleynhans, 2009). Furthermore, it illuminates the profession's impact or influence in the built environment (Temeljov et al., 2018).

According to Atkin (2015) the facilities management profession emerged approximately 150 years ago, when American railroad companies, compelled to maximise efficient use of facilities and buildings. Operational management of the facilities environment required to support and enhance an organisation's core business processes and activities. Literature from the late 1950s indicates that facility management improved organisational performance by coordinating services that enhanced the facilities performance. Buildings were cleaned, serviced, and maintained during the 1960's in line with regulatory frameworks in terms of acts, bylaws, policies, and regulations and facilities management as a profession not yet acknowledged. This framework however excluded soft services and customer needs but may have included 'hard' disciplines in the mechanical, electrical, and civil field to maintain infrastructure. Soft services typically are not only cleaning, but also include hygiene, gardening, pest control and customer relationship management which promote a client-centric environment.

As a mature industry, facility management tales on an integrated approach to maintaining, improving, and effecting interior alterations as well as to the exterior of buildings, and in so doing creates a supportive environment for the organisation to fulfil its primary objectives (Barrett, 2000). Echoed in further writings (Barrett & Baldry,

2003) indicating that some educators view facility management as a supportive function to attain an organisation's objectives, with the application of multiple tasks to improve, maintain and adapt facilities. Grimshaw (2007) recognises that facility management has evolved as a profession, managing both technical and soft services to support organisations, as well as the impact on staff. This requires flexibility and the ability to adapt to imminent changes. To obtain a synergistic definition, Tay and Ooi (2001), list a range of definitions, highlighting the variety of definitions in numerous writings by various bodies and scholars. Tay and Ooi (2001) describe facilities management as a collaborative effort to manage the workplace, and thereby improve company performance (Junghans & Olsson, 2014). However, there is, to date, no standardisation. Most define the area of responsibility of facilities management as the workplace, albeit differing in hierarchy and function under management. Most definitions are harmonious in that facility management plays a supportive role (Hinks & McNay, 1999; Shiem-Shin Then, 1999; Tay & Ooi, 2001).

Roberts (2004) proposes that collaboratively, facility management forms part of the greater organisation, whilst Alexander (2004) proposes that an organisation should be flexible and in touch with its clientele, offering them choice, quality environments and service. Moreover, the principles of facility management are adapting to meet demands, providing 'serviced accommodation' to match complex business needs. This stance, supported by Grimshaw (2007) who argues that facility management is a diversified, multifaceted industry. Many definitions emphasise the practical and operational concerns, yet as facility management aligns with core business objectives in both public and private organisations, it is becoming an increasingly strategic and business-oriented discipline (Alexander & Brown, 2006). Public facilities demand efficiencies of facility management to deliver on public needs and recognise the contribution made by maintaining public facilities (Uzairiah et al., 2013) as an amalgamated process. In Jensen's (2008) view, the origin and constitution of facility management as an integrated corporate function, for both soft and hard services have developed separately. Operational, tactical, and strategic levels have evolved progressively, in line with organisational growth over the last two decades. Horizontal corporate integration over time producing a holistic facility management function.

Strategic level management sets the direction for the organisations' objectives, whereas the tactical level translates the latter into measurable plans. Atkin (2015)

describes operational management as the execution of the actionable daily tasks, for the purpose of attaining strategic company objectives, towards Total Facility Management (TFM) (Atkin, 2015).

Migrating from the micro scale of single buildings, or a portfolio of buildings, the next paragraph will discuss the term urban (macro) with the aim of drawing attention to the similarities or differences of the two terminologies.

1.1.3 Urban Management Defined

The term urbanity originated in the Mid-16th Century: from either French or Latin origin. The word urbanite /urbanites, similarly, derives from “urbanus” or ‘belonging to the city’ (Oxford Dictionary). McGill (1998) refers to Williams, Mattingly and Werna, all of whom say that the subject is ill-defined, and as a field that requires further study. Quoting Sharma (1989), McGill draws attention to the importance of shaping the urban domain socially, physically, and economically by supplying essential services (McGill, 1998), highlighting Sharma’s proposition that operations and maintenance are key components. The concept of urbanity entails the construction of the place. The writings of Vukmirovic and Gavrilović (2020) propose a city is composed of space, products, and activities – albeit economic, social, cultural, or political and name public places as an essential component. Traditionally, urban planning busied itself with high-level overviews of what policymakers, researchers and urban planners perceive to be the best fit for society. The post-war era saw the need for the integration of commercial, office, and centralised recreational facilities in city centres, thereby reducing urban sprawl (Michell & Wadley, 2004). Densification followed to correct spatial dispersion. Inclusion of a broader population culture required urban precincts and central business districts to morph into inclusive work, live and play spaces.

1.1.4 Urban Precinct Management Defined

For the purposes of this research, an operational definition will be applied, by adapting the ISO41001:2018 definition of facilities management, released in April 2018. Whereas this definition will apply on a macro scale, defining urban facilities management as a function of a city, integrating people, place, and process of the built environment. The purpose of urban facilities management is to improve the productivity of cities, whilst enhancing the quality of life for all people.

The evolution of town, city or urban precinct management as a profession, will now be discussed. Historically, civil life revolved around a town centre generated by retail, office accommodation, the property industry and vehicular transport, states Evans (2000). Evans' (2000) findings align with Tai and Ooi's (2001) view, arguing that a case arises for employing Town Centre Managers (TCM's) to influence and manage the built environment on a macro scale. Furthermore, Tai & Ooi (2001) illustrate the growth facility management has achieved by listing several facility management associations around the world. A range of stakeholders, such as investors, developers, designers, authorities, and society acknowledge the valuable contribution of facility management to improve economic development (Price, 2002), both for a social and an environmental benefit. The existence of said benefits acknowledged by Alexander et al. (2006) as they describe CbFM (Community-based Facility Management) as the catalyst for sustainability. This assertion further underpinned by the writings of Alexander Cuthbert who defined cities as large buildings (Cuthbert, 2006). Cuthbert (2006) states that the term "urban" in urban design education lacks precision yet claims that urban facility management embodies principles of facility management to an expanded level, necessary for sustainable cities (Michell, 2013).

Pieterse (2010) places the physical, environmental, social, and cultural dimensions of sustainability in a relationship with each other. Michell (2013) supported the latter and stressed the need for inclusive sustainable urban development. According to Alexander and Brown (2006), facility management has the potential to influence the regeneration of cities by not only improving assets but also providing jobs.

Michell (2013) agrees with the writings of Nutt et al. (2000) that view facility management as a convergent function leading to urban sustainability.

Michell (2013) makes a provocative statement equating the city to a facility and suggests a new discipline developing *inter alia*, urban facility management. Parnell et al. (2014) reason that defining the term urban is equally as difficult as to define town centre (Africa's urban revolution, 2014). Observing the progressive maturation of the facility management industry, Boodhun (2016) states that facility management evolved from a coordinated workspace function to encompass administration, architecture, engineering, operations, and behaviour management (Atkin, 2015; Kincaid, 1994b).

A variety of professions within the built environment, such as property management, building management and real estate, make marked contributions to urban form, whether it be private, or state owned (Cuthbert, 2006). The latter leads to an exploration of the case for facility management's professional value in the broader management of modern urban places, as an emerging profession termed urban facility management.

Urban space is nowhere, and everywhere according to Jacobs (2015). Good urban form includes public space, allowing cities freedom as to its culture, politics, and design (Madden, 2011) and unappealing spaces made enjoyable, are known as places. According to Harvey (1980), Whyte recorded on film, movements within crowded places, frequented by a higher concentration of females, children, and elderly. These places offered portable seating, food outlets, and art installations ensuring the precinct is inviting. Placemaking, historically the ambit of architects and engineers, revolves around changing a space from somewhere you hurry through, into a place to linger in, thus an improved neighbourhood (Banerjee & Loukaitou-Sideris, 2011).

New facility management models focus on the importance of Land Value Capture (LVC), beginning at the planning phase through to construction, throughout the entire lifecycle of a building, all in a socially responsible manner (Bjørberg et al., 2018). Moreover, lack of maintenance and upkeep of the micro-environment, and excluding facility management throughout the development of urban areas could result in the devaluation of cities (Bjørberg, 2018; 2019). The risk of increased crime, a lower quality of life and a decline in property values, causing buildings and precincts to be vacated, whilst leading to problem buildings and precincts.

1.1.5 The Urban Facility Management Profession Defined

Public space must be safe, inclusive, adequate and should promote well-being, economic development, and social justice (Madanipour, 1999). To this end the literature will now be that supports this view.

Roberts (2004a) argues for the best use of resources, suggesting a novel discipline, namely Urban Facility Management. Roberts (2004b) alleges that the private sector engages in public works by managing facilities, thereby extending the asset life cycle.

Customer centric town managers, governed by holding companies, residents, and targets.

Best practice, said by Enoma (2005), leads to customer satisfaction and greater efficiencies. A case study by Curtis (2008) further supports the idea of facility management's increased role within urban management.

The character of public space according to Carmona (2010), defined by the tools and strategies needed to maintain public spaces are critical (Mehaffy et al., 2019. Urban space being the space where public and private spaces fuse into one another, where soft edges encourage cultured interaction in an urbane society. Tobi et al. (2013) expound the alignment of resources resulting in an effective urban facility management service delivery model for managing civic facilities. According to Ellin (2013) urban facility management encourages urbanism, injecting life, and energy (chi) into vacant urban precincts. Precincts typically have a vast array of facilities i.e., commercial, educational, civic spaces and residential.

Boodhun (2016) concurs that the new field of urban facility management deserves investigation. Turok (2016), in citing Buckley et al. (2015) claims that the New Urban Agenda (NUA) considers the needs of the broader society by increasing either the use of a geographic area (density), or the boundaries of the said geographic area. Thus, accommodating population growth (UN-Habitat, 2013, 2014; Woetzel et al., 2014). The global realisation of the need for urban sustainability, post the NUA, requires cities to prioritise actions and policy to alleviate poverty, energy and water scarcity, food insecurity, safety, as well as health concerns in line with the Sustainable Development Goals (SDGs) Bjørberg et al. (2018) maps the potential of facility management as a profession to better the built environment for residential, commercial or leisure activities. The UK based urban design group Urban Design Alliance (UDAL) encourages cross-cultural interaction among built environment professionals. According to Haas and Mehaffy (2019), urban facility management practice should take into consideration the diverse range of beings within public spaces, both in terms of their affiliations and their abilities.

Similarly, Mehta (2019) argues that the design and management of places contributes to the experience and civic consumption, as do Haas & Mehaffy (2019), whose

sentiments, in this regard, concur. This highlights the need to examine the influence facility managers could have in the urban domain.

1.2 PROBLEM AREA

A lack of public funding and the resources to maintain public facilities and spaces, negatively impact placemaking and leads to the degradation of public space. The latter may encourage crime and grime, and a social deterioration (Turok, 2016). More recently, Turok et al. (2021) states that cities degrade when there is a lack of urban management. Furthermore, that government policy and regulation should protect cities from abandonment and gentrification, and thereby ensuring value creation for the public. Stressing the importance of management, maintenance, and renewal of service offerings to ensure safe spaces, positively influencing the choice as to where business, work and relaxation occurs. In this context, placemaking was the responsibility of architects, planners, and engineers. However, little research examine the facility management profession and its potential role in managing urban spaces, which could make a positive contribution to urban facility management as a profession. The lack of research shows that a significant professional sector could influence the urban domain as a collective group yet are not acknowledged. Cities are formed of a vast number of buildings managed by facility managers. Consequently, there is a large group of professionals active in urban spheres, whose collective efforts influence the urban built environment.

1.3 RESEARCH QUESTION

The research question raised in this research described as follows:

What role have facility management professionals in influencing urban facilities management?

1.4 RESEARCH AIM

The intended aim of this research is to examine the influence facility managers have on urban facilities management.

1.5 RESEARCH OBJECTIVES

The objectives of this research are to:

1. Establish whether facility managers are present within the Cape Metropole Area i.e., are there facility managers playing an active role in managing urban spaces?
2. Identify the role facility managers have as urban stakeholders i.e., if there are facility managers playing an active role, what is it they are doing?
3. Which of their activities benefit the management or improvement of urban spaces? (How do they do it),
4. Are facility management's budgets disbursed towards bettering the greater precinct (macro) beyond their own portfolio (micro).

1.6 RESEARCH PREMISE

The premise of the research is as follows:

That facility management professionals are active stakeholders, and that their management of buildings, grounds and surrounds, impact urban spaces, and resultantly they have an influence on urban facility management as a profession. In other words, that they could migrate from their profession as facility managers to a novel profession termed urban facilities management on a macro scale.

1.7 SCOPE AND LIMITATION TO THE RESEARCH

Due to limited funding as well as the researcher's limited time, the geographic restriction of this research is set as the Cape Metropole Area (CMA). The study, conducted within selected portions of the Metropole, spanning an area comprising a radius of approximately 2,500km^2. Therefore, results may be inherent and specific to this area and may not be generalisable to other urban precincts. Furthermore, this research restricted by the recent pandemic, COVID-19, which may impact results and the manner interviews conducted.

- The geographic area examined, as a case study of the Cape Metropole Area (CMA); therefore, this study may not be generalisable to other urban spaces.

- Caution to not impose bias, as the researcher is emic to the area of study. As such the content of this research may be subject to interpretation albeit not intended.
- The choice of a qualitative research is explained in chapter three.

1.8 RESEARCH METHODOLOGY

As a professional active within the Cape Metropole Area, the researcher takes an emic approach to the field of facilities management. Furthermore, the researcher has a keen interest in good urban management, and the stance taken interpretivist. The research explored the social world by means of unstructured interviews conducted with built environment professionals for the purpose of observing their experiences and/or lived reality. The following research methodology was employed to answer the research question:

1. A critical and extensive literature review regarding the fields of facilities management as a profession; urban planning as a profession; qualitative research processes; and urban facilities management as a novel profession.
2. A single case study methodology of the Cape Metropole Area's urban precinct involved the following forms of data collection:
    a. Semi-structured interviews with key stakeholders operational within the built environment using an aide-memoire,
    b. Photographic evidence recorded within the Cape Metropolitan Area, and
    c. Documentary evidence, such as policies and pamphlets pertaining to the field of study.
3. Grounded theory (GT) techniques were used to analyse the collected data. More specifically, the data analysis entailed open, axial, and finally selective coding.
4. Lastly, the researcher discussed the emerging relationships in the findings. The findings reveal indications with respect the influence facility managers have on urban facilities management. The researcher offers recommendations that may further add to the body of knowledge regarding further studies, policies, laws and regulations that could be developed.

1.9 DISSERTATION OUTLINE

The five chapters of the research paper structured in the following manner:

Chapter one depicts a general outline of the research to set the study's context. The chapter outlines the background to the research question, by defining the problem area, the related problem statement, research aim, and research objectives, and the set premise. Furthermore, chapter one touches on the research methodology.

In chapter two the research elaborates both the conceptual and theoretical framework for the dissertation. A detailed literature review ensues, defining the built environment constructs, its actors, as well as the activities within the built environment, describing the professions therein, such as facilities management, urban management, and the convergence of the two disciplines as a novel field described as urban facilities management. Gaps in the literature are emphasised, whilst synergies or conflicts of scholarly work pondered.

Chapter three provides an overview of the research layers. It describes the philosophy adopted, the approach taken, as well as the methodological framework and strategy which proved pivotal in guiding and focusing the research. Qualitative research methods considered argue the reasons for choices made. Also discussed are techniques and processes for data collection and analysis, unpacking the research tools and sampling, supporting this with photographic and documentary evidence. Furthermore, reliability and sample size debated in chapter three.

Presenting the empirical or practical analysis of the data in chapter four, the researcher discusses the coding. Coding, derived from the interview data, and aligned to existing literature leading to the development of the substantive theory regarding the urban facility management profession.

Chapter five discusses the contribution made to the body of knowledge within the built environment. The findings in terms of the literature, and the results and conclusions are summarised. In conclusion, a recommendation offered based on the outcomes and findings of the research. Generalisability of this research and policy implications are discussed, as are, theoretical implications.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

Whilst chapter one outlined the research question, this chapter examines the built environment and its complex elements, the stakeholders active therein, and the facilities managers' role. Furthermore, the chapter deliberates the development of urban management and the emergence of the novel field of urban facilities management derived from the confluence of the two fields, delving into research regarding the role and influence facility managers have on the urban domain. Where the ratio of rural to urban population stated were equal between the years 1950 to 1975, migration may result in 70% of the worlds' population residing in urban cities by 2050. Built environment resources therefore need sharing to meet the demand as per the United Nations secretary-general's foreword of the Global Report on Human Settlements 2009 report (UN, 2016). Discussing the following elements as a means of establishing safe and healthy densified spaces of the future: -

- What constitutes the built environment?
- Who plays a role in the management of urban precincts?
- Who should be urban facility managers?

The United Nations report (2016) suggests that modernist planning ignored community needs, calling for collaboration between communities, urban role players and international agencies. Highlighting the dilemma of budgetary and resource constraints.

This chapter will firstly discuss the space or 'place' and built form at a micro level. The actors within the built environment, the activities performed by professionals, and those that live, work, and play in said places are discussed. The section thereafter examines facilities management, urban management, and the convergence of the two disciplines as urban facilities management.

2.2 THE BUILT ENVIRONMENT

Defining the built environment now follows, setting a backdrop to the field in which this research is undertaken. To understand the built environment, one needs to define a place, says Wright (Barlow et al., 2013). Space is defined by physical and psychological attachment (Devine-Wright, 2013; Smith, 2018), citing Harvey (date), Devine-Wright (2013) refers to Marxist and Feminist theory (1996) in considering space as singular.

"*Where individuals can or cannot go in a city is conditioned by the organization and management of space, which determines some of the main patterns of spatial behaviour and social life in general."*

Madanipour (1999, p880)

Rapoport (Ingold, 1994) also stresses the psycho- and physiological benefits the built environment provides, which is determined by space, time, connotation, and communication. Whilst infrastructure includes buildings, parks, squares, and other spaces that supply energy, water, and information technology for human consumption, people, activities and their interactions shape the built environment that is constructed for people to live, work, and play in (Gomes, 2021).

2.2.1 Defining Place or Space

Rapoport describes '*place*' as an area where a group of people perform a defined activity to meet a particular need, indicating that vacant land, transient in nature, is shaped by the activity (Ingold, 1994). Furthermore, where there is a construction, albeit a room, building or neighbourhood, a permanence arises. Figure 2-1 below depicts the built environment's complex relations (Rapoport, 2000).

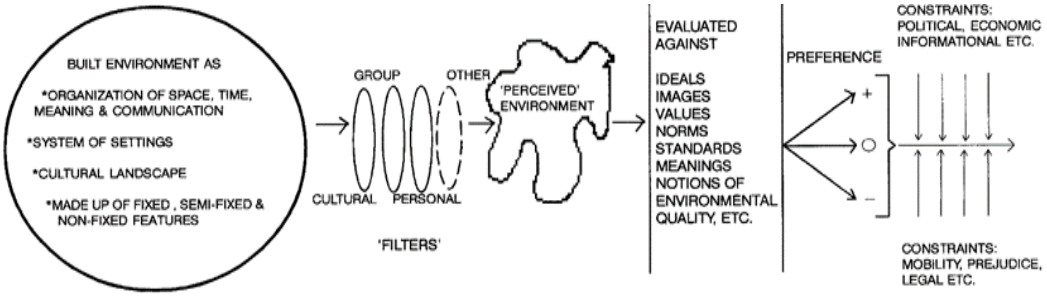

Figure 2.1 Complex relations as per Rapoport (2000, p.148)

Whilst Casey (2001) contends that ‘place’ is static Malpas asserts (2018) place as everlasting and organised. Casey (2001) perceives space as a home, describing Albert Einstein’s conception of space as an individual’s perception of place (Malpas, 2018).

Echoing the Gestalt theory, Lewin (2011) mentions the esoteric value place offers, determined by sensory, visual, and auditory perceptions (Gieseking, Mangold et al., 2014).

Larice (2013) however, deconstructs city elements into routes, nodes, edges, neighbourhoods and attractions. The use or experience of places categorise these places as either work, live or play spaces.

Placemaking is firstly embodied in the physical form and, subsequently, by the human activity a place invites, whether social, economic, or environmental, and the mental association it instils (Lew, 2017). Furthermore, Lew (2017) identifies four dominant tiers of placemaking, of which maintenance, cleaning, and the installation of arts or events activations live in the facilities manager’s realm. Below the identified tiers of placemaking as follows:

Standard	Upkeep, maintenance, and cleaning.
Strategic	Creating new built developments.
Creative	The installation of arts and cultural or social events.
Tactical	Communities installing transient interventions with few technologies.

An ill-defined term, influenced by bias, successful placemaking requires stakeholder engagement throughout the lifecycle of a place (Cohen et al., 2018).

Rapoport (2000) argues that gatherings in areas lead to permanence and the rise of cities, inculcating social and cultural aspects.

Courage (2020), cited by Cara et al. (2020) emphasises the need to place humans central to placemaking, identifying lockdowns as a major disruption in social engagement, disconnecting the social fabric that existed prior to COVID-19. Covid-19 lockdowns saw public places such as quads and roads, become sites for protest

gatherings, whilst strict curfew enforcement limiting movement. Courage (2020) mentions that funding or self-efficacy influence definitions for placemaking, yet should place communities' needs first, concurring with Van Heeswijk (2012) (Cara et al., 2020) the community is the expert. Furthermore, Courage views placemaking as a collaboration across disciplines and stakeholders. Places connect communities through arts and activities, ensuring social justice (Cara et al., 2020). The promotion of equity, relationship building, and cross-sectoral collaboration resolves societal wrongs, whilst the perception is that art is a mechanism to achieve this (Cara et al., 2020). Highlighting the need for opportunists to create places where humans live, work, play and learn, this made possible by securing the capital to realise communities' hopes.

David Harvey's premonition of an ecological, social, and political catastrophe, Cara et al. (2020) asserts that megacities require unbiased tactical urbanism integrating agencies, corporates, and planners. Small projects could thus be delivered rapidly**.**

What is the micro or constructed built form will now follow in the next section.

2.2.2 Defining the Constructed Built Form (Micro Level)

On a micro level, construction of the built form is from a variety of fit-for-purpose materials. The literature review discussing this in the following section.

Clark et al. (2002) mentions that removing manufacturing as an industry from urban cities gave rise to an elitist workforce, the 'informational' office professionals, reduced factories and the impoverishment of workers.

At the Barcelona EuroFM Symposium held in 1996, classification of workplaces were either productive, innovative, knowledge, or sustainable (Alexander et al., 2004). Churches, government buildings or places of interest are traditionally the bastion of a city (Larice & Macdonald, 2013). Lindkvist et al. (2019) refers to Bjørberg (2019), emphasising the connection of life cycle planning and value creation for all.

2.3 ACTORS IN THE BUILT ENVIRONMENT

Who are the actors or stakeholders within the built environment? According to Madanipour (2015), referring to Aristotle, the essence of a city equals the variety of its human population.

African cities, including South Africa are a paradox of wealth and poverty, (Dawson, 2004). The health status of stakeholders, inter alia fit and healthy, incapacitated, frail and/or differently abled, gender, race, political affiliation, religion, ethnicity, and generation all come into play (Charlesworth, 2005). Governance of intelligent urban development, is not aligned to any one sector only, says Perlman (Charlesworth, 2005). The lens which one could look at society afore-stated is not exhaustive; but for this research it will focus on a high-level classification most relevant to the research, simply referred to as consumers (Carmona & Tiesdell, 2007). Carmona & Tiesdell (2007) regard actors in the built environment from various professions, companies, industries, and individuals.

Humans spend 90% of their lives within a facility (Alexander, 2020) albeit as residents, visitors, or employees. More than half the population of the world lives in urban areas. Society is divided into three categories, young, old, and inbetween. Babies, toddlers, pre-schoolers, scholars typically represent the ‘young’, then those inbetween are the ‘working’ group, made up of students, young couples, parents, or single parents. Whereas the ‘old’ may be a retired or elderly group. Each group has a particular social need. Another sector of society classified as unemployed, cannot be ignored, particularly following economic hardships following lockdowns.

The myriad of actors alluded to above, indicate the complexity of categorising stakeholders. The following sections now delve into the role various professionals have within the built environment, to further set the backdrop for the purpose of this research, as: architects, engineers, urban design professionals, influencers and lastly building facility managers.

2.3.1 Professional Stakeholders within the Built Environment

Built environment stakeholders act for themselves as agents, striving for either fame, profit, or humanitarian benefit (Carmona & Tiesdell, 2007). Multiple professions busy themselves with the design and build of the macro and micro-built environment, whilst

maintenance of infrastructure, such as the upkeep and customer engagement typically within the facility manager's ambit and ensure stakeholder satisfaction. The main stakeholders that influence the built environment will now be discussed in sections 2.3.2 to 2.3.6. The interviews which will be discussed in chapter four included some of these professionals.

2.3.2 Architects

Readings describe the architect's new role to be arranging urban space in accordance with the desire for visual order. The viewpoints of well-known architects are discussed below.

Camillo Sitte, Austrian architect born in 1843, significantly influenced urban design and brought about the recognition of medieval cities, the importance of spaces for public gatherings as well as spatial positioning (Larice & Macdonald, 2013). Bacon, an American architect born in 1910, believed that cities were designed by occupants' decisions, asserting that designers should aspire to improve civilization, resonating with Jane Jacobs' convictions. Jacobs was born in 1916. In contrast, Le Corbusier changed urban identities by inviting the construction of highways and the use of private vehicles during the 1950s and 1960s, destroying many American cities' identity. On the other hand, Jan Gehl, a famed urban influencer, qualified as an architect in 1960 and lamented that modernist city planning was no longer designed with human beings in mind. Instead, urban and transport planning organised cities in a mechanised fashion shaped by function rather than what suited people (Gehl, 2010). The researcher identifies with Gehl's views.

2.3.3 Engineers

During the modernist era, road engineers were pro-vehicular movement. Constructing roads and highways, displacing pedestrians (Carmona & Tiesdell, 2007). Gehl (2010) contends that modernist design led to a linear grid design, sweeping engineering, with separated spaces on virgin fields, oversized, harsh, unfriendly pedestrian precincts in line with Le Corbusier's outlook. A facility manager that was a civil engineer by training was interviewed for the research, and noteworthy that road engineers are typically civil or structural engineers.

2.3.4 Urban Design Professionals

Human centred urban design in the mid-1950s improved ecological and urban dilemmas that were caused by the modernist era. The urban physical form, see theories developing that consider what makes a city good (Larice & Macdonald, 2013). These group however plan spaces, but do not have the skill to manage these.

2.3.5 Urban Influencers

The literature expounds on some of the recognised influencers of urban spaces. Lewis Mumford, a philosopher, historian, and literary critic, stated that building styles reflected the fluctuations within civilizations (Carmona & Tiesdell, 2007). Through the ages people who were not traditionally 'built form' professionals, have significantly influenced city design (Larice & Macdonald, 2013). Notably, Jacobs, was one of those, and although lacking a formal urban training, believed that numerous great United States cities were lost due to poor decisions made by planners (*An analysis of Jane Jacobs's The death and life of great American cities*, 2017). Arboleda (2020) proposes a bottom-up approach, whereby ordinary public members design the built form, with input from architects and engineers, to benefit the end-user.

2.3.6 Building or Facility Manager Professionals

Having elaborated on the definitions that abound for facilities management in section 1.1.2, This section will discuss facility manager's potential role as urban management stakeholder, as contained in the literature.

According to Booty (2009), facility managers as custodians of the built environment, perform ongoing maintenance, ensuring the upkeep and servicing of facilities, and

thereby provide a healthy environment. Gehl (2010) describes the shift in focus in the modernist era, to the individual building, implying the potential influence of facility managers. Facility managers understand the end-users' needs, and thus best placed to interpret this within an urban context i.e., place-space-people (Michell, 2013b).

Facility managers have a significant micro and macro influence (Alexander, 2020). Nijkamp and Mobach (2020) decree that facilities management influences the health and wellbeing of the populace, asserting that they have a role within the urban domain as significant stakeholders.

2.4 ACTIVITIES IN THE BUILT ENVIRONMENT

A brief discussion follows regarding the typical activities' stakeholders perform to shape the urban city-built environment. The relationship between placemaking and careers evident from studies (Cohen et al., 2018). Living spaces are a described as a residence, whether it be a shack or manse, and described as areas containing private dwellings but are not offices nor factories.

The way people live-play-work, changed significantly during the pandemic (Young, 2020) due to the lockdowns, blending home/office/recreational places.

2.4.1 Work Defined

An article in the Journal of Organizational Behaviour indicates that a study among 18,000 respondents deem work important, a large amount of time being spent performing this activity, and that it generates both social/psychological and economic return and premium and impacts on their family, community, and leisure. The definition of 'work' being an occupation, either intellectual or physical, and performed to attain an outcome, usually an income. The myriad of activities classified as work has resulted in a confusing array of perspectives of work. Ortiz describes the challenging task of work and recreation by indicating that the one is done for an income, or productive in terms of the economy, and the other for pleasure. According to the Cambridge online dictionary, work is "*an activity, such as a job, that a person uses physical or mental effort to do, usually for money",* whilst the online

Oxford Student's Dictionary describes work as "*to do something that involved physical or mental effort, especially as part of a job*" equating it to a task.

The 21st century will see work and leisure blending, and the current categories of work indicate that change is imminent. As Lloyd and Clark (2002) expound, the urban space is now the elitist domain of informational professionals within finance, informatics, marketing, and the like. During the pandemic and the resultant lockdowns, job losses were suffered, and how people earned their living and where-from changed significantly (Young, 2020).

2.4.2 Play or Recreation Defined

Recreation, or play described as a leisure activity, rather than an activity that serves a constructive purpose. However, as mentioned before, describing play is no easy task. Vanderleeuw and Sides (2016) lauded the value of recreational activities within an urban sphere for young professionals, whilst parks, stadiums, museums, and the like, attract visitors or tourists.

Raz-Yurovich (2022) indicates that leisure's facets, such as sociological, physiological, and economic, is influenced by time, consumption, choice, and experience, actively or passively, including but not limited to: socialising, pet care, sleeping, eating and other personal activities. There is a myriad of definitions but for the purposes of this study, the following definitions align.

The Cambridge dictionary defines recreation as an activity that is engaged in for pleasure or relaxation. This encompasses a vast array of activities which are not meaningful to this research. The Oxford student's dictionary describes play as "*to do things for pleasure, as children do; to enjoy yourself, rather than work*", and, the Cambridge online dictionary describes play as "*especially as a child, you spend time doing an enjoyable and/or entertaining activity*".

Young (2020) explains that during lockdowns typical recreational places such as clubs, sports clubs, gyms, and restaurants were unable to open, causing homes and online platforms to be the new social gathering space. Thus, changing what was perceived as a recreational place.

2.4.3 Living or Residential Activities Defined

As can be seen in section 2.4.2, the categories have blended from their traditional intent, following Covid-19.

Residential or living activities encompass a combination of work-live-play, especially during the recent pandemic. The Oxford online dictionary indicates the word stemming from "*resident"* defining residential as accommodation, where one lives and other benefits. World-wide lockdowns confined employees to their homes, 'home' originally intended as a place to sleep, rest, and eat, had to become a place of work and play.

Classification of the built form in relation to work-live-play is complex as per the above. Having discussed the activities that occur within urban spaces or places, the next section of this chapter discusses facilities management as a profession, its history, definition(s), role of the facility manager in their professional capacity, as well as the maturation of the profession.

2.5 FACILITY MANAGEMENT AS A PROFESSION

2.5.1 Historic Overview of Facilities Management

Inference to facilities management in its infancy was evident from both papyrus and excavations dating back to Roman times BC. While those interpretations are subjective; they do refer to specific skills required to maintain the Roman baths (Bröchner, 2010). Roper (International Facility Management, 2014) discusses the birth of facility management as a development necessitated by the basic requirement to manage spaces. The following definitions unpacks what this profession entail, further to chapter one.

2.5.2 Defining Facilities Management

As outlined in chapter 1, varied attempts at definitions of the field of FM have been formulated over time, and this research aligns to the ISO41001:2018 definition. The Facility Managers' role is primarily defined by financial, human, physical, information and knowledge management resources, as per Nutt (2000). Tay and Ooi (2001) align with Kincaid (1994a), stating that facility management has an identity crisis that arises from the novelty of the profession, as well as the varying roles of facility managers. Facilities management supports property offerings in terms of space, health and

safety, and environmental management, declares Alexander (2002). Barrett (2003) holds that facilities management should be seen as an integrated process of maintaining, improving, or adapting buildings strategically, whilst De Toni and Nonino (2007) define facilities management as managing non-core business services. Bouwer and Kleynhans (2009) in citing Booty (2009), state that facility managers procure utilities such as electricity, gas, and water. The British Standards Institute views facilities management as the integrated processes embodied in maintenance and the development of services that have been agreed upon, thereby ensuring the organisation's effectiveness. McNeill and Donald (2015) concurred with Salaj et al. (2020) that facilities management enables the *raison d'etre* of an organisation. Vukmirovic & Gavrilolović's (2020) view is that where urban design ends, facilities management commences, thereby equating placemaking with IFMA's definition of Facilities Management. This description resonates not only with the British Standards Institute (BSI) but also with Barrett's (2003) view.

2.5.3 Maturation of Facilities Management

This section follows the facilities management profession within the literature from infancy to a recognised profession. A new profession, Kincaid (1994a) argues that facilities management grew from experience as did other recognised professions, but as custodians of mixed developments, influenced urban areas beyond traditional building envelopes. Booty (2009) refers to Fielder, CEO of British Institute of Facility Management (BIFM), indicating that Facilities Management underwent a change from 1988 to 2008, growing from a basic maintenance function to a corporate function in workplaces. Bröchner (2010) indicates that the term 'facilities' was deduced from the Latin adjective facilis 'easy to do', whilst excavated Roman inscriptions on papyrus dating back to BC provide proof that facilities management was performed for baths, housing, and agriculture.

Roper (2014) simplistically states that facilities management developed from the basic requirement to manage spaces. The journal article in the magazine '*Facilities*' expounds the integrated, varied nature and role of facilities management, as a blend of property management and maintenance, operations, as well as office administration integrated beyond tactical operations into strategic property planning. Moreover, facilities managers manage the largest capital resources of an organisation,

supporting their core functions as tactical, operational, innovators, and strategic management. This however has not been illuminated in the literature as potential influencers of urban spaces, or urban facility managers.

2.5.4 Role of the Facilities Management Professional

The next section discusses the array of activities within the ambit of facilities management, based on other stakeholders within the built environment and best management practices (BMP) from energy to conservation to water.

Urging facility managers to pursue critical system efficiencies, Barret (2003) argues that corporate facilities management should encompass corporate policy, culture, and scenario planning, as per Barret & Baldry's book, *Total Facilities Management Towards Best Practice* (2003). Barret and Baldry write that strategic facilities management incorporates facility planning and leadership to the organisations' benefit, whilst tactical facilities management delivers on service, quality, value add, and risk management ensures service delivery by maintaining buildings, enabling the organisation (Barrett & Baldry, 2003). Consulting with stakeholders both inside and outside of the organisation, is an integral function of facilities managers to attain company goals (Alexander et al., 2004; Kincaid, 1994a). Roper's (2014) view of strategic facilities management is to provide timely services, and Alexander's view of it being hierarchical i.e., corporate, strategic, tactical, as well as operational.

Referring to shopping centres, Chotipanich & Issarasak (2017) stress that facilities management aims to offer cost-efficient services, such as safety, security, appearance and environmental comfort, ongoing maintenance and replacement. Having discussed the broad ambit of the facilities management profession in this section, the next section will discuss urban management as a broader category to highlight synchrony between facilities management and urban management, and within section 2.7 a discussion ensues around the convergence of the two disciplines as the novel profession urban facilities management.

2.6 URBAN MANAGEMENT AS A PROFESSION

Having defined urban facilities management, its origin and dearth of literature in section 1.1.3, this section elaborates on urban management as a profession, the background, definition, and maturation of the profession. It goes on to deliberate who

manages urban spaces and what lives between the buildings. An overview of urban management's history follows.

2.6.1 Historic Overview of Urban Management

Busquets highlighted the historical significance of organised cities by thorough analysis (Charlesworth, 2005). Perlman (2005) mentions that the population increase of cities in the 19th century was a mere 5%, whilst during the 20th century population increased by 15%, and projected growth by a further 50% in the 21st century. This is not only applicable to wealthy countries but relates to poorer countries too. Migration has given rise to squatter settlements, the growth of the informal economy, megacities, and a lack of experienced skills to manage these, resulting in environmental degradation. This statement compels built environment professionals to action to maintain precincts. A discussion ensues to explain what urban management entails.

2.6.2 Defining Urban Precinct Management

Whilst section 1.1.4 attempted to define urban precinct management briefly, this literature review will expand thereon. Modern urban systems and complex inter-dependencies (UN, 2016) require urban management to be defined. Rowley (1994) indicates that Buchanan equates urban design to actions that afford placemaking, whilst Gibberd (1953) believes it is about functionality and aesthetics.

Readings for urban management are not plentiful, as there is a generic referral to urban design or property management. Urban design excludes the management of urban spaces (Rowley, 1994), which is essential for secure, clean streets and spaces. Rowley (1994) highlights the lack of maintenance and management of urban spaces, where management can achieve rapid results rather than lengthy design. Kent (2017) cited by Vukmirovic & Gavrilović (2020), draws attention to the need for economic prospects for everybody, by means of in- and outsourcing, to enhance liveability, thus leading to the question, who manages urban precincts?

2.6.3 Who are the Urban Managers?

The literature rarely expands explicitly on the management of urban precincts. The UN-Habitat (UN, 2016) claims that lively public spaces ensure well maintained, safe and healthy urban environments, attractive from both a working and a living perspective, aligning with Turok's (2021) view described earlier (Vukmirovic &

Gavrilović, 2020). The philosophy of placemaking should be human-centric during the planning and design phase, while also managing the space to ensure quality of life and bring about maintained precincts that align with Feminist philosophies to ensure inviting, safe, clean urban precincts, typically the domain of facility managers. IFMA's definition of facilities management describes this profession as collaborating to bring about a safe, comfortable, functional built environment, as per Vukmirovic & Gavrilović 's (2020) dialogue. This leads the conversation to urban facilities management as a profession.

2.7 URBAN FACILITIES MANAGEMENT

The dilemma of unprecedented growth of cities requires efficient, cost-effective urban facilities management. A marked increase in urban populations, facilities and catastrophic events worldwide has highlighted the need for efficient, cost effective and timeous urban facilities management to mitigate emergency events (Lee, 2013). Unlike modernist urban planning, recent developments in urban planning, consider environmental and safety concerns (UN, 2016). The need to understand the impact of one buildings' demise on a broader network of facilities, is a critical factor requiring urban facilities management (Lee, 2013). A gap exists in the literature as to who would best be suited as urban facility managers. A discussion on how urban facilities management is defined in the literature, follows in section 2.7.1, and leads on to a discussion of the existing literature in terms of facilities management's ability to step into the gap in section 2.7.2.

2.7.1 Defining Urban Facilities Management

The literature indicates that this is a profession in its infancy:

> *The emergent field of urban facilities management is seen as a flexible platform that enables new, innovative integration of private and public sector services in order to benefit society at the urban precinct scale (Michell, 2013b).*

Although the researcher adopts and adapts the facilities management definition as per ISO41001:2018, simply stated, facilities management, as a function of a city integrating people, place, and process of the built environment for the benefit of all people. Other definitions follow herewith. Urban facilities management restores

underperforming facilities to meet community demands whilst maintaining the urban heritage (Ellin, 2006). Urban facilities management – a novel profession, is described by Michell (2013) as combining facilities with urban management, development, and sustainability. Given that the processes on a micro level are like those at a micro level, but that an increased awareness is required to achieve sustainable cities (Michell, 2013). Subjoined figure to explicate the relationship in elements in both urban and facilities management as Michell refers to Pieterse (2010) to achieve urban sustainability.

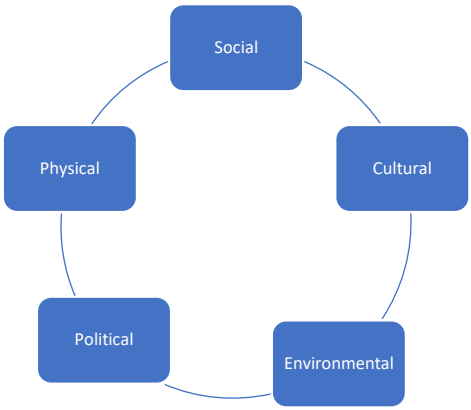

Figure 2.2 Interplay of Elements influencing Urban Sustainability in UFM

Entailing more than facility managers daily functions, urban facilities management includes managing complex tasks which enable workplaces and the organisations' core objectives, mitigate risk, and manage disasters (Lee, 2013). MacDonald (2013)'s view is one of trust, where urban facilities management includes societal needs for a better quality of life (Larice & Macdonald, 2013). Urban facilities management is responsible for the ongoing operation of a variety of urban facilities, including land and disaster management.

This leads to a discussion in the next section on whether urban built environment professionals, the private sector, and agencies may collaboratively produce innovative benefits for the community.

2.7.2 Identifying the Urban Managers

Citizens' social needs should be met, which begs the question as to which profession is best placed to manage urban facilities, or facilities between the buildings. Architects

and transport planners do not necessarily consider the community, despite associations such as Chartered Institute of Building Engineers' (CABE's) intent to ensure good placemaking. Facility management entails more than energy and maintenance, requiring an integration of economic, environmental, and social aspects at all life-stages of a facility, and therein influencing behaviour on an iterative basis ensuring well-being.

Kincaid (1994) believes it is an opportunity for facility managers as infrastructure specialists to fill the gap and manage urban precincts beyond the building envelope.

Whereas Hogg et al. (2004) define TCM as a collaboration of activities to optimise placemaking,

Urban facility manager's inherent key performance indicators (KPI's) lie within the facility managers' ambit, cleaning, safety & security, and maintenance (Riviezzo et al., 2009), encouraging facility managers involvement to effectively manage town centres.

Lee (2013) sees urban facilities managers as central stakeholders during a disaster situation that requires an intelligent response. Lee (2013) mentions lengthy life cycles, which cause performance deterioration and safety issues, downtime, and the potential loss of assets and life. Boodhun (2016) refers to Melvin (1992), indicating facility management's input a benefit to the built environment. The development of urban facilities management and global developments necessitate engagement between planners and other stakeholders to execute projects (UN, 2016). Temeljov et al. (2018) urge urban planners to include facilities managers in the design of cities at inception. Boyle (2018) adds that urban facilities management associates' facility managers efforts collaboratively with other stakeholders for urban solutions. Similarly, Bjørberg et al. (2019) deem facility managers able to collaboratively deliver healthy urban areas, from inception, operationally ensuring improved conditions, and generational integration. Nijkamp & Mobach (2020) reason that there is a link between the layout of office space and urban design with a particular view around creating wholesome spaces. Likewise, Temeljov et al. (2020) view urban facilities management as a novel facilities management role which could encourage healthier cities by having their building experience on wider urban areas benefiting the population whilst inculcating authoritative trust (Riviezzo et al., 2009; Hogg et al., 2004; Ellin, 2004). The literature infers that facility managers can influence urban facilities management. However, that

they may benefit public spaces is not clearly stipulated, given their experience, skill, time, budgets, and human resources deployed daily. The research objectives align to establish whether facility managers could step into the gap.

2.8 CHAPTER SUMMARY

Having introduced the complex interplay of elements in the built environment, the actors within the environment, facilities management as a profession, urban management and lastly, urban facility management as a novel built environment profession in this chapter, the following chapter presents the research methodology employed in this study. The intention of this research is to answer the research question, its aims, objectives, and premise. Although constrained in terms of time, geographic boundaries and area of this single case, the intention is to vigorously ensure a verifiable, reliable result in this research. The research philosophy, approach, strategy, methodology, methods, and research design are discussed in the following chapter, chapter three.

CHAPTER 3
RESEARCH DESIGN

3.1 INTRODUCTION - METHODOLOGY AND METHODS

Chapter two delineated the field of study surrounding three disciplines at work within the built environment, namely: facilities management, urban management, and the novel field of urban facilities management, critically reviewing existing literature and identifying existing gaps (Saunders et al., 2007). Chapter three outlines the research paradigm and the researcher's philosophical stance as interpretivist. Furthermore, it explicates the inductive approach, the qualitative methodology employed, the grounded theory (GT) strategy, whilst the data gathering and analysis process, techniques and procedures deployed to answer the research question is explicated. The philosophical stance of the researcher began epistemologically as an existential thought in the researcher's mind, Taylor et al. (2015). The researcher's emic view is underpinned by an extensive literature review of peer reviewed readings which provide a keen knowledge of the field, setting the foundation for the research question, objectives, and design of the interview questionnaire. The structure of this chapter aligns with Saunders' "*Research Onion"* (Melnikovas, 2018; Saunders et al., 2007, 2016, 2019) and is depicted in figure 3-1 below.

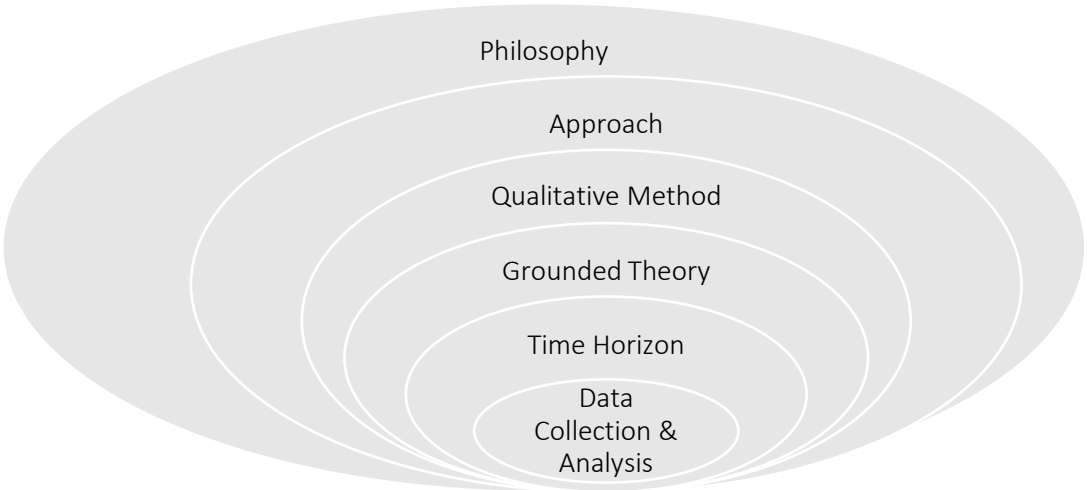

Figure 3.1 Adapted from Saunders Research Onion (Saunders et al., 2007)

Glaser (2005) deemed research devoid of a particular philosophical stance. Yet Bryant and Charmaz (2019) oppose this view, contending that present-day researchers are relationally intertwined as they iterate the process of assessment and analysis, and are thus interpretive by nature. Bryant and Charmaz (2019) in referring to Knoblauch, Flick and Maedar (2005) deem constructivism the forerunner of the interpretive paradigm, where the social world is examined from the stance of the stakeholders. An interpretive paradigm aligns with the researcher's philosophy or stance, epistemology, and ontology as an endemic built environment professional, performing the role of building facility manager and quasi-urban manager. The researcher seeks to answer the research question by examining the influence facility management have on urban facility management, limiting research participants to professionals working in the built environment. The term ontology comes from "*ontos*" or being, and study from "*logos*", and pertains to questions relating to the nature of reality or theory of being, describes Lee (2012). Epistemology, the theory of knowledge stems from the Greek word "*episteme*" meaning knowledge, '*how'* you answer the question, as opposed to what is in the knowledge (Lee, 2012; Saunders et al., 2019). Citing Mead and Dewey, Butler-Kisber (2010) contends that the two are blended terms. Crotty (2020) explains that methods, philosophies, and methodologies are the basis of research, providing stability and direction for researchers. The researcher's paradigm is depicted in figure 3-2 below, and adapted from O'Gormans & Macintosh (2014), simplistically illustrating the process.

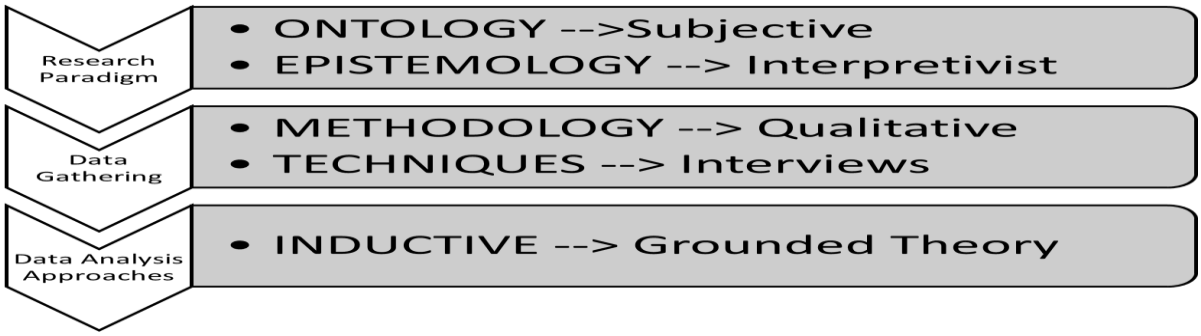

Figure 3.2 Research paradigm

The choice of paradigm, methodology and method will be discussed below.

3.2 RESEARCH PHILOSOPHY

The outer layer as per Saunders' onion, is the philosophy informing research design. Evident in writings is the complexity of research (Koch et al., 2014; Melnikovas, 2018; O'Gorman & MacIntosh, 2014; Sahay, 2016). Research philosophy, or differently stated the way knowledge about the world is constructed, is informed by the researcher's view of the subject (O'Gorman & MacIntosh, 2014) and their epistemology. As the first step of research design, philosophy outlines paradigms, practical considerations, the knowledge relationship and how research develops to answer questions posed (Taylor et al., 2015). Similarly, Saunders et al. (2007) states philosophy is based on knowledge and the nature of learning. The following section discusses the philosophical stances deemed unsuitable for this research, i.e., positivism, realism, and pragmatism. The researcher's subjective ontological stance aligns with an interpretivist philosophy and will be elaborated upon in section 3.2.4.

