Reflections on the Performance of South Africa’s Construction Industry: Hope Beyond Covid-19 Effects

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Abstract. South Africa’s economic activity has declined in recent years owing its troubles to years of policy uncertainty, bad governance, corruption and limited budget and finance for the development of infrastructure. The woes are no different to the ones experienced by the construction industry. It must be categorically stated that the woes currently experienced by the industry did not begin with the effects of the coronavirus pandemic. The pandemic was simply the last nail to the coffin. The study thus provides a clear reflection on the dynamics and challenges that were encountered by the industry, with the hope of resuscitating it to what is used to be – a key sector in growing South Africa’s economy. A quantitative approach was adopted. Reviewed literature formed basis of secondary data whilst the distribution of a close-ended questionnaire to construction professionals, economists and researchers formed the basis of primary data collection. Snowballing sampling technique was employed. A total of 77 questionnaires were returned. SPSS was used to analyse data using mean item scores to determine the level of agreement between respondents. From the results it was clear that corruption and fraudulent activities contributed significantly to the progression of South Africa’s construction industry. Unregulated adoption of technology, political uncertainty and non-compliance to laws and safety standards emerged as key factors affecting the productivity of the industry. The adoption of advanced technologies such as robots and automated machines need to be formally regulated by government to be inclusive, this requires inclusive procurement practices to SMMEs and policy certainty and decisiveness from government. Government must be able to inform or direct business, firms who do not comply state departments must impose fines or sanctions (from bidding for government projects in the future).

Keywords: construction industry, corruption, economic decline, investor interest and confidence, policy certainty and decisiveness.

1. Introduction
The growth forecast for 2016 for South Africa’s gross domestic product (GDP) was revised down to 0.9 percent from an estimated 1.7 percent during the Medium-term Budget Policy Statement (MTBPS) [1]. The weaker outlook resulted from lower commodity prices, higher borrowing costs, lower business and consumer trust, and drought. South Africa’s economy is quite varied, questioned by poor financial development at 0.3 percent, elevated unemployment at nearly 27 percent, inflation at 6.1 percent, inequality and rates of poverty [1] at a high. In 2018 South Africa has further experienced negative economic growth in the first and second quarter, the consensus for the country’s economic growth reached 0.7% [2]. Cook [3] and Watermeyer and Phillips [4] highlight that the country’s performance has been damaged by factors such as poor mismanagement of key policy areas, state capture, corruption,
policy uncertainty and the rise of business weakening the national competitiveness. These factors have worn off the confidence of the investors to invest in the country’s new projects. From the abovementioned statistics South Africa’s construction industry has also followed in the same footsteps with its own dynamics and challenges of recurring economic decline.

Statistics South Africa [5] indicates that the government of South Africa is the major construction client, covering between 40 to 50% of the domestic expenditure. StatsSA [6] indicates that the construction industry in 2014 had the largest turnover and employed 1.4 million people nationwide, contributing positively to lowering the unemployment rate and poverty. The success of the industry continued in the first quarter of 2015, with a contribution of 4% to the economic growth [7]. However, since then things have taken a sharp turn in recent years, adding to the economic decline of South Africa’s economy in 2020, with its sixth consecutive quarter of economic decline [8]. South Africa Chamber of Commerce and Industry (SACCI) [9] opines the problems of the sector to limited budget from the national government. The study concurs, however asserts that good governance, policy certainty and decisiveness, business confidence, sustainable construction, restructuring and inclusive procurement practices as well as technology and innovation are attributes to a stable and productive construction industry, the study dissects and reflects on the dynamics and challenges that led the industry to the state it is today, before the coronavirus pandemic.

2. Dynamics and factors affecting the progression of the construction industry

The contribution of South Africa’s construction industry in the economic growth of the country has not been positive and has affected the delivery and maintenance of infrastructure [5]. Construction firms are forced into filing for bankruptcy whilst others are operating under business rescue [10]. Amongst many other failures experienced in the industry is failure to complete projects within the agreed schedule, period and against the required quality standards. Contractors responsible for the failures are later required from time to time to rectify work done which in turn increases the cost of the project resulting both in cost and time overruns.

The industry’s woes have been complicated further by the declining activity and productivity in the industry as a result of the coronavirus disease 2019 (Covid-19). Covid-19 pandemic is a respiratory disease that affects the lungs of individuals who have contracted it and can result in fatalities of victims mostly with underlying health issues [11], thus to limit the spread of the virus many sectors and industries have limited operations and are operating under lockdown regulations. The construction industry is one of the sectors that for some time ceased operations but is now also operating under strict lockdown regulations in South Africa.

2.1. Policy regulation and governance

Ofori [12] has defined laws and regulations as factors that guide the construction industry in any country and must include insurance requirements, specifications, defects liability duration and safety and health provisions. However, with so much laws to adhere to overregulating industries remains a detrimental issue in the construction sector. The Construction Development Industry Board report [13] suggests that more than 1,000 pieces of legislation have since 1994 been passed by the South African government, which in turn has created numerous regulatory requirements that give the impression of overregulation. These laws affect contractual and contracting procedures, labour and employment practices, permits to plan and supervise, training, and business practices. As a result, the development of approvals and zoning processes of local authorities are delayed and lead to unnecessary holding costs for developers [13].

