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Assessment of Fee Variability among Built Environment Professionals in South Africa: A Comparative Analysis

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Abstract: Project success has often been impacted by varying factors, such as conflict arising from managing stakeholders' remuneration, especially bordering on the scale of fees. This paper delves into the intricate landscape of fee variability among built environment professionals in South Africa. By scrutinizing the most recent available data, this research sheds light on the nuanced fee structures prevalent in the industry. To conduct this investigation, a comparative analysis of fee scales across various professions in South Africa was performed. This research employed historical project cost data extracted from an extensive dataset, encompassing project values, fees, and fee percentages for diverse professions involved in projects from 2014 to 2022. This study revealed that low scale levels are associated with poor performance and lead to conditions and attitudes that pose dangers for consultants. This study provides strategies for a firm's resilience and adaptability in the face of the dynamics associated with fees.

Keywords: professional fees; variability; built environment; construction industry; scale of fees; project delivery

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1. Introduction

The capacity of professional services in the built environment to produce revenue and employment has contributed to the significant impact of the built environment on socio-economic development [1,2]. When an individual of professional standing presents themselves as possessing the necessary qualifications in a specific professional field, they are thereby implying their ability to provide services related to said profession at the requisite level of proficiency and knowledge. In the built environment, most professions are characterized by a client-centric approach, where practitioners are required to be responsive to client demands and actively engage in self-initiated professional development. The primary focus in the upcoming decade will be on the imperative of accurately predicting and effectively meeting evolving client demands. The implication of that is that professionals and firms can be affected by changes in client payment agreements.

However, while there are value-adding services and development, few studies have focused on challenges associated with the operationalization of firms from this standpoint. The effectiveness of construction or built environment consultants has a significant impact on the overall quality of infrastructure facilities as well as the sustainability of the project [3]. Project performance and the success of infrastructure delivery have been strongly linked to an enabling environment for professionals involved in a project to deliver effectively. As previously indicated by existing studies, the construction industry is globally known to be unfriendly to professionals [2].

Therefore, conflicts arising from financial disagreements over payment and the scale of professional fees have been found to be a critical factor influencing project success in sub-Saharan Africa [4,5].

Harsh economic realities and the shrinking pool of profit from taxation and overhead costs have further brought payment issues to the limelight on how professionals involved

in a project are [2,6] remunerated. Because of the market's competitiveness, it is common practice in the South African construction industry for professionals to provide heavily discounted professional fees on building projects. This is owing to the fact that the market is so competitive. This decrease in costs typically offered by professionals lies somewhere in the middle of the suggested rates published by the regulatory body and a fee far lower than what would be considered reasonable compensation for the services being provided [7,8]. The level of profitability, expansion, and, to a significant extent, reputation that construction companies enjoy is directly proportional to the degree to which the projects in which they are involved are effectively remunerated. However, as stated by Okonkwo & Wium [9], the scale of fees for professional remuneration has declined over the years for some professions while others have increased. This uneven distribution of fees has attracted challenges within the South African built environment. The ability to provide professional services that are of such high quality that they fulfill the expectations of the client as well as professional and ethical requirements while working for modest fees is one of the greatest obstacles that consulting professionals face in the modern era. This is of utmost importance, given that the commitment of professionals to ensuring the success of the project is strongly linked to incentives. The practice of discounting professional fees benchmarked against the stated professional fee guidelines is partially responsible for the drop in professional fees seen in the country over the years. Another contributing factor is the use of competitive tendering [9]. This problem is well identified in the South African built environment. As stated by Adendorff et al. [2], the challenge with fee variability is that professionals are remunerated far less than anticipated, and this knowledge can influence how professionals perceive their commitment and contribution to the project.

Understanding fee variability in the built environment sector in South Africa is significant because of its profound impact on the socioeconomic development of the nation. The sector is prominent for its contribution to revenue generation and employment opportunities. Professions in the built environment are characterized by a client-centric approach, emphasizing responsiveness to client demands. The unintended consequence of this is downplaying the needs of the professionals to be motivated to execute the project effectively. It is, therefore, not surprising that the effectiveness of construction consultants directly impacts infrastructure quality and project sustainability. Fee-related conflicts have been identified as critical factors influencing project success in sub-Saharan Africa, emphasizing the need for a comprehensive assessment.

Therefore, this study's primary objective is to provide a comprehensive and up-to-date comparative analysis of scale fees across different professions within the built environment sector. By scrutinizing the most recent available data, this research sheds light on the nuanced fee structures prevalent in the industry and discusses the implications of this. One of the core ambitions of this study is to uncover any disparities or inconsistencies in the existing fee-scale structures. These discoveries prompt the formulation of recommendations to foster equity, fairness, and competitive balance among professionals. Furthermore, this paper delves into the factors contributing to the variability of fees among professionals in the built environment. This examination provides a holistic understanding of the fee-setting process, enabling practitioners to make informed decisions. Incorporating historical data and trends, the study spans multiple years to offer an expansive view of professional fees across diverse built environment disciplines.

The study's objectives, therefore, are:

1. To comprehensively compare fee scales for different built environment professions, taking into account the latest available data.
2. Examine how fee scales have evolved in response to changing industry dynamics, regulatory changes, and shifts in demand for professional services.
3. To highlight discrepancies or misalignments in fee-scale structures across various built environment disciplines and recommend adjustments that promote fairness and competitiveness among professionals.

In contributing to knowledge, the study highlights the shift in the purpose of professional fee scales over the years. Initially intended for recommendation, they have transformed and are now considered mostly useless for their original purpose. It is shown that the generally poor performance in the building business is linked to excessively low scale levels, posing dangers for consultants. Low professional fees are identified as a contributing factor, influencing conditions and attitudes. This study provides insights into strategies for firms to address challenges, emphasizing the development of pricing capabilities, service differentiation, and digitization. These responses are crucial for firms to generate revenues and improve profitability. Firms in the built environment are intricately tied to the long-term benefits derived from project fees. The appropriate administration of professional fees is crucial for the growth and survival of construction companies, particularly in the face of economic challenges. This study underscores the vulnerability of SMEs in the construction industry to professional fee payment infractions. The inappropriate practice associated with professional scale fees has resulted in calls for their removal, especially for micro- and small-sized businesses. The global trend towards eliminating tariffs on professional fees is discussed, highlighting the impact of market competition on fee levels. This study emphasizes the need for industry stakeholders to revitalize fee scales for fair compensation. It also calls for further research in academia on the relationships between client fees and project success. Policymakers are urged to advocate sustainable policies and collaborate for fair compensation and improved project outcomes. This study is divided into sections. Section 1 discusses the introduction of the topic, provides background, and explains how the objectives were formulated. Section 2 gives a succinct review of the literature in the area. Section 3 gives this research method. Section 4 discusses the findings of this study. Sections 5 and 6 state this study's discussion of findings and conclusions by mentioning its limitations and future directions.

2. Literature Review

2.1. Overview of the Built Environment Sector in South Africa

The built environment sector in South Africa is a complex and dynamic ecosystem that brings together various disciplines. The South African built environment has had a decade marked by significant expansion and success, particularly as a direct result of the significant infrastructure spending undertaken by the South African government [2,10,11]. The government has further maintained the need for a strategic framework to guide the growth of the built environment sector, emphasizing sustainable development, infrastructure investment, and improved service delivery. The built environment sector in South Africa is a critical driver of economic and social development. However, the challenge of fee variability among construction professionals presents a significant obstacle to achieving optimal sector performance. Addressing this challenge requires collaboration among professional bodies, regulatory authorities, industry stakeholders, and clients. Standardizing fee structures, enhancing transparency, improving professional education, and fostering ethical practices are crucial steps toward creating a more equitable and sustainable built environment sector in South Africa [4,12].

In the South African built environment, it is commonly believed that the construction sector is plagued by hostile relationships between project stakeholders, ultimately leading to conflicts. This has been largely attributed, amongst other things, to issues over fees between the professionals and the clients [9]. South African consultants working in the built environment are exposed to potential financial risks as a result of customers' expectations that some elements of their work will be completed at risk. Therefore, consultants would finish high-risk projects in exchange for the potential of receiving compensation further down the line [2,13]. A contact between a practitioner and a client that allows the client to assess the quality of the services delivered is considered the definition of professional service [1]. In addition to this, professional services are distinguished by a significant emphasis placed on in-depth industry knowledge. As a result, businesses that provide professional services need to staff their teams with individuals who are knowledgeable in

their respective professions [14–16]. However, while clients largely understand the essence of professionalism, there is a huge reluctance to appropriately compensate for this expertise.

In spite of the fact that there are a variety of pricing strategies, one of the most common approaches for determining the cost of professional services is the percentage fee determination method, which involves allocating percentages to services rendered at a number of different stages of the construction project [1,14]. As a result, the variety of client requirements and expectations in the sector could be prone to subjectivity, imprecision, inexhaustibility, and complexity [17]. The authors further stated that, unfortunately, the selection of contractors in the construction sector is mostly driven by cost rather than value, most of the time. This may be because of the recent economic downturn and the limited economic power of clients. Enhancing transparency in fee negotiations and educating both clients and professionals about the intricate facets of construction projects would aid in aligning expectations and fostering a more cooperative environment. Ethical practices within the industry would mitigate instances of fee undercutting and bribery, ensuring a level playing field for all professionals involved.

2.2. Fee Variability in the Built Environment

One of the enduring challenges within the South African built environment sector is the variability of fees among construction professionals. Fee variability refers to the disparities in the charges and remuneration demanded by different professionals for similar services. This challenge has deep-rooted causes and far-reaching consequences that impact the sector's efficiency, equity, and overall performance [18]. The economic incentive that is connected with having good fees is directly tied to project performance, and as a result, it is a critical determinant in determining whether or not construction projects are successful [4,19]. This has been considered essential as it is intricately linked to motivation. While professional bodies have stated that consulting services are not a commodity and, as such, the use of competitive tendering procurement procedures that are based on price is inappropriate, it is important to note that these bodies have also maintained that consulting services are not a commodity. This argument is predicated on the fact that while it is possible to draft specifications against which the quality of commodities (physical things) will be evaluated, such specifications cannot be easily written up for consulting services. While it is possible to draft specifications against which the quality of commodities (physical goods) will be evaluated [20].

Low professional fees have been indicated as a source of risk to the success of a project [9,21]. This is because professionals will be inclined to give less consideration to discharging expertise, produce simpler project information, bid low with the intention of doing less than in the enquiry, and make up fees with claims and variations. Consequently, there will be a decline in the quality of professional services, which will pose a risk to the practice of consultants. Problems with quality frequently lead to "unsafe structures, delays, cost overruns, and disputes in construction contracts". However, extant studies by Hoxley [6] in the U.K. also revealed that differences in fee levels cannot be empirically linked to a low quality of professionalism. In describing the South African built environment, Adendorff et al. [2] stated that certain phases of the economic cycle put professional consultants in the built environment in a position where they have no choice but to take risks in their work. There is not yet a well-defined compensation mechanism for consultants working in high-risk environments in South Africa. The expectation that professionals should put their time and the products of their intellectual labor at risk is growing. The inclination among developers and employers is to use this situation to some degree for their own financial gain. Several reasons have been attributed to the disparities in how professionals are remunerated and their fee variability.

For instance, Cruywagen & Snyman [7], in an evaluation of quantity surveyors' affordability in South Africa, discovered that quantity surveying services can be made affordable; nevertheless, the quantity surveyor is more vulnerable to the risk of not being able to make the service affordable on certain types of projects, and the risk further increases when the

value of the project decreases. It also implied that clients' contractual offer of a largely reduced remuneration often decreases their willingness to give their total effort to the project's success as the professionals are given to sourcing for other means of income. In light of these complexities, bridging the gap in fee variability necessitates a multifaceted approach. Collaboration among industry stakeholders, including professional bodies, regulatory authorities, and clients, is vital. By fostering a deeper understanding of the intricate nature of professional services and their value, clients can be encouraged to prioritize fair compensation over cost considerations alone. In essence, recognizing the nuanced relationship between fees and project outcomes is pivotal for the evolution of the South African built environment sector. Addressing fee variability is not just about equitable compensation; it is about elevating the entire sector's performance, fostering professionalism, and ensuring that consultants can deliver their expertise without compromising on quality. Through concerted efforts to establish transparent fee structures and educate stakeholders, South Africa's built environment can thrive sustainably, benefiting professionals, clients, and the nation.

Current Fee Levels

The Association of South African Quantity Surveyors (ASAQS) publishes a suggested tariff of professional fees at regular intervals. This recommended tariff is the foundation for deriving a fee proposal for a building project for private clients. When work is carried out for government departments, the fee scale is used unconditionally almost all of the time. This is under the condition that the most recent tariff of fees that was approved by the National Department of Public Works and published in a government gazette is used (it typically takes some time between the publication by the ASAQS and the approval by the government) [7]. Two main challenges have arisen from this: although the tariff of fees is being used as a basis for fee negotiation, quantity surveyors are being forced by the market's competitiveness to submit discounted fee proposals. These proposals usually fall somewhere between the recommended fees as published and a fee significantly lower than what would be considered a fair remuneration for the services being provided. This is not unique to the profession of quantity surveying or even to South Africa. Secondly, bodies such as ASAQS have recently not developed a more updated scale of fees to compete favorably with other professional bodies.

These circumstances often lead to desperation, which affects the success of a project. Current studies have advanced the need for the introduction of innovative approaches in project delivery through digitalization [22–24]. However, other issues, such as fee variability, are still relevant in broadening the insights on critical factors influencing project failure. To this end, it is neither in the client's interest nor in the project's interest for the consulting professional to be selected based on the lowest charge rather than the quality of service. It neither benefits the client nor the project [25,26]. The significant degree of disparities across consulting businesses suggested that while some consulting firms could claim an increase in earnings, most consulting firms reported a reduction in earnings. This was the case, despite the fact that some consulting firms were able to report an increase. Even though there was a significant increase in the number of consulting companies unhappy with their profit margins, the vast majority of consulting businesses continued to believe that their profit margins were either sufficient or good [18].

2.3. Fee Variability and Project Performance

It is possible that different construction companies, each of which is subject to a unique combination of dynamic institutional and task environment influences, will come to different conclusions regarding the factors that determine the success of a certain project [4]. It is, however, unanimously agreed that the satisfaction of project stakeholders is imperative to project performance and the success of infrastructure delivery. Previous studies have attributed motivation and effort on projects by professionals to be linked with the satisfaction of professionals, as fee reduction invariably affects quality [26,27]. However, beyond

mostly anecdotal and descriptive reporting on the fundamental role that fee structure plays in determining project success, nothing has been carried out to explore the extent to which project performance and fee structure are empirically associated.

This is something that has been carried out relatively little in construction management research. Even the limited body of material that is now available lacks a conceptual framework to explain how the performance of a construction project is affected by economic incentives such as fee scales in connection to other significant contextual factors that are part of the larger construction environment. The current understanding of the dynamic interplay between the many factors that determine the success of a project is incomplete and, at best, uncertain. This is because there is a dearth of theory and study in this particular field. Companies are typically founded to offer a certain product or service to a specified demographic for an extended period of time. However, there are a few obstacles that could be in the way of the consistent delivery of services to customers by the organization. An example of this would be the incorrect administration of the fee scale.

Hoxley [6] investigated fee tendering services in the U.K. and discovered no relation between varying fee levels and professionalism; however, Okonkwo and Wiam [9] brought to the limelight the impact of discounted fees on project performance in the South African industry. In recent years, there has been a rising controversy in the South African construction industry about the influence of discounted rates on a perceived deterioration in the quality of professional services offered by professionals in the built environment. This argument has been sparked by the perception that the quality of professional services provided by professionals in the built environment has been declining [28]. This is not only peculiar to the South African construction industry, as other studies such as Adesi et al. [1] have identified challenges in fee variability and remuneration as critical in influencing the ability of professional firms to respond to contractual arrangements.

A significant amount of variance among consulting firms suggested that some firms were able to claim an increase in earnings, while the majority of consulting firms reported a reduction in earnings [2]. In conclusion, the intricate relationship between fee variability and project performance remains a critical enigma in the realm of construction. While it is universally acknowledged that stakeholder satisfaction is vital, the tangible connection between fee structures, professional motivation, and project outcomes demands comprehensive exploration. Bridging this knowledge gap enriches the understanding of project success determinants and empowers professionals, clients, and stakeholders to shape a more effective and thriving construction landscape. The industry can only shed light on the multifaceted interplay governing project performance in fee variability through sustained research, theoretical development, and empirical investigations.

2.4. Overview of Professional Fees in Africa

Regulations surrounding fees for construction professionals can vary widely across African countries due to differing legal systems, levels of development, and economic structures [29]. Many countries in Africa have a specific body or council that regulates the construction industry, such as the National Construction Authority in Kenya or the Construction Industry Development Board in South Africa [30]. These bodies often set standards, qualifications, and guidelines for fees for construction professionals. Also, the built environment profession is structured differently across the continent; for instance, while building is a professional discipline in Nigeria recognized by the constitution with its own professional bodies, the discipline is not recognized in South Africa. Hence, while there are fee provisions for Builders in Nigeria, they are nonexistent in South Africa. Fees can be determined by various factors, such as project complexity, location, professional experience, and scope of work [31]. Some countries have stipulated fixed fee structures, while others allow market forces to determine fee levels [32]. The fee structure across Africa is different for consulting services, project management, construction, and post-construction services [33,34]. In Nigeria, for instance, the Council for the Regulation of Engineering in Nigeria (COREN) regulates engineering professionals and services. The professional

fee is set by these regulatory bodies and subject to statutory approvals. The fees are also sectioned based on the total contract amount and type of project. Fees for other professional bodies are also often influenced by stipulations from various professional bodies managing each discipline, such as the Nigerian Institute of Architects (NIA), the Nigerian Institute of Building (NIOB), the Nigerian Institute of Quantity Surveyors (NIQS), and the Nigerian Society of Engineers (NSE), among others. In Kenya, the National Construction Authority (NCA) and the Board of Registration of Architects and Quantity Surveyors (BORAQS) regulate construction professionals and their fees. They establish standard scales of fees and provide guidelines for professional conduct in the construction industry. This is also similar to Ghana, where regulatory bodies such as the Ghana Institution of Engineers (GhIE) and the Architects Registration Council (ARC) may provide guidelines and standards for fees. Payment for construction professionals often follows a structured format, usually involving a percentage of the total project cost. Progress payments, milestone-based payments, and upfront payments are commonly used payment structures across the continent.

3. Materials and Method

The importance of understanding project fee variability across professions cannot be understated. It provides insights into industry growth, economic viability, and potential areas of conflict. This paper focuses on the trends in fee variability between 2014 and 2022 over the years, identifying patterns and anomalies that could guide future strategies for professionals and stakeholders. This study investigated the comparative analysis of the scale of fees across different professions within the built environment sector. To address this, the study analyzed historical project cost data from specific case studies in the Gauteng region of South Africa. Data were sourced from an extensive dataset detailing project values, fees, and fee percentages for various professions from 2014 to 2022 from different case studies. This project data were retrieved from the project managers in charge of the projects identified. However, the project name was not stated due to ethical and privacy considerations. Document analysis was adopted to review the contract documents for the required project cost data. This was then analyzed using descriptive analysis and discussed extensively. Project case study criteria were based on projects over R46,897,745, and those were the scale of fees published by the government. These were all projects within the Gauteng region. The project criteria are presented in Table 1, and the professionals involved in the project are presented in Figure 1. Contractual documents based on the project identified in Table 1 were analyzed, and the information extracted includes the total project, cost, and cost for remuneration of each professional involved in the project. The summary of the results focuses on detailing the insights from the analyzed data and is presented in graphs and charts in Section 4.

Table 1. Project Criteria.

Project ID	Project Location	Project Type	Year of Delivery	Total Project Cost
A	Gauteng, South Africa	Library	2014	246,881,324
B	Gauteng, South Africa	Sport Centre	2015	56,313,594
C	Gauteng, South Africa	Recording Studio	2016	569,916,541
D	Gauteng, South Africa	School	2017	466,184,021
E	Gauteng, South Africa	Sport Centre	2018	49,550,000
F	Gauteng, South Africa	School	2019	172,243,754
G	Gauteng, South Africa	School	2020	260,869,565
H	Gauteng, South Africa	School	2021	110,900,153
I	Gauteng, South Africa	School	2022	46,897,745

Figure 1. Professionals Sampled.

Professionals

Figure 1 shows the professionals involved in the projects selected for this study, and the scale of fees requested for inclusion is presented. They are Architects, Civil Engineer, Electrical Engineer, Health and safety professionals, Project Managers, Quantity Surveyor, and Structural Engineer. All those considered are registered professionals in the South African built environment.

4. Results

4.1. Scale of Fees across Professionals in the Built Environment

Across the board, there were pronounced variations in the scale of fees across the professions. The Engineering Council of South Africa (ECSA) regulates all engineering professionals and describes their professional fees. To this effect, it is guided by a statutory document on the Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 46 of 2000. The amount is calculated per the schedule and excludes the Value Added Tax. The scale of fees for the engineering profession was last updated until 2021. Project stages are defined as Inception, Concept and Viability (often called preliminary design), Design Development (also termed detailed design), Documentation and Procurement, Contract Administration and Inspection, and Close-Out. Also, it is stated that the client and consulting engineer should agree on a satisfactory arrangement for construction monitoring that suits the type of work, the project location, and the duration of the critical aspects of the work. The guideline further states that although the tariff of fees provided in this schedule applies to a wide variety of projects, the criteria that impact the fees that must be paid for design services on a project are complicated and depend on many contributing factors. These include Project complexity, Monetary value of the work, Time duration, Level of responsibility, liability, and risk, Level of expertise, qualifications, skills, and experience, and level of technology. In order to obtain a percentage rate that is finally agreed upon, fee talks would normally begin by using these starting figures and making judgments based on the intricacy of the project. The total amount of the fee that needs to be paid will typically be calculated based on the total cost of the work or any other factor that has been adequately agreed upon [35]. The

basic fee for normal services in civil and structural engineering disciplines pertaining to Engineering Projects is shown in Table 2, but is restricted to the minimum and maximum value for building projects.

Table 2. Table showing the tariff of fees range for different registered professionals.

Professions	Establishing Act	Scale of Fees Publication Date	Marginal Rate	
			Minimum Value	Maximum Value
Architect	Section 34 (2) of the Architectural Profession Act, 2000 Act 44 of 2000	2021	Primary fee plus secondary fee of 14.90% for balance over 20,000,100	Primary fee plus secondary fee of 6.44% on balance over 104,000,000,100
Civil Engineer	Engineering Profession Act, 46 of 2000	2021	Primary fee plus secondary fee of 15% on P > R850,000 <R1 899,000	Primary fee plus a secondary fee of 9% on P > 94,960,000 < R572,000,000.
Electrical Engineer	Engineering Profession Act, 46 of 2000	2021	Primary fee plus a secondary fee of 18% on P > R850,000 < R1,899,000	Primary fee plus secondary fee of 10% on P > R94,960,000 < R572,000,000
Health and Safety	Section 34 (2) of the Project and Constructions Profession Act (Act No 48 of 2000)	2021	Primary fee plus secondary fee for 2.93% > 11,200,000 and	Primary fee plus secondary fee for 1.01% > 287,940,000
Project Manager	Section 34 (2) of the Project and Constructions Profession Act (Act No 48 of 2000)	2019	Primary fee plus secondary fee of 8% for value over 1 000,000.00	Primary fee plus secondary fee of 2.58% for value over 3 000,000,000.00
Quantity Surveyor	Quantity Surveying Profession Act, 2000 (Act 49 Of 2000)	2015	Primary charge and marginal rate of 8.00% on balance over R 1,000,000	Primary charge and marginal rate of 2,44% on balance over R 3,000,000,000
Structural Engineer	Engineering Profession Act, 46 of 2000	2021	Primary fee plus a secondary fee of 18% on P > R850,000 < R1 899,000	Primary fee plus secondary fee of 10% on P > R94,960,000 < R572,000,000

For professional construction health and safety agents (PrCHSA), a call was released in 2022 to provide input on the document. The SACPCMP issued and developed the guideline tariff for professional documents. In order to increase the scale of fees from 2019 to 2021, the increase in project costs and the increase in service fees within this range were considered. The South African Council for the Project and Construction Management Professions has, under Section 34 (2) of the Project and Construction Management Profession Act, 2000 (Act No. 48 of 2000), determined the guideline scope of services and tariff of fees in the schedule [36]. Of all the professions, the South African Council for the Quantity Surveying Profession maintains the oldest document with no review. This Guideline Tariff of Professional Fees provides an equitable foundation for assessing the scope of work necessary for any specific construction or engineering project and the accompanying pay, which consists of the fee and disbursements to be paid for professional quantity surveying services [37]. In the guideline, the document is set to be valued for purposes with a primary charge and marginal rate. The rest of the details are in Table 2. A factor of adjustment is going to be added to the fee in order to take into consideration the factors that will either increase or lower the cost. These factors include things like risk, complexity, market circumstances, and other similar factors.

The Guideline Professional Fees for the Architectural profession are in respect to Act 2000 Act 44 of 2000. The profession differentiated between low-complexity projects and high-complexity ones. Method A, Project Cost-Based Fee, is based on the full scope of standard services provided. The method of fee calculation is the Primary Fee (C)

and Secondary Fee (D) for the applicable Cost Bracket of Value of Works, Calculated as (Applicable Value of Works minus Column E) × % in terms of Column D. Method B is a time-based fee; it is Description—Estimate the number of hours needed to carry out the agreed scope of work using the table below and the preferred method [38]. Further details are presented in Table 2. In comparing the major fee documents across the professions, it is seen that they differ in scale. While this is not surprising given the level of expertise and role on the project, it is surprising that the scale of fees is not updated across the board. Also, it is noticed that some professions grade their fees based on the project's complexity level.

4.2. Fee Comparison across Professionals in the Built Environment

Across the board, there were pronounced variations in the total project values for each profession from 2014 to 2022, as shown in Table 3. This study compares professionals' fees in the built environment from 2014 to 2022 based on historical project cost data from selected case study projects. The findings showed that the total project cost was R1,979,756,697 for all nine projects between 2014 and 2022. For the Architect, the total project cost was 1,979,756,697 rands, with fees received amounting to 89,814,619 rands, which made up 4.54% of the cost. For the Civil Engineer, the total project cost was 1,934,661,198 rands, with fees received amounting to 23,930,072 rands, making up 1.24% of the total project cost. For the Electrical Engineer, the total project cost was 1,956,800,106 rands, with fees received amounting to 18,526,444 rands, which comprised 0.95% of the total project cost. For the Health and Safety professional, the total project cost was 1,979,756,697 rands, with fees received amounting to 10,577,676 rands, making up 0.53% of the total project cost. For the Project Manager, the total project cost was 1,979,756,697 rands, with fees received amounting to 58,431,753 rands, making up 2.95% of the total project cost. For the Quantity Surveyor, the total project cost was 1,979,756,697 rands, with fees received amounting to 58,382,742 rands, making up 2.95% of the total project cost. For the Structural Engineer, the total project cost was 1,557,652,676 rands, with fees received amounting to 20,557,474 rands, making up 1.32% of the total project cost. The data depicted both growth and decline periods, signifying the industries' dynamic nature. In the built environment sector, the assessment of professional fees has emerged as a critical aspect influencing the dynamics of project economics. The results of this analysis shed light on the intricate relationship between professional fees and project costs. As cornerstone contributors to project envisioning, architects wield substantial influence over the financial framework. This can be seen with regards to fees for the Architect; the total project cost was 1,979,756,697 rands, with fees received amounting to 89,814,619 rands, which made up 4.54% of the cost. This suggests that architectural services play a significant role in project expenses. This is not surprising, as the Architect leads the building team in most countries. The observed architectural fees, representing 4.54% of the total project cost, underscore their pivotal role in shaping the cost structure. On the other end of the spectrum, despite their indispensable role in ensuring project compliance and worker welfare, health and safety professionals exhibit a modest financial impact, with fees constituting only 0.53% of total costs.

Table 3. Fee comparison across professionals in the built environment.

Profession	Total Projects	Fees	Fee Percentage
Architect	1,979,756,697	89,814,619	4.54%
Civil Engineer	1,934,661,198	23,930,072	1.24%
Electrical Engineer	1,956,800,106	18,526,444	0.95%
Health and Safety	1,979,756,697	10,577,676	0.53%
Project Manager	1,979,756,697	58,431,753	2.95%
Quantity Surveyor	1,979,756,697	58,382,742	2.95%
Structural Engineer	1,557,652,676	20,557,474	1.32%
Other	7,897,513,324	32,170,146	0.41%

This variance, as seen in Figure 2, suggests that while some roles wield direct influence over project finances, others contribute in ways that will force clients to consider discounting the fees for affordability considerations.

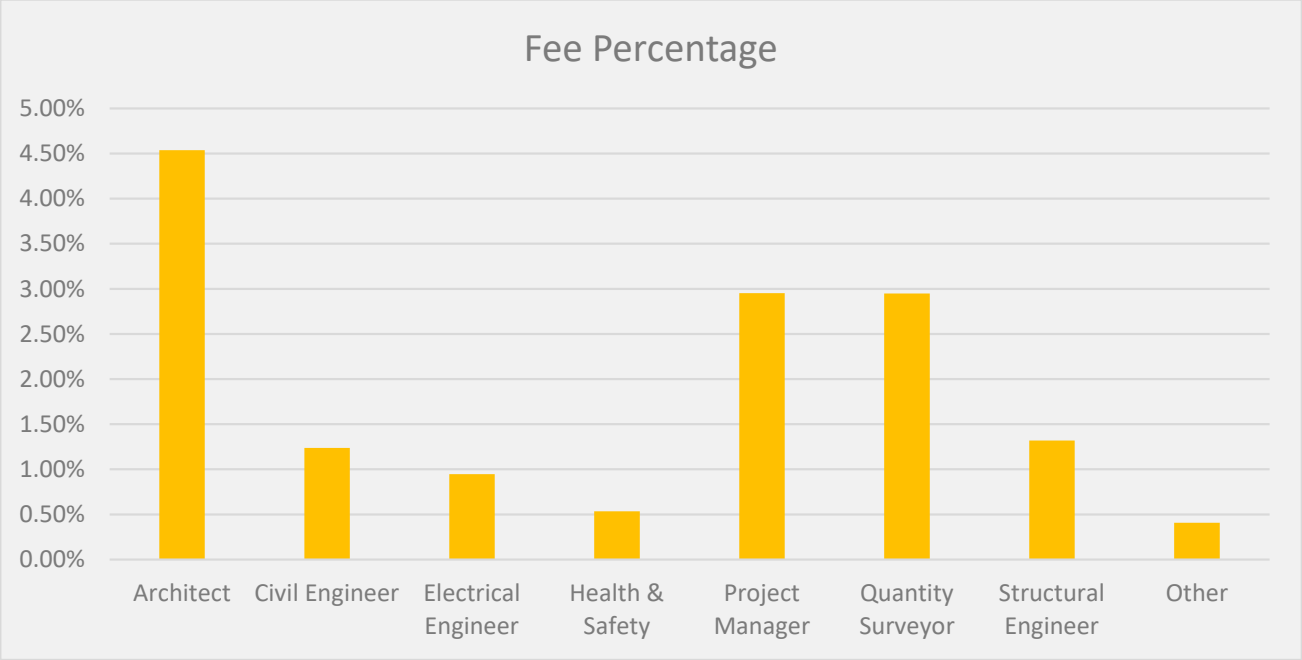

Figure 2. Fee percentage across professionals in the built environment.

The quantified variability in fees across disciplines brings a deeper discussion of its implications for the construction sector. The analysis reveals that the fee structures of professionals exhibit distinct trends. While architectural, project management, and quantity surveyor fees collectively form a substantial portion (approximately 10.44%) of the total project cost, fees from other disciplines, such as civil, electrical, and structural engineers, exert a comparatively lesser financial impact. This fee variability carries significant implications. It suggests a bifurcation in terms of financial exposure for different disciplines. The sector's vulnerability to economic fluctuations and market trends might not be uniform across roles. Disciplines with substantial fees could potentially bear a greater brunt during economic downturns, while those with lower fees may be relatively insulated. This raises pertinent questions about the sector's resilience and the long-term sustainability of fee structures. Implications of this abound in the literature, where professionals have been highlighted as having reduced commitment to project success for these reasons. Ultimately, fee variability prompts an exploration of the fine balance between value addition and cost efficiency. The sector must avoid the temptation to solely equate fees with costs, recognizing that the influence of certain roles extends beyond the financial realm. Balancing fee structures with service quality is imperative to uphold project integrity and ensure positive outcomes. It also serves to mitigate the risk of fee-driven compromises in service excellence.

4.3. Evolution of Fees of Professionals in the Built Environment from 2014 to 2022

Tables 4–6 showcase the different fees applied to specific projects and how they differ between the professions. Between the years 2014 and 2022, the fees for the key professionals revealed that in 2014, the total project cost was 246,881,324 rands, and the Architect had 8,856,635 rands in fees, making about 3.59% of the project cost. In the same year and on the same project, the Civil Engineer received 2,841,559 rands, making about 1.15% in fee percentage. Also, the Quantity Surveyor received 6,820,148 rands, or about 2.76% of the fee percentage.

Table 4. Professional fees on case projects between 2014 and 2016.

Profession	2014			2015			2016		
	Total Projects	Fees	Fee Percentage	Total Projects	Fees	Fee Percentage	Total Projects	Fees	Fee Percentage
Architect	246,881,324	8,856,635	3.59%	56,313,594	2,289,237	4.07%	569,916,541	36,403,980	6.39%
Civil Engineer	246,881,324	2,841,559	1.15%	56,313,594	421,587	0.75%	569,916,541	6,344,305	1.11%
Electrical Engineer	246,881,324	1,164,110	0.47%	56,313,594	468,166	0.83%	569,916,541	6,737,077	1.18%
Health and Safety	246,881,324	944,029	0.38%	56,313,594	159,597	0.28%	569,916,541	4,246,750	0.75%
Project Manager	246,881,324	6,695,381	2.71%	56,313,594	1,170,415	2.08%	569,916,541	18,543,371	3.25%
Quantity Surveyor	246,881,324	6,820,148	2.76%	56,313,594	2,333,903	4.14%	569,916,541	19,979,394	3.51%
Structural Engineer	246,881,324	2,481,242	1.01%	56,313,594	223,692	0.40%	569,916,541	12,212,465	2.14%
Other	1,481,287,945	5,259,360	0.36%	337,881,564	1,380,414	0.41%	1,679,775,325	6,799,852	0.40%

Table 5. Professional fees on case projects between 2017 and 2019.

2017			2018			2019		
Total Projects	Fees	Fee Percentage	Total Projects	Fees	Fee Percentage	Total Projects	Fees	Fee Percentage
466,184,021	26,877,385	5.77%	49,550,000	1,040,550	2.10%	172,243,754	3,980,345	2.31%
421,088,522	6,016,709	1.43%	49,550,000	322,075	0.65%	172,243,754	2,202,499	1.28%
443,227,430	6,797,492	1.53%	49,550,000	99,100	0.20%	172,243,754	1,042,363	0.61%
466,184,021	4,224,862	0.91%	49,550,000	39,640	0.08%	172,243,754	360,000	0.21%
466,184,021	21,736,164	4.66%	49,550,000	505,410	1.02%	172,243,754	2,442,803	1.42%
466,184,021	15,982,729	3.43%	49,550,000	991,000	2.00%	172,243,754	3,432,138	1.99%
424,949,565	3,995,933	0.94%	49,550,000	322,075	0.65%	52,243,754	769,392	1.47%
503,557,435	6,911,116	1.37%	297,300,000	1,093,791	0.37%	1,085,706,277	3,574,992	0.33%

Table 6. Professional fees on case projects between 2020 and 2022.

2020			2021			2022		
Total Projects	Fees	Fee Percentage	Total Projects	Fees	Fee Percentage	Total Projects	Fees	Fee Percentage
260,869,565	4,304,348	1.65%	110,900,153	3,206,608	2.89%	46,897,745	2,855,531	6.09%
260,869,565	2,347,826	0.90%	110,900,153	1,719,242	1.55%	46,897,745	1,714,271	3.66%
260,869,565	782,609	0.30%	110,900,153	855,231	0.77%	46,897,745	580,297	1.24%
260,869,565	391,304	0.15%	110,900,153	36,845	0.03%	46,897,745	174,649	0.37%
260,869,565	3,130,435	1.20%	110,900,153	2,595,344	2.34%	46,897,745	1,612,430	3.44%
260,869,565	3,782,609	1.45%	110,900,153	2,546,953	2.30%	46,897,745	2,513,868	5.36%
-	-		110,900,153	299,366	0.27%	46,897,745	253,309	0.54%
1,565,217,391	5,634,783	0.36%	665,400,918	848,021	0.13%	281,386,469	667,816	0.24%

In 2015, the total project cost was 56,313,594 rands, and the Architect had 2,289,237 rands in fees, making up about 4.07% of the project cost. In the same year and on the same project, the Civil Engineer received 421,587 rands, making about 0.75% in fee percentage. Also, the Quantity Surveyor received 2,333,903 rands, or about 4.14% of the fee percentage (as seen in Figure 3). In 2016, the total project cost was 569,916,541 rands, and the Architect had 36,403,980 rands in fees, making about 6.39% of the project cost. In the same year and on the same project, the Civil Engineer received 6,344,305 rands, making about 1.11% in fee percentage. Also, the Quantity Surveyor received 19,979,394 rands, or about 3.51% of the fee percentage.

The total project cost was 466,184,021 rands in 2017; the Architect had 26,877,385 in fees, making up about 5.77% of the project cost. In the same year and on the same project, the Civil Engineer received 6,016,709 rands, making about 1.43% in fee percentage. Also, the Quantity Surveyor received 15,982,729 rands, or about 3.43% of the fee percentage. In 2018, the total project cost was 49,550,000 rands; the Architect had 1,040,550 rands in fees, making about 2.10% of the project cost. In the same year and on the same project, the Civil Engineer received 322,075 rands, making about 0.65% in fee percentage. Also, the Quantity Surveyor received 991,000 rands, making about 2.00% of the fee percentage.

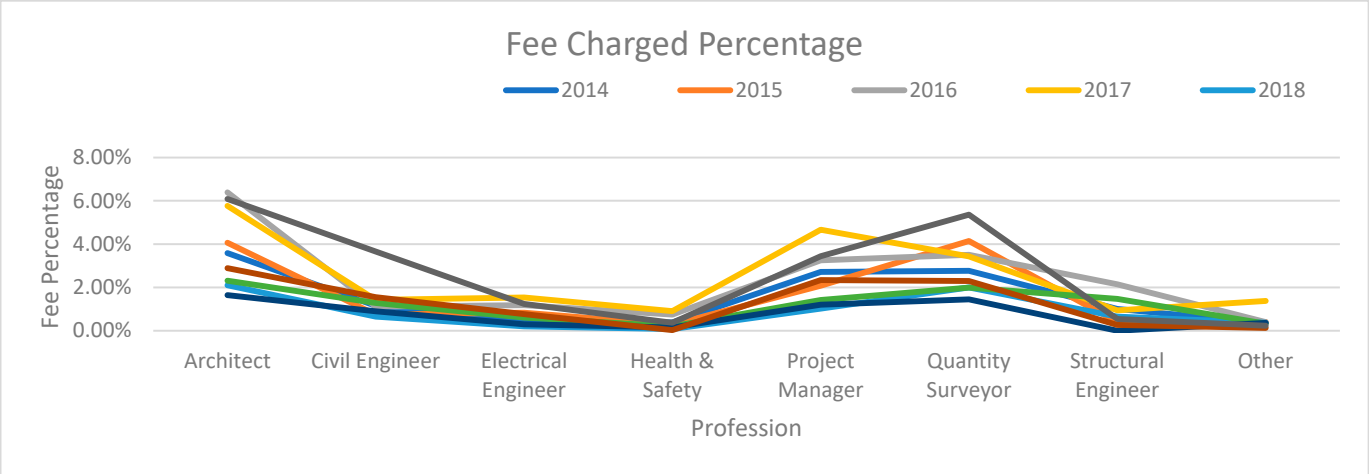

Figure 3. Fee charged percentage across professionals in the built environment. (NB: Color signifies the years from 2014–2018).

In 2019, the total project cost was 172,243,754 rands, and the Architect had 3,980,345 rands in fees, making up about 2.31% of the project cost. In the same year and on the same project, the Civil Engineer received 2,202,499 rands, making about 1.28% in fee percentage. Also, the Quantity Surveyor received 3,432,138 rands, making about 1.99% of the fee percentage. In 2020, the total project cost was 260,869,565 rands; the Architect had 4,304,348 in fees, making about 1.65% of the project cost. In the same year and on the same project, the Civil Engineer received 2,347,826 rands, making about 0.90% in fee percentage. Also, the Quantity Surveyor received 3,782,609 rands, or about 1.45% of the fee percentage.

In 2021, the total project cost was 110,900,153 rands; the Architect had 3,206,608 rands in fees, making about 2.89% of the project cost. In the same year and on the same project, the Civil Engineer received 1,719,242 rands, making about 1.55% in fee percentage. Also, the Quantity Surveyor received 2,546,953 rands, or about 2.30% of the fee percentage. In 2022, the total project cost was 46,897,745 rands; the Architect had 2,855,531 rands in fees, making about 6.09% of the project cost. In the same year and on the same project, the Civil Engineer received 1,714,271 rands, making about 3.66% in fee percentage. Also, the Quantity Surveyor received 2,513,868 rands, or about 5.36% of the fee percentage.

As shown in Figure 3, the observed fee variability supports discussions on its implications for the construction sector's dynamics. With their substantial fees, architects are traditionally pivotal drivers of project fee differences. When this is compared with the scale of fees, it becomes observable that while certain professions are better remunerated, others, such as quantity surveyors with no updated scale of fees, remain less remunerated for services. The insights gained from fee variability have profound implications for strategic decision-making within the construction sector. Armed with an understanding of these trends, stakeholders can adopt targeted approaches to negotiation, allocation of resources, and risk management. Fee variability prompts discussions on balancing innovation, value delivery, and costs within the sector. The correlation between increased Architectural fees and design innovation exemplifies the sector's pursuit of excellence. In most African countries, such as Nigeria, Ghana, and South Africa, the Architect fees are higher for building construction as they are identified as leading the construction team [39]. Architects commonly establish flat fees based on a proportion of the overall project cost. In general, it is seen that there is an inverse relationship between the size of a job and the corresponding percentage; however, this correlation is contingent upon the extent of the project. Meanwhile, in other countries, the fees are based on hourly rates. In certain instances, architects may opt to integrate both aforementioned payment mechanisms over the course of extended partnerships. An alternative approach to billing for the pre-design and drafting process could involve the establishment of an hourly rate, which may offer

greater cost-effectiveness compared to a fixed price. Percentage fees are used when the architect remains involved throughout the initial building phase and assumes responsibility for project management. However, this must be balanced against the need to maintain cost efficiency. The construction sector must navigate a delicate equilibrium where fee variability aligns with the value proposition of professionals. While higher fees may signify enhanced services and innovation, they also necessitate vigilance against potential cost overruns.

4.4. Professional Fee Share of the Project Cost for Professionals in the Built Environment from 2014 to 2022

The professional fee share of the project cost reveals that the Architect fee has fluctuated, with the highest increase in 2016 and a much more recent increase in 2022. As seen in Table 7 and Figure 4, civil engineers have always had low fees, which have increased steadily since 2019. While there is no noticeable change for electrical engineers, health and safety professionals have also been at the negative end of these trends. This could suggest the recent advocacy of the SACPCMP to review the scale of fees for health and safety professionals. The Quantity Surveyor also has an underwhelming development in the scale of fees. This analysis unravels the intricate interplay between professional fee variability and the construction sector. The study's findings emphasize that fee variability encapsulates more than financial metrics; it encapsulates the evolving nature of the industry, the recognition of expertise, and the negotiation between innovation and cost-effectiveness. As the sector progresses, stakeholders must conscientiously navigate this balance. This balance is essential to uphold project outcomes' integrity, recognize various professionals' contributions, and ultimately steer the construction sector toward a sustainable and thriving future.

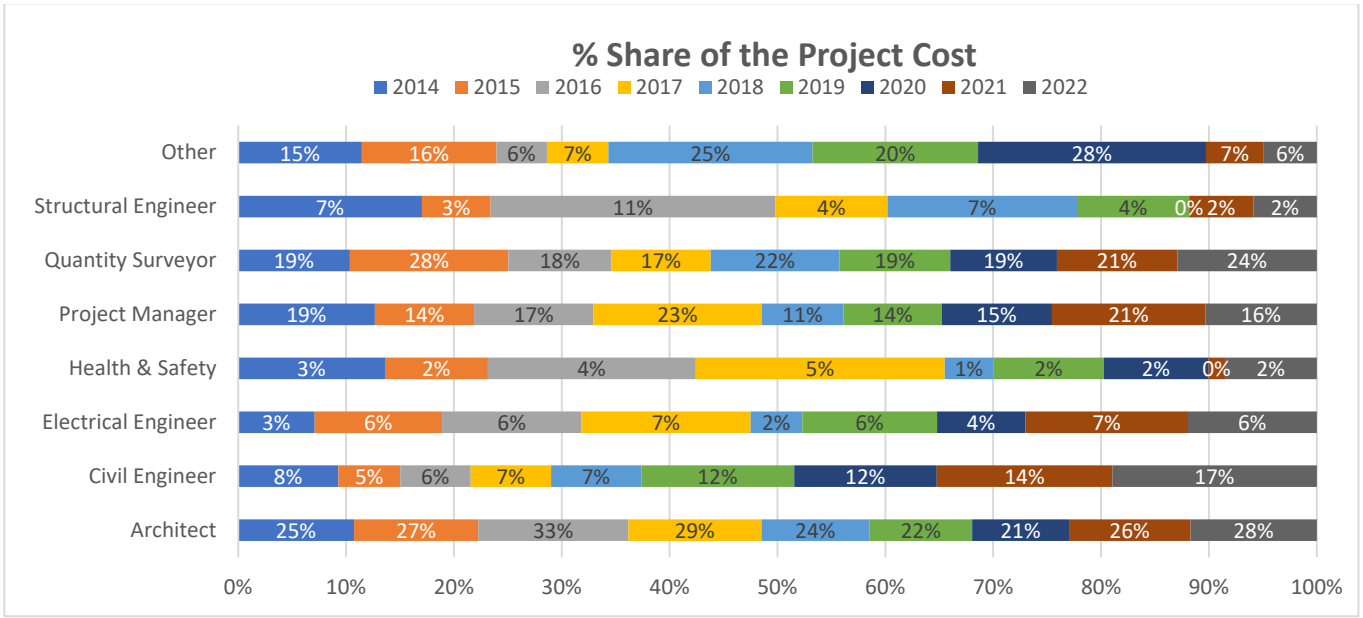

Figure 4. Percentage share of the project cost across professionals in the built environment. (NB: The colors signify the different years examined from 2014–2018).

Table 7. Professional Fee share of the Project Cost.

Profession	Fee Share								
	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Architect	25%	27%	33%	29%	24%	22%	21%	26%	28%
Civil Engineer	8%	5%	6%	7%	7%	12%	12%	14%	17%
Electrical Engineer	3%	6%	6%	7%	2%	6%	4%	7%	6%
Health and Safety	3%	2%	4%	5%	1%	2%	2%	0%	2%
Project Manager	19%	14%	17%	23%	11%	14%	15%	21%	16%
Quantity Surveyor	19%	28%	18%	17%	22%	19%	19%	21%	24%
Structural Engineer	7%	3%	11%	4%	7%	4%	0%	2%	2%
Other	15%	16%	6%	7%	25%	20%	28%	7%	6%
Overall	**35,062,464**	**8,447,011**	**111,267,194**	**92,542,391**	**4,413,641**	**17,804,532**	**20,373,913**	**12,107,609**	**10,372,171**
	100%	100%	100%	100%	100%	100%	100%	100%	100%

5. Discussion

The Professional Fee Scales were not initially intended to serve as a basis on which discounts are computed; rather, their primary objective was to recommend how much a professional consultant may charge in terms of remuneration for work carried out on a project. All of this has changed over the past few years, and as a result, the fee scales are now mostly useless in the sense that they no longer serve the purpose originally intended for them. It is necessary to examine the composition of the fee structure in order to determine the implications [7]. Reports have suggested that one of the problems that besets the generally poor performance of the building business is related to the fact that scale levels get far too low. It has been noted that low professional fees can influence conditions and/or attitudes that cause danger for consultants [9]. Developing their pricing capabilities, differentiating their services, and digitizing their service delivery processes are three ways in which firms can respond to the problems that are discussed in this article. The role of pricing capabilities led by a well-crafted plan should not be neglected by companies under any circumstances. Because of their pricing capabilities, firms are able to effectively generate revenues, which in turn helps to improve their profitability.

Firms, especially in the built environment, are hinged on the long-term benefits of the owner/partners, often determined by returns from fees accrued through delivered projects. Therefore, Moyanga et al. [40] informed us that prioritizing issues around the scale of fee administration implies prioritizing the survival determinants of construction firms. In the end, the goal of striving for growth throughout an organization's life is to remain relevant in the business world and to ensure the survival of companies throughout economic or industrial upheaval. Since construction firms only rely on the payment of professional fees from projects delivered, the growth of firms can then be linked to the appropriate administration of professional fees by clients on the projects.

Furthermore, this is of value given that the ups and downs of the economy have a substantial impact on construction companies, which can lead to issues such as unemployment, insolvency, changes in the cost of materials, difficulties obtaining financing, and other related issues. While big construction firms may be able to sustain economic contraction with less impact, SMEs are often the most affected. Since professional fee payment infractions have often been attributed to SMEs, they are most affected and relevant to this study.

As stated by Moyanga et al. [40], it is interesting to note that most quantity surveying companies are micro- and small-sized businesses, and the industry is highly fragmented. The inappropriate practice associated with the professional scale of fees has resulted in calls for its removal. Since the late 1980s, there has been an increasing tendency on a global scale towards eliminating the tariff on professional fees in the building business. Following a decision made by the Competition Commission in 2016 that prevents professional councils from publishing a tariff of fees, this has become a current subject among built environment professionals in South Africa in recent years [28]. Following the judgment, there has been a period of time that has corresponded with a perceived reduction in the quality of the outputs of professional services, which some people have linked to the lowering of fees

as a result of market competition. The government of the United Kingdom adopted a strategy in the 1980s to boost levels of competition, which ultimately contributed to the expansion of the British economy. The previous government's argument that competition would be the best guarantee of quality and value for money was, in fact, still questioned by a large number of practicing professionals who have seen their fee levels significantly decrease over the past few years. However, the vast majority of professionals acknowledge that it is highly improbable that statutory fee scales would ever be reinstated. While the Architectural profession has a scale based on the level of complexity, other professions ignore the level of complexity, even though previous studies have highlighted the need for this to be strongly considered [31]. However, while not basing the fees on complexity, the Engineering profession distinguishes between building and engineering projects.

This is more important, as claims have been made that the standard of professional services and products has significantly deteriorated. In addition, there is a general agreement that the connection between prices and levels of quality is complicated and that it would be naive to consider prices as an independent variable. Recently, there has been significant criticism within the construction industry regarding the necessity for professionals to offer reductions on their professional fees to secure business, as well as the scale of the discounts required to secure this employment [31]. Due to the fact that some businesses are providing discounts of an unreasonably large amount, the scale of professional fees is not truly being implemented as intended. Recommended prices do not always limit competition; however, historical price information that is gathered through surveys and supplied by independent parties can provide customers with a reliable guide to the costs of services that are rendered to them, which in turn enables professionals to engage in more healthy competition with one another.

Before 1994, a built environment expert would be selected from a roster or panel to fulfill the public sector's obligation to offer the necessary services. Because of this arrangement, all quantity surveying practices included on the roster were allowed to work with the Department of Public Works. When determining the amount of the professional fees, we used the recommended tariff of professional fees that was in effect at the time. Because the Department of Public Works was involved in the process of sanctioning these fees, there was neither a request nor an offer made for a discount; hence, no discount was received. When it comes to the quality of services that are of a particularly personal character or of a level that the general public is unable to judge, there is a possibility that price competition could pose major risks. Some customers may be willing to pay less for subpar service because they do not comprehend the level of danger that is involved.

The questions about the professional fee scales are not yet totally settled, and there is still a significant amount of work to be carried out. However, this study recommends that the Professional Fee Scales be implemented more severely to safeguard the professionals working in the built environment from clients who request enormous amounts of discount, which renders projects impossible for professional firms. This would protect the experts from being taken advantage of. Outsourcing, enhanced service delivery, cost reduction in corporate overhead, and worker training are some of the tactics that companies have taken to survive in the post-pandemic environment [41]. Even though the COVID-19 pandemic has impacted every industry, those industries need to find a means to maintain operations while reducing the severity of the pandemic's effects to avoid going bankrupt. This has further brought to the fore the importance of this study, given the significance of profitability for firms' longevity and survival. While Iresha [42] has brought attention to the fact that the government may assist businesses in surviving the current economic climate by relaxing credit terms, lowering interest rates, and lowering tax payments. Urgent attention is also required to divert strategies to ensure compliance with the scale of fees in the industry.

Professional institutions have traditionally been responsible for maintaining the body of knowledge as well as the norms of professional practice. This includes, among other things, the issue of fees and their variability. Over the years, one would have anticipated

the scale of fees across all professions to be on par with recent developments in the sector and economic realities [28]. However, this has proven not to be the case in the industry. First, it is asserted and guaranteed that the consultant will not be entitled to any fees or pay for the task that is to be carried out. The consultant is doing the job despite the fact that there is a possibility that they will never be compensated for their services. This places the consultant in a position of financial danger [2]. To navigate these challenges, a paradigm shift is required, where clients, professionals, and regulatory bodies work collectively to ensure fair compensation for the specialized skills and knowledge that professionals bring to the table. Embracing a value-driven approach over a purely cost-centric one could lead to better project outcomes, enhanced client satisfaction, and an improved overall landscape for the built environment sector in South Africa. In essence, the future of the built environment sector in South Africa hinges on its ability to harmonize the diverse array of professionals and stakeholders within its domain. By addressing the issue of fee variability, the sector can chart a course towards sustainable growth, equitable compensation, and the creation of a built environment that truly reflects the nation's aspirations and needs. Through collaborative efforts and a commitment to professionalism and transparency, South Africa's built environment can overcome its challenges and thrive in the years ahead.

6. Implications and Contribution of this Study

6.1. Implications for Industry

It is evident that fee scales, originally designed to guide remuneration, have deviated from their intended purpose. Industry stakeholders must recognize the need to revitalize and uphold these fee scales to ensure that professionals receive fair compensation for their expertise and services. The implications are that the study's findings emphasize that fee variability encapsulates more than financial metrics; it encapsulates the evolving nature of the industry, the recognition of expertise, and the negotiation between innovation and cost-effectiveness. As the sector progresses, stakeholders must conscientiously navigate this balance. For firms in the built environment sector, especially SMEs, this study underscores the importance of addressing fee administration issues. Prioritizing fair compensation is not just an ethical stance; it is essential for the long-term viability and survival of construction companies, particularly during economic challenges. The practice of offering significant fee discounts to secure business has raised concerns about quality and service standards. Industry players should reconsider the extent of such discounts to maintain the quality of professional services, thus improving the reputation of the industry as a whole.

6.2. Implications for Education/Academia

An avenue for enhancing the current study would involve conducting a comprehensive survey targeting the key construction professions across South Africa. Within this survey, carefully designed questions could probe deeper into the intricate interplay between various factors, extending beyond just fee structures and their direct influence on project performance. This balance is essential to uphold project outcomes' integrity, recognize various professionals' contributions, and ultimately steer the construction sector toward a sustainable and thriving future. In recent times, there has been a notable increase in companies' recognition of the importance of implementing policies and practices that promote sustainable firm operationalization and management. This includes acknowledging the impact of fee variability and its significance in enhancing worker performance, job satisfaction, and reducing job turnover. The implications of this study for academia and research reveal the need for further research studies on the relationships between client fees and the failure and success of projects across the country.

6.3. Implications for Policy/Government

Also, this study is vital for policymakers to advocate for sustainable policies that ensure professionals and firms are well remunerated for the services they offer. policy discourse by conducting in-depth analyses of regulatory frameworks governing fee scales. This includes

assessing the effectiveness of existing policies in aligning fees with industry dynamics. Building a collaborative environment between clients, professionals, and regulatory bodies is essential. This collaboration can lead to fair compensation, improved project outcomes, and a thriving built environment sector. In light of this study's findings that SMEs are more susceptible to fee-related challenges, policymakers should consider support measures such as relaxed credit terms, lower interest rates, and tax incentives to bolster the resilience of these firms during economic downturns. Policymakers should actively oversee the adherence to fee scales and regulatory guidelines. Addressing any infractions promptly can help maintain industry standards and promote fairness. Given the changing dynamics in the industry, regulatory bodies should modernize regulations to reflect current economic realities and industry standards. This includes periodic reviews and updates of fee scales.

In conclusion, the implications of this study underscore the need for a holistic approach to addressing fee variability among built environment professionals in South Africa. Collaboration, transparency, regulatory oversight, and a commitment to fairness are key pillars for ensuring that professionals receive equitable compensation while maintaining the quality of services delivered to clients. The findings of this study provide a roadmap for industry stakeholders, policymakers, researchers, and practitioners to collectively navigate the complex landscape of professional fee variability and contribute to the sustainable growth and development of South Africa's built environment sector.

7. Limitations and Areas for Future Studies

This study primarily focuses on the built environment sector in South Africa. While it offers valuable insights into this specific context, the findings may not be directly transferable to other regions or countries with distinct economic, regulatory, and cultural factors. This provides ample opportunity for further studies to consider similar variances regionally or across countries. This study primarily relies on quantitative data to analyze fee variability. Qualitative data, such as interviews or surveys with professionals and clients, could provide deeper insights into the motivations behind fee negotiations and discounts. The absence of qualitative data limits a holistic understanding of the issue. Fee structures and market dynamics within the built environment sector are subject to change over time. While this study analyzes data available up to 2023, the study's data might not capture the most recent developments or emerging trends in fee variability, given the inherent time lag in data collection and analysis. This study identifies associations between fee variability and various factors, such as economic conditions, competition, and regulatory frameworks. However, it does not establish causality. Further research may be needed to explore the causal relationships between these factors and fee variability.

8. Conclusions

Throughout the entirety of a firm's life cycle, the key concerns of the organization are continued expansion and profitability. Profitability is highly dependent on the client committing to appropriately remunerating professional fees. Hence, this study examined the variability of fees across historical cost data. Based on the results obtained from the various statistical analyses, the study underscores the dynamic nature of professional fees and their profound influence on the construction sector. Fee variability is not merely a numerical representation but a reflection of industry trends, economic forces, and sectoral resilience. Stakeholders must embrace this variability as an opportunity for strategic decision-making, sectoral adaptation, and informed negotiation. As the construction landscape evolves, the sector's capacity to balance innovation, value, and costs will be instrumental in shaping its sustainability and future growth.

Fee structures in the built environment profession are profoundly influenced by prevailing industry trends. These trends encompass changes in project complexity, technological advancements, digital innovations, sustainability requirements, and shifts in client expectations. For instance, the growing emphasis on sustainable building practices has necessitated professionals to acquire new skills and adapt their services, potentially impact-

ing fee structures. Also, the recently improved adoption of Building Information Modelling in construction brings the need to reskill workers, offer training and education programs, and reduce the cost of tools and software, which impacts professional fees [43,44].

Economic forces, both on a macroeconomic and microeconomic scale, play a pivotal role in determining fee structures [45]. Macro-level factors such as inflation rates, interest rates, and overall economic health can affect the financial viability of construction projects and subsequently influence the fees professionals can command. At a microeconomic level, local market conditions, supply and demand for specialized skills, and the cost of living in specific regions can lead to regional variations in fee scales.

The resilience of businesses in the built environment sector is another factor shaping fee variability. Smaller firms, often more vulnerable to economic fluctuations, may be inclined to offer reduced fees to secure projects, leading to pricing pressure across the industry. Conversely, larger firms with greater financial stability may be able to maintain higher fee structures [46–49]. The availability of skilled professionals, their levels of expertise, and their willingness to work at particular fee levels all influence the fee negotiation process. Moreover, competition for talent within the industry can impact fee variability.

Based on the findings, this study recommends that disciplines align and update their scale of fees with current market realities to accommodate the concerns of professionals and the survivability of their firms. Also, the variations in professional fee shares within the construction sector hint at broader dynamics. These fee fluctuations do not merely reflect financial trends but serve as a barometer of sectoral priorities, market demand, and evolving industry standards. Simultaneously, the stagnant fee patterns in other roles might underscore areas where industry adaptations or regulatory interventions are essential to foster sectoral growth and equilibrium.

This study has been able to provide information on the trends in fee variability amongst professionals in the built environment. However, this study is limited to the number of projects considered and the analysis adopted. This study forms part of a broader study on developing a better professional fee model for professionals in the built environment. It is imperative to acknowledge that while national legislation may establish fee levels within the sector, the actual contract values are subject to fluctuation. These fluctuations are contingent on factors such as the project's scope, rework, variations, etc. Moreover, these variations can vary significantly based on the geographical location of the project, with different provinces exhibiting distinct contracting dynamics.

Further study would be conducted to determine possible differences or similarities in the factors determining the differences in professional fees while also examining perspectives from professionals, clients, the government, and policymakers.

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References

1. Adesi, M.; Owusu-manu, D.; Boateng, F.; Addy, M.N.; Kissi, E. The Challenges of Pricing Quantity Surveying Professional Services in Ghana. *Front. Eng. Built Environ.* **2023**, *3*, 77–92. [CrossRef]
2. Adendorff, C.; Botha, B.; Van Zyl, A.; Adendorff, G. Financial Implications for Built Environment Consultants Working at Risk in South Africa. *Acta Structilia* **2012**, *19*, 126–152.
3. Sporrong, J. Criteria in Consultant Selection: Public Procurement of Architectural and Engineering Services. *Australas. J. Constr. Econ. Build.* **2004**, *10*, 59–76. [CrossRef]
4. Phua, F.T.T. Determining the Relationship between Fee Structure and Project Performance between Firms: An Empirical Study Based on Institutional and Task Environment Perspectives. *Constr. Manag. Econ.* **2007**, *23*, 45–56. [CrossRef]
5. Koc, K.; Gurgun, A.P. Drivers for Construction Stakeholders to Adopt Smart Contracts. *J. Constr. Eng. Manag. Innov.* **2020**, *3*, 101–112. [CrossRef]
6. Hoxley, M. The Fee Tendering and Service Quality Issue Revisited. *Prop. Manag.* **2007**, *25*, 180–192. [CrossRef]
7. Cruywagen, H.; Snyman, E. Affordability of Quantity Surveying Services on Construction Projects in South Africa. *Acta Structilia* **2000**, *13*, 27–43.

8. Hurmekoski, E.; Jonsson, R.; Nord, T. Context, Drivers, and Future Potential for Wood-Frame Multi-Story Construction in Europe. *Technol. Forecast. Soc. Chang.* **2015**, *99*, 181–196. [CrossRef]
9. Okonkwo, P.; Wium, J. Impact of Discounted Professional Fees on the Risk Exposure of Civil and Structural Engineering Services Consultants in South Africa. *J. S. Afr. Inst. Civ. Eng.* **2019**, *60*, 10–20. [CrossRef]
10. Cruywagen, H. Continuing Professional Development for the Quantity Surveying Profession in South Africa. *Acta Structilia* **2007**, *14*, 91–103.
11. Osososen, A.O.; Musonda, I.; Onatayo, D.; Tjebane, M.M.; Saka, A.B.; Fagbenro, R.K. Impediments to Construction Site Digitalisation Using Unmanned Aerial Vehicles (UAVs). *Drones* **2023**, *7*, 45. [CrossRef]
12. Tjebane, M.M.; Musonda, I.; Osososen, A. Building Information Modelling Mandates and Government Efforts: A Systematic Review. In Proceedings of the Twelfth International Conference on Construction in the 21st Century (CITC-12), Amman, Jordan, 16–19 May 2022; pp. 239–247.
13. Azeem, M.F.; Yasmine, R. Role of Human Resource Practices on Employee Performance: Mediating role of employee engagement. *Sci. Int.* **2015**, *27*, 6403–6412.
14. Cruywagen, H. Towards the Establishment of a Relevant National Tender Price Index for the South African Building Industry. *Acta Structilia* **2014**, *21*, 22–43.
15. Lindblad, H.; Karrbom Gustavsson, T. Public Clients Ability to Drive Industry Change: The Case of Implementing BIM. *Constr. Manag. Econ.* **2021**, *39*, 21–35. [CrossRef]
16. Fox, P.; Skitmore, M. Factors Facilitating Construction Industry Development. *Build. Res. Inf.* **2007**, *35*, 178–188. [CrossRef]
17. Alfred, O. A comparative analysis of tender sums and final costs of public construction and supply projects in nigeria. *Acta Structilia* **2008**, *13*, 60–79.
18. Claasen, R.; Cumberlege, R. Discounting of Quantity Surveying Fees in South Africa. *Acta Structilia* **2014**, *21*, 24–44.
19. Debata, B.; Patnaik, P.; Mishra, A. COVID-19 Pandemic! It's Impact on People, Economy, and Environment. *J. Public Aff.* **2020**, *20*, e2372. [CrossRef]
20. Genova, G. Bim-Based Lca throughout the Design Process: A Dynamic Approach. *WIT Trans. Built Environ.* **2019**, *192*, 45–56. [CrossRef]
21. Pour Rahimian, F.; Arciszewski, T.; Goulding, J.S. Successful Education for AEC Professionals: Case Study of Applying Immersive Game-like Virtual Reality Interfaces. *Vis. Eng.* **2014**, *2*, 4. [CrossRef]
22. Osososen, A.O.; Musonda, I.; Ramabodu, M. Construction Robotics and Human—Robot Teams Research Methods. *Buildings* **2022**, *12*, 1192. [CrossRef]
23. Makhathini, N.; Musonda, I.; Osososen, A. Utilisation of Remote Monitoring Systems in Construction Project Management. In *Construction in 5D: Deconstruction, Digitalization, Disruption, Disaster, Development*; Haupt, T.C., Akinlolu, M., Simpeh, F., Amoah, C., Armoed, Z., Eds.; Springer: Berlin/Heidelberg, Germany, 2023. [CrossRef]
24. Osososen, A.; Musonda, I. Perceived Benefits of Automation and Artificial Intelligence in the AEC Sector: An Interpretive Structural Modeling Approach. *Front. Built Environ.* **2022**, *61*, 864814. [CrossRef]
25. Maharaj, R.; Musonda, I.; Osososen, A. Construction Organisation's Planning and Implementation: The Case Between Conceptualization and Implementation Teams. In *Construction in 5D: Deconstruction, Digitalization, Disruption, Disaster, Development. Lecture Notes in Civil Engineering*; Springer: Cham, Switzerland, 2023; Volume 245. [CrossRef]
26. Fagbenro, R.; Oyediran, O.S.; Osososen, A.O. Consulting Business Workflow and Design Performance Metrics for BIM Based Construction Design in Nigeria. *ECS Trans.* **2022**, *107*, 1029. [CrossRef]
27. Wang, Q.; Wang, J. Research on Key Risk Factors and Risk Transmission Path of Procurement in International Engineering Procurement Construction Project. *Buildings* **2022**, *12*, 534. [CrossRef]
28. Laryea, S.; Watermeyer, R.; Govender, N. The Influence of Fees on the Quality of Professional Services in South Africa. *Proc. Inst. Civ. Eng. Manag. Procure. Law* **2020**, *174*, 163–173. [CrossRef]
29. Kishk, M.; Al-Hajj, A.; Pollock, R. Whole Life Costing In Construction: A State of the Art Review. *Access* **2006**, *95*, 58–63.
30. Khaemba, P. Adoption of Green Building Practices and Rating System in Kenya: Potentials and Barriers. Ph.D. Thesis, North Carolina Agricultural and Technical State University, Greensboro, NC, USA, 2013; p. 222.
31. Prinsloo, H.; Andersen, B. Is There Still a Need for the Tariff of Professional Fees for the Quantity Surveying Profession in South Africa? In Proceedings of the 2015 (6th) International Conference on Engineering, Project, and Production Management, Gold Coast, Australia, 2–4 September 2015; Volume 27, pp. 344–353. [CrossRef]
32. Mulville, M.; Jones, K.; Huebner, G.; Powell-Greig, J. Energy-Saving Occupant Behaviours in Offices: Change Strategies. *Build. Res. Inf.* **2017**, *45*, 861–874. [CrossRef]
33. Osososen, A.O.; Musonda, I. Ergonomics in construction robotics and human-robot teams in the AEC domain: A review. *IOP Conf. Ser. Earth Environ. Sci.* **2022**, *1101*, 052003. [CrossRef]
34. Ye, G.; Jin, Z.; Xia, B.; Skitmore, M. Analyzing Causes for Reworks in Construction Projects in China. *J. Manag. Eng.* **2015**, *31*, 04014097. [CrossRef]
35. ECSA. *Government Gazette: Guideline Professional Fees*; ECSA: Johannesburg, South Africa, 2021.
36. SACPCMP. *2022 Gideline Tariff of Professional Fees: Construction and Project Managers*; SACPCMP: Pretoria, South Africa, 2022.
37. SACQSP. *Amendment of Guideline Tariff of Professional Fees 2015*; SACQSP: Midrand, South Africa, 2015; Volume 2000.
38. SACAP. *Guideline Professional Fees*; SACAP: Sandton, South Africa, 2021.

39. Kirner, L.; Lublasser, E.; Brell-cokcan, S. Internet of Construction: Research Methods for Practical Relevance in Construction Internet of Construction: Research Methods for Practical Relevance in Construction The German Federal Ministry of Education. *Technol. | Archit. + Des.* **2021**, *5*, 146–152. [CrossRef]
40. Moyanga, D.; Ojo, L.D.; Awodele, O.A.; Ogunsemi, D.R. Prioritizing the Survival Determinants of Quantity Surveying Firms in Economic Contraction. *Eng. Constr. Archit. Manag.* 2023, *ahead-of-print*. [CrossRef]
41. Musonda, I.; Onososen, A.; Moyo, T.; Tjebane, M.M. COVID-19 and Shock Events in the AEC Sector: Perspectives on Mitigating Measures. In *Construction Safety, Health and Well-Being in the COVID-19 Era*; Manu, P., Cheung, C., Yunusa-Kaltungo, A., Emuze, F., Saurin, T.A., Eds.; Routledge: London, UK, 2023.
42. Samarathunga, D.; Gamage, I.; Lingasabesan, V. Outsourcing Consultant Quantity Post-Pandemic Era. In Proceedings of the 11th World Construction Symposium, Sri Lanka, South Asia, 21–22 July 2023; pp. 847–859.
43. Onososen, A.; Musonda, I.; Tjebane, M.M. Drivers of BIM-Based Life Cycle Sustainability Assessment of Buildings: An Interpretive Structural Modelling Approach. *Sustainability* **2022**, *14*, 1052. [CrossRef]
44. Olawumi, T.O.; Chan, D.W.M. Green-Building Information Modelling (Green-BIM) Assessment Framework for Evaluating Sustainability Performance of Building Projects: A Case of Nigeria. *Archit. Eng. Des. Manag.* **2020**, *17*, 458–477. [CrossRef]
45. Toppinen, A.; Sauru, M.; Pätäri, S.; Lähtinen, K.; Tuppura, A. Internal and External Factors of Competitiveness Shaping the Future of Wooden Multistory Construction in Finland and Sweden. *Constr. Manag. Econ.* **2019**, *37*, 201–216. [CrossRef]
46. Moyo, T.; Onososen, A.O.; Musonda, I.; Muzioreva, H. Advancements in E-mobility: A bibliometric literature review on battery technology, charging infrastructure, and energy management. In *Smart and Resilient Infrastructure for Emerging Economies: Perspectives on Building Better*, 1st ed.; Musonda, I., Mwanaumo, E., Onososen, A.O., Moyo, T., Eds.; CRC Press LLC: Boca Raton, FL, USA, 2023. [CrossRef]
47. Onososen, A.; Musonda, I. Barriers to BIM-Based Life Cycle Sustainability Assessment for Buildings: An Interpretive Structural Modelling Approach. *Buildings* **2022**, *12*, 324. [CrossRef]
48. Onososen, A.O.; Musonda, I. Research focus for construction robotics and human-robot teams towards resilience in construction: Scientometric review. *J. Eng. Des. Technol.* **2022**, *2*, 502–526. [CrossRef]
49. Tjebane, M.M.; Musonda, I.; Onososen, A.; Ramabodu, M. Challenges for the Implementation of Sustainable Construction Practices in Developing Countries: A Bibliometric. In *Advances in Information Technology in Civil and Building Engineering, Proceedings of ICCCBE 2022-19th Int'l Conference on Computing in Civil and Building Engineering, Cape Town, South Africa, 26–28 October 2022*; Springer: Berlin/Heidelberg, Germany, 2023; Volume 2, p. 109. [CrossRef]