3.2.1 Positivism

Positivism is useful in a structured, regulatory methodology within the physical and natural sciences. Taylor (2015) elaborates by stating that positivism produces statistics following the use of surveys whilst Sahay (2016) deems it useful where a cause-and-effect relation exists. However, for this research, no hypothesis is being tested, and thus the philosophical stance cannot be that of positivism (Saunders et al., 2007).

3.2.2 Realism

Realism simply relates to objects existing outside of knowledge that are perceived as reality (Saunders et al., 2007). This research is based on exploration of the literature, and data collected from interviews and the researchers' emic knowledge. As such realism is also not the appropriate methodology for this study.

3.2.3 Pragmatism

Both interpretivist and positivist, pragmatism argues that the research question is central to the philosophy, combining perspectives of both philosophies to garner and analyse data. This approach is chosen where the researcher's conviction is that many realities exist (Sahay, 2016) and does not resonate with the view of the researcher and thus not chosen.

3.2.4 Interpretivism as Choice of Research Philosophy

The researchers' interpretive view explains meanings subjectively, and views life as a social process (Charmaz, 2014). Ontologically, the researcher intends to add to the existing knowledge through in-depth examination of facility managers' presence, their influence, and perceived role within urban facilities management as built environment professionals. The external reality is thus socially constructed as a perception of the researcher or constructionism. Lee (2012) deems reality a subjective sequence of divergent beliefs. Epistemologically, the researcher's view, and urban facilities management influence each other socially. Knowledge is subjectively gained through examining social understanding and, in this instance, investigating shared opinions held by built environment professionals, testing whether facility managers influence urban facility management. The researcher holds the view that as facilities management, you are influencing urban facility management. Hellstrom (2008), in citing Stake (2000), describes phenomenology as an immersive inquiry where a researcher's interactions coincide with related events. Connelly (2010) describes it as the conscious study of worldly experiences and their enduring reality, using methods such as interviews. Phenomenology is thus the philosophical stance the researcher took for this study. Furthermore, as per Sahay (2016), an interpretivist approach in which views are considered subjective applies.

3.3 APPROACHES

Whilst the preceding section discussed the research philosophy, this section will elaborate on approaches. Approaches are either deductive or inductive, the latter chosen for this research. As discussed in Chapter One, the study takes on a qualitative approach, looking at relations and social behaviours. The purpose being to answer the research question: -

What is the role of facility managers in influencing urban facilities management?

The deductive approach, which was not the chosen philosophy for this research, is discussed in section 3.3.1 subjoined. Thereafter, the inductive approach is described, reasoning the selection for this study.

3.3.1 Deductive

Deductive reasoning, or a “top-down” approach, filters general theory down to specific principles. A literature review undertaken with the purpose of developing a theoretical framework, aligns with a deductive approach (Saunders et al., 2007). Deduction is useful for scientific research (Saunders et al., 2019). Embarking on a tentative idea, a premise or hypothesis, based on a literature review, whilst comparing the argument with other theories, data collection and analysis reveal that the test fails, and therefore must be rejected and recommenced. Only when the test succeeds is theory corroborated. It is deemed a rigid inflexible methodology (Saunders et al., 2019).

Deductive reasoning does not resonate with an interpretivist philosophical position and therefore was not the approach embarked upon for this research. Deductive is the opposite of an inductive approach, which will now be discussed.

3.3.2 Inductive

In inductive reasoning the researcher’s perspective influences the theory produced as stated by Bryant and Charmaz (2019), referring to Glaser and Strauss (1967). Observations identify trends that result in a proposed theory (Dudovskiy, 2016). The inductive approach is deemed a “bottoms-up” approach. For this research, it involves a subjective study of the collective, yet individual experiences of professionals within the built environment to determine facility management’s influence on urban facilities management, socially constructing an outcome, whilst phenomenologically and ontologically developing a theory (Cassim, 2021). Similarly, Saunders et al. (2019) mentions the humanistic approach, particularly around the context of the situation. The pragmatically observed data is coded, analysed, and inductively given a specific stance to arrive at a conclusion, or theory otherwise known as a conceptual framework (Saunders et al., 2019). Simply stated, data thus leads to theory.

The next section deliberates the strategy or methodology employed to answer the research question.

3.4 METHODOLOGICAL CHOICE

Having explained the use of an inductive approach in the previous section, this section explains the choice of either a quantitative or qualitative methodology. For this research, a qualitative methodology was deployed. Barbour (2014b) outlines high-

level differences between quantitative and qualitative research, stating quantitative looks at how much, whilst qualitative takes a macro view in analysing and explaining daily operations. The following section, 3.4.1, discusses qualitative research as the method reflecting the researchers' axiology, and follows to position the researcher in the field by utilising a grounded theory (GT) style of research (Charmaz, 2006).

3.4.1 Qualitative

Taylor et al. (2015) indicates that qualitative researchers are interested in meanings in the social world, whereas Byrne (2017) explains qualitative methods as analysing data to identify a common trend. The data garnered by means of unstructured interviews aim to investigate the collective understanding of a professional group. This method resonates with the researcher's purpose of examining the influence facility managers as built environment professionals have within the urban domain. Therefore, qualitative is the methodological choice for this research.

This discussion is now followed by a review of the quantitative methods which were deemed not suitable.

3.4.2 Quantitative

Quantitative data is collected from surveys or samples to produce numbers or statistics and is not seated in the social sciences. As quantitative is both positivist and deductive, it was inappropriate for the philosophical stance of this research.

The strategy or methodology deployed is now outlined in section 3.5.

3.5 STRATEGY OR METHODOLOGY

Strategies or methodologies that could be deployed to collect field data are among other, case study, focus groups, surveys, grounded theory (GT), or ethnography. A brief discussion of the possible options now follows.

3.5.1 Case Study

The strategies that were not suited to this research were, focus groups, action research, ethnography, archival research, active participation, surveys, experiment, and narrative enquiry. The researcher chose a case study strategy, which is an empirical enquiry of a real-life situation, garnering sources of data as evidence (Saunders et al., 2019). Referring to Yin (2018), Saunders et al. (2019) describe a

case study as an in-depth study of a true matter, a case being either an organisation, a group, an individual or a process. This qualitative research process is based on a conceptual framework (McGaghie et al., 2001) of which the initial framework or theory is not predetermined, and interviews are conducted with a small number of participants (Saunders et al., 2019). Delineating the boundaries and participants is a critical element of the strategy, state Saunders et al. (2019), citing Flyvberg (2011). Thereafter the study goes about understanding the interactions within the said topic and its content. The true-life factor makes this strategy different from others (Saunders et al., 2019).

3.5.2 Focus Groups

Focus groups are said to be inferior to one-on-one interviews (Barbour, 2014b), as groups may alter the view of individuals in the group, and some participants may not feel free to express their views in an open forum. A benefit of focus groups is that ideas may be raised that invite engagement and robust debate, which may deliver rich data if deployed creatively (Barbour, 2014b).

3.5.3 Action Research

Action research means a group is actively changing processes, educating, empowering and are futuristic in a cyclical pattern. Research is problem centric and aims to describe social instances and improve matters (Bell et al., 2008) which require intimate teamwork between researchers and practitioners (Saunders et al., 2019), prevalent for change management.

3.5.4 Participant Observation

Participant observation, seated within qualitative methodology, is intent on understanding the meaning of the observed group or an individual's actions. It is the opposite of structured observation which is used in quantitative research (Saunders et al., 2019), requiring full participation in the daily lives and actions of participants, becoming part of the group under research.

3.5.5 Ethnography

Ethnography is a narrative or recount of an ethnic group or culture. It is an inductive approach that requires a considerable amount of time (Saunders et al., 2019). Furthermore, it would be a useful tool for market research, and requires observation

of the populus being studied. Notes would include extensive details of everything, or all observed.

3.5.6 Archival Research

Archival research is based on archival records. Records may be difficult to obtain due to confidentiality (Campbell, 2010). Records are typically communications such as email between persons or a collective, individual records such as diaries, government documents and media documents. It could also include visual and audio records. Although available online, documents may be sensitive and subject to regulations.

3.5.7 Chosen Strategy

The strategies discussed in the above section were not suited to this research. Case study, focus groups, action research, ethnography, archival research, active participation, surveys, experiments, and narrative enquiry (Charmaz, 2006). The chosen strategy, a case study the overarching methodological approach for this research. The paradigms studied are within facilities and urban management as a social science. As urban precincts differ in character, a single case study was deemed appropriate as the overarching methodological approach to research urban facilities management in the Cape Metropolitan Area (CMA)

Having discussed the methodology, the next section follows with the method chosen.

3.6 METHOD

Saunders et al. (2019, p808) describe method as "*Techniques and procedures used to obtain and analyse research data, including for example questionnaires, observation, interviews, and statistical and non-statistical techniques.*" The strength of the said method deployed determines the rigour or confidence of the conclusion (Saunders et al., 2019).

3.6.1 Grounded Theory (GT)

Saunders et al. (2019) citing Suddaby (2006) acknowledge that grounded theory (GT) must consider the literature, the experience, as well as a considered analysis of gathered data, to develop theory and meaning from the participants and their setting (Saunders et al., 2019).

Methodological research leads to theoretical categories which emerge from empirical data, state Bryant and Charmaz (2019) referring to Glaser and Strauss's (1967). Elevating the value of theoretical knowledge, the development of theories and hypotheses (Saunders et al., 2019). Explorative by nature, this research examined trends or concepts (Heath & Cowley, 2004), not testing a hypothesis. GT, according to Glaser & Strauss (1967), involves construction of theoretical statements from primary and secondary collected data (Bryant & Charmaz, 2019). The empirical data in this research primarily gathered from unstructured interviews by means of open-ended questions. Shifting the view from a specific stance to a generalised one. Findings from one interview thus iteratively generalised as a collective (Bell, 2009).

The researcher is a proponent of Charmaz' constructivist GTM. GTM, developed over half a century using coding, memo writing and theoretical sampling, is an interpretive, constructivist theory method. The researchers' experience and interactions within the BE (Bryant and Charmaz, 2019) form the basis of the developing theory, and therefore, inform the choice of method for this research. Referring to Stern (2007), Bryant et al. (2019) goes on to state that constructivist GT considers data construction, quality, and usage in the given situation to derive the abstract from the studied reality. Considering all aspects, not only locality and time, but also the sensory. Data was coded in a familial manner, inductively generalising the outcome (Bryant and Charmaz, 2019).

The Glaserian school holds a different view on GT. Proposing theoretical family codes, and ordering thoughts from empirical observations. Substantive codes conceptualise the theory. Conversely, Straussian GT use a coding paradigm of emerging GT during 'axial' coding from open coding (Bryant and Charmaz, 2019).

As discussed above, the research question resonated with Charmaz' constructivist grounded theory method (GTM), which was thus deemed the best suited strategy. Deploying a methodological analysis of existing literature, the systematic gathering and analysing of data the researcher used coding, memo writing and theoretical sampling, in an interpretive, constructivist theory method, thereby developing theory from both personal experience and interactions within the BE (Bryant and Charmaz, 2019).

3.6.2 Choices of Methods

GT methods were used to collect the data and thereby examine the influence facility managers have on urban facilities management. As discussed above, the participants and their setting were studied to both understand meaning and their context. Given the time and resource constraints, the area is geographically limited to the CMA as a case study, and the participants are professionals working in this built environment.

3.7 TIME HORIZONS

Whether the research is conducted at a particular point in time, or over a series of dates, is not influenced by the research strategy nor the method used (Saunders et al., 2009, 2019). Time constraints and budget available to the researcher, for this research limited the study. The collection of field data occurred during the Covid-19 pandemic, as a series of snapshots between the period 2020 to 2021. As UFM is a developing field, the research considered the origin of the profession longitudinally, observing changes in this field (Saunders et al., 2007). Following the extensive literature reviews, field data was gathered cross-sectionally, asking retrospective questions regarding participants' history, their current reality, and their forward scoping, as well as the urban facilities management's phenomenon or reality (Saunders et al., 2009). Longitudinally, the researcher explored not only the literature but also the reality through the questions posed, delving into what was, what is, and what is projected for the future of facilities management in relation to urban facilities management (see the aide memoire attached as Appendix A).

3.8 TECHNIQUES AND PROCEDURES

The deployment of techniques and procedures were informed by the methodology deployed (Bryant et al., 2007; Crotty, 2020). The philosophical stance of the researcher is that facility management professionals do influence the urban domain and that this can be proven inductively. The intention was to generate knowledge about facilities management within an urban context and the relation to urban facilities management. To this end, Crotty equates methods, philosophies, and methodologies as the scaffolding providing stability, and guiding researchers (Crotty, 2020) to determine how and in what manner information is gathered and analysed. The next section now discusses data collection and data analysis.

3.8.1 Data Collection and Data Analysis

Given the restrictions in terms of time, funding, and other resources, the researcher opted to use multi-methods. Unstructured, flexible, and adaptable interviews, thus allowed for discussions with a range of built environment professionals, such as facility managers, architects, valuers, and other like-minded individuals. The questions were adjusted to suit the participants' stance or experience, either some questions were omitted, or others added to suit the discussions (Saunders et al., 2019). However, to keep the responses on topic, the a*ide-memoire* guided the interviews. A copy of the aide-memoire used may be found in Appendix A. An interpretivist epistemology meant answers could further be probed during the interview and flexibly altered to change the angle of the question, or omit a question, depending on the discussion, situation, organisation, or individual's experience (Saunders et al., 2007). The latter enabled optimal mining of information, which was inductively garnered, and to make sense thereof.

Data Collection: -

Due to the prevailing Covid-19 lockdowns, interviews were conducted online using platforms such as Skype, Zoom or Teams to limit physical contact or exposure to Covid-19. The researcher e-mailed potential interviewees, who were purposively selected, attaching an a*ide-memoire* as well as the consent form to peruse. Agreement to being interviewed was confirmed on receipt of signed forms from respondents, and dates confirmed. Connecting via the mentioned platforms to conduct the online interviews, pleasantries were exchanged, the terms of reference reinforced, reiterating their agreement to recording the interviews. The researcher, mindful that *'time is money,'* kept interviews to an hour. The *aide-memoire (*Appendix A*)* guided the interviews and were recorded by means of a recording device. In addition, the researcher took notes where necessary. The unstructured interviews delved into not only participants' experiences but also their realities to gather primary data. At the conclusion of the interviews, the researcher thanked the participants for their time and contribution, reiterating that the transcription would be sent to them for approval.

Processing Data: -

Recordings were transcribed verbatim, as soon as possible, whilst fresh in the memory. Although the transcription software '*DragonSpeak'* was provided with the

acquired recording device, the researcher found it did not accurately transcribe recordings, preferring to transcribe interviews in Dictaphone fashion (i.e., listening to recordings, capturing transcriptions manually using earphones, rewinding, playing, and vetting the information). Verbatim sound recordings eased the understanding of emotion or meaning of words. Transcriptions were sent to the participant(s) for approval.

Analysis of Data: -

Once the approval was received from participants, PDF transcriptions were captured using a computer aided qualitative data analysis software (CAQDAS) known as NVivo. The software enabled coding to be analysed and consider the: - what, where how and why (Saunders et al., 2019). Data was analysed using a Charmaz' constructivist grounded theory method (GTM). Collected data was analysed in a cyclical manner, commencing first with open coding, rapidly coding words, or sections of words. This was performed either in NVivo - meaning verbatim or in part, thereby grouping data into related categories. Thereafter, axial coding was performed, to finally conclude with selective or focused coding until emerging trends could be identified. The final step in the analysis was then selective coding. This is depicted in Appendix B.

Theoretical data saturation was achieved when no new information surfaced from the interview data gained.

3.8.2 Interview Design

The interview outline began with the development of the research question, born as an idea in the researcher's mind. As an emic urban built environment professional, the researcher pondered the influence facility managers have on urban facilities management.

Three choices exist to conduct interviews for garnering rich data, being structured, unstructured or semi-structured. Neither structured, nor semi-structured interviews were used, as for this, predetermined questions are posed verbatim to the participants. The participants then select a response from a range of pre-set answers (Saunders et al., 2007). The researcher however wanted to elicit an honest flexible response, and structured and semi-structured interviews were thus not conducive to open conversations.

Choosing unstructured interviews for this research stemmed from the researcher's intention to interview a range of professionals within the built environment to examine the influence facility managers have on urban facilities management. The flexibility of an unstructured interview allowed the researcher to adapt questions to the participants' reality, affording them the freedom to channel the discussion around the participants' own experiences and viewpoints. To this end, a randomly selected interview transcript is attached as Appendix C.

3.8.3 Design of the Aide Memoire

With the research question as the focal point of the study, the research layers were reiterated from the general to the specific (Punch, 2003), and guided the design of the interview questions. Once the research question was determined, the initial design of the interview questions was considered, memos and notes made and systematically reviewed, logically structured, and revised to address not only the research question, but also the research' aims and objectives. The questions developed for the aide-memoire were divided into three main sections, reflective, current, and forward-scoping. The intent was to understand the history of the participant, how their career developed, what their current role is, and how they see facility management's role in the urban context, particularly urban facility management as a new field. The aide-memoire acted merely as a guide. Open-ended questions were posed, allowing the researcher to delve into the interviewee's perceived reality.

The objectives of this research are to:

1. Establish whether facility managers are present within the Cape Metropole Area i.e., are there facility managers playing an active role in managing urban spaces?
2. Identify the role facility managers have as urban stakeholders i.e., if there are facility managers playing an active role, what is it they are doing?
3. Which of their activities benefit the management or improvement of urban spaces? (How do they do it),
4. Are facility management's budgets being spent towards bettering the greater precinct (macro) beyond their own portfolio (micro).

Open-ended why, what, where and who type, questions were posed to elicit a robust in-depth response rather than a simple ‘yes’ or ‘no’. The broad questions asked to gain an understanding of the participants' backgrounds in terms of training, career path, viewpoint, and area under management, and their future view of the professions’ role.

3.8.4 Interview Structure

Online interviews were held, guided by an aide memoire (Gubrium et al., 2012). The aide memoire attached as Appendix A. This made it easier for the novice researcher as it allowed flexibility, as stated by Bryant & Charmaz (2019). Exchanging pleasantries, the researcher confirmed agreement to partake in the interview and research process as well as the recording of the interview. The interview duration was approximately one hour. Questions posed were guided by the course of the discussion as well as the rapport between interviewee and researcher. Concluding the interview, the researcher thanked the participant asking whether a point of interest had been overlooked, and whether the participant could refer the researcher to a potential interviewee. This led to the sampling strategy which is discussed next.

3.8.5 Purposive Sampling

Further to the above section, the ensuing discussion outlines the interview sample size and selection strategy to answer the research question. The goal of purposive sampling was firstly to understand the phenomenon. Secondly to set the theoretical course by selecting experienced participants to construct the theory. Ultimately confirming the theory, concluding whether the phenomenon has been achieved or not (Bryant & Charmaz, 2019). It is imperative that sampling delivers a robust grounded theory (GT), representative of the phenomenon (Bryant & Charmaz, 2019). Furthermore, sampling presents the researcher with a tool for collecting sufficient data to develop an abstract and theory that is generalisable suggests Bryant & Charmaz (2019).

GT Sampling requires flexible strategies (Bryant & Charmaz, 2019), effectively delivering data representative of the phenomenon, interaction of concepts, and generality. Sampling is a vital ongoing process, and occurs analytically, using the following: -

a) Experiential with selected time limits. The experiences are predictable.

b) Cross-sectional at important predetermined milestones within the experience.

c) Retrospectively, asking participants to relay their view as experts.

For this research, unstructured guided interviews offered the new researcher the freedom to add questions, and the method of choice, yet were guided by the *aide-memoire.*

The sampling strategy focused on a case study of the Cape Metropolitan Area (CMA). Selecting stakeholders active in the built environment, geographically bounded as the CMA. The researcher took care to not reveal participants identities that are from differing backgrounds. All participants are highly respected, energetic individuals with a cross-section of operational, tactical, and strategic experience. Furthermore, they were between the ages of approximately 30 and 70. Participants were either:- esteemed valuers with vast cross-section experience, senior managers operating within the public and private sphere, influencers of high stature, operating and experienced in the private, public, economic and built environment as well as academia and urban management, facility managers within the private sector managing both singular and a portfolio of buildings, stakeholders within central improvement organisations, senior public urban managers, civil engineers with vast experience both private and public and operating in the facilities management and precinct management arena, lawyers, quantity surveyors and chartered accountants acting in the built environment, all with a wealth of industry experience, and operational in the facilities management realm, pure facilities managers operating in the soft and technical services, as well as an electrical engineer operating as building managers, as per Annexure D. The interviews as discussed in chapter 4, even though only an hour in duration, were rich, robust, and meaningful. The research interviews' aims were to investigate how built environment professionals perceive facility managements' role regarding urban matters. Their influence and impact, and therein aiming to answer the research question, aim and objectives. Commencing with a process of purposive sampling, followed by snowballing (Punch, 2014) as the appropriate methods to earmark participants in the sample group. The first interview was conveniently and purposefully set with a professional known to the researcher, through professional networking. Scheduling a total of fourteen participants for

interviews in a purposive manner for their experience, position, or esteem within the built environment, aligning with Bryant & Charmaz (2019) guidelines, used in grounded theory (GT). The intention was that the selected participants, by means of the interviews, would deliver rich data which ensure developing a theory rigorously, whilst representative of the population examined. The first participant referred other potential interviewees who were not responsive. The researcher then deployed the snowball method of sample selection, reverting to interviews with persons known to the researcher in a professional capacity, either from previous contact in the line of work, or via online networks. Only one interview was a referral. Participant 2 and Participant 5 were not operational within the bounded area known as the Cape Metropole Area (CMA) set as the geographic limitation of the research area, and not interviewed. Given the researcher's time constraints, the researcher reflexively progressed, interviewing purposively selected built environment professionals, as discussed above, within and outside of the facilities management field. The first purposive selection was convenient, as the individual was known professionally to the researcher. This settled the novice researcher into the process. Secondly expertise in terms of the participants experience and esteem as professionals, and as mentioned, one was by referral (Bryant & Charmaz, 2019). Importantly, the researcher intentionally included non-facility managers to negate bias from a facilities management perspective. The researcher therein gained an in-depth understanding of the field by considering what emanated from the discussions, and this understanding thus further guided the researcher's choice of participants and the questions posed. The phenomenon being the role facilities management has in influencing urban facilities management, and their ability to perform the role, was researched as the focus of interviews (Bryant & Charmaz, 2019). The researcher, having no access to other interviewers, conducted all the interviews, this in turn ensured closeness to the questions and the resultant data.

The interview data and the subsequent coding process directed the emerging theory (Heath & Cowley, 2004; Saunders et al., 2007). Interviewing, in the main, was representative of the research phenomenon stated above. Achieving data adequacy (Bryant & Charmaz, 2019) from the information gleaned from productive interviews held with experienced, respected professionals across the built professions.

3.8.6 Photographic Evidence: -

Observation by means of photographic evidence provided secondary visual evidence. The researcher captured images digitally, taking care to maintain ethical issues elaborated upon in 3.10.4. Visual information displaying more than the discussion, visually capturing social dynamics in the research environment as well as operational issues (Saunders et al., 2019).

3.8.7 Documentary Evidence: -

Thirdly, the use of documents such as brochures available to the public, triangulated the sampling (Bryant & Charmaz, 2019). Grounded theory (GT) produces emerging or developing design and, therefore, sampling must be flexible to construct and confirm theory and concepts. Although forward planning was not possible, the appropriate and careful sampling, continued, whilst a thorough and iterative analysis, and consideration of geographic boundaries ensured efficient results (Charmaz & Bryant, 2019) regardless of the time limitation. Once the concepts aligned to the practice, the context was similarly clarified.

3.9 RELIABILITY, GENERALISABILITY AND VALIDITY

As mentioned in the preceding section, the intent was to ensure rigorous, verifiable, and generalisable results. Qualitative GT requires an average sized population sample to be rigorous, valid, and reliable. Validity is attained when studies produce correct results, legitimising qualitative research (Maxwell, 2002).

3.9.1 Research Reliability

Research reliability in qualitative research, as stated by Miles & Huberman (2014), is to ensure consistent processes, integrity, and quality. Thus, the extent of consistent findings where similar techniques is applied by other researchers (Saunders et al., 2019). To attain reliability, it is important that: -

- research questions are clear and in line with the research.
- the researcher's status and role relating to the study is stipulated.
- the research is connected to theory, paradigms, and analysis described.
- adequate data collection covers the appropriate setting.
- quality checks are performed to ensure data integrity.
- the research is peer reviewed.

To this end, consultation of the existing literature continued in line with Bryant & Charmaz (2019).

3.9.2 Research Validity

Validity equates to the accuracy of measurement and whether the findings are what it is set out as (Saunders et al., 2019).

Internal Research Validity

Validity pertains to the fact that the research makes sense and is credible and authentic, states Miles & Huberman (2014) referring to Geertz (1973). Charmaz (2006) and Eisner (1991) outline validity as: -

- Context rich, thick meaningful descriptions
- Ensures vicarious, plausible reading.
- Methods and data sources that triangulate.
- Clear, coherent findings
- Assertions, hypotheses, and conclusions described and confirmed.
- Uncertainties identified; negative evidence presented.
- Accurate conclusions, and predictions verified.

External Research Validity

Miles and Huberman (2014) elaborate that conclusions for GT should have transferability to other populations and contexts, or being generalisable, by careful interpretation developed from concepts as follows: -

- Describing and comparing characteristics in a detailed manner.

- Research indicates limits of the study, ensuring generalisability to other studies.
- Broad theoretical sampling for wider application.
- Readers identify with the findings.
- Outcomes can be used in comparable situations.
- Explicit description of theories and the transferability.
- Indication of how findings could be tested.
- Findings from other studies ensuring robust research.

A research study should indicate its worth, offer a solution to a problem, or develop new skills, empowerment, or policy guidance. Sampling ensured confirmation of perspectives and any negative cases were carefully examined to understand the issues (Bryant & Charmaz, 2019). Constructing theory, sampling ensured linking of concepts, certainty, saturation, and verification. Where concepts interacted, their shared characteristics were further examined to the point where data overlapped. Data was then organised, and a core category identified.

3.10 SAMPLE SIZE

For qualitative research, the number of people interviewed do not represent the dataset, meaning that participants represent others (Bryant & Charmaz, 2019). Fourteen (14) interviews were scheduled, but only twelve were conducted. Participants P2 and P5 were discarded, as they were operating outside the CMA delineated for this research. This was not evident from the initial interview selection as the participants were on-line referrals. Although the consent forms were signed, and the interviews scheduled, only once connected online was it determined that participant P2 was based in Gauteng, and the other (P5) in the Stellenbosch Winelands region. After introductions, the researcher thanked the participants for their willingness to participate, and explained that in view of the geographical parameters, they would not be required to continue with the interview.

As stated previously, the interviews were transcribed verbatim and then imported into NVivo 12 - QDAS program (Bazeley & Jackson, 2013). This rendered the data manageable, bringing about ideas as to how the focused codes would develop from open coding. Interviews were conducted by means of purposive selection, until it was

deemed the saturation point had been reached, (i.e., no new codes surfaced from the interviews).

3.10.1 Stakeholders Interviewed

Fourteen professionals operational within the built environment were interviewed to establish “What is the role of facility managers in influencing urban facilities management?”.

The table in Appendix D is a high-level outline of participants interviewed.

The final interview was intentionally set with a highly respected chief executive officer (CEO) with a wealth of experience in the built environment to recontextualise the theory as per Bryant & Charmaz (2019). Thereby, the theory was rendered transferable, defensible, and comprehensive, thus, a rigorous, useful GT.

3.10.2 Data Analysis

As per Bazeley and Jackson (2013) NVivo enables a methodological way of working with the data, ensuring completeness, rigour, reliability, and validity. Computers are a useful tool in ensuring rigour, and using NVivo assisted with managing data and ideas, enabled querying and visualisation of the data, as well as generating reports from the data (Bazeley & Jackson, 2013). Performing analysis and coding in GT is an integrated and sequential system (Bryan & Charmaz, 2019), coding merely indicates the steps within the process. Coding will be elaborated upon in the next section.

3.10.3 Coding

Coding is a method of creating knowledge from the data collected and is representative of a phenomenon and trends (Williams & Moser, 2019). Bryant & Charmaz (2019) indicate that coding provides steps to define the intent of the data, whereas codes are emergent, therein constructing theory. Bryant and Charmaz (2019) deemed coding as the labelling of segments of data for the conceptual meaning thereof. There are different ways in which coding can be done, depending on the school of coding the researcher embraces. Coding occurred frequently, and data sorted into categories, whilst memos recorded ideas. Creating theoretical categories as an understanding of important matters during the process, reflexively revisiting interviews as categories emerged. The next section briefly describe methods and the method of choice will be justified.

Glaser & Strauss Grounded Theory Method (GTM)

The Glaser and Strauss GT method does not recognise clear coding nor analysis, but rather the processes for qualitative research in which to visibly produce results that are both clear and replicable (Bryant & Charmaz, 2019).

Glaser GTM

The Glaserian method highlights the conceptual relationship between data and theory (Bryant & Charmaz, 2019). Fragmenting the data into parts and arranged in codes, moving from the empirical to the abstract, embracing many types of coding, of which open and selective coding are substantive empirical codes whilst theoretical codes indicate relationships between substantive codes.

Strauss and Corbin Grounded Theory Method (GTM)

Presenting a detailed procedural approach to coding, Strauss and Corbin propose open, axial, and selective coding and a conditional matrix.

Charmaz School of Constructivist Grounded Theory Method (GTM)

Charmaz school of GT affords the researcher the flexibility of two stages. Firstly, initial, or open coding, followed secondly by focused coding (Bryant & Charmaz, 2019). Using open coding the researcher remains close to the data and possible theoretical categories. Proposing line-by-line coding to defragment the data. Encouraging phenomenological interest, word-by-word coding, and ongoing comparative coding is central to the analysis, whilst rapidly moving through the data. Questions are asked of the data, being the research intent, what theoretical category could be implied, and what the data may propose, bearing the theoretical or conceptual framework in mind.

Focused coding occurs abstractedly, more so than open or initial coding, and is appropriate for analysing large sections of data. Like open coding, the researcher should question which codes best represent the data, what the comparisons reveal, gaps that may exist and which theoretical categories are indicated. Charmaz prefers a more emergent approach (Bryant & Charmaz, 2019).

Although GT lends itself to varied coding, a rigorous approach still applies. For this research, the researcher approached the data analysis from Charmaz' constructivist GT method, a funnel approach commencing with broad categories (open coding) thereby producing segments of code or concepts, either from single words or an

assembly of words, these are frequently compared, renamed, and reframed. The built environment entails a myriad of related subcategories, as well as positive and negative sentiments for and against the argument that facility managers influence urban facilities management. Coding interviews in an open manner, reducing many pages of transcription and paragraphs, analysing participants' views and thoughts yet focusing on the field under study. Considering what, how, why, and where opinions voiced during interviews, staying close to the data, the researcher continuously, rapidly compared the data using NVivo. Further analysis of the initial paragraphs proceeded in a focused, abstract manner, reducing the extensive material to eleven axial and five selective codes. Large data correlated by means of the focused coding (Bryant & Charmaz, 2019), identifying gaps and correlations for emerging theoretical categories. Iteratively performing this process in a cyclical manner as per figure 3-3 subjoined, identifying relationships within the data. The researcher rigorously organised the data, thoroughly analysing the information so it may be replicated sustainably, inductively delivering knowledge and theory, and adding to relevant literature in this field.

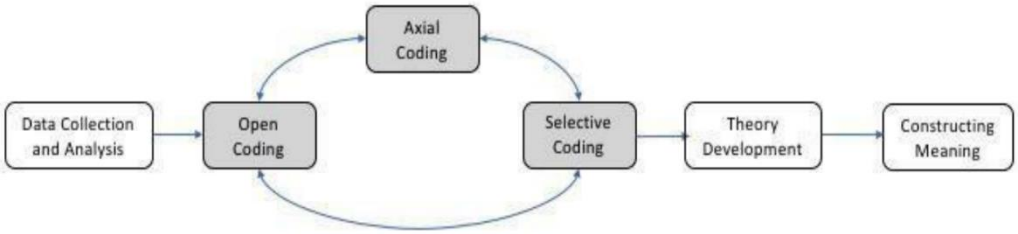

Figure 3.3 Non- linear Process Qualitative Research (Williams & Moser, 2019)

Referring to Charmaz, Williams & Moser explains how GT allows the researcher to analyse the data, resulting in the emerging theory (Williams & Moser, 2019).

Extracting codes (nodes in NVivo) in the first open coding process, the process of data analysis to derive meaning commenced. The researcher read the data numerous times to understand, identify and bring meaning to the data, resulting in final concepts or the conceptualising of a theory.

Focused Coding

The circular process of open and focused coding reduced categories significantly, as per subjoined figure 3-4, a screen snip from NVivo, to deliver five selective codes or main categories, and 11 axial codes from 218 open codes.

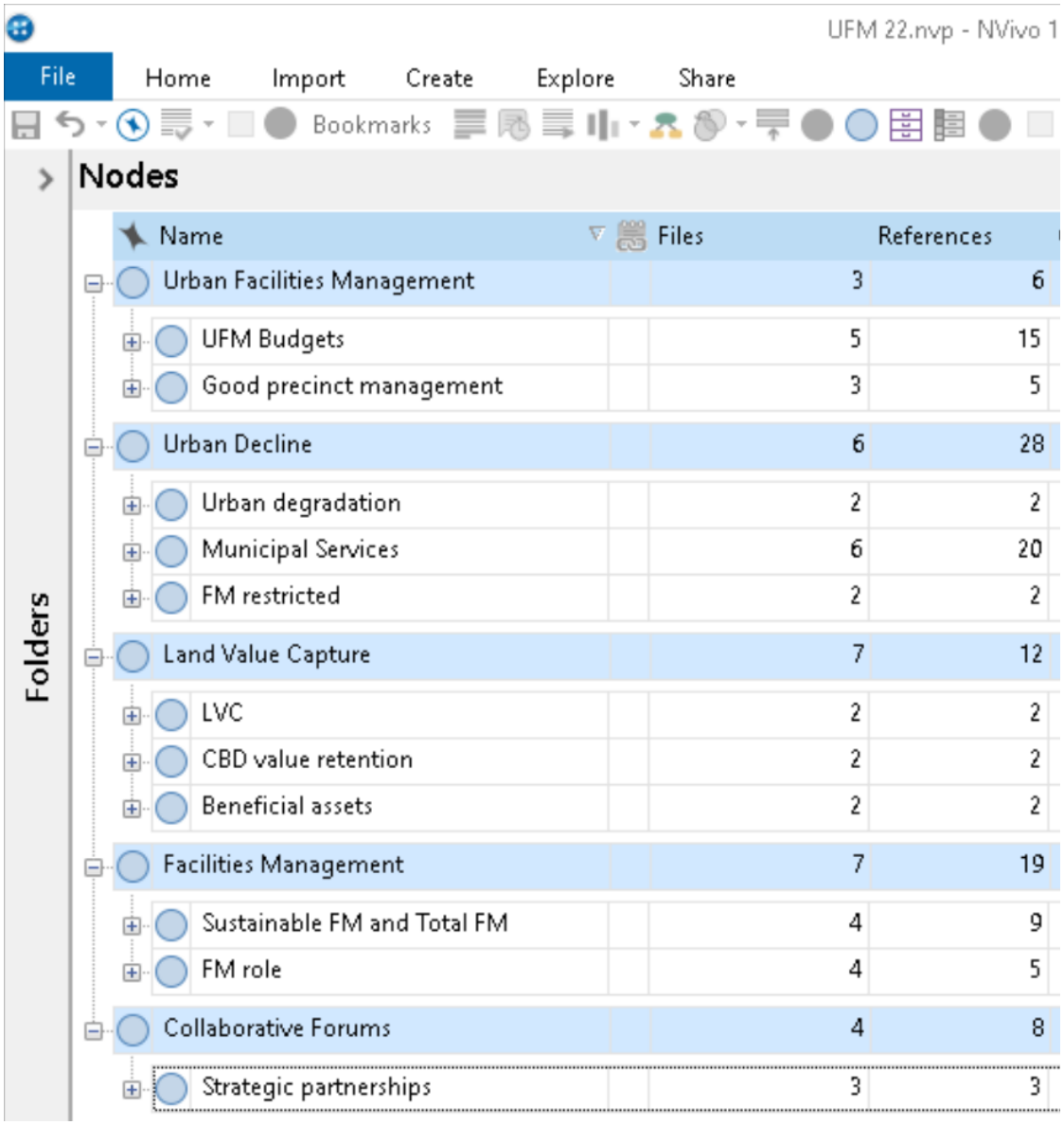

Figure 3.4 Focused Coding - Axial and Selective Coding (Screen snip from NVivo)

This process facilitated, as described earlier using QDAS, will now be discussed.

QDAS

John and Johnson (2000) argue that whether a researcher uses QDAS or not, the benefit of using same makes it possible able to process copious amounts of data in a shorter time, thus ensuring reliability. Commencing with open coding to identify broader categories, the data was diffracted into finer detail by axial coding, making connections or groups. This process was executed iteratively, urging the researcher to rethink the coding, refining, un-coding, and recoding until comfortable that the

emerging categories aligned with the stated aims and objectives and that the research question would be answered truthfully. The data was graphically presented in NVivo by means of word clouds or graphs, facilitating report writing and annotating comments to explicate ideas. Critique that software data analysis divorces the researcher from the data (John & Johnson, 2000), negated, as the iterative analysis, reading, coding, revisiting and purposive interviewing ensured this was not the case. The act of transcribing the interview ensured the researcher spent additional time with each interview set of data, over and above the hour spent interviewing. Coding, on average, takes three hours of poring over the data, identifying high level nodes, and further refining the data into meaningful trends that inform the emerging or nascent trend. This process refutes the negative sentiment that the researcher is divorced from the data. The amount of coding QDAS enabled the researcher to perform, aligns with John and Johnson's (2000) viewpoint. Care was taken not to code excessively, the researcher uncoded all files captured in NVivo, re-coded the same narrowing down the coding. Unlike manually cutting and pasting paper-based transcriptions, sections of text are not omitted, and entire transcripts are saved within NVivo, making it traceable. Content is/was coded correctly without altering or losing the meaning. The researcher took care not to allow bias to interfere with the coding. Memos and notes connected relationships during coding, explaining choices of inclusion or exclusion.

Initially, the interviews were drawn into NVivo as files. This decision was taken to depict two scenarios to answer the research question. The first scenario captured data from interviews, reflecting positive sentiments concurring that facility managers have an influence in urban facilities management. The second scenario contained data indicating the contrary. Initial coding considered paragraphs to identify a framework of nodes from the general to the specific. QDAS' flexibility facilitated ease of decoding, recoding, reshuffling, renaming, and regrouping of nodes, delivering sense from the data that aligned to the aims, objectives, and research question. This said, coding was an exhaustive, reiterative process requiring days per interview. Categories of data surfaced, and revisiting the hierarchy in NVivo, identifying parent-child relationships, ensuring the veracity of the analysis. Considering nodes and codes were systematically and reiteratively to ensure reliability and validity, and to test falsity.

3.10.4 Ethics in Research

As per Saunders' (2019), a researcher should take due care to ensure information is treated carefully, unintentional referencing linking to a participant is excluded, and that transcript samples included in the research do not contain confidential information. The University of Cape Town has a strict ethics code. The Faculty of Engineering and the Built Environment (EBE) stipulate the terms and conditions, of which clearance is required before interviews may proceed (see Appendix E). Only once clearance was achieved were the participants approached.

The researcher ensured confidentiality by masking identities or relationships to a particular organisation or entity. Participant confidentiality was assured by allocating a code commencing with Participant, followed by the number sequence of the interview. Participants' names were not mentioned in any part of the research dissertation. Information that could be linked to a participant, company or other party meticulously was masked to maintain confidentiality as per the ethics (Appendix E) requirement.

On approaching potential participants, the *aide- memoire* (Appendix A) containing open-ended questions was emailed to the participants along with a consent form (Appendix F) for perusal and approval before the interview date was set. At the commencement of online interviews, a brief outline of the study was reiterated by the researcher, and permission was again obtained to record the interviews by means of a recording device. Once the researcher transcribed recording(s), the transcript was returned to the participant for content approval. Following this, the transcriptions were captured within NVivo software for coding and analysing. Any information that could link back to a participant or organisation was masked by ontological amendment of the data to ensure confidentiality. Each participant assigned a unique identifier, the information not discussed with anyone but the researcher's supervisor. Information was stored online in compliance with the strict ethics code referred to earlier and scheduled to be appropriately destroyed on conclusion of the research. Information obtained within the interview process is to be solely deployed for this research. Raw data will only be revealed to supervisory staff and those marking the thesis. No information, such as name, company, area, address, or affiliation, may link an interviewee to said information. The consent form contains the previously mentioned

detail, explaining the participants' rights, such as, the interviewee's right to withdraw at any stage or to refuse to answer a question or questions.

Ethics clearance was obtained in accordance with the University's strict ethics code requirements for postgraduate study. Said ethics urge researchers to contemplate the impact of their research, ensure that the research should not cause harm and that data sources are treated respectfully, whilst acknowledging scholars' contributions. UCT's Engineering and Built Environment faculty's electronic handbook containing the Ethics in Research (EBE EiR) available online at Ethics in Research | Faculty of Engineering & the Built Environment http://www.ebe.uct.ac.za/ebe/research/ethics1_outline the requirements. The downloaded, completed form was submitted with a required covering note explaining the research purpose in such a manner that anyone not proficient in the field may understand the same. The submission outlined potential ethical issues. The first two attempts were rejected by the Ethics Board, and, on further investigation, the researcher realised her error in that interviews cannot guarantee anonymity, but confidentiality can be maintained. The revised application was resubmitted for a third attempt, the ethics committee satisfied that the conditions were met and the qualitative case study research using a GT method by means of unstructured interviews did not pose an ethics risk. The confidentiality form guaranteed the participant that any proprietary information would be safeguarded appropriately, and data gleaned from the interviews would be appropriately masked. The ethics board was reassured that the mitigating efforts required would be in place, as per the approved ethics form, Appendix E.

3.11 CONCLUSION

Chapter three explicated the researchers' emic, interpretivist philosophy. It provided justification for using the inductive approach and explained why GT is considered the ideal strategy in a socially constructed world. The chapter further detailed the choice of multi-method in the form of unstructured interviews, photographs and relevant documentation triangulating the analysis of the data garnered.

Chapter four will expound the data analysis process used to examine the research question via one-on-one interviews. The question to be answered is whether FMs influence UFM or not.

CHAPTER 4
DATA ANALYSIS

4.1 INTRODUCTION

Following on from chapter three, which outlined the research design, chapter four details the data analysis aligned to the researcher's ontology as well as the theoretical and conceptual framework described in chapter two.

Conducting twelve interviews, coding of the data using the computer aided qualitative computer data analysis software (CAQDAS) by selecting groupings of words, lines, paragraphs, or phrases together in a hierarchy of open, axial, and selective coding to establish trends emanating from the interviews. Appendix B attached, showing the codes discussed in chapter three. The method applied meant that deriving selective codes inductively from empirical data, identified firstly by open coding, secondly by axial coding and, finally by selective coding in a funnel approach.

Supporting the analysis further by means of photographs and documents. Policies, acts, regulations, spatial plans, and frameworks all dictate and guide actions in the BE. Published documents are available on the City of Cape Town's website, some of which will be discussed to substantiate data.

4.1.1 OVERVIEW OF THE CAPE METROPOLE AREA (CMA)

For this research, the geospatial focus is limited to the CMA, the area of study, as per Appendix G- Composite Cape Town Municipal Spatial Development Framework (CTMSDF) Map, the researcher is both operational and resides in this area. The area spans approximately 2,200 km^2 of which approximately 670 km^2 is built up. Density within the Metro's inner city is, on average, 90 to 100 built units per hectare, mostly consisting of apartment blocks. Between 1970 and 2000 a rapid increase in shopping malls occurred. Increasingly informal housing became a significant sector of this BE (Wilkinson, 2000). Baxen (2008) indicated the order of six million tons of building materials were used for infrastructure build in 2006. On a macro level the resultant challenges of this expansion are deterioration and aging infrastructure. Although cities worldwide covered a mere 2% of the total landmass in 2011, Nam and Pardo illustrate that city inhabitants consumed 75% of the resources (Nam & Pardo, 2011). This

undoubtedly illustrates the necessity to carefully manage the BE and the resources deployed in the best manner possible.

The Cape Town Central Business District (CBD) recovered strongly during the nineties following the same trend as Century City, Tyger Valley and Claremont. During this time, the Cape Town Partnership commenced additional street cleaning to ensure salubrious precincts. Subsequently, the formation of the CIDs, and appointment of precinct managers who dealt with minor facility issues resulted in significant precinct well-being overall. Reporting complex issues to the Cape Metropole Area (CMA) municipality to resolve as part of their service offering to ratepayers. Educational institutions and leading businesses, upgraded facilities to mixed-use, added retail outlets, and new hotels contributed to making the cities a sought-after tourist destination, collectively ensuring continuity and the upkeep of CMA property values (Turok et al., 2021).

The population as per StatsSA in the 2011 census for the Western Cape was 5,8m people. A 2016 report compiled by the City of Cape Town indicated the 1996 census in the Western Cape population was at 3,96 million inhabitants, growing to 4.5 million in 2001, reaching 5,8 million people by 2011. The community survey comprising the Western Cape residents suggested a population of 6.3 million people in 2016, whilst Cape Town is estimated to represent 64 % of the stated figure. The projection for Cape Town in this 2016 report shows that the population will grow to 5,845 million by 2035. The Western Cape Government, in a separate paper published in 2016, projected the estimated population in 2017 to have grown to 4,014 million predicting growth by 2023 to be around 4,232 million. It is evident from the 2011 census that the population growth has already exceeded expectations. Unless COVID-19 causes a major disruption, the bulging population will have a tremendous impact on infrastructure demand – especially housing.

A discussion regarding the sphere of government now ensues to outline the relevance in the BE.

Government – Local, Provincial and National

The South African government has three tiers namely: - national, provincial, and local. The City of Cape Town Metropole is the local tier of government as a municipal entity.

Local government brings administration to the people, providing a sense of participation in the political processes. Local governments should also be delivering goods and services according to Sikhakane and Reddy (2011) and Van der Waldt (2014), whilst Meyer (2014) ascribes a regulatory role to local governments in determining geographic, social, and economic growth. Charlesworth (2005), referring to Perlman (2005, p175), bemoans the 20-year lag in the implementation of useful suggestions). This sentiment is embodied in Lloyd and Clark's (2002) article describing the decline of bureaucratic instances in private and public spheres as consumers demand improved turnaround times. A study in Texas revealed that City Managers' view quality community life as income generating amenities (Vanderleeuw & Sides, 2016). Consequently, a retail site is considered a higher priority than an educational facility.

In 2013, South African developers restored run-down buildings, property owners took on street cleaning, introduced security, and landscaped precincts. Municipalities were forced to manage problem buildings, restoring the urban fabric.

Spatial transformation intends urban densification, dictating that urban spaces, as discussed within chapter 1 and chapter 2, in time will be inhabited by 70 percent of the population, elevating the urgency for FMs to enhance their precincts, efficient use of resources and collaboration.

The section that follows describes the analysis of the gathered data, to make sense of the data.

4.2 CODING

Having discussed coding relating to the chosen school of coding, inter alia Charmaz Constructivist Grounded Theory Method (GTM) as in chapter three, the following outlines the actual process during the research, determining firstly open, then axial and finally selective coding, this having been performed iteratively.

4.2.1 Open Coding

Led by the research questions, the researcher commenced with open coding, rapidly reading the PDF transcriptions saved into the CAQDAS/NVivo. Coding in NVivo, or purposefully selecting words, groupings of words or paragraphs identified as open

nodes or codes from the twelve interviews. Once open coding was performed on some of the interviews, the researcher reviewed said open coding, renaming the codenames, and descriptions to make them more meaningful. Continuing in an iterative fashion, further open coding, reviewing, renaming, and tidying up was conducted until all interviews were coded and no added information resulted, or until saturation achieved. Open coding was performed quickly to reduce conscious bias. The code structure attached in Appendix B, indicate 115 open codes identified.

NVivo made memo'ing, annotations and notes from data, easy as well as the retrieval thereof, thus enabling a good data management practice. Source data could be traced back and enabled graphical presentation of the data. Thus, moving nodes, linking data, and exporting spreadsheets were all readily achievable.

4.2.2 Axial Coding

Axial coding depicts connections and relationships between codes. Iteratively reviewing open codes ensured the central phenomenon could be identified, and consequences highlighted. Eleven axial codes emerged, either by correlation or interrelations of open codes. As discussed, the process was facilitated by means of memo'ing and linking relations using NVivo.

4.2.3 Selective Coding

Finally, following a discussion of the selective codes that emerged from the data, selective codes emanating from the causal interrelationships as main codes central to the research. From the open and axial codes, the researcher identified five selective codes.

Finally, following a discussion of the selective codes that emerged from the data, selective codes emanating from causal interrelationships as main codes to the research were identified*.*

Referencing interviews to write up the report, the following sections describe selective and axial codes, the opinions and views of the professionals interviewed form part of the data analysis.

Subsequently, from coding the body of data, the researcher performed a within-case analysis to descriptively display the data for the purpose of answering the research questions. The resultant five selective codes and relevant axial codes elaborated upon

the data surfacing from the interviews. Verbatim recounts, as well as summaries of interviews, expounded to report on the information gleaned.

Each of the five selective codes are discussed below.

4.3 CODE 1: URBAN FACILITY MANAGEMENT

Selective code 1: - Emerging from the data, code 1 depicts challenges and opportunities regarding urban facilities management. Participants, having been asked questions pertaining to facilities management, and the urban precincts of the Cape Metropole Area they operate in, highlighted concerns regarding good precinct management and urban facilities management budgets. Participant fourteen highlights the plight of public places being built and thereafter neglected by management. Developers, being interested in profit, employ architects. However, after completion of the said development, management of the facility is not the developers focus:

Participant 14: "*Facilities Management should work beyond their boundaries."*

Participant 14's statement summarises the sentiment of this code. Facilities managers cannot only focus on their own micro area of responsibility but must ensure the macro environment is maintained in a salubrious state. Albeit that the installations inbetween buildings were not intended to be maintained by the facility manager, their focus needs to be more than just their own portfolio. The selective code emanated from discussions bringing forward matters relating to budgets and whether the facility managers' budgets were being applied to more than their micro portfolio. Which is discussed in 4.3.1 and appeared to be the case. To this end levies, return-on-investment, and incentivising companies for urban improvement, ringfencing budgeting, the option of grant funding in line with sustainable development goals (SDGs) and crowdfunding to maintain what lives between the buildings, often public installations such as clocks and fountains were mentioned. Urbanisation, both predicted and experienced, as the youth move into CBD areas for opportunities, and to have a live-work-play lifestyle. It was evident that the trivial things matter and that one could dispel the broken window syndrome by applying facility management KPI's such as cleaning, maintenance, beautification and managing scarce resources which often taps into facilities managements' budgets as their clients demand safe salubrious spaces. The succinct understanding that facility managers are already acting as urban facility managers came across undeniably, as they tackle precinct management consciously or

unconsciously. Factors influencing their own buildings are both of a positive and negative nature, such as informal trading, 24- hour economies which are demanding more of their own resources, placemaking in the traditional sense of the word, right-sizing of organisations impacting own buildings and the greater precinct. Gentrification was also mentioned, which has both a positive and negative impact on precincts and the inhabitants. Integrated facilities management which leans toward total precinct management or for the purposes of this study urban facility management. Furthermore, sustainability issues such as green principles aiming to reduce on usage and waste minimisation have an impact on the greater built environment. Desirable precincts being those that are well maintained and offer safe, clean spaces.

4.3.1 Urban Facilities Management Budgets

An indication of budgets being deployed to ensure precincts surrounding the micro level of the singular building remain salubrious came to the fore. To this end, some of the participants' thoughts will now be presented to illustrate this. Although not always direct expenditure, it may have been in the form of a special levy, special rated areas maintained by city improvement district bodies, or another division other than the pure facilities management stream. What remained evident is that where this was not the case urban facilities management suffered.

Participant 1 ventured that facility managers do not play a role within the urban domain but contradicted the statement on indicating facility management budgets are expended in the greater precinct. However, the participant states space beyond the building resides with service level agreement (SLA), portfolio, and regional managers.

Participant 3 expressed contentment that via the local CID, the company allocated budget for the greater urban domain, spending a considerable amount to ensure it is crime and grime free.

Participant 4 stated that their company invested in a forum to ensure the tenant is comfortable, decreasing costs of providing a viable precinct. Facilities management ensures safe, grime-free areas. Tenants pay a levy for precinct management, and clean, safe areas ensure a higher property value. Participant 4 stated that funding for this was sourced as rental from tenants. The precinct manager performs a facilities management function, such as waste removal, cleaning, and security that in turn

invites tenants. Thus "*occupiers of space* ", pay for precinct management via their rental or levies.

On interviewing participant 6, it became evident that facility management staff and budgets were deployed outside their portfolios, although the participant held that this was not so. Building security fell within facility management's scope in the interviewee's company, arguably not only for what lives within the confines of the owned facility. Their company, stated participant 6, did not disburse budget beyond their own facilities, other than for security. In contrast to this, participant 7 regretted that many building owners neglect to maintain buildings and precincts, using profits elsewhere, and not ploughing anything back into either the building or the urban domain. Participant 7 further indicated that as a collective partnership, their organisation was deploying crowdfunding to maintain an asset that the city had failed to maintain.

Participant 8, on the contrary, lamented that budget cuts meant that maintenance took a backseat, causing companies to abandon a precinct due to crime and grime. Further explaining that as a long-standing senior municipal official, the experience was that traders request a particular type of trading kiosk, but when realising they must pay for same, refused to move in:

> **Participant 8:** "*this has been something we have been dealing with for many, many years. Since I started at council this has been a big issue in the public realm, 'because there are informal traders everywhere."*

Participant 7 indicated that many building owners do not maintain their buildings nor the precincts but use the profits, failing to plough anything back into the building or the urban domain. Whilst participant 9 said the company had the operating capital and the will to invest in the urban domain, to ensure it is safe, maintained, and manicured, having learnt many lessons. This company, in a position of "*privilege,"* is willing to share the learnings with those who want to learn.

The various elements of urban facility management budgets having been discussed above, such as where the funding originates from and the willingness of facility managers' and their organisations to expend budget in the greater precinct now brings us to a discussion of the next axial code, good precinct management.

4.3.2 Good Precinct Management

An article in the insert to the November 2019 Business Day around Local Government, emphasises the need to enhance resilience, indicating cities must improve precincts for the masses, thereby encouraging economic development opportunities, yet stating that historically precincts were exclusionary. Several participants' responses follow herein, indicating that facility managers were keen to ensure good precinct management, and what they deem good precinct management and the benefits thereof.

Debating how precincts are being managed, the response from participant 7 was:

> **Participant 7:** "*whoever is in the area starts managing the precinct, so whoever starts managing their own precincts"*.

Intending the addition of an art gallery, participant 1, a facility manager explained, that it would ensure a holistic experience where you could see different historic developments in the CBD, to make it a pleasant experience for all, and thereby improving the precinct. Also rendering it safer to traverse in and after hours, whilst encouraging an interest in the built form.

Participant 1, a young facility manager, indicated that the thought of a city that inculcates work-live-play, and reduced travel hours is an exciting prospect, having themselves spoken to other people in their 20s and 30s who felt the same.

Participant 3 simply referred to precinct managers whilst stating:

> **Participant 3** "*they are quite stubborn in their desire to find the right answer to holistically creating a precinct spirit*".

The latter statement was confirmed by participant 9, also a facility manager, referring to the precinct managers of the successful development they were based in:

> **Participant 9** "*we live in a managed precinct, we just phone and moan.* However, *I think everybody has always wanted the precinct to be inter-supportive, I don't know what the right word is for that, uhm, but we've always struggled to find a mechanism to make it happen"* and "*potentially turning to a digital solution now, to put people in touch with each other, so to allow people to - to advertise to each other to make/offer services to each other at precinct rates*

and stuff like that. So, we are now - we've had lots of talks about how we are going to get it off the ground and such, but other than, our - our - our voucher lunch voucher system and the water system we haven't really managed to dig our teeth into anything substantial. But we are hoping that this digital platform will open some avenues."

Photograph 1. Cleanliness of precinct

The lack of cleansing in this garden area detracts from an otherwise pleasant precinct. It also highlights the careful consideration facility managers should give to what plants are appropriate for planting in a particular space. The shrubbery encourages rough sleeping, resulting in cardboard and garbage lying around, detracting from the aesthetic of the space.

Participant 4 indicated that facility managers would naturally make good precinct managers, expressing interest in the surrounding precinct and enhancing their building. This is however seen as the responsibility of the leasing unit. Whilst questioning participant 3 in terms of their role to keep the urban domain neat and inviting, the affirmative response was that it was part of their role as facility managers. Items they are unable to resolve are brought to the attention of the municipality via a

public forum. Participant 3 categorically stated that facility managements' role was to ensure that risk and contingency planning for the precinct is in place, vesting with the soft service realm of facility management in their organisation. Furthermore, it is the responsibility of newly appointed facility managers to ensure precincts are working, as one of their Key Performance Areas (KPAs). Additionally, facility managers host art exhibitions in their facilities which are frequented by the public and adds value as an urban public space.

Similarly, participant 1's facilities management team was keen to introduce a gallery that would attract members of the public moving in the spaces in between the built form.

Participant 8, a senior manager, and urban landscape architect with extensive experience in urban renewal programs, whose focus is on creating worthy public areas. For the participant, security and maintenance presented a challenge in unmanaged spaces. It was encouraging to learn that Participant 3's companies were pooling resources to ensure precincts were managed, in contrast with the views expressed by participant 8. The fact that places that are not maintained lead to crime and grime, particularly in public spaces, was voiced emphatically by participant 8. This viewpoint aligned with participant 11's view that the role of FM is critical, from design through to oversight.

Importantly, as participant 14 highlighted, the opposite bears true when neglected spaces become unviable, causing property values to drop. Participant 14 acknowledges the value of facilities management collective efforts that ensure water security and energy saving but contends that when facility managers neglect facilities, an area is devalued and less inviting. This view also came across in the interview with participant 7, who argued for the need to collaborate to ensure good urban placemaking. Participant 8 said that while many building owners would like to donate to, or themselves maintain the public space, the Municipal Finance Management Act (MFMA) precludes this practice.

Referring to the United Cities and Local Governments (UCLGs) world summit and 6th congress, Weidemann (2019) highlights the pressure on local governments to build resilient cities, in a recent insert in the local newspaper Business Day. Quoting Parks Tau who contends that innovative solutions need to be found for communities

Weidemann (2019) states that resilient cities should assess, plan, prepare and respond to natural or other disasters, and be able to manage migration, unemployment, and housing crises. To this end, participant 3 agreed that soft services facility managers are typically accountable for risk mitigation in terms of business contingency planning and furthermore enable accessibility for differently abled staff and visitors to ensure inclusivity. They are also typically portfolio managers, where economies of scale made an impact in terms of combining resources.

Rigid boundaries cause people to neglect spaces in between buildings. This issue was raised by participant 14, highlighting the importance of collaboration among BE professionals, private organisations, and local government to ensure there are eyes on a precinct. This concurs with participant 8's statement that a person is required on the ground to ensure facilities are functional. The need for life in public spaces was expressed in participant 14's view that amenities such as restaurants or coffee bars are necessary on pavements, urging that:

> **Participant 14:** "the *fundamentals, and, for me, it is safety, it's cleanliness – urban management. And I would put building management and the public spaces that connect the buildings right up there as a fundamental. I have never seen an urban space turned around if the building managers are not part of the solution."*

It must be noted that Participant 14 used the terms building managers and facility managers interchangeably in the same context.

The above participants' views echo the media which state the necessity for cities to improve precincts. Whoever is in the urban space as a facility manager was deemed to manage the precinct as well. To improve precincts, beautification such as art installations, encouraging work-live-play, reducing travel time, and ensuring precinct living that is managed, inclusive and circular of nature. An essential element that was mentioned is risk mitigation and business recovery during shock events. It was encouraging to note that facility managers were keen to ensure that their efforts are applied to the benefit of the greater community. Also, that the installation of information networks ensured that during shock events organisations can contact each other and the organisation remain viable. Public forums to discuss matters pertaining to the urban precinct were mentioned

as crucial to offer a voice to all stakeholders. From the basics such as considering planting to major contingency planning, good precinct management requires all the skills that already are within facility managers' KPIs.

A negative being where strict boundaries are maintained and facility managers are not permitted to step into the breach. Which brings us to the second code, identified as urban decline, and brought about where good precinct management does not exist.

4.4 CODE 2: URBAN DECLINE

Several participants interviewed highlighted both good and bad sentiments regarding the urban fabric and the decline of precincts in the Cape Metropole Area (CMA). Neglected spaces encouraged crime and grime, which were brought about by a number of factors such as absent landlords, the latter causing problem buildings that are beset by illegal occupants, the lack of political will to act regarding problem buildings. The cycle of general urban decay is brought about by poor urban planning, the failure of rail which causes taxi ranks that are inherently deemed problematic, but also the absence of general facilities maintenance. The latter either by choice, or lack of resources or legislation and company policy. Unkempt vendor kiosks exacerbating urban woes. Security mentioned as a main detractor. Whilst the benefit of having central improvement companies came through quite strongly.it raised concerns about the level of municipal services (axial code 4.4.2). Sustainability bringing all stakeholders to account, with the public service lacking resources, yet having to lead resilience. The negative and positives highlighted in the sections upcoming. The relevant interview discussions follow now as axial codes.

4.4.1 Urban Degradation

Urban degradation is a negative following from neglected spaces. The cause of urban degradation manyfold, but lack of maintenance, increase in crime and negative behaviours due to homelessness, and untidy informal trading coined as some of the contributing factors. The effect of crime on the precinct was described as follows:

> **Participant 4** "*it affects my service delivery because umm if I don't get security guards to site, my client doesn't care, doesn't care that there is a strike or that there is a taxi rank isn't policed properly and there are*

gunshots and gunfights every day – doesn't care…he just wants security guards on site".

Participant 7 relayed the fact that a major financial company was considering moving out of Cape Town due to urban degradation. Importantly, this would have meant that the City of Cape Town would lose the revenue from the property owners, which may have set off a chain reaction, causing others to follow the lead. The uncontrolled taxi industry was named as one of the leading causes of concern. Furthermore, it was stated that remote owners are responsible for problem buildings which detract from a precinct:

> **Participant 7:** "*who live remotely and aren't close, and they are getting paid cash by their tenants, and they are not looking after the buildings. The Health & Safety issues, the broken window…, the paint peeling, the edges and the kerbs, and homelessness people - so they get their cash, they get their cash and nothing else being put back in it. So, we have a lot of it"* and "*somehow they seem to get around the bylaw and law enforcement"* and *"I can name twenty buildings where they are breaching bylaws, yet there doesn't seem to be any enforcement"* as well as *"there is not an area specific Problem Building Council, so we have utilised the broader Cape Town one - and they are quite a small team to the best of my knowledge. So, we have engaged with them and the one building has turned around. Um to a point where we got evictions and illegal, but even that has become an issue."*

Participant 7 also relayed concerns that vacant apartments were occupied by squatters who were thereby holding development ransom.

Referring to informal trading kiosks participant 8 indicated that the *City* attempted a general tidy up. The vendors were not interested in having to pay more, resulting in a precinct littered with unkempt vendor kiosks. Furthermore, it was claimed that security was a problem, which resulted in residents feeling unsafe, and the rise of so-called problem buildings, causing vacant buildings to be illegally occupied, aligning with participant 7's views.

An experienced valuer, participant 12, referred to problem buildings that do not have health and safety officers, among other factors, resulting from buildings where FM were not present. Simply stated:

Participant P12: *"it is a whole combination of events that leads to the gradual decay*" and "*in my opinion, the CBD is on the point of no return."* and "*the destruction in value without proper controls and – I don't want to use the term FM all the time, but that is what it boils down to – you needed a grouping of people working together "and* "*are functionally obsolete, they are expensive to run, the cost of power, waste management is a big problem"* and *"are they insurable? I pose that question. They probably don't comply in many respects".*

Similarly:

Participant 8: "*If somebody fixes a pothole, the councillors don't really score points for that, or a sewer pipe or whatever, but if they can hand over houses that is a big event you know. That is my personal opinion, and come to think that it is for me a real shame that these guys can barely do their work, and often that is what the public sees, they see the bins aren't cleaned in public spaces specifically - by Solid Waste, there are dead trees or benches that are broken – and that reflects very badly on council – so yah, if we can get that right, but that is not always in our hands …* "*the biggest problem was the maintenance."*

Echoing this sentiment:

Participant 14: *"a lot of buildings are owned by people who are not even in this country, and they don't care, as long as they are getting their money, in terms of helping the wider society or not – they are not even here. Someone is sitting in Toronto, or Sydney or London owning 10 buildings in town, and doesn't want to sell them and doesn't really want to invest in them".*

Agreeing with this stance, indicating that with much effort problem buildings can be turned around, participant 7 says:

Participant 7: *"The H&S issues, the broken window…, the paint peeling, the edges and the kerbs, and homelessness people - so, they get their cash, they get their cash and nothing else being put back in it. So, we have a lot of it"* and "*somehow, they seem to get around the bylaw and law enforcement. So, you've got – I can name twenty buildings where they*

are breaching bylaws, yet there doesn't seem to be any enforcement" and that "*there is not an area specific Problem Building Council."*

Slating people who are anti CIDs/precinct management said:

> **Participant 13**: "*imagine if the CID wasn't there – 50 tonnes of litter would still be lying on the street*" [and parking that] "*has been completely taken over by illegal shelters. You cannot park there - there are about 200 / 300 people living there and they have allocated parking bays to themselves, and I said guys and there are no facilities managers or property managers managing, looking after this.*" Going further to describe the change that has been affected since managing several parking areas, "*before we started managing them, they were crime, prostitution, cars stolen*," … "*before we started managing these parking areas a vehicle was stolen every day on either one of them. Since we started managing them, and this is for the last 5 years.*"

Negative behaviours, either from uncaring landowners or the homeless, lead to urban degradation, stated participant 13. Resolving the latter lies in the basics, such as cleaning and maintenance. This is achieved by employing the homeless, upskilling them and creating jobs within the FM realm, such as cleaning, security, and maintenance. Candidate 13 stated that precincts need to be kept salubrious, parking areas maintained and devoid of insalubrious activities "*it goes back to facilities management I believe*".

4.4.2 Municipal Services

The current Mayor of Cape Town, Geordin Hill-Lewis, is quoted within the state of the Environment 2022 report as saying:

> *"sustainability requires a whole of society approach, with participation from government, the private sector, residents, civil society and academia."*

Similarly, Weidemann (2019) deems local governments at the forefront of resilience indicating that municipalities lack the resources and thus, collaboration among key stakeholders is imperative. Weidemann (2019) also expresses the need to effectively deal with waste. These statements concur with views expressed by participants 11, 13 and 8 regarding the collaboration that is required to ensure viable urban precincts.

The same document discusses sustainable energy among others, listing priorities such as energy efficiency, net zero carbon buildings aligned to C40 Cities, and the Cape Town Energy Water Waste Forum (EWWF) partnership aimed at commercial building operations as large consumers. All the mentioned prerogatives reside within facility managers' daily KPA's. Policies intended to achieve environmental sustainability are discussed within the said environmental report and embodied in the 2022 - 2027 IDP, which prioritises objectives related to resilience in terms of water and energy, inclusive economic and growth strategy (2019), Municipal Spatial Development Framework (2018) (MSDF) , the Municipal Disaster Risk Management Plan (2015), the Transit-Oriented Development (TOD) Strategic Framework (2016) and, in particular, the Sustainable Development Goals (SDGs), of which goal 11 is to render cities inclusive, safe, resilient and sustainable, and goal 13 which is climate action. The fact that 1.1 million tonnes of waste go to landfill, urges waste management of both hazardous and other waste as a key initiative towards sustainability. Participant 3, a FM, indicated that the company is engaged in extensive waste minimisation initiatives. The report also mentions the SDGs of which particularly 11 and 13 tie into the FM realm, being Sustainable Cities and Communities & Climate Change, respectively. Participant 3 indicated that as their company is part of a precinct forum of which the CID is part of the CID would typically assist with issues such as lawlessness, maintenance, and cleaning, and if they were unable as the CID to resolve the issue, the CID would engage the municipality to achieve service delivery:

> **Participant 7:** *"we could do so much more if we could clear some of the bureaucracy and political interference and get some stuff done. My biggest fear is that the private sector get tired of waiting for the public sector."*

This very much aligns with participant 13's statement:

> **Participant 13:** "*I also clean up. The days of the City weeding the sidewalk is over, and I tell everybody if you want it clean, you have to do it yourself, the street communities, ratepayers associations and the CIDs. Simple as that"*

However, participant 13 referred to a high-ranking City official as "*most amazing*", and *"understands urban management*". His sentiment was that the latter was by exception.

Madanipour (1999) indicates that public spaces are managed by investors once authorities are unable or unwilling to fund development and maintenance of communal spaces which require management. Participant 7 also indicated that they engaged the municipality to suggest that their organisation take over the management of some public spaces.

Participant 8 indicated the role of the municipality was to have persons on the ground to ensure good urban management, and eventually, this started happening:

> **Participant 8:** "*I think the precinct managers are looking more at public spaces. I don't know if parks are included in that – so in a way there are almost three mechanisms at the moment in bits and pieces and not coordinated*."

Participant 13 echoes this sentiment, referring to the CMA municipality, red-tape, and processes:

> **Participant 13:** "*the City don't have people on the ground"* and "*give the money out and get someone to manage it who are not bound to all of that*".

Similarly:

> **Participant 14**: "*The City Council doesn't actually, they kind of manage some spaces - they will manage your park, or they will manage, they don't even manage rivers. So the City doesn't have a very good track record of highly skilled teams of people who manage public spaces, public open spaces, and so, they become targets for illegal dumping, they become target for antisocial activities, they become targets for crime and grime you know, I mean it just - If you don't manage a place and it is not cared for - well people will treat it accordingly*".

> **Participant 8** *"nobody can organise the events, nobody can coordinate and make sure that the facilities are functional, and they pay their rent - you need somebody on the ground."*

Participant 10 indicates that there is neither adequate communication nor a public forum where issues can be raised, and that the municipality is not great at enquiring what the public want for a precinct.

Regarding public facilities that demand attention to be functional and aesthetically pleasing, the following:

> **Participant 14:** "*common or garden*" facilities "*is not a lot of support for that at the moment."*

Participant 13 lamented the tardiness of the City to resolve notifications, exclaiming that council should allow other organisations such as theirs, an improvement district to manage public areas. Saying that the City:

> **Participant 13** "*must give the budget and then we will clean it".*

Participant 14 referred to several public squares as defined places, which the City did not have resources for:

> **Participant 14** "*the City doesn't have a very good track record of highly skilled teams of people who manage public spaces" "become targets for illegal dumping"," antisocial activities", "crime and grime".*
>
> **Participant 14:** Further states "*we tried to build partnerships around managing public space: - who is managing public space?"* "*classic squares that you should be treating as assets" "They were not taken seriously. They had small budgets if they had budgets at all. They had small teams managing them."*

Participant 7 indicated that the City were hamstrung by red tape:

> **Participant 7** "*our biggest frustration actually." "could do so much more if we could clear some of the bureaucracy and political interference" "My biggest fear is that the private sector get tired of waiting for the public sector."*

On the other hand, participant 6 disagreed:

> **Participant 6**, "*the City has been very good. Whenever there is a broken manhole or a pavement that has been chopped up with these fibre guys" "they have actually been very good to fix all of that and no issues with that*."

Participant 8 discusses subdivision of land parcels, and specific conditions that have been stipulated regarding development, indicating the opportunity to ensure

zoning is appropriate and that large developments have a socially responsible levy to contribute to urban facility management:

> **Participant 8** "*So we must put mechanisms in place for private buildings to upgrade" "if there is a big development. Let's say there is a new hotel that gets built and then they repave the sidewalks and things in the area, and if we give them extra height approvals and so. And they can do a little bit more in exchange."* "*Where the developers had to make a contribution to council for more public space upgrade and for public art installation looked at ways at where public art and things can be upgraded."*

Similarly, regarding squares and public places such as parks, participant 8 indicated the need for a manager who ensures everything is working and in good condition, arranges events, ensure rentals are paid:

> **Participant 8** "*to make sure that things are running smoothly – for public open spaces but also for parks"* "*I think the precinct managers are looking more at public spaces".*

4.4.3 Facilities Management Restricted

That facilities managers were restricted to expend budget or deploy staff to the greater precinct did not seem to be valid, with only one of the twelve participants stating that the facility managers were reprimanded if they did so. Questioning whether facilities managers would venture outside of their boundaries to maintain precincts, only one participant indicated negative repercussions if they did:

> **Participant 10** "*building managers won't, they get rapped on the knuckles if they do*.

This is encouraging, as it indicates that most participants felt facility managers had a role to play.

The above discussion regarding urban decline and the relevant axial codes: - urban degradation, municipal services and the restriction of facilities management were outlined in section 4.4, the next code land value capture is now discussed.

4.5 CODE 3: LAND VALUE CAPTURE (LVC)

4.5.1 Land Value Capture (LVC)

Land value capture is a discipline that requires extensive discussion and not the intention of this research. In brief, Walters (2013) explains that land value capture requires four actions, first, either the betterment of a precinct, population growth and resultant increase in demand for said property, or service betterments which bring about land improvement, secondly a valuation increase; thirdly levying of a related tax and lastly collections of said taxes. To this end a brief discussion of land value capture (LVC), CBD values and beneficial asset management which emanated from the discussion follow. The impact of one building's value affecting the greater precinct, and the precinct affecting the respective buildings values and interplay the one affecting the other. This true not only for the economic or financial indicators, but also for the intangible or social benefits or beneficial assets. The elements that affect values are simple yet complex and lightly discussed herewith, as it is not within the scope of the dissertation.

The financial returns to the municipality in terms of LVC, (meaning the increase in property values from good management of the urban precinct) came across in several discussions, particularly from the respected and experienced valuer, and although not an aim of this study, highlights the importance of managing precincts.

Participant 7 confirmed budget expenditure in the urban domain, and where this was not the case, financial returns were negatively impacted due to the lack of maintenance, devaluing properties, and subsequently resulting in the '*broken window syndrome*'. Furthermore, participant 7 indicated that their activation of public spaces increased the value of the public space owned by the City, knocking onto the adjacent facility owner. This resulted in a property value rise, and increased rates payable to the City. Similarly, participant 11 addresses the value buildings provide:

> **Participant 11** "*assess the benefits of the facility against the budget, so that you don't build these glorious white elephants" a LVC study, so just to understand that if we put BRT down a certain road what the impact would be on the property values adjacent. The City can actually get money from its investment via either rates or tariffs".*

Confirming this, participant 11 indicated maintained urban precincts result in an increase in property values. Whilst participant 12, referring to popular vibey areas:

> **Participant 12**: "*trendy it's doing well. Values have been maintained."*

Whilst participant 14 refers to the private sector, where a financial return is expected, and other benefits need to be measurable.:

> **Participant 14:** "*the indirect return on the value of a property,*" and "*job creation is one thing, property values is another thing, the broken glass window syndrome is another thing, the sticky factor or how long people stay in an area is another."*

As per the above quotation, participant 14, discussing LVC, indicates that within the private sector the return on investment (ROI) is the value of the property, remarking that LVC is important, but that the intangibles are equally noteworthy. Whilst participant 8 discussing elements that affect open spaces, referred to the intangibles:

> **Participant 8**: *"the value of urban design*" and "*implementing projects that makes a difference, through the dignified public spaces,"* "*quality public spaces."*

4.5.2 CBD Value Retention

The value of a singular building affects the greater central business district's values. Where values are retained, precincts are not abandoned and in a circular fashion where a building is properly maintained and managed, it does not become a problem building, and the precinct is more inviting. Inviting precincts ensure value retention, similarly where a precinct denigrates due to poorly managed informal trading, rough-sleeping or lack of cleaning, security or maintenance, the singular building values drop.

Participant 12 spoke about decay in certain parts of the CBD, and where this was not the case:

> **Participant 12:** "*Values have been maintained."*

Similarly participant 8 stated that informal trading caused degradation.

4.5.3 Beneficial Asset Management

As indicated in some of the literature referred to in chapter two, the intangible of social benefits also came through strongly in some of the participants' interviews. Debating LVC, the intangibles and what is required to maintain values pursued, participant 11 alluded to the social, intangible benefits:

> **Participant 11:** "*in the case of our environmental centres, where the benefit is not necessarily a monetary one, its more education of children, and social rehabilitation, and behavioural change, it is more those things.*"

As mentioned in the introductory section of code 3 regarding land value capture, the factors affecting values, intrinsic and otherwise are complex and not the intention of this paper. It is however worth noting that the broken window syndrome can be managed by implementing the basics, such as cleaning and proactive maintenance which lives in the facility managers' ambit.

4.6 CODE 4: FACILITY MANAGERS

Discussing individuals' career paths, their history, present and future lived realities, pertaining facility management, whether it was their domain or not, facility managers were enjoying greater recognition than previously. Their expertise and willingness to improve precincts, and the general wellbeing of the populus by being environmentally aware, socially engaged and in general ensuring tenants enjoy a safe, inclusive environment through the facilities they manage, often above the call of their duty. The pandemic displayed a willingness to ensure not only their own staff, but other stakeholders are cared for and considered in a sustainable manner. Participant 1 stated the fact that facility management is enjoying a lot more attention as a profession. To this end, an axial code emerged from the interviews, as sustainable facilities management. The role facility managers fill will now be relayed in this context.

4.6.1 Sustainable Facilities Management

As mentioned above, more than just the daily tasks, facility managers were keen to ensure sustainable, inviting precincts. Facility managers' influence human resource policy and encourage arts. Facility managers interviewed were from a variety of backgrounds, some technical (mechanical, quantity surveyors and civil backgrounds), legal and soft services within facility management. Their willingness to ensure

sustainability for tenants and greater humanity during drought and pandemics came across strongly. Participant 1 mentioned wanting to re-join the Green Building Council South Africa (GBCSA), lamenting that the facility's mechanical older infrastructure brought the Green Star rating it had previously down. Adding however that recent renovations, including soft landscaping, facade cladding and inviting exterior seating, should increase their Green Star rating. The latter refurbishments brought about significant improvement of the greater urban precinct in terms of inviting spaces:

> **Participant 1:** "*the biggest improvements" … "welcomed by all our tenants. Somewhere to sit down, some greening to see – because the City has always been very dull – especially the foreshore" …"picked up the tenancy" …"the demand for office space picked up"… "because of the"* [food court] "*being there, the green area, the seating area - makes your environment much more comfortable for people to look at".*

Stressing the urgency to nurture earth, a facility manager, participant 3, is passionate about green buildings, with a focus on existing buildings, as a Green Building Council South Africa (GBCSA) member the company considered converting vacant space into educational facilities, whilst others were being converted into multi-purpose facilities. Facility managers in their company are set KPA's around energy, waste, and water efficiency. Extensive recycling, the use of eco-friendly products as well as reusing building materials in refurbishments whilst donating discarded furniture to organisations counts towards their social corporate responsibility and waste reduction. Furthermore, their supply chain practices incorporate sustainable procurement in that tenderers need to illustrate supportive practices. The company composts 4.5 tons of garden and food waste per month. Non-potable, blackwater treatment and the installation of water storage vessels further contribute significantly. Participant 3 expressed the opinion that this needed to be driven from the top executive management level. The latter could drive via company policy. Participant 3 asserts that policy should dictate that staff work close to their abode to improve sustainability in terms of emissions, and traffic congestion in transit nodes.

Sustainability awareness similarly surfaced in the discussion with participant 4, a colleague in the same organisation as participant 3, highlights the need for FM to keep a hand on waste, water, electricity, and transport, sustainability would follow.

Educational facilities were expanded as a sustainable investment in urban precincts, and training academies established for upskilling, alluded participant 7.

Efforts by participant 9's organisation regarding water and energy security, and resultantly caring for their staff in the event of water or electricity outages align with extensive business continuity plans (BCPs). Exemplary company initiatives empower surrounding small business opportunities.

According to participant 14, a dynamic esteemed individual, what lives between the buildings was neglected, however, FMs have gone beyond their professional boundaries, endeavouring to make the urban domain safer for employees. Taxi ranks rendering precincts less salubrious, especially in CBDs, but not so in less affluent areas.

Establishing preschools, laundromats, and the like, as described by participant 9, indicated that their company rendered the urban domain more viable.

During Covid-19, the company in which participant 3 is the soft services FM, created opportunities, changing unused office spaces into schools. Referring to the future of work incorporating work-from-home and hot-desking, and using unused spaces in offices:

> **Participant 3** "*hotdesking spots for staff to just come in, work, and leave whenever".*

A facility manager with a sound technical background, participant 9, operates within a progressive property management company. This company had several exciting sustainability projects. As a caring company they assisted staff to work from home during the pandemic. Furthermore, the company ensured service providers' businesses remained viable by supporting them in many ways:

> **Participant 9** *"During Covid, focusing on helping people in their homes, helping our staff* and "*we use seawater to cool the building", "desalinating plant", "we actually built our own desalination plant"* [Furthermore] "*we now provide at cost water to our neighbours in the area".*
>
> **P9** goes on to indicate that they provide water for education facilities in the precinct and assisted in setting up businesses,

Participant 9 *"we do actually have a role outside – working environment that is - that is functional, that works for us, for our staff, and our communities, because it is actually it's good for us it's good for the people around us,"* " *we are quite physically resilient" "as an organisation" "have a disaster recovery site, and a disaster recovery plan, so if any one office or a couple of offices, including Head Offices, were to go down for some reason, a fire, or a bomb scare or a tsunami" " continue being up and running in four hours" "we can make our own power, we can make our own water, we can access our building from multiple directions" "UPS's and generators"*

Debating the crisis of a severe drought or total electrical shutdown, P9 says:

"five-million-person City, for a day, what happens, for a week, what happens? You can have all the water you want – but can people get to the office? Well, they can't" "can everybody work from home? So, we've actually overcome that, at home what do they drink? – How? and I don't know if we can get water to them. But some people's risk is if Eskom go down, the lights go down and the computer goes down…"

It transpired that facility managers were aware and keen to install initiatives that embrace sustainability in terms of scarce resources such as water, energy and general resources by recycling and reducing waste.

4.6.2 Facility Managers Role

Linked to the second objective, this code assisted with identifying whether facility managers busy themselves with more than their own corporate or privately-owned facilities. Often facility managers must manage the status quo not of their doing, whether it is the infrastructure that is problematic or aging, or the behaviours that are less than desirable. It also seemed that although some participants did not deem it their role to manage the urban environment, they were keen to improve the precinct as it brought visitors to their own building, whether it was by enabling universal accessibility or art installations and galleries. Where facility managers managed and enhanced their own building, through maintenance and safety and security or beautification as well as the surrounding, the precinct was more inviting. It again

surfaced that facility managers were enjoying greater recognition. Some facility managers were expected as their KPI's to ensure the wider precinct is kept salubrious and notably that one company was considering a specialised precinct management unit:

> **Participant 4** "*more value placed on FM because there is going to be a bigger competition for tenants."*

Whilst Participant 1 stated that facility managers inherits problems once a project is completed.

It also surfaced, through analysis of the content, that although participant 1 inferred that facility managers do not have a role within the urban domain, this participant supported precinct improvement and would like to see this happen, indicating that as facility manager, involvement in the urban precinct by way of budgets spend for the public domain exists. Participant 1 further explained they were considering enhancing precinct desirability by adding art galleries. Their influence, states participant 3, inform human resource (HR) policies, requesting staff work close to home, activating universal accessibility for differently-abled-persons to improve work opportunities and address employment equity ensuring inclusivity.

Photograph 2 Beautification and well-maintained facilities, precinct management.

Photograph 2 above illustrates an inviting precinct brought about by means of wall art installations, attention-to-detail maintenance, soft-scape gardening combined with adequate security, rendering the facility a safe place one feels inclined to visit. Although the picture does not capture this, safe paid parking also provided. All the mentioned activities rest with FM operations.

Artwork states participant 1, is part of the FM team's intent to attracting the public.

Participant 13 discussed graffiti and stated that depending how it is done, it could add value.

Mentioning the elevated recognition facility managers have been enjoying as professionals, participant 4 confirms facility managers presence in the urban environment. Equally, participant 6's portfolio stretches from the Cape Town CBD to Somerset West, encompassing everything and anything, from maintenance to renewal of leases, as facility managers they are acknowledged and indeed needed by landlords and tenants alike, for their facility management skills. Participant 4's company expects facility management to keep spaces beyond their buildings clean, streets safe by deploying security guards, as well as potholes repaired to retain high net worth clients. Further indicating that facility management may pursue a specialised precinct management unit with the required skill set to maintain a precinct.

On interviewing participant 6, staff and budgets were being deployed outside of their own portfolio, having indicated they are not expanding budget beyond the building portfolio. However, building security falls within their scope, encompasses not only what lives within the confines of the owned facility, albeit succinctly. Participant 7 similarly confirms that budget is spent in the greater urban domain, as where precincts are not maintained, the financial returns are impacted by the decline of property values, following from the broken-window-syndrome. Participant 7 agrees that facility managers should be involved in the management of public spaces. Participant 8 indicated that budget cuts meant maintenance took a backseat, leading to companies not wanting to remain in such areas due to crime and grime.

Photograph 3 Broken window syndrome - Neglect.

Lack of maintenance including painting and repairs, and a lack of security are visually represented in photograph 3 above, where a facility has been vacant for a considerable time. These conditions encourage rough sleeping and undesirable social behaviours, rendering the precinct less pleasant to traverse, aligned to participant 14's concern that built environments are neglected, and the requirement that facility management *"work beyond their boundaries."* Participant 14 indicates where FMs neglect facilities, an area is devalued and less inviting as is seen in photograph 2. Similarly participant 7 mentioned the broken-window-syndrome and lamented the lack of a problem building council.

Participant 9 indicated that much time was spent to maintain the precinct via the FM team. Participant 13 emphasised the assistance of the CIDs manpower, bringing about clean secure precincts, working closely with building owners and tenants, and the good social influence on street people; contending that facility manager should play a role beyond their respective properties, as "*it is all about facility managers*".

Participant 14 lamented that public place management is neglected, and as such:

> **Participant 14** "*FM should work beyond their boundaries".*

Although this axial code intends to illuminate the role facility managers have in influencing urban facilities management, it ties in with the axial code relevant to sustainable FM, one being part of the other as the overarching selective code 'FM,' and in the context of the document substantiate both. An element not selected as an axial code was professional registration. Given that the interviews included a variety of built environment professionals, professional registration varied from RICS, SAFMA, engineering and the likes:

> **Participant 4** "*FM is still very, very new… so I think when a quantity surveyor walks out of this accreditation, with the South African Council of Quantity Surveying professions"," I know exactly what they can do"* and *"I know the limitations. The same with architects," "engineers", "town and regional planner" … "any sort of professional accreditation" "FM is not there yet."*

The interviews clearly highlighted the willingness of facility managers to play a role in the greater precinct in addition to their own managed buildings or portfolios of buildings. Whether enabling universal accessibility, or advising human resource policies, installation of inclusive art galleries, whether they manage small or large portfolios the ambit of the facility manager and their reach of influence significant,

The following code emanated as the need for platforms where matters of precinct concern could be discussed and resolved.

4.7 CODE 5: COLLABORATIVE FORUMS

As alluded to in the literature, sustainable precincts require collaboration. Many of the participants expressed the need for forums, partnerships, and collaboration. Strategic partnerships with public entities, associations and improvement district companies and private and corporate property owners all transpired in the interviews. To this end, the relevant interview discussions follow as the axial code strategic partners.

4.7.1 Strategic Partners

The need for forums to debate matters of precinct management led to discussions regarding strategic alliances including all municipal stakeholders, Forums should include Central Improvement District companies (CID's), corporates and individuals

present in the Cape Metropole Area to bring about viable and sustainable precincts. The importance of strategic partners evident from the interviews as follows: -

The interaction participant 3's company has with the local CID and the municipality, collaboratively enables discussions for precinct management, and problems elevated to the municipality as required.

Referring to Washington in the United States of America:

> **Participant 7** "the *Downtown Association which had a say in precinct development, ensuring good precinct management"*.

Participant 8 indicated lessons learnt over time show maintenance of public spaces is key. Departments that constructively and trustingly collaborate as per the *"precinct management model" learn from each other and* afford better ROI than those attempting this silo fashion.

Debating who should be part of collaborative discussions, the indication was that an integrated, collaborative forum with all built environment stakeholders where trust prevails and the opportunity to share learnings exists:

> **Participant 8:** "*sitting at the table*" should comprise *"a combination of all the departments in council"* "*to get integration between departments…"*
>
> **Participant 9:** simply stated that "*Constructive collaboration"* and *"the ROI in cooperative effort is higher than the ROI with individual efforts" "ventures together to embark on, on a common good"* and "*another thing we are very bad at, is that we've got to accept that sometimes we will do some things that are wrong, and learn from our mistakes"*

Referring to large property and investment companies, the participant said facilities management and collaborative networking events are required to overcome the lack of interaction:

> **Participant 10** "*intermediary network functions, it might be all that's required. Facilities management is in isolated pockets, and they are in every single business in a precinct, but they don't always talk."*

Discussing the municipality and collaboration with the CID's. The latter ensured healthy tourism to public spaces such as markets:

Participant 11 "*the municipality had a partnership with the CID, and they would then provide the security staff as well as the cleaning of the public space."*

Participant 11 expressed the view that one has more control of the environment if you manage public spaces and parking lots. However, violence counteracted this where security was absent leaving the urban domain vilified. Following on to say they see collaboration as an opportunity for improvement, where designers and FMs corroborate to deliver sustainable environments:

Participant 13 "*The excuse of 'it is outside of my property' is outdated*."

Some of these collaborations discussed by participant 13. Photograph 1 earlier, show the impact rough sleeping has on a precinct, and invariably the facility manager of the relevant facility would have to deploy resources to clean the precinct on an ongoing basis, or collaborate with the local CID to assist with relocation.

The interviews unanimously indicated the value CID's have in resolving problems in public spaces, alternatively raising these as a notification with municipalities. The importance of maintaining public spaces deemed key, and that the collaborative discussions offered an opportunity to create trust and share knowledge in a constructive manner. This so that we learn as a collective from the errors made before. Network events would enable interaction so that people debate their common concerns. The collaborations offer fruitful discussions and tourism benefit from these discussions as stakeholders can raise suggestions. Sharing resources such as security costs rather than each company employing their own security bringing about economies of scale.

4.8 DISCUSSION OF THE CODES IN TERMS OF THE LITERATURE

The coding process was described in detail in chapter three, and the analysis discussed in chapter four. The intended aim of this research is to examine the influence facility managers have on urban facilities management. The purpose is to report on the findings of the research and whether the premise that facility managers play an active role by their application of facility management principles aid managing urban spaces and influence urban facilities management or not.

The central focus of the research, aligned to both the aims and objectives of the study. The empirical data gathered, analysed, and exposed trends embodied in the codes. It also shed light on various stakeholder roles in the management of urban spaces and revealed whether facilities management activities contribute to urban facilities management, and lastly, whether operating and capital budgets are allocated to improve precincts.

Substantiating the data garnered from existing literature, photographic and documentary evidence, ensuring a rigorous, thorough analysis of the data, and is further deliberated in the findings in chapter 5.

From the interview discussions, it became evident that code 1 confirmed FM's presence in the Cape Metropole's urban domain, both by expending budgets to this end, as well as their active role in the urban domain. Operating budgets are typically allocated for maintenance, security, or cleaning, contributing to precinct management by means of performing tasks such as maintenance, cleaning, or security. According to Nutt (2000), facility management's objective being to provide infrastructure for business and public financial resources, originally focused on property investments, management of property assets and lastly operating costs. However, the priority has shifted from "*asset"* value to "*use"* value.

Temeljov et al. (2020) citing Lindkvist et al. (2020), deem both urban facility managements' inputs, as well as urban facility management as a profession invaluable to ensuring that facilities enable community living standards. The article goes on to stress the role of urban facility managers as one of managing environments, creating employment opportunities, and ensuring inclusive design for communities. Furthermore, Temeljov et al. (2020) indicate the need to dissect the environment to ensuring design and life cycle planning exists. Lifecycle extension often requiring a capital reinvestment.

Interviews engendered discussions regarding urban decline. Facilities that are not maintained causing urban decline, as code 2 confirmed. Madanipour (1999) refers to Camillo Sitte (1986) who argues a good square should be open yet bounded relationally by buildings, describing cities decorated with fountains, statues and works of art and trading places. This changed during the modernist period. Parking lots resulted in the deterioration of this relational interaction between public squares and

buildings. Code 2 also highlighted the context of urban degradation, the negative impact of a lack of municipal services, and restricted or absent facility management activities. According to Alexander, facilities management potentially could influence the regeneration of cities by improving assets and providing jobs (Alexander & Brown, 2006). As stipulated, cleaning and security, both unskilled labour sectors, typically fall within facility managements resource deployment. Facility management, however, also requires semi-skilled and skilled employees, the latter positioned in tactical and strategic positions, respectively.

Elements of urban facilities management are typically also facility management KPA's, i.e. maintenance, cleaning, safety and security, both for private and public urban centres, collaboration between private, public and volunteer organisations as defined by Hogg et al. (2005; 2004). Objective three is to establish the activities facilities management actively engage in to maintain spaces outside of their cadastral boundaries in terms of maintenance, cleaning, sustainable transport, and security, deploying unskilled labour to achieve improved urban facilities management.

Code 3 emanates from discussions regarding land value capture (LVC) and raised by the valuer, but also other participants interviewed. In summary, property values dropped due to the neglect of a precinct, or problem buildings, and participants highlighted the value of intangible matters such as education, socio-economic and behaviour modification. This aligns with the statement by Peel (2003),, that to achieve optimal value, agencies are to collaborate to share knowledge innovatively, and therein placing humans first.

This assertion provocatively urges the reader to consider what best value pertains to. urban facilities management to meet community needs, enabling accountability in terms of investing, whilst managing infrastructure within the public domain. Cities offer public facilities for shopping, living, working, tourism, and others, but this could also lead to conflict. Municipalities and business improvement district organisations should govern funding, and how central cities are valued, as well as how needs are met, asserts Peel (2003). Offering the consumer value for money and time, proactively managed infrastructure encourages repeat business and reinvestment.

The following surfaced from the data analysis: -

Although budget provisioning is largely allocated to the facility under management, the potential impact on the broader sense in terms of sustainability and urban facility management is debated in the concluding chapter.

From the interviews and the above, it is evident that facility managers are present in the area bounded by the CMA. It is equally evident that collaboration in the urban domain is central to urban facilities management to ensure a better urban domain.

In line with the research premise, the anticipated outcome of the research was that where the objectives are true, facility managers within the research area are already actively managing urban precincts as an integral part of their portfolio.

Budgets and resources applied by facility managers to urban spaces were encouraging inclusive neighbourhoods, and contrastingly, where this is not the case, the urban space and its inhabitants suffer the consequences. Facility managers' professional inputs improved the everyday lives of those who traverse the urban sphere. A considerable proportion of budget provisioning is allocated to the facilities under management, the potential impact of this practice as a collective, from the micro to the broader macro sense in terms of sustainability and UFM is significant.

In line with the research premise, the anticipated outcome of the research met the stated objectives. Facility managers were already actively managing urban precincts as an integral part of their portfolio. Their influence impacts positively where this is so, and negatively where they are not actively engaging in the urban domain. In seeking to answer the research question "*What is the role of facility managers in influencing urban facilities management, i*t was determined as predominantly a role incorporating maintenance, cleaning, security, and safety, gardening, and beautification. Furthermore, a facility manager role encompasses varying levels, (strategic, tactical, and operational) in deploying unskilled labour. As discussed in chapter 1, facility management developed over time, as enabler of the organisation, as well as for public facilities - their combined efficiencies delivering on public needs as maintenance ensures public management (Uzairiah et al., 2013).

Boyle (2016) stipulates that urban facilities management platforms could bridge the inefficiencies experienced by governments through collaborative partnerships with NGO's, the private sector and community entities, therein setting standards to ensure

good urban governance. Unintended emerging factors from the research, being the potential collaboration among skilled facility managers to share their knowledge with the inexperienced sector. This could be achieved by policy, within government, education, and private organisations.

The emerging focus of code 4 was facility management, and particularly sustainable facility management in terms of water, energy, and waste management, as well as social corporate responsibility. Facility management offers more than cleaning, maintenance, and security. Michell (2013) and Nutt et al. (2000) concur that facility management facilitates a convergent function ensuring urban sustainability. Although this was not the intended aim of the study, it surfaced in most interviews.

The progressive maturation of facility management evolved from a coordinated workspace function to an integrated administrative, architectural, engineering, operations and behaviour management function (Atkin, 2015; Kincaid, 1994b), similarly echoed by Boodhun (2016). Temeljov et al. (2020) indicate that cities by means of sustainable collaboration including urban facilities management can reach the SDGs also as they interact closely with the public.

Lilliendahl et al. (2011) proposes facilities management improves urban planning by creating artistic spaces, which aligns with participant 11's suggestion to create interactive art exhibition spaces for the public, and participant 1's wish to create an inviting public gallery. Participant 7 lamented the fact that adequate planning was not done to create spaces that are visionary.

Interviews indicated collaboration - code 5, as a vital element for creating and maintaining viable precincts. Not only should facility managers collaborate across directorates, but also across organisations. Public and private institutions' facility management are a means to ensure viable urban domains. This aligns with McGills' (1998) view regarding urban management in that stakeholders should play a part in urban management, both horizontally and vertically. McGill also holds that it should be managed at operational or "*lowest level of competent government ''* to ensure maintenance of the city's infrastructure (McGill, 1998). Integrating services for the benefit of the community is central to urban FM states Roberts (1998). The private sector can deliver on the challenges, whereas FM should be the intermediate between

private-public organisations, states Roberts (Mc Gill, 1998) referring to the Gulbenkian Foundation.

4.9 DEVELOPMENT OF THE SUBSTANTIVE THEORY

Aligning with the literature review, a perceived gap exists regarding the facility managers' influence on urban facilities management.

Grounded Theory (GT), constructed and anchored firstly in data collected by means of interviews or observation (Bryant & Charmaz, 2019), secondly, GT has one or two core categories thereby widening the theoretical scope, and thirdly GT is not mathematically, but qualitatively performed.

Analysis of the garnered field data illuminate trends which inform the substantive theory. These trends emerged based on the research question, aims and objectives. In terms of the scope, the outcome of GT is a substantive theory, in this instance, relevant for a particular case study, bounded within the Cape Metropole Area (Charmaz & Bryant, 2019). The substantive theory evolved from the empirical inquiry which highlighted causal relationships. Importantly, the scope centred around the investigation to determine what Facility Managements role is in influencing Urban Facility Management, albeit limited by the area of the Cape Metropole Area. Substantive theory according to Glaser and Strauss (1967) equates to a social inquiry constructed empirically (Charmaz & Bryant, 2019), whilst formal theory develops conceptually. Substantive theory differs from formal theory in terms of generality or scope, neither are all-inclusive theories. Substantive theory delivers one or two core categories with a high empirical content. Formal theory having limited instances in the data and abstract categories. Unique relationships and a comparative analysis between diverse types of substantive cases give rise to formal theory, the scope thus having increased from a particular case to multiple cases.

The interviews and selective coding bore witness to the Facility Manager's presence within the urban areas bounded as the Cape Metropole Area, and, furthermore, attest that collaboration is central to good or efficient Urban Facility Management. To build on research by Boodhun (2016), Boyle (2016) and Michell (2013b), in which they indicate the value of Urban Facility Management as a discipline that needs more research. To this end, a discussion in terms of the selective codes now ensues as the foundation for the development of the substantive theory.

CODE 1 URBAN FACILITY MANAGEMENT

Professionally managed precincts require budget and virtuous precinct management. To this end, facility managers expend budgets that contribute to urban facility management. The skillset lies within facility management and may be applied to urban precincts. If transferred to new managers, it may encourage economic development. It transpired that collaboration among built environment professionals and stakeholders is essential. The daily facility management operations such as cleaning, security and beautification can add to good urban facility management, but transferring the expertise through mentoring and ringfencing funding could be key elements as a substantive theory.

CODE 2 URBAN DECLINE

Urban decline impacts all stakeholders negatively, when a precinct becomes unsafe, corporate entities abandon the precinct, which gives rise to problem buildings, vagrancy, crime, and grime. Preventing this situation made possible by good urban facilities management, not left it to the municipal entity. Combatting urban decline requires an integrated approach where all stakeholders actively participate, and facility management free to venture beyond the boundaries of their facilities in their daily duties.

CODE 3: LAND VALUE CAPTURE

Maintaining and improving a precinct could potentially lead to Land Value Capture (LVC) in a circular fashion, which, in turn, brings a revenue stream to municipalities which could be used to improve service delivery and improved precinct management in other neighbourhoods. The opposite bears true, value retention occurs where precincts are maintained. Well maintained precincts generate intangible benefits such as social improvements for the better good of all.

CODE 4: FACILITY MANAGERS

Facility Management has matured and is gaining acceptance with Facility Managers engaging in sustainable practices, not limited to their own facilities, but also encompassing the broader precinct by ensuring security, beautification and cleaning beyond the facility which resulting in a better precinct.

CODE 5: COLLABORATIVE FORUMS

The need for strategic partnering or collaboration by means of forums where all stakeholders can engage to ensure good urban facilities management is clear.

The substantive theory thus affirms that facility managers do influence urban facilities management in the Cape Metropole Area and are geared to be professional urban facility managers.

4.10 FACILITY MANAGERS INFLUENCE IN THE URBAN DOMAIN

Figure 4.1 depicts the status quo regarding facility management's influence in the Cape Metropole Area on the urban domain. The datasets collected in the interviews revealed that facility management is an essential part of the built environment and, as knowledgeable professionals, could influence good precinct management as Urban Facility Managers. Over and above the experience and knowledge Facility Managers have at their disposal they also disburse budgets and manage staff, all of which could contribute sustainable urban precincts. The latter may ensure cities in the Cape Metropole Area are able to provide safe, clean, and inviting environments for the predicted number of city dwellers that will flock to cities seeking opportunities. Figure 4.1 depicts facility management as central to the built environment, the key performance areas that are part of their daily operations such as managing cleaning, deployment if security personnel to ensure safe and secure spaces, beautification by art installations, whilst performing pro-active, and reactive maintenance. These all are daily operations for a large group of facility managers within the Cape Metropole Area, collectively contributing to urban facility management. Furthermore, facility managers respond to disaster management situations, and their collective efforts could provide the tools to overcome shock events. Sustainability, managing waste, ensuring the appropriate usage of water and electricity, whilst installing water and energy efficient equipment and appliances, ensured by making best use of finite natural resources.

Emerging from the research data collected, is the opportunity to engage knowledgeable facility managers as mentors to transfer their skillset to less privileged and novice facility managers. The latter will exponentially ensure better precinct management, not only in affluent areas, but also in poorer communities. LVC, a result of good precinct management, similarly brings about a greater income or revenue stream for the municipality. This in turn could add budget to sub-economic or

disadvantaged communities as part of SDG's, integrated development plans (IDP) and MSDFs. On the contrary, where facility managers are not present, their absence brings about neglect, resulting in the broken window syndrome, abandonment of buildings, consequentially leading to problem buildings causing landlords and large corporates, to withdraw from urban areas. This in turn causes crime and grime impacting the economy negatively bringing about an economic downturn, with the negative spinoff of job losses. Similarly, fewer rates and tariffs are then available to the municipality leading to a vicious circle of despondency, vagrancy, and insalubrious behaviour.

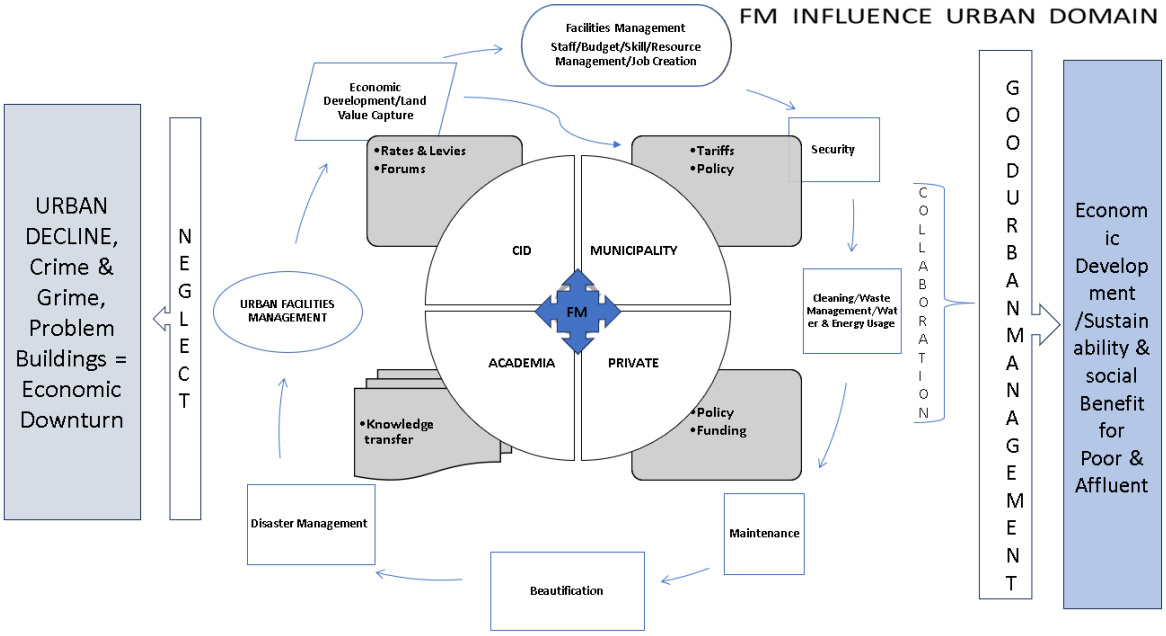

Figure 4.1 Graphical representation of the substantive theory

4.11 CONCLUSION

The research was performed to establish whether the stated aims and objectives were met and whether the research succeeded in answering the research question. Having met the research question, aims and objectives the research indicated that facilities management has a role to play in the urban domain as urban facilities managers. The research has thus proven its worth, offering a solution to the urban facilities dilemma, the potential to transfer skills, the empowerment of a group of novices, or previously disadvantaged facility managers, as well as the need for policy guidance.

Facilities managers' actions, as a collective could be the catalyst that could influence and turn precincts around by collaborating with built environment professionals, as well as CIDs, the community, and the private sector in the role of urban facilities management.

The concluding chapter, which follows, expounds the findings in line with the research question and objectives, summarises the findings and proposes recommendations for policies and probable future research

CHAPTER 5
CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter four provided a thorough analysis of the interviews, selected codes or stated trends and the substantive theory. This chapter discusses the contribution made to the built environment's body of knowledge, guided by the research question, aims and objectives. The aim of this research was to examine the influence facilities managers have within urban facilities management (Ellin, 2006) by means of a case study of the Cape Metropole Area (CMA). The CMA is 2,200 km^2 in extent. Rapid urbanisation, an increase in shopping malls, scarcity of natural resources, burgeoning informal housing, along with the vast quantity of materials required to construct infrastructure in the urban domain, highlight the relevance of good governance in terms of cleaning, security, maintenance, and sustainable resource management to achieve good urban facilities management. Although Boodhun (2016) and, similarly, Boyle (2016) and Michell (2013b) state the value of urban facilities management as a discipline that needs more research, there is a dearth of literature with this focus. This chapter presents the results of this study, summarises its conclusion and recommendations in terms of policy, generalisability and future studies drawn from the outcomes of the research.

5.2 FINDINGS

Traditionally, placemaking was the responsibility of architects, planners, and engineers. There is sparse research that substantiates the facilities managers' influence on urban management, and excluded from urban forums, despite managing Metro's largest asset base. The absence of facilities management in urban literature inductively indicates facility managers not considered urban facilities management influencers. The research question "What is the role of facility managers in influencing urban facilities management?" gave rise to the aim of the research phenomenon and the design of questions set for use in the unstructured interviews. The premise that, as custodians of major built environment infrastructure, facility management professionals play an active role, in their day-to-day management of buildings within a precinct. Thus, by induction, their influence as facility managers is felt within the

precinct or urban spaces. Facilities management professionals' operational (micro) decisions may collectively influence the greater (macro) urban environment and thus influence the novel and lesser-known profession urban facilities management.

Evans' (2000) argues the case for employing influencers or Town Centre Managers (TCM's) to manage the built environment on a macro scale, a convergent function, enabling urban sustainability. Michell (2013) supports this argument According to Alexander & Brown (2006), facilities management potentially influences the regeneration of cities by improving assets and providing jobs. This point of view echoed in most of the interviews, as well as in public media as briefly discussed in chapter 4.

The research, grounded in empirical data, delved into the background of facilities management as a profession, the built environment, its stakeholders, and urban facilities management by looking at the existing literature, the gaps therein and exploring the same via the unstructured interviews.

5.2.1 Research Question

The research question 'What role have facility management professionals in influencing urban facilities management' is the central focus of the research within the context of the case study delineated as the Cape Metropole Area. This question informed the design of the interview questions set in the aide memoire, and kept the unstructured interviews focused, giving participants an opportunity to express their views. The role of facility managers has grown into a profession requiring more than just cleaning, security, parking management, beautification, and maintenance. A profession that now includes disaster management and recovery, whilst ensuring the efficient use of scarce resources which all aids sustainability. Thus, the question regarding the role of facilities management in influencing urban facilities management substantiated in the findings.

5.2.2 Research Objective

The research objectives of this research met as follows:

1. The facility manager's presence in the Cape Metropole Area has been determined. Using the method of interviews, and the selective codes discussed in chapter 4, facility managers are present in the central business districts of

the Cape Metropole Area and confirmed by a variety of professionals partaking in the research. These professionals were not all facility managers, and consciously chosen to mitigate bias, thus included valuers, industry leaders, landscape architects, amongst others. None of the participants denounced the existence of facility managers in the urban domain. Thus, the first objective has met unequivocally.

2. The second objective was to examine the role facility managers play in the management of urban spaces. The role played by facilities managers in the management of urban spaces shown to be an active one.

   To probe this objective, the researcher questioned participants whether facility managers busy themselves with more than their corporately or privately owned facilities, and, if so, in which capacity. This objective met by the interviewees' responses, as discussed in chapter 4. One or two respondents indicated that this was the role of property or strategic management. Whether property management includes facility management, could purely be a factor of the organisational structure within an organisation. This not a stated objective of the research, and thus not discussed in greater depth. The second objective has thus been met in that facility managers are urban stakeholders, Furthermore, most participants agreed that facility managers have a vital role to play as not only maintenance, cleaning and security, but also enablers of sustainability as 'keepers' of scarce commodities such as energy and water, whilst also providing job opportunities at all levels - strategic, tactical, and operational. Providing opportunities to skilled but also unskilled labour.
3. The third objective was to establish which facility management activities benefit urban spaces in terms of management. Facility managers maintain, clean, manage waste, conserve water & energy and deploy security daily, whilst their staff, insourced or outsourced, maintain the greater urban precinct, not only their own facilities or portfolios. Facility managers actively deploy human resources to maintain public space outside their cadastral boundaries, improving the urban space, they are thus acting as urban facility managers or precinct managers and meet objective three.
4. The final objective was to establish whether facility management budgets were being allocated for bettering the greater precinct. Facilities management deploy

human resources in the management of urban spaces for cleaning, security, and parking. Discussions, documents, and photographs bore evidence that facilities management disbursed budgets and resources and encouraged inclusive neighbourhoods. Both operating and capital budgets were being allocated for bettering the greater precinct.

5.2.3 Research Premise

The research premise stated in chapter 1.6 that facility management professionals play an active stakeholder role, managing buildings, grounds, and surrounds, and thereby impact urban spaces. Thus, resultantly influence urban facility management. This transpired as true, including professions other than facility managers interviewed. Participants recognised facility managers' role in terms of urban facilities management, albeit not commonly recognised as such. Conversely, where facilities managers are not taking care of the precinct, the urban space and its inhabitants suffer the consequences. Professional input from facility managers improve the everyday lives of those who traverse the urban sphere. Facility managers may therefore be well equipped to step into the lesser-known role as 'Urban Facility Managers.'

The researcher's analysis of the field data, and the emerging trends in relation to the research question, aims, and objectives informed the substantive theory. It further aligns with the literature review. It is, however, noteworthy that there is a perceived gap in the literature acknowledging the influence facility managers have in the urban domain or urban facility management.

In the main, three findings emerged from the data: Firstly, facility managers' budgets were allocated for improving more than their own buildings but also for the surrounding urban spaces. Secondly, special rating areas provided funding for urban improvements via improvement districts. And thirdly, municipalities could realise land value capture by doing so. A summary of the findings now follows.

5.2.3 Summary of Findings

The generalised findings of this research, grounded in the data and within the limitations set, met the stated research objectives in that:

Facility managers are present within the urban domain, perform a stakeholder role therein, as part of their daily operations by deployment of capital and operating budgets to do so.

The findings support the research premise that facility management professionals play an active role in their daily management of buildings, grounds, and surrounds, impacting urban spaces and resultantly influencing urban facility management. Moreover, a variety of built environment professionals acknowledged the role facility managers have in contributing to precincts that are safe, crime and grime free, insisting facility managers participates in urban management.

The need for good urban facility managers a key component for future sustainability, highlighting the urgency to formalise the industry as an accepted career stream, thereby enabling urban facility management by means of sound policy, regulation, budgeting, and the transfer of knowledge.

Trends emerging indicated that facility managers, custodians of facilities within urban areas, collaboratively ensure sustainable deployment of scarce resources to ensure urban facility management yet were not acknowledged by other stakeholders for their input in integral urban facilities management.

5.3 RECOMMENDATIONS

Considering the extensive literature review, the careful analysis of the data gathered, and the research findings emanating from the rich data, as well as the researchers' keen interest in the built environment, the following recommendation for future research as follows: -

5.3.1 Policy, Legislation and Regulatory Development as Recommendations

To improve the future of urban facilities management, it is recommended that further research in terms of policy, legislation and regulation be encouraged. It is the researchers' view that this will add to the body of knowledge relating to the field of urban facilities management, having perceived a gap in the literature.

Numerous policies, legislation, and regulations may dictate and potentially influence elements that influence urban facilities management.

- Built environment policies, such as transport-oriented design, parking policy, both for individual and public parking spaces. Similarly building plan approvals, spatial development frameworks as well as zoning and building development plans may have a significant contribution to the urban fabric. It may be worth pursuing special development levies to ensure funding for urban facilities management, ensuring the facilities between buildings are maintained, renewed, and improved for the enjoyment of all.
- Should human resource policies decree facility managers' involvement in urban management as an inherent KPI? Their contributions may enhance property or land values (LVC), urban resilience, business continuity planning (BCP) as well as sustainability. Collectively ensuring better urban precincts by means of policy, legislation or by regulatory prescript. As per Fensham and Gleeson (2003) Land Value Capture (LVC) may provide an income stream for social infrastructure.
- As accessibility enablers, facility managers improve differently abled persons' lives. Policy and regulation may ensure Inclusivity by prescribing equity measures. Although there are regulations, improvement may be necessary.
- Supply chain management policy could influence sustainability by prescribing waste reduction, composting, water, and energy saving for tenders such as cleaning, waste management, security, and technical matters. A handful of the interviewee's organisations supported this, yet it was not so for all public and private instances.
- Company asset management, facility management and waste reduction policies are intricately linked to budgets, ensuring responsible management of scarce resources.
- As per the data, funding allocated by various stakeholders, includes levies to Central Improvement Districts (CIDs). However, there is a barrier in terms of private contributions to public or City owned spaces due to regulatory and policy restrictions imposed by the Municipal Finance Management Act (MFMA). There is scope for further study and policy frameworks to revisit, scrap or relax and improve these regulations as it is for the greater good of society.
- The other fact emanating from the study is the importance of collaboration. Dense urban spaces, predicted to accommodate 70% of the population by

2050, require resilient cities. Collaboration of built environment stakeholders may ensure urban cities can face up to the challenge to ensure good public spaces.

- The impact good urban facility management may have on the broader community in terms of liveability, walkability and healthy cities have some presence in the literature. However, improvements to policy, legislation and regulation following from further research in this regard may bring about healthier communities which may contribute to compounded benefits as the cost of medical, health and related costs may reduce.
- Also worth mentioning may be the need for further research in terms of inclusive development and repurposing of office spaces for multi-use developments which have seen a rise in popularity following Covid-10 lockdowns. However, a study in terms of repurposing facilities for low-cost housing and in particular repurposing shopping malls which are typically not high-rise developments may be of import. The repurposing of high-rise buildings not particularly cost-effective for low-cost dwellings, as the cost of central heating, ventilation and air-conditioning as well as the cost of lifts or passenger movements. Not only is evacuation systems and the risk of fire a potential hazard, but the social cost of encouraging large numbers of families in one high-rise may also have negative repercussions.

5.3.2 Theoretical Recommendations

Building on Temeljov's view that facility management requires collaboration amongst stakeholders to ensure liveability (Temeljotov et al., 2020) as well as a relook at how things are done, the research intended to broaden the knowledge regarding the influence facility managers have in the urban domain or urban facilities management. The research indicated that facility managers cannot ignore the area beyond their facility and their training and key performance indicators (KPIs) should encompass this as an output. To this end, it may be valuable to further research the contribution experienced facility managers are able to make by providing mentoring and coaching to new facility- and urban facility managers. Junghans (2014) indicates that facilities management may be a multi- focus discipline, proposing further research into facilities management, however, does not indicate the potential value of facilities management as contributors to urban management. Their combined lived experiences as facilities

managers may ensure viable precincts. This may either be through informal mentoring or formal training provided at colleges and universities, or even at school level. It may also be necessary to encourage cross-training suburban and informal backyard dwelling facility managers so that the significant informal dwelling sector benefits from mentoring and trained to prevent unnecessary disasters and mitigate risk of life and monetary losses.

5.3.2 Accreditation of Facility or Urban Facility Management Recommendations

Interviews raised the concern that facility managers do not enjoy the same respect as other built environment professions. Architects, quantity surveyors, chartered accountants, civil, electrical, and mechanical engineers, valuers, and the like enjoy the acknowledgement by virtue of association with a professional, recognised, and respected body. Ensuring standards, norms, and guidelines, and professional worth. Evidence for responsible and accountable management of the built environment, to bring about resilient, sustainable precincts and cities abound. Although SAFMA offers categories of professional registration to facility managers, it does not enjoy the same regard as engineers, quantity surveyors and other built environment professions mentioned above. Research to establish professional accreditation, registration, and qualification for urban facility managers to ensure sustainable, resilient cities may be required.

5.4 REFLECTIONS ON THE GENERALISABILITY OF THE RESEARCH

Generalisability and validity are interchangeable as indicated in chapter 3.6.4, referring to the accuracy of the data reflected in the research. As per Saunders et al. (2007) laboratory settings can deliver more reliable internal validity. However, for business sciences reality cannot be recreated in a library, and therefore external validity applies, which is more difficult to determine (Saunders et al., 2007) or, as per Boodhun (2016) referring to Yin, qualitative research validity is not always repeatable, and consequently is not generalisable for theory in the context it was undertaken. This could then predicate the need for further research to establish whether this is indeed the case across all urban domains or urban facility management. The researcher applied rigour and systematically applied analytics to the data gathered. The account is an honest reflection of the interpretation derived in an inductive manner by the

researcher, with caution applied to rule out bias by including non-facility management professionals in the purposive sampling.

5.5 CONCLUDING COMMENTS

The research intent was to examine the influence facility managers have in the urban domain or urban facilities management as professionals. The study highlighted the demand for collaboration in the built environment, all stakeholders to ensure sustainable urbanism. The collective efforts of all built environment stakeholders have a bigger impact than individual efforts. Restricted to the Cape Metropole Area, with only a dozen participant, there is scope for further research to investigate whether the collaborative inclusion and acknowledgement of facility managers may add value to ensure sustainable urban facilities management.

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APPENDIX A: INTERVIEW OUTLINE – AIDE MEMOIRE

Aide Memoire - Research Instrument Interview Outline

Research Topic: Urban Facility Managers: Examining the influence facility managers exert within the Urban Domain: A Case Study of the City of Cape Town Metropole

Type of Question	Question Guideline
Introductory	Overview of the broad guidelines already sent to interviewee. Reaffirm the confidentiality and voluntary nature of the interview. Do you mind if the interview is recorded?
Background	- Why did you enter the Facilities Management (FM) industry as a career path. - What is your role in the organisation? - How are you involved in the FM environment? - Explain your view on the greater precinct? - What is your company's strategy in terms of FM? - May I obtain an idea of the organogram of the company.? - Do you feel empowered in terms of the role you have? Explain
- Reflective	- How has the company changed in terms of its strategy or long-term view? - How are budgets determined?

	- How have budget allocations to the greater precinct management changed? - Have you influence and able to motivate for additional resources in terms of staff to maintain a standard for the greater precinct?

Forward scoping	- Do you feel a change is required in terms of how FM operate within the urban space – how do you see this evolving? Are you interested in the developments that would impact on your portfolio?
Closure	Thank participant for their contribution. Can you refer me to another interviewee that would assist the research.

APPENDIX B: CODES EMERGING FROM THE INTERVIEWS

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Selective Code 1	**Urban Facilities Management**	**3**	**6**
Axial Code	Urban Facilities Management Budgets	5	14
Open Code	Tenant levies	2	2
Open Code	ROI	2	4
Open Code	Incentivise for Urban Improvement	2	2
Open Code	Budgeting	2	2
Open Code	NPOs - Grant funding	1	2
Open Code	NPC budget Urban	1	1

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Crowdfunding	1	1
Open Code	Academies and Education	2	2
Axial Code	Good precinct management	3	5
Open Code	Urbanisation - moving into CBD acceptance	4	5
Open Code	Urbanisation - youth keen to move into CBD	1	1
Open Code	Spaces between buildings	1	1
Open Code	The little things	1	1

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Succinct Urban Facilities Management	1	1
Open Code	Succinct Placemaking	3	3
Open Code	Right sizing	1	1
Open Code	Precinct Management	3	4
Open Code	Precinct improvement	3	4
Open Code	24 -hour economy	1	1
Open Code	Novel Precinct Management	1	1
Open Code	Non-Motorised	1	1
Open Code	Informal trading	1	1

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Gentrification	1	1
Open Code	Fundamentals, cleaning, safety	1	1
Open Code	FM needed for precinct	3	3
Open Code	Integrated FM	3	3
Open Code	FM improving Placemaking	1	2
Open Code	Improvement Precincts - FM managing municipal assets	1	1
Open Code	FM in Green Buildings or sustainability	3	7
Open Code	FM minimising and managing waste and recycling	1	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	FM ensuring water saving mechanisms and water security	3	5
Open Code	FM ensuring green procurement	1	1
Open Code	FM ensuring energy efficiencies	2	3
Open Code	FM ensuring composting and minimising paper use	1	1
Open Code	FM impact	2	2
Open Code	FM Budget	2	3
Open Code	FM Budgets for UFM	2	5
Open Code	FM and environment Budget	4	5

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	CBD Foreshore portfolio	1	1
Open Code	FM influencing urban precincts	1	1
Open Code	FM forums enabling precinct management	1	1
Open Code	FM beyond precinct	1	1
Open Code	Enforcement	1	1
Open Code	Education Facilities	2	2
Open Code	Desirable Precincts	4	8
Open Code	Corporate UFM	2	3
Open Code	CBD improvements	2	3

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Selective 2	**Urban Decline**	**6**	**28**
Axial	Urban degradation	2	2
Open Code	Value detracted	2	2
Open Code	Unsavoury Spaces	3	5
Open Code	Obsolescence	2	2
Open Code	Negative	1	3
Open Code	Socio-economic ills	2	3
Open Code	Homeless	4	4
Open Code	Managing homeless	2	4

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Illegal Structures	2	3
Open Code	Crime and Grime	2	3
Open Code	Pedestrian and public transport unfriendly	2	2
Open Code	Unfriendly cycling	2	2
Open Code	Pedestrian unfriendly	1	1
Open Code	Not improving Urban	3	3
Open Code	No budget for urban spaces	1	4
Open Code	Negative budget	3	5
Open Code	Lack of PPP	2	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Lack of accountability	4	6
Open Code	Unscrupulous owners	2	2
Open Code	Remote owners	2	2
Open Code	Ignorance	2	2
Open Code	Functional obsolescence	2	2
Open Code	Absent owners	2	3
Open Code	Parastatals not owning up	2	2
Open Code	Inward Focus - Building related	2	4
Open Code	Broken Window Syndrome	3	4

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Lack of FM input	2	2
Open Code	Lack of enforcement - Problem buildings	3	7
Open Code	Gradual decay	2	2
Selective Code 2	**CBD neglect**	**3**	**3**
Axial	Municipal Services	6	20
Open Code	Municipal role	1	1
Open Code	Legislation & penalties	1	1
Open Code	Regulation	2	4
Open Code	Protocols	1	1

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Procurement	1	1
Open Code	NEMA	1	1
Open Code	Governance	2	2
Open Code	Leases	2	3
Open Code	Job Creation	1	1
Open Code	Informal Traders	1	5
Open Code	Income	1	2
Open Code	Objecting rates	1	1
Open Code	Budgets	1	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Municipal precinct management	3	4
Open Code	Lack of services	3	6
Open Code	Mechanisms	3	5
Open Code	Lack of staff on the ground	1	2
Open Code	Interdepartmental gaps	2	6
Open Code	Lack of Forum with Council	1	1
Open Code	FM vs Municipal	1	1
Open Code	Development Levies	1	2
Open Code	Development Fee	1	1

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Corporate funding in Municipal sphere	1	1
Open Code	Bureaucracy	3	3
Open Code	FM restricted	2	2
Open Code	Not accepting FM	2	2
Selective 3	**Land Value Capture**	**7**	**12**
Axial	LVC	2	2
Open Code	Value detracted	2	2
Open Code	LVC circular	2	2
Axial	CBD value retention	2	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Value protection	2	2
Open Code	CID crime and grime	3	4
Open Code	CID Levies	1	1
Axial Code	Beneficial assets	2	2
Open Code	Fountains and Clocks	1	2
Selective Code 4	**FM**	**7**	**19**
Axial Code	Sustainable FM and Total FM	4	9
Open Code	Staff retention	1	1
Open Code	Remote work	1	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	FMs value	1	1
Open Code	Non-motorised transport and parking management	1	1
Open Code	Maintenance	2	2
Open Code	Integrated FM Technology	2	4
Open Code	Impact of FM	4	6
Open Code	FM skillset and functions	2	2
Open Code	FM universal accessibility	1	1
Open Code	FM transport-oriented design	2	2
Open Code	FM Technology	2	3

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	FM support	1	2
Open Code	FM soft services	1	1
Open Code	FM inputs building	3	4
Open Code	FM influencing HR policies to work from home or closer to home	1	1
Open Code	FM influence budgets	1	1
Open Code	FM enabling remote work	2	3
Open Code	FM and OHS	1	1
Open Code	FM across industries	1	1
Open Code	Facilities and operations.	2	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Facade upgrade	2	3
Open Code	Enhanced FM	1	1
Open Code	Energy challenges	1	1
Open Code	Employment	1	1
Open Code	Building ops manager	1	1
Open Code	Activation	2	2
Open Code	Art installation	3	6
Axial Code	FM role	4	5
Open Code	Parking Management	2	4

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	In & Outsourcing	4	5
Open Code	Subcontracting FM	2	2
Open Code	Property portfolio managers	1	1
Open Code	Property Management Precinct management	1	1
Open Code	Portfolio of Buildings	1	2
Open Code	Integrated model - economies of scale	1	1
Open Code	FM Outsourcing	2	2
Open Code	Graffiti vs street art	3	3
Open Code	Future of Work	3	3

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	FM training ground	2	3
Open Code	FM knowledge	1	1
Open Code	FM recognition	4	7
Open Code	FM's accreditation	2	4
Open Code	FM Growth	3	4
Open Code	Acceptance of FM	3	5
Open Code	FM public transport	3	3
Open Code	FM Experience	1	1
Open Code	FM environmental control	3	3

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	FM diligence	3	3
Open Code	FM clustering	3	3
Open Code	FM challenges	4	4
Open Code	Recognition of FM as professionals	3	3
Open Code	QS insurance	1	1
Open Code	FM onerous	1	1
Open Code	FM Body	3	3
Open Code	FM beyond Silos	3	3
Open Code	FM at design stage	3	3

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	FM = CRM	2	3
Open Code	Marketing	1	1
Open Code	FM rep	1	1
Open Code	FM relationships	1	1
Open Code	Facilities defined	2	3
Open Code	Corporate Budgets	2	3
Open Code	Basics	2	4
Open Code	Security and compliance	2	2
Open Code	FM Safety and security	3	4

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Selective Code 5	Collaborative Forums	4	8
Axial Code	Strategic partnerships	3	3
Open Code	Graduates	3	3
Open Code	Delegated authority	3	3
Open Code	Collaboration and Communication	5	13
Open Code	Task Force	3	4
Open Code	Valuers	1	1
Open Code	Valuer responsibility	1	1
Open Code	Strategic FM	1	1

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Stakeholder engagement	1	1
Open Code	Space Management	1	5
Open Code	Project management	1	1
Open Code	Bodies	2	3
Open Code	PPP	3	5
Open Code	Public participation	2	5
Open Code	Public Forums Beneficial	2	3
Open Code	PPP CID	5	5
Open Code	Participation	2	2

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Interaction	3	5
Open Code	Collaborative Efforts	3	8
Open Code	Design collaboration	3	3
Open Code	CRM and operations	5	7
Open Code	Cooperation, forward thinking	2	3
Open Code	Sharing	3	3
Open Code	The excuse of ‘it is outside of my property’ is outdated.	2	3
Open Code	Contributions	3	4
Open Code	Communication by municipality	4	4

Tree Level (Open/Axial/Selective)	Name of Code	Files Containing code	Number of References
Open Code	Public communication	1	1
Open Code	Collaboration	4	4
Open Code	CID value	3	4
Open Code	CID Socio economic influence	3	3
Open Code	Social upliftment	1	1
Open Code	Awareness	3	3

APPENDIX C: SAMPLE OF INTERVIEW TRANSCRIPTS

Interview Participant #6 26 March 2021

RESEARCHER: - Why did you enter FM as a career?

PARTICIPANT 6: - I have got quite a good background, general knowledge on electrical, plumbing building, property management and I was just approached if property management would interest me, and I did, and I'm here six years later, and I am still going strong.

RESEARCHER: What do you find frustrating in the industry?

PARTICIPANT 6: I would say the biggest frustration is, is your constant battle between landlord and tenant I don't only do property management, I do leasing as well, renewals, but ya, you are sort of the middle-man in-between your tenant and the landlord.

RESEARCHER: So, you state that you are just the middleman, so do you feel that you don't have ownership, or don't have enough power for the lack of better word?

PARTICIPANT 6: Yah, well most of the decisions sit with the landlord to be made, and so it's just that I would have to get approval from the landlord before I can relay the decision onto the tenant what they request will be agreed to or not.

RESEARCHER: so, it is a back and forth, you cannot make a decision outright?

PARTICIPANT 6: Yes

RESEARCHER then your role in the organisation – where you are currently – in terms of your position, you said that you do leasing you do property management, just unpack that a bit for me, elaborate there.

PARTICIPANT 6: I am responsible for the portfolio here in Cape Town, from maintenance and existing tenants, renewals, and from time to time even if we get a new lease which doesn't come through a broker then I will handle that as well. So yah, it's from the sweeper to getting a lease signed.

RESEARCHER: Everything and anything in-between?

PARTICIPANT: 6 Correct

RESEARCHER: Understood.

In terms of FM being recognised as a profession, what is your feeling there, how do you see us as facility management as a profession being recognised?

PARTICIPANT 6: I do feel they do get recognition and get recognised by landlords and by tenants, um because I don't see how a facility can be run without a FM being part of the process.

RESEARCHER: When you say part of a process… at the end of the process necessarily?

PARTICIPANT 6: No, not necessarily even with negotiations, renewals, or new leases, and even on the management side the obtaining of quotations between contractors then you wear a different hat again between contractor and landlord, so, no I think we get recognised…

RESEARCHER: Across the board?

PARTICIPANT: 6 Yes

RESEARCHER: And in terms of other professionals, your engineers, your architects, urban professionals, the planners – those professions, do you feel that we are recognised as a profession?

PARTICIPANT 6: Yes, yes, I do, whenever I request for other professionals to assist with something, I've never had a problem. RB Now you mention that you manage the portfolio in Cape Town, …maybe you could just put me in the picture in terms of what that area entails. Is it CBD is it across the Metropole.

PARTICIPANT 6: It is mainly in the City, CBD Area, but there were also properties out in Somerset West when I started, which was subsequently sold off, so, there is still one building in Somerset West, that I attend to, most of them is in the CBD and then there is one other warehouse facility in Montague Gardens.

RESEARCHER: So very much you are involved in a bigger sphere than just one building and five metres around the building, so you also have to look after, after the spaces in-between those buildings?

PARTICIPANT 6: I'm not following your question?

RESEARCHER: So in terms of where you actually manage, you would also manage the area in-between the buildings so if you have a building in Wale Street and another

in Loop Street, that precinct in-between – if there are security issues or there are maintenance issues, does that automatically come to you or how do you deal with urban dilemmas that affect your business?

PARTICIPANT 6: Yah not really, it doesn't really happen often – but if there is like for instance a riot is planned, or something or a protest or something is planned well get notified, and then we'll hear from either the City or through my security that that is planned. And what action is going to be taken but it doesn't happen that often. RB Not that often – so by that then you are not spending budgets outside of your perimeters?

PARTICIPANT 6: NO

RESEARCHER: Ok – excellent, and you are not expending staff resources in terms of making sure that clients feel safe when they visit the facilities or staff feel safe

PARTICIPANT 6: No – it will only be the building security and nothing beyond outside of the building security.

RESEARCHER: And building security fall under your ambit as well?

PARTICIPANT 6: Yes

RESEARCHER: Have you noted that may Covid has added to your security issues?

PARTICIPANT 6: No, not really, from Covid the City's CBD, there was hardly any foot traffic in the CBD, so I guess less people, less problems, but yah, it is slowly coming back traffic is definitely a bit more in the CBD, but nothing worse during Covid time. RESEARCHER Traffic has picked up horrendously.

PARTICIPANT 6: Yah we were spoilt for a couple of months.

RESEARCHER: How do you feel about remote working – of course that impacts landlords in terms of rentals and that sort of thing, but how has that unpacked during Covid for you? In terms of remote working was that quite a big change for your business.

PARTICIPANT 6: No not really. I've worked very easily from home, I've set up and office at home, and I even do – when I do come to the office, there's lots of times that you would work in the evenings as well to catch up on emails, the inbox so that I will in any case do from home, and no, it was actually a pleasure to work from home,

because you – I was saving two, two and a half hours on travelling time from where I stay to the office and back again, so I had actually more productive days.

RESEARCHER: Yah, agreed. Then in terms of - of an urban forum where you actually appear on, are you part of any forum where you discuss property management issues?

PARTICIPANT 6: Not presently – when we had the Somerset West buildings, I was on the forum for the S West buildings but since that is sold - no.

RESEARCHER And do you think it is useful being on such a forum?

PARTICIPANT 6: Yes, you get some inside information of what's happening in the area - I suppose that that's probably your best benefit and if you have a security or issue outside of the building you can address it on that with that platform.

RESEARCHER: And then also in terms of, of new build do you feel that it is worth FM to be on the entry side of FM so that you have your input when facilities are being designed?

PARTICIPANT 6: Yah, it definitely helps to get involved on the design phase, cause then when you manage it you know the building inside out. When you manage a building which is built and you need to learn everything from scratch and see how everything fits together…its quite a process, and it takes some time to get to know how the aircon was designed, how the back-up generator process is so all that stuff, that would assist you if you know that from the ground up.

RESEARCHER: And in terms of being close to the tenant as the FM? Haven't you got valid inputs in terms of knowing your client and already having those inputs in the design phase?

PARTICIPANT 6: My tenants normally, my clients and tenant, if they do a fit out, it is normally their design team that's around it, the landlord creates the – call it the white-box for them, and then they'll do their design and fit out in the manner that they see fit we obviously put our rules and regulations to make use of the buildings' professionals like the aircon teams the fire teams, and all that so, yah that is to control what they do in their fit out.

RESEARCHER: Is your organogram available on the website, or can I draw some holistic picture of how your teams are put together, your space planners and your design teams…

PARTICIPANT 6: It is all out of house, so we don't in-house design team or anything like that, on the management team it is me and me and myself and then anything beyond that is contracted from outside.

RESEARCHER: So very much an outsourced model

PARTICIPANT 6: Ya

RESEARCHER: any interaction with the CID?

PARTICIPANT 6: No, no interaction

RESEARCHER: Not really. Do you do customer satisfaction surveys?

PARTICIPANT 6: No, we don't do surveys with our tenants, I means I speak to my tenants probably at least once a week if not more, um and normally it would be if there is an issue or problem or something arised that they can't resolve then I'm the next port of call.

RESEARCHER: 24/7?

PARTICIPANT 6: Yah, yah, because the damage, the problems normally happen at night or afterhours, a flooding or a pipe burst or those things, they normally don't happen during office hours.

RESEARCHER: Somehow – as soon as your electrical team leaves…. that's when it goes.

PARTICIPANT 6: Exactly, exactly RB What is your strategy in terms of FM – and how has it changes over the last few years?

PARTICIPANT 6: I think the biggest change for me was to get to get contractors that I can rely on – um and I have worked through a couple, and it seems if you use a contractor for a while the services are initially good, like the new broom, and then it just gets worse and worse and worse until there is an explosion and then it gets better again, but I have fizzled them out and I have quite a good pool of contractors' that does work for me and quote on various aspects. I think that that is one of the strengths – that the better the team behind you, the stronger you are as a FM.

RESEARCHER: For sure absolutely, I mean as a services representative you can only promise that much but you need to actually need to back it up with action.

PARTICIPANT 6: Yes, absolutely

RESEARCHER: Geographically I've asked you about that – we are running through the questions quite quickly seeing our time constraints, budgets – how are your budgets decided upon – have you got quite a bit of input there?

PARTICIPANT 6: I normally – yes – the budgets would be done with the landlord, probably mostly with historical figures, and whenever there is changes, or additions to be made, they will ask me for my input. Which I will then provide them either quotes or pricing – if we do a new SLA at a building – then so yes, I will probably on the budgets annually they will escalate previous year's budgets and all the changes they will ask me for my input.

RESEARCHER: So, your input is quite respected in terms of budgeting

PARTICIPANT 6: Yes, ya RB and you haven't found that over the last six years there has been additional spend on fixing a little

pothole outside your area or maybe things that are just outside of the boundaries of your walls, but to make sure your precinct is safe and secure and no tripping hazards and that sort of thing.

PARTICIPANT 6: No, it is actually The City has been very good, whenever there is a broken manhole or a pavement that has been chopped up with these fibre guys that's been all over the show, and they have just trenched and closed and the next lot are in there to trench again, they have actually been very good to fix all of that and no issues with that .

RESEARCHER: That's good to hear. Are you affiliated to any professional body in terms of the built environment?

PARTICIPANT 6: No

RESEARCHER: not with SAFMA, SAPOA, or any of those?

PARTICIPANT 6: Well, I suppose with being employed by Baker Street we are invited to SAPOA events, and I am probably through that connected with SAPOA. So yah, I do attend and go to some of those talks and especially with the Covid first hit, it was quite a bit of work to be done to get the buildings on par with all the Covid rules regulations, signage, so yes with SAPOA…

RESEARCHER: Do you feel that there is enough representation in terms of FM and a professional body.

PARTICIPANT 6: Yes, I think so – I have never felt that I need more information or no, I am comfortable with the current.

RESEARCHER: You've already answered the question about urban forums, what do you feel that within in terms of FM withing the urban space within the portfolio that you have – what do you feel could change – what would be your utopia? In terms of your portfolio – your bigger picture and urban management and how your facilities interact with the space around it – what would make your properties more "invitable," more sticky factor, that sort of thing?

PARTICIPANT 6: I can't really pinpoint anything that if it was made maybe safer, but we don't really have issues on security side to and from any of my buildings in the CBD – no I think it is fairly safe environment – I don't see any issues that need to be addressed.

RESEARCHER: Really – and you said the City is quite good on reacting – so do you use the normal platforms, the WhatsApp and the email or how do you log your calls with the City – or do you have a direct contact – how do you manage?

PARTICIPANT 6: I would just log onto the City's website and so it is via email or internet actually and get to report something that is broken and yah, most of the time it gets fixed before I've been there so there is no real correspondence back to say that listen, we have attended to this this and that day, I will just go past there the next day and see okay, it was done. So, from that perspective, I think the City is doing a good job.

RESEARCHER: That is great – so then just orientate me again in terms of your CBD buildings are they towards the central CBD close to the Gracht or up on the hill.

PARTICIPANT 6: Closer to the Foreshore…

RESEARCHER: Closer to foreshore…

PARTICIPANT 6: Yah, closer to Foreshore… The CBD buildings are all in the Foreshore part of town.

RESEARCHER: Where all those changes have been with Woolworths and Chris Barnard being upgraded and that sort of precinct

PARTICIPANT 6: Yes

RESEARCHER: and how has the business changes since all of those renewals

PARTICIPANT 6: I think the whole area has lifted because it was a bit sort of sad and neglected about six seven, eight years' ago and I think with the building changes, it really lifted the Foreshore to a better-quality building and safer environment and there is still building in the Foreshore going on. That housing development that's coming out of the ground, and the buildings is in overall just looking much nicer.

RESEARCHER: Like that Harbour Arch, and Redefine a change, and Media City, and News 24, and you obviously feel that has done the precinct good.

And the knock-on of that onto your portfolio values, surely that has a marked effect?

PARTICIPANT 6: Yah, I am sure it would have raised the value of the buildings in the area in general so yah, it would have affected the value positively. RB, I mean Harbour Arch is groundbreaking, and it will be interesting to see how it impacts that area. P6 Yes that is correct.

RESEARCHER: Cause that first area as you come into town is a flat dead centre and then Civic Centre is of course a very harsh precinct – so all of that will certainly affect the precinct don't you think?

PARTICIPANT 6: Yes, it would, it has definitely lifted up the whole area and a whole lot of the buildings was old and has been sort of call it facelifted with new glass facades and was modernised and that is yah, looking much better.

RESEARCHER: It does help – doesn't it? Just maybe to take you back where my studies are, I am trying to ascertain whether FM are getting more involved in more than what their normal domain is in terms of the very much the buildings that they own in their portfolio and that they are having to step outside of that and maybe rectify things within the precinct and get involved in terms of mobilising what's happening on the ground in terms of making the precinct better, safer, more inclusive, all of those placemaking things – is there anything that I haven't asked you that would stave or not the argument that we are more involved?

PARTICIPANT 6: Not really involved in anything outside of the building – as I say, if there is the odd occasion the City has to attend to, they have attended, and I haven't had an issue or problem to get them to do those repairs. I must say most of my time gets rather spent on repairs on things inside the buildings, than outside

RESEARCHER: that is really great – would you mind if something comes to mind if I email you afterward?

APPENDIX D: INTERVIEW PARTICIPANTS

The following table presents an outline of the participants, qualification, level of management and sampling method: -

PARTICIPANT ID	DESCRIPTION OF THE ROLE OF THE STAKEHOLDER	PROPERTY COMPANY IDENTIFIER CODE	BASED IN GEOGRAPHIC AREA CMA	QUALIFICATION	LEVEL OF MANAGEMENT	SAMPLING METHOD
Participant 1	FM of a large nationally based corporate property company	Company XYZ	Yes	Electrical Diploma	Operational	Purposive
Participant 2	Non-participant, based outside of geographic area. MD/owner private company.	Private Company ABC	No	Unsure, interview abandoned	Not Known	Snowball
Participant 3	Facilities manager large corporate property company	Company DEF	Yes	NQF6	Operational	Purposive
Participant 4	Key Account Manager large corporate property company	Company DEF	Yes	Quantity Surveyor	Tactical/Strategic	Purposive

PARTICIPANT ID	DESCRIPTION OF THE ROLE OF THE STAKEHOLDER	PROPERTY COMPANY IDENTIFIER CODE	BASED IN GEOGRAPHIC AREA CMA	QUALIFICATION	LEVEL OF MANAGEMENT	SAMPLING METHOD
Participant 5	Non-participant, based outside of geographic area.	Company GHI	No	Unsure, interview abandoned		Snowball
Participant 6	Operations manager large corporate property company	Company JKL	Yes	Unsure	Operational	Snowball
Participant 7	Chief Executive Officer	XYZ	Yes	Chartered Accountant	Strategic	Social Platform
Participant 8	Landscape Architect Municipality	Municipality	Yes	Landscape Architect	Tactical	Acquaintance
Participant 9	Head of Department Corporate Investments Company	Company MNO	Yes	Structural Engineer	Tactical	Social Platform

PARTICIPANT ID	DESCRIPTION OF THE ROLE OF THE STAKEHOLDER	PROPERTY COMPANY IDENTIFIER CODE	BASED IN GEOGRAPHIC AREA CMA	QUALIFICATION	LEVEL OF MANAGEMENT	SAMPLING METHOD
Participant 10	Chief Executive Officer Corporate Property Management Company	Company PQR	Yes	Lawyer/MBA	Executive	Social Platform
Participant 11	Senior Manager	Municipality	Yes	Civil Engineer	Tactical	Acquaintance
Participant 12	Senior Valuer International Company	Company STU	Yes	Chartered Surveyor/ Valuer	Professional	Social Platform
Participant 13	Chief Operations Officer	XYZ	Yes	Snr Military Officer	Strategic/ Tactical	Social Platform
Participant 14	Chief Executive Officer	GHI	Yes	B Hons Economic & History	Strategic	Social Platform

APPENDIX E: APPROVED ETHICS CLEARANCE

Application for Approval of Ethics in Research (EIR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

ETHICS APPLICATION FORM

Please Note:
Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data. The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook** (available from the UCT EBE, Research Ethics website) prior to completing this application form: http://www.ebe.uct.ac.za/ebe/research/ethics1

APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant		RENÉE BURGER
Department		EBE - CEM
Preferred email address of applicant:		LGRREN003@myuct.ac.za
If Student	Your Degree: e.g., MSc, PhD, etc.	M. Phil
	Credit Value of Research: e.g., 60/120/180/360 etc.	180
	Name of Supervisor (if supervised):	DR K. MICHELL
If this is a researchcontract, indicate the source of funding/sponsorship		No, funding City of Cape Town & self
Project Title		URBAN FACILITY MANAGERS: EXAMINING THE INFLUENCE FM EXERT WITHIN THE URBAN DOMAIN

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

APPLICATION BY	Full name	Signature	Date
Principal Researcher/ Student/External applicant	RENÉE BURGER	Signed by candidate	29/1/2020
SUPPORTED BY	Full name	Signature	Date
Supervisor (where applicable)	K.M. MICHELL	Signed by candidate	31/1/2020.

APPROVED BY	Full name	Signature	Date
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section 1; and for all Undergraduate research (including Honours).	Louie van Schalkwyk	Signed by candidate	29 June 2020
Chair: Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the questions in Section 1.	Louie van Schalkwyk	Signed by candidate	29 June 2020

APPENDIX F: INFORMED CONSENT FORM

CONSENT FORM

UNIVERSITY OF CAPE TOWN

CONSENT TO PARTICIPATE IN A RESEARCH

Research Topic: Urban Facility Managers: Examining the influence facility managers exert within the Urban Domain: A Case Study of the City of Cape Town Metropole

Dear Potential Participant.

You are being invited to participate in a research study conducted by Reneè Buerger, a master's student at the University of Cape Town. This research is supervised by Associate Professor Kathy Michell of the University of Cape Town and the results of the study will be presented to the Department of Construction Economics and Management in fulfilment of the requirements for the degree of Master of Philosophy in Construction Economics and Management.

Should you have any question or concern about the research, please feel free to contact me, Reneè Buerger, anytime at +27 78 320 1878 or LGRREN003@myuct.ac.za. The research supervisor, Associate Professor Kathy Michell, may also be contacted at Kathy.Michell@uct.ac.za.

Purpose of the study

The primary aim of the study is to investigate the influence facility managers have within the broader urban context within the City of Cape Town Metropole. The study, by using the geographic area of the Cape Town Metropole as a case in point, explores the current practices of Facilities Management, the influence in the precinct larger than the individual building or portfolio of buildings, and whether resources are deployed to ensure precincts are kept clean, safe, and inviting in line with placemaking principles. Limitations of the research to take cognisance of, being the presiding COVID-19 regulations in terms of physical distancing.

Procedures

Your participation in this study is entirely voluntary. If you volunteer to participate in the study, the researcher will consult with you to agree a suitable time for an online interview, as it is not possible to do so during the unprecedented COVID-19 viral outbreak. Pre-established analytical as well as emergent questions will be asked that will be used to supplement data gathered from document analysis within a case study research setup.

Potential benefits to participants

At your request, the research findings will be shared with you.

Confidentiality

5. Every effort will be made to ensure that interviews are confidential and safeguard any proprietary information. Confidentiality of any information is maintained, and none of the detail discussed in interviews will be discussed with anyone but the researcher's supervisor. Data will be stored appropriately until the research is concluded, at which stage the data will be destroyed. Confidentiality is derived by ontological amendment of the data. The information gathered through the interview process will be used solely for this research purpose. The raw data of the interview will only be revealed to personnel directly related to the supervision and marking of this thesis. No information that may link an interviewee to the information and in so doing cause the interviewee to be identified will be disclosed, inter alia name, company, area, address, or affiliation. The latter will be achieved by initial coding whereby unique identifier numbers are allocated to participants utilising the software program NVivo. **Participation and Withdrawal**

You, the interviewee, may choose to withdraw from this study at any time of your wish. You may also refuse to answer any question that you do not want to answer.

Rights of research participants

You may withdraw your consent at any time and discontinue participation without any penalty. This study has been reviewed and received ethics clearance through the University of Cape Town Research Ethics Board.

Signature of Research Participant/Legal Representative

I have read the information provided for the research “Urban Facility Managers: Examining the influence facility managers exert within the Urban Domain: A Case Study of the City of Cape Town Metropole” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Name of Participant (please print)

Company of Participant

Signature of Participant

_____

Signature of the Delegated Authority of the Participant’s Company

APPENDIX G: COMPOSITE CTMSDF (MAP)