

Is Pursuing a PhD Without Theoretical and Conceptual Framework a Journey Without Roadmap?

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Theoretical and conceptual frameworks are essential components of the research process, although they are often misinterpreted by doctorate candidates during the development of their dissertation study. The purpose of this paper is to emphasise the critical role that theoretical and conceptual frameworks play in enhancing the rigour and clarity of research. This is an argumentative paper that uses information as evidence to back up its claims. The authors used this methodological framework to espouse the need that doctoral research should have a valid theoretical framework to justify the importance and significance of the work in order to contribute to knowledge in their field of study. The study clarifies two sometimes misinterpreted terms: conceptual and theoretical frameworks. According to the authors, the decision to use a theoretical or conceptual framework is influenced by the research goals, study characteristics, and available literature. Conceptual frameworks are typically used in qualitative and mixed methods research, although theoretical frameworks are used more frequently in quantitative and mixed methods research. Mastery of conceptual and theoretical knowledge in construction management research allows researchers to develop clear, well-structured enquiries, improve methodological rigour, and successfully integrate theory to practice, resulting in innovative ideas in the field. The paper discusses the importance of including a theoretical and/or conceptual framework in a doctoral thesis focussing on construction management research. It states that these frameworks are critical for defining the student's research direction. The study emphasises that understanding 'concept' and 'theory' allows for the successful use of conceptual and theoretical frameworks to provide direction and coherence throughout the research process.

Keywords: Research approach, Doctoral thesis, Philosophical underpinning, Desktop research, Framework

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Introduction

Theoretical and conceptual frameworks are essential elements of rigorous research in construction management, since they equip researchers with the means to comprehend and analyse the phenomena under investigation. The two phrases are frequently used synonymously, although having different meanings and objectives. This approach coincides with the viewpoint of Salawu *et al.* (2023), who characterised the conceptual framework as a roadmap delineating essential concepts, variables, and interactions, illustrating the researcher's comprehension of their interconnections. Conversely, the theoretical framework provides a systematic arrangement of ideas, models, and concepts that directs the research process, facilitating the formulation of research questions or hypotheses. Lederman and Lederman (2015) contended that comprehending the structure and function of a theoretical framework is facilitated when a researcher can address two fundamental enquiries: What is the research problem or question? What makes the recommended method for addressing the issue or responding to the inquiry suitable? These enquiries may solely be resolved by the application of a theoretical framework and an empirical literature assessment to identify knowledge gaps. The objective of this study is not to delineate the two terms comprehensively, but to underscore their significance

as fundamental elements of a well-organised PhD thesis.

Researchers have extensively discussed the relevance of the two terms in research, for example, Grant and Osanloo (2014) posited that the theoretical framework is an essential component of the research process, although it frequently receives insufficient emphasis in PhD curricula. Imenda (2014) similarly underscored that both theoretical and conceptual frameworks are crucial to the integrity of research. However, many postgraduate students, especially those undertaking doctorates, often conflate the two words and misapply them in their study. Iqbal (2007) characterised the task of defining and formulating the theoretical framework for a dissertation as the most arduous, although feasible, aspect of the research process. Doctoral research is expected to create a theoretical framework based on an established and approved theory. This framework, which should be based on a widely accepted theory and aims to explain events through the lens of that theory, is chosen after analysing the theories that are commonly employed in the relevant subject. Though the theoretical and conceptual frameworks are hinged on the research questions or problems to be studied and serves as a basis for its investigation.

This study argues that embarking on a PhD without theoretical foundations is a recipe for failure. Metaphorically, imagine someone embarking on a challenging and extended journey without a map,

Global Positioning System (GPS), or a specified destination. The initial excitement of ambiguity may propel one forward; but the latter lack of direction may seem onerous. One may navigate several routes, wander aimlessly, or face obstacles, unclear if one is nearing the objective or straying further from it. During the process, you waste precious time and resources, converting a journey meant to be significant and educational into one that is confusing and frustrating.

Now, compare this with pursuing a PhD without a theoretical or conceptual foundation. These frameworks serve as structured guides for the research, akin to a roadmap. They aid researchers in formulating queries, selecting methodologies, and evaluating data, ensuring that every activity made is deliberate and aligned with the study's ultimate objective. The absence of guidance results in chaos during the PhD path. Consequently, researchers may struggle to focus their investigations, become entangled in irrelevant minutiae, or have uncertainty regarding the synthesis of their findings. Analogous to a voyage without a map, which can lead to wasted effort and discomfort, a PhD without a structured framework is likely to become a chaotic and directionless pursuit, fraught with unnecessary obstacles. A roadmap, or framework, may not specify every aspect of the upcoming journey, but it provides the structure and clarity essential for informed decision-making and sustained concentration on the path to success.

Underscoring these assertions, Lederman and Lederman (2015) observed that numerous PhD candidates experience trepidation when confronted with the frequently posed inquiry from their thesis supervisors, reviewers, or examiners: "What is the theoretical framework for this research?" This question frequently compels anxious students to hastily visit the library or search literature in pursuit of a theory to substantiate their research and fulfil their supervisors' requirements. Nevertheless, this inquiry often proves unproductive due to misconceptions over the understanding of a "theoretical framework." Numerous PhD candidates exhibit perplexity, exasperation, and insufficient understanding when tasked with the selection and use of a theoretical framework in their dissertation. A theoretical framework may be mentioned in passing by some students in their proposals, only to have them be asked to rewrite their work in response to reviewer's comments, while they may be completely omitted by others and neglected to be revisited throughout the dissertation (Grant & Osanloo, 2014).

Research is perceived as a means to produce new knowledge that can improve practice and establish a theoretical framework for future investigations. Researchers often exhibit enthusiasm when they observe how theories directly influence their study by aiding in the formulation of questions, selection of appropriate research designs, and systematic

presentation of findings (Sinclair, 2007). Formulating a theoretical framework is an evolving process that advances via experience. Pursuing a PhD is a personal, transforming journey that, although substantial, should not be dreaded. The pursuit of theoretical knowledge necessitates meticulous planning and preparation, commencing with literature reviews, formulating basic questions and discerning links, and examining probable connections among emergent concepts (Sinclair, 2007). In disciplines such as construction management, especially in Nigeria, there is a notable deficiency in the explicit articulation of theoretical and conceptual frameworks in PhD research. This has led to a restricted comprehension and application of these frameworks. Indeed, some researchers and their supervisors do or may not completely comprehend the implications of adopting and developing such frameworks (Ocholla & Le Roux, 2011). Building on that, Ngulube *et al.* (2015) noted that theoretical and conceptual frameworks are frequently neglected or misinterpreted; whereas several researchers cite them, few provide a comprehensive explanation of their significance and function in research.

This paper aims to emphasise the significance of comprehending conceptual and theoretical frameworks as vital instruments for researchers, aiding them in selecting and integrating these frameworks into their dissertations. A dissertation cannot adequately inform readers without a lucid articulation of its theoretical framework. This article aims to provide critical information to doctoral students and supervisors, specifically to aid doctoral candidates in developing this key component of their dissertation.

Research Methodology

Argumentative research methodology is widely acknowledged as an essential strategy in diverse disciplines, including philosophy, law, social sciences, and humanities (Creswell & Creswell, 2017). This approach emphasises the formulation, presentation, and analysis of cogent arguments substantiated by various types of evidence (Metcalf & Powell, 2003). It enhances research design and acceptance, especially in construction management, by promoting diverse approaches and improving the clarity and rigour of research (Mercier & Sperber, 2011).

An argumentative strategy commences with a distinct research question or thesis that pertains to a contentious issue. Researchers seek to establish a position and construct a compelling case utilising statistics, empirical evidence, literature, historical instances, or theoretical frameworks (Punch & Oancea, 2014). The argument's efficacy relies on its logical consistency and the calibre of its supporting evidence (Booth *et al.*, 2008). Persuasion is essential, necessitating rhetorical proficiency to effectively articulate and validate the argument (Toulmin, 2003).

Embracing argumentative position aids researchers in addressing issues of uniqueness and cultivating a unique academic voice (Wentzel, 2017). Distinguishing between theoretical and conceptual frameworks is crucial for improving the quality of academic research, particularly in construction management. The integration of interpretive approaches with a clearly defined methodological framework might enhance the equilibrium of research activities (Edum-Fotwe *et al.*, 1996).

Grasping the Concepts: Theoretical and Conceptual Frameworks

Defining theoretical framework

Grant and Osanloo (2014) defined a theoretical framework as the 'blueprint' or guide for research, illustrating a structure grounded in an existing theory pertinent to a field of inquiry that corresponds to the study's hypothesis. This blueprint is frequently 'taken' by researchers to construct their own studies or enquiries. A theoretical framework is crucial in academic research, offering a systematic foundation that directs the research process, from formulating research questions to constructing hypotheses and analysing results (Lederman & Lederman, 2015). It comprises interconnected concepts, models, and theories that assist researchers in systematically analysing the research topic, hence maintaining focus and methodological rigour (Ngulube *et al.*, 2015; Adom *et al.*, 2018; Salawu *et al.*, 2023). By choosing a particular theoretical framework, researchers can formulate pertinent research questions and refine broad issues into distinct, answered enquiries (Lederman & Lederman, 2015). It aids in hypothesis formulation by anchoring predictions in proven theory, so guaranteeing that assumptions are informed rather than speculative.

Dickson *et al.* (2018) asserted that the theoretical framework provides context for interpreting findings, ensuring that data is evaluated through a consistent lens that matches with the study's theoretical foundation, making the results acceptable and generalisable. This allows researchers to not only present data but also elucidate its importance within the wider academic discourse. A theoretical framework is essential for ensuring coherence and guidance in research. In its absence, research may become disorganised and less significant. It guarantees that researchers can leverage existing knowledge while fostering fresh insights within their discipline. This emphasises the assertion by Grant and Osanloo (2014) that in postgraduate thesis or dissertation research, all elements must align with the theoretical framework. This will allow doctorate students to judiciously select the pertinent theory or theories that form the foundation of their study knowledge base. The student is required to uniquely apply the chosen theory to integrate the theoretical structures within his/her dissertation research.

Understanding conceptual framework

According to Miles and Huberman (1994), a conceptual framework is defined as a textual or visual representation that makes clear the primary components to be examined, such as important variables, concepts, or factors, as well as their assumed relationships. Grant and Osanloo (2014) concurred, observing that it is systematically organised to offer a lucid representation of the interrelationships among concepts in a study. The conceptual framework provides a diagrammatic form illustrating the relationships among the foundational concepts of the study. Likewise, Mensah *et al.* (2020) supported this perspective, contending that a conceptual framework describes the interconnections among the fundamental concepts of a study. Dixon *et al.* (2001) asserted that it delineates the sequence of actions a researcher intends to undertake during the study, whereas Luse *et al.* (2012) clarified that the framework facilitates the specification and definition of the principal concepts pertinent to the research problem.

Crawford (2020) perceived the conceptual framework as a fundamental structure in research, facilitating the organisation of the study's elements and aiding readers in comprehending its context. It allows researchers to evaluate their comprehension of the study's aims, principles, and the congruence of the research design with the identified issue. Varpio *et al.* (2020) contended that the conceptual framework substantiates the research by delineating current knowledge, pinpointing gaps, and establishing the methodological foundation. Ngulube *et al.* (2015) argued the phrase "conceptual framework" as contradictory, since concepts are inherently abstract and theoretical. Nevertheless, conceptual frameworks provide clarity instead of theoretical explanations (Jabareen, 2009). Meanwhile, Bryman (2012) asserted that conceptual frameworks do not only assist researchers in understanding real-world occurrences by illustrating the connections between concepts and but also their influence on the study's subject matter. Ravitch and Riggan (2017) characterised the conceptual framework as a vital instrument that methodically arranges ideas, concepts, and procedures into a coherent structure, hence assuring consistency in the research. In construction management, aspects such as project planning, communication, and risk management are linked to results like timeliness and cost efficiency, informing the study approach (Robson & McCartan, 2016). In the absence of a clearly articulated conceptual framework, research may become chaotic and lack direction. Doctoral students must recognise that a conceptual framework serves as a mechanism for structuring thoughts and delineating conceptual distinctions. It is an entity created by the researcher, rather than one that is pre-existing. The researcher constructs the framework by integrating diverse concepts from multiple sources, resulting in a coherent and organised entity. Consequently, any

doctoral research that fails to develop a conceptual framework lacks a definitive direction for the study. It is analogous to operating a vehicle at night without headlights; just as the driver's visibility is impaired, the researcher's capacity to effectively conceptualise the project becomes fuzzy and disorganised.

The importance of conceptual and theoretical frameworks in doctoral research

Conceptual and theoretical frameworks are crucial in research, providing necessary structure, guidance, and clarity (Adom *et al.*, 2018). They are essential in doctorate research, offering a framework that aids in structuring and contextualising the study (Grant & Osanloo, 2016; Durham *et al.*, 2015). These frameworks enable researchers to delineate philosophical assumptions, determine research methodologies, and underscore the study's contribution to knowledge (Wald & Daniel, 2020; Durham *et al.*, 2015). Imenda (2014) contended that research devoid of a theoretical framework lacks direction, complicating the identification of pertinent literature and participation in scholarly discourse regarding the findings. Conceptual and theoretical frameworks direct the research process, encompassing topic selection and result analysis, thereby assisting students in justifying their perspectives and making informed decisions (Grant & Osanloo, 2016; Wald & Daniel, 2020). Ravitch and Carl (2017) asserted that theoretical frameworks offer a perspective for comprehending the study topic by correlating it with established theories, whereas conceptual frameworks explain the problem by linking concepts and delineating relationships among variables (Salawu *et al.*, 2023). While the integration of these frameworks may pose difficulties, their mastery is essential to developing research credibility, where they facilitate the advancement of the profession through evidence-based inquiry (Durham *et al.*, 2015; Adom *et al.*, 2018). According to Durham *et al.* (2015), conceptual frameworks in PhD studies in nursing aid in placing research within paradigms, ontological, epistemological, and methodological underpinnings. They facilitate hypothesis propositions, ensure congruence between data collection and research objectives, and assist in structuring literature reviews by identifying gaps and situating the study within academic discourse. Furthermore, they assist in explaining results by connecting them to overarching theoretical frameworks, thus amplifying the significance of the research (Sinclair, 2007; Dickson *et al.*, 2018). These frameworks are essential for generating high-quality, significant doctorate research that enhances current academic discourse and meta-theoretical debates (Adom *et al.*, 2018; Wald & Daniel, 2020).

Distinguishing conceptual and theoretical frameworks in research

The terms "conceptual framework" and "theoretical framework" are often used to describe the overarching structure guiding a research project, but there are nuanced distinctions between them. These frameworks are not simply a collection of ideas; they are organised systems in which each thought is essential. They do not function as a causal or analytical framework; rather, they offer an interpretive lens on social reality. The distinction between theoretical and conceptual frameworks continues to be a contentious issue in research methods. Certain individuals perceive them as conceptually analogous, but others contend that they are disparate (Imenda, 2014). A conceptual framework is defined as a network of interrelated concepts that collectively provide a comprehensive knowledge of a situation (Jabareen, 2009). While theoretical frameworks are generally linked to deductive methodologies, depending on established theories, conceptual frameworks usually emerge from inductive reasoning (Imenda, 2014; Hiba, 2024). Theoretical frameworks serve as navigational tools derived from one or more theories, directing the research process from inception to final reporting (Majeed *et al.*, 2023). A theoretical framework outlines the foundational theories supporting research, grounded in existing studies, whereas a conceptual framework enables researcher to form your own conclusions by outlining the variables in your study and illustrating how they interact. Conversely, conceptual frameworks consist of an array of ideas and concepts derived from several theories or empirical research (Majeed *et al.*, 2023). Notwithstanding these differences, both frameworks fulfil analogous functions in research (Majeed *et al.*, 2023). Comprehending these distinctions is crucial for researchers, particularly in the formulation of proposals and theses (Kivunja, 2018). The intricacy of these notions often confounds new researchers, highlighting the necessity for lucid explanations and analogies to elucidate their distinctions and interrelations (Hiba, 2024; Kivunja, 2018).

Consequences of the absence of conceptual and theoretical frameworks in doctoral research

Conducting research devoid of a theoretical or conceptual framework complicates readers' ability to ascertain the academic perspective, impedes the literature review, creates obstacles in data collection and analysis, and disrupts the logical coherence in presenting the essential elements that underpin the researcher's assertions or hypotheses. Literature reviews are essential for establishing a robust research foundation, although they can be challenging without a systematic framework that guide its flow. Numerous authors advocate systematic approaches to address this problem. Najmaei (2016) delineated a five-step procedure: contextualisation, searching, selection, extraction, and reporting. Levy and Ellis (2006) and

Kaplan *et al.* (2004) presented a three-stage approach comprising inputs (literature collecting and screening), processing (utilising Bloom's Taxonomy), and outputs (composing the review). These systematic approaches assist beginner researchers generate cohesive narratives and avoid disconnected literature reviews. Sanyal (2019) emphasised the significance of an exhaustive literature review for formulating research design, data collection instruments, and analytical strategies. Inadequate prior knowledge may hinder researchers in delineating the epistemological and ontological parameters of their investigation. Utilising systematic frameworks enables researchers to conduct more efficient literature evaluations, thereby reinforcing research foundations and ensuring clearer narratives.

Frameworks are crucial for structuring PhD theses, guaranteeing a coherent progression in the study. They assist students in comprehending examination standards (Hodgson, 2020), describe theoretical frameworks and literature foundations (Berman, 2013), and facilitate supervisory connections (Berman, 2013). Conceptual frameworks help explain fieldwork ambiguities and mitigate cognitive dissonance (Straker & Hall, 1999). Nevertheless, insufficient understanding of the terms may result in stress, uncertainty, and possible burnout for PhD candidates. Contributing issues encompass inadequate supervisory connections, insufficient or ambiguous guidelines on the part of the university, excessive workloads, position ambiguities, financial instability, and ambiguous career possibilities (Mackie & Bates, 2018). A PhD candidate will therefore find the study design process easier to handle if they have a strong grasp of theoretical and conceptual frameworks. These frameworks influence the choices made for data gathering and analysis techniques, which in turn directs the research design. By delineating essential concepts and their interrelations, they provide a coherent framework for conducting the research.

How to Develop a Theoretical and Conceptual Framework

Theoretical and conceptual frameworks have been reiterated to be essential ingredient in research, offering structure and guidance for students in defining research questions and aligning them with appropriate frameworks (Tabuena, 2021; Lynch *et al.*, 2020). These frameworks serve as navigational instruments, directing the development of research questions and hypotheses, which are crucial for building study credibility (Adom *et al.*, 2018). Theoretical frameworks provide justification for the study problem, whereas conceptual frameworks develop from the problem itself (Tabuena, 2021). Their integration guarantees targeted research enquiries and results that adequately tackle the issue at hand (Lynch *et al.*, 2020). Developing these frameworks is essential for organising research questions and comprehending varied interrelations

(Costa, 2020). This entails a thorough examination of the literature, pertinent theories, and the resolution of fundamental enquiries (Sinclair, 2007). Systematic approaches, such as data visualisation and lexicometric analysis, bolster the establishment of robust frameworks across diverse domains, facilitating knowledge generation (Eyzaguirre & Fernandes, 2024). Theoretical frameworks direct the research process, ensuring coherence from problem identification to data analysis (Grant & Osanloo, 2016; Heale & Noble, 2019). Their insights embody the researcher's viewpoints and link the investigation to established theory, resulting in more significant and resilient research findings (Lynch *et al.*, 2020). The real wisdom for a researcher resides in the capacity to perceive the implicit connections among concepts and knowledge.

Selecting the appropriate framework for research

Conceptual and theoretical frameworks are integral to research design, offering critical structure and direction (Sinclair, 2007; Hymovich, 1993). They aid researchers in delineating the phenomena under scrutiny, honing study enquiries, and correlating theoretical constructs with empirical evidence (Ngulube, 2018). Consequently, choosing the suitable framework for research is a critical decision that influences the study's trajectory, coherence, and validity. The selection of a theoretical or conceptual framework is contingent upon the research objectives, the characteristics of the study, and the existing literature. Context is paramount, as tactics effective in one situation may be inappropriate in another. Therefore, it is frequently essential to adjust or integrate frameworks to consider cultural, political, or other pertinent issues. Notwithstanding its significance, some researchers encounter difficulties in accurately differentiating and employing these frameworks (Ngulube, 2018). When employed appropriately, frameworks improve research by refining questions, directing data analysis, and producing significant findings (Lynch *et al.*, 2020). Begin by explicitly describing your research objectives, as these will inform your selection of a suitable framework. Subsequently, perform a comprehensive literature analysis to discover and evaluate frameworks utilised in analogous investigations, highlighting any deficiencies and assessing their relevance to your research. Creating a framework necessitates assessing pertinent ideas, analysing current literature, and linking theoretical discoveries to actual applications (Sinclair, 2007). Assess the degree to which the theoretical assumptions of alternative frameworks correspond with your research philosophy, considering their perspectives on reality, knowledge, and values. Verify the methodological compatibility of the framework with your research design, data collecting, and analytic techniques. Furthermore, evaluate the

framework's adaptability to the particular intricacies of the study.

While some individuals may view frameworks as onerous or superfluous, they provide a blueprint for investigation, validating research enquiries and supplying an organisation for data analysis and presentation (Lynch *et al.*, 2020). Researchers must consider the framework's capacity to significantly enhance the field of study. This may entail utilising an established framework in a different context, innovatively merging frameworks, or formulating a new framework derived from your findings (Grano & Osanloo, 2014). Consequently, choosing a study framework necessitates meticulous evaluation of research objectives, existing literature, theoretical coherence, methodological suitability, adaptability, and prospective contributions, with significant focus on context.

Plurality of theories in one research and implications

Studies in the social sciences and construction management frequently use multiple, sometimes contradictory theories, whereas natural sciences normally rely on one (Ngulube *et al.*, 2015; Oyewobi *et al.*, 2022). Researchers may utilise theoretical triangulation to handle complicated phenomena, integrating many theories to improve comprehension and validity (Ngulube *et al.*, 2015). This method makes it possible to analyse complex problems more thoroughly, although developing a general theory can be difficult. Thus, this corresponds with Cobb (2007), who proposed that researchers should function as assemblers, modifying and amalgamating theories from several sources to suit their requirements, rather than rigidly conforming to a singular viewpoint. This pragmatic approach regards theories as conceptual instruments to create a more adaptable and usable framework. According to Cairney (2013), integrating many theories in research can result in novel perspectives and novel empirical research directions. This methodology has been effectively utilised across multiple domains, including management studies, where the integration of theories from diverse disciplines led to the creation of an innovative model (Tomita, 2018). Although theoretical integration presents significant potential, scholars must confront ontological, epistemological, methodological, and practical challenges to facilitate disciplinary progress (Cairney, 2013). The complementarity of theories in construction management research is apparent in various studies (e.g. Oyewobi, 2014). Abductive Grounded Theory is suggested as a pragmatic method for formulating conceptual theories in the discipline (Rahmani & Leifels, 2018). Although positivism and quantitative methods have traditionally prevailed, there is an increasing acknowledgement of the significance of interpretivism and qualitative approaches in comprehending human behaviour within construction environments (Dainty, 2008).

Strategic management theories, including Resource-Based View, Dynamic Capabilities, and Contingency Theory, have been utilised to analyse the performance of construction firms (Oyewobi, 2014; Wahid *et al.*, 2023). The application of several epistemologies and theoretical frameworks in construction research is emphasised, featuring instances of positivist and interpretivist methodologies for examining innovation (Schweber, 2015). These works collectively illustrate the potential for methodological diversity and the incorporation of varied theoretical viewpoints to enhance construction management research and yield more comprehensive insights into industry phenomena. This multi-theoretical approach enables academics to create comprehensive analytical frameworks for examining competitiveness among construction firms and corporate management challenges in many circumstances.

Can theoretical and conceptual frameworks be used in qualitative research?

According to Anfara and Mertz (2006), there may be uncertainty surrounding the use of theoretical or conceptual frameworks in qualitative research due to the fact that certain research methods may not explicitly incorporate them into their design. Qualitative research generally employs an inductive methodology, allowing ideas to emerge during the research process; however, it can also evaluate established theories or describe phenomena (Creswell, 2009; Bryman, 2012; Ngulube *et al.*, 2015). Consequently, qualitative research frequently integrates both deductive and inductive methodologies. Some approaches, such as grounded theory, may not explicitly utilise these frameworks, however they are frequently integrated into the research design (Green, 2014). Alternative methodologies may utilise frameworks to direct the research strategy or analyse results. Lederman & Lederman (2015) observed that conventional definitions of theoretical frameworks frequently do not correspond with qualitative research focused on theory building, exemplified as grounded theory. Ngulube *et al.* (2015) asserted that in inductive research, theory arises directly from the data instead of being pre-established.

Qualitative researchers generally incorporate frameworks in two primary ways: explicitly within the study design, frequently in the literature review, or indirectly, lacking clear articulation (Green, 2014). Notwithstanding this, frameworks are essential for structuring research. A conceptual model, that evolves during the research process, might be helpful to beginning researchers (Robson, 2002). According to LoBiondo-Wood (2010), studies of higher quality are produced when the theoretical framework is in line with later stages of the research process. Theoretical and conceptual frameworks augment qualitative research by offering direction, establishing legitimacy, and facilitating comprehension of intricate subjects.

Although sometimes confused, both frameworks fulfil distinct functions: the theoretical framework impacts the literature evaluation and analysis, whilst the conceptual framework informs research questions and discussions (Green, 2014). The effective application of these frameworks enhances the research process; nevertheless, excessive dependence may hinder the development of novel insights (Collins & Stockton, 2018).

Can theoretical and conceptual frameworks be used in quantitative research?

Research in construction management presents an intriguing exploration owing to the field's fragmented nature, which unites several professions with varying objectives, success criteria, and viewpoints. This range of skills makes construction management a rich area for research opportunities (Harriss, 1998). Although positivist methodologies have been modified for management research, a "one-size-fits-all" approach is ineffective in this domain due to the diversity of participants and the sector itself. Nonetheless, employing both theoretical and conceptual frameworks is essential in quantitative research to ensure credibility and offer guidance (Adom *et al.*, 2018).

Ngulube *et al.* (2015) assert that theory underpins much of quantitative research, which predominantly concentrates on testing and validating established hypotheses rather than formulating new ones. Researchers must function within both conceptual and theoretical frameworks, as theory is essential for directing research, delineating variables, examining linkages, and elucidating findings (Kitchel & Ball, 2014). Establishing a robust theoretical framework is essential for recognising study problems and variables, and must be underpinned by trustworthy, authoritative sources (Salinas-Atausinchi *et al.*, 2023). Effectively employing these frameworks can markedly enhance the quality and profundity of study (Adom *et al.*, 2018).

In quantitative research, theory influences nearly every phase of the research process owing to the deductive methodology. The research commences with a recognised theory that aids in the formulation of research questions or hypotheses, succeeded by data collecting and analysis. The data may either corroborate or contest the hypothesis, potentially prompting its change and, in certain instances, aiding in the establishment of laws. Although the relationship between theory and research may seem linear, it can develop, particularly when novel theoretical viewpoints emerge during empirical studies. This procedure necessitates the predefinition and measurement of variables or constructs, demanding researchers possess a robust conceptual comprehension of the pertinent topic (Salawu *et al.*, 2023). Theory functions as the foundational and guiding framework for the entire research undertaking.

Can theoretical and conceptual frameworks be used in mixed methods research?

Conceptual and theoretical frameworks are crucial for directing mixed methods research, facilitating study conceptualisation, design choices, and data interpretation (Evans *et al.*, 2011). Theoretical frameworks generally correspond with deductive (quantitative) methodologies, whereas conceptual frameworks are better appropriate for inductive (qualitative) research techniques (Imenda, 2014). Mixed methods research can both evaluate and formulate ideas, employing many theoretical frameworks, like the transformational lens (Creswell, 2009). This lens aids in participant selection, research question formulation, data collection, and result interpretation, emphasising change and empowerment. Complexity theory has emerged as a significant framework for analysing sophisticated systems and events (Kallemeyn *et al.*, 2020). Greene *et al.* (1989) delineated five objectives for mixed-method evaluations: triangulation, complementarity, development, commencement, and expansion, each accompanied by particular design guidelines. Nonetheless, the integration of diverse methodologies during the data analysis phase continues to pose difficulties (Greene *et al.*, 1989). Researchers, like Tashakkori and Teddlie (2010) and Creswell and Plano Clark (2017) contended that the conceptual framework model for mixed methods research functions as an extensive guide that integrates, organises, and directs multiple facets of doing these investigations. This conceptual framework aids researchers in comprehending and executing mixed methods research proficiently and functions as a significant instrument for evaluating the rigour of published investigations (Johnson & Onwuegbuzie, 2004). The discourse surrounding the application of theoretical and conceptual frameworks in mixed methods research is expanding; however, the complete integration of these frameworks necessitates proficiency in both theoretical application and synthesis (Greene *et al.*, 1989; Creswell, 2009; Evans *et al.*, 2011), a skill often absent in many doctoral students.

Why some Students Avoid Frameworks

Doctoral students often have challenges with conceptual and theoretical frameworks in their research for numerous reasons. A prevalent difficulty is their inability to evaluate empirical data proficiently in the absence of a robust conceptual framework. Wotela (2016) emphasised the challenges encountered by multidisciplinary postgraduate students in articulating theoretical frameworks and proposes a systematic methodology for literature evaluation to enhance research result interpretation. A significant number of students possess an inadequate comprehension of these frameworks and their implementation (Chalawila & Muchanga, 2022). This problem is frequently intensified by insufficient

supervision and a lack of focus on these topics in academic curricula (Chalawila & Muchanga, 2022). Inexperienced researchers also encounter difficulties in establishing appropriate frameworks, which may impede their career advancement (Casanave & Li, 2015). Certain students prioritise research methodologies over the significance of conceptual frameworks (Chalawila & Muchanga, 2022). Moreover, there exists considerable ambiguity regarding the definition of a theoretical framework, resulting in misunderstandings among both students and experienced researchers (Ocholla & Roux, 2011). To alleviate these issues, it is advisable to elucidate abstract notions by clear explanations of theories and frameworks, so empowering students to make educated decisions and substantiate their research methodologies (Wald & Daniel, 2020). These studies collectively underscore the necessity of augmenting students' capacity to synthesise conceptual frameworks with empirical data to refine their research abilities and data interpretation.

Navigating PhD Without Framework

Theoretical and conceptual frameworks are essential for maintaining research quality by providing a systematic methodology that improves the study's reliability and consistency (Adom *et al.*, 2018). These frameworks aid researchers in understanding the phenomenon being examined, choosing pertinent hypotheses, and applying information efficiently (Sinclair, 2007). They are essential for structuring research subjects, enquiries, and procedures, as well as for synthesising diverse theoretical viewpoints and literature (Berman, 2013). Conceptual frameworks function as metacognitive instruments, assisting researchers in the active construction and application of knowledge during their PhD studies (Berman, 2013). They are essential in defining the core elements of research, such as deconstructing research questions, generating hypotheses, and establishing the philosophical foundations of the study (Costa, 2020). These frameworks are crucial for delineating study parameters and directing the entire research process (Costa, 2020). Grant and Osanloo (2014) contended that the absence of a theoretical framework renders the structure and vision of a study ambiguous, like to a home that cannot be built without a plan. In contrast, a research plan that includes a theoretical framework enables the dissertation study to be robust and systematically organised, facilitating a coherent progression from one chapter to the next.

Discussion

Berman and Smyth (2015) and Grant and Osanloo (2014) contended that a fundamental expectation for doctorate candidates is the capacity for advanced abstract reasoning, including hypothesising, theorising, and generalising. They underscore the importance of a conceptual framework in guaranteeing a good thesis. Although the literature

frequently employs "conceptual" and "theoretical" frameworks synonymously, Berman and Smyth (2015) as well Lederman and Lederman (2015) do not raise any objections with this practice. Research methodology literature typically does not explore the differences between these frameworks or the appropriate contexts and methods for their application. Both frameworks equip researchers with vital instruments for organising their work, directing the research process, articulating problems, conducting studies, analysing data, and deriving conclusions (Wald & Daniel, 2020). Incorporating theory throughout the literature review enhances researchers' ability to organise, classify, and interconnect various ideas, concepts, and outcomes.

Conceptual and theoretical frameworks can substantiate a gap in current research, hence enhancing the study's relevance. Identifying a theoretical gap is often regarded as more significant due to the higher significance placed on abstraction in academics for its generalisability (Dickson *et al.*, 2018). Theories fulfil an explanatory role at a higher cognitive level than ideas, which are primarily descriptive. A theoretical framework enables researchers to advocate more persuasively for their contributions to the wider academic discipline. These frameworks are crucial for comprehending postgraduate research as they connect significant concepts in research education, including argumentation, theorising, knowledge generation, and data analysis (Kiley & Wisker, 2009).

A student with a robust understanding of both conceptual and theoretical frameworks should be capable of constructing a well-supported, persuasive argument. This argument must correspond with the framework directing the research, whether it is predominantly theoretical or conceptual, and the student must be capable of articulating and justifying it at the requisite level of abstraction permitted by their study design (Wald & Daniel, 2020).

The dynamic characteristics of these frameworks, as observed by Berman (2013) and Miles *et al.* (2014), assist in directing judgements about other essential research concepts, including data analysis, interpretation, and research paradigms. These decisions must consistently conform to the selected research framework. According to Clarke and Lunt (2014), research students' performance is heavily influenced by the notion of knowledge creation since it has a direct bearing on the novelty and publication potential of their work, two factors that are essential for a PhD to be successful. An effectively designed framework allows researchers to advocate for the kind of knowledge produced by their research. If the framework is innovative and provides new insights or explanations, it may be regarded as a contribution to knowledge (Wald & Daniel, 2020).

Berman and Smyth (2015) presented a systematic method for assisting students in engaging with the abstract and critical dimensions of doctorate research,

particularly by comprehending conceptual and theoretical frameworks. They examine the similarities and distinctions between these frameworks and their functions in the research process. Their pedagogical method begins by highlighting the significance of abstraction, subsequently establishing ideas and theories, and then exploring the functions of conceptual and theoretical frameworks. Their objective is not to furnish better definitions but to enhance clarity, enabling students and supervisors to make informed decisions in their research endeavours. They are also developing tools to aid students and researchers in constructing robust and effective conceptual and theoretical frameworks.

Conclusion

Employing a well-defined framework in research is crucial for sustaining the study's rigour, coherence, and depth. It functions as a nautical instrument, assisting researchers in traversing the intricacies of their endeavours—from formulating study enquiries to analysing findings. Frameworks provide a systematic approach for data analysis, theory testing, and insight generation, ensuring that the study is cohesively aligned with the wider scholarly dialogue. Moreover, the selection and implementation of frameworks necessitate comprehensive engagement with the subject matter and the most appropriate methodological techniques. Research outputs have greater relevance and influence when a deeper level of involvement is applied, since it improves comprehension of the research topic and elevates the study's design and quality.

This paper underscored the essential function of theoretical and conceptual frameworks in improving the rigour and clarity of research. Various theories offer distinct viewpoints on the same issue, and it is the responsibility of each researcher to choose the most suitable framework for constructing their argument, delineating the study challenge, and interpreting results. Maintaining the theoretical framework as a priority is crucial for substantiating the research questions, highlighting the study's significance, and directing the research design and analysis. In the absence of a robust framework, the data collected for a dissertation may lack depth and significance, diminishing the use of the results and conclusions.

Finally, the paper emphasised the significance of theoretical and conceptual frameworks, elucidating their definitions, unique functions in the research process, and the distinctions between them. Additionally, it describes how to choose these frameworks and what happens if they are not used in conducting research. For researchers and students, adeptly incorporating a theoretical or conceptual framework into their research is essential, as it enhances the whole investigation, yielding a more rigorous and thorough study. Indeed, undertaking a

PhD devoid of a theoretical and conceptual framework is akin to embarking on a voyage without a roadmap.

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