Issues of overregulating and non-compliance in the construction industry remains a challenge for progression. In view of local laws and laws pertaining to corporate management, employment, taxes and health, and security conditions, there is a danger of non-compliance according to Price Water House Coopers [14]. Thus measures amongst many that addresses non-compliance include imposing fines and sanctioning companies from bidding for specific projects. It is also true that the issue of non-compliance in some instances is a result of policy uncertainty and indecisiveness from regulatory bodies.

According to the Construction Industry Development Board [13], public-sector capacity is a key constraint on the delivery of infrastructure and sustainable growth in South Africa’ construction
industry. The public sector does not have the necessary capacity in terms of resources, skills and technology to undertake projects. Amongst the solutions to limited public sector capacity has been to approach the private sector and share responsibilities with them. However, Milford [15] posits that the public sector has continued to fail to fulfil its own mandated duties which has led to inefficient undertaking of processes of funding construction projects, leading also to corruption and backlogs of payments to contractors.

As another key responsibility of the public sector the limited availability of suitable land to commence with development has also indicated the inadequate capacity of the public sector to avail resources. Boshoff [16] further emphasizes that private land is not readily available in South Africa, adding that there are numerous land claim issues in the courts, zoning issues, and heritage sites, all of which combine to make the price of existing land inhibitive, in that way delaying development processes.

2.2. Investor interest and confidence
Investor interest and confidence in any country is immensely determined by the stability of a country, this can range from policy certainty and good governance. Lack of decisiveness and implementation from government and multiple reshuffling of cabinet ministers also contributes to limited interest and confidence of investors towards directing funds in the growth of the economy. South Africa has over the years experienced years of uncertainty, which directly affects investor confidence [9], this is as a result of the existing political conditions and the poor decision-making behind the operations of many parastatals such as Eskom and South African Airways.

Dlamini [17] and Dithebe et al. [18] has alluded that the contribution of the construction industry in the declining economic growth of South Africa has immensely affected the confidence of the investors to finance and take interest into the country's infrastructure development. Reduced funding on the delivery of infrastructure has not only affected the business sectors of the country [19] but has also affected the social responsibility of the state to deliver the much-needed services to the public.

2.3 Productivity and challenges of construction firms
In reflecting on the dynamics of the construction industry it is consequential that the basic units of the industry are looked into, the productivity of the construction firms. Productivity is one of the most significant factors affecting the overall performance of any organization, big or small [20]. The productivity of an organisation can be realised in many ways, through restructuring, inclusive procurement practices and a labour workforce that is mostly skilled, as well as adopting advanced technological methods and equipment. Organisations restrucures to protect the business – reducing costs, decreasing debt and improving competitive advantage [21]. Companies undergoing restructuring as a turnaround strategy may be forced to release employees from their duties [22]. In the current state, companies are confronted with either preserving the business through inevitable retrenchments or filing for bankruptcy, well aware that an increase in the unemployment rate also affects the growth of any economy. Employees or workers that are likely to face retrenchment are the ones without skills, referred to as general workers. Though there is a need for general workers the industry is also faced with a shortage of skilled labour. Windapo [23] reports that the skilled labor force in the construction sector of South Africa is in shortage. The mismatch or the gap between available skills and required skills is too wide to an extent that illegal/legal skilled immigrants are hired over unskilled nationals [24]. Makhene and Thwala [25] opines that the high quantity of industry participants who have no education, let alone a degree, are in a serious obstacle to the improvement of the construction industry, hence the need for skilled labourers.

The already employed workforce is influenced by industrial actions and community communication officers in private contracts and by council members in the public sector contract works, these two factors have affected labour and firm productivity [13]. Specifically, strikes by the none union members have greatly affected the profit margin of a project as a maximum number of working days in a project are lost due to labour strikes.
The CIDB [13] report observes that there is a shortage of skills not only in the construction sector but within the South African skills sector and in state-owned enterprises. The report further argues that mentors are required to provide developing contractors with support on-site to link skills gaps. The Department of Public Works [26] continues to contribute to high-level human capital development and to the creation of a pool of critical skills through the Expanded Public Works Programme (EPWP). The programme is aimed at changing the profile of the workforce by growing a representative workforce for the built and property environment, while growing the size and raising the quality of the human capital base needed to add to the skills pool and improve the quality of life of all South Africans [26].

In the process of uplifting and empowering the unskilled workers the inclusivity of small medium-micro enterprises (SMMES) must be considered, this can be achieved through improved and inclusive procurement practices that favours SMMES. According to Masterman [27] and Thwala and Mathonsi [28] the procurement system is an organizational structure or method of undertaking a project approved by the client for the application and at times eventual operation of a project. The current method of procurement used in South Africa has resulted in unhealthy levels of rivalry and hinders the development of small enterprises [29], the methods are also susceptible to manipulation and corruption. The public procurement legislation and the Construction Industry Development Board Act (CIDB Act) 32 of 2005 must be scrutinised to be more inclusive and less vulnerable to manipulation by big firms.

In the productivity of firms another important aspect is the use of advanced technology. The construction industry in the adoption of digitalised systems is still in its early stages, alludes Osunsanmi et al. [30]. However Oke et al. [24] argues that advanced technology in the form of digital collaboration is gaining traction in South Africa’s construction industry. It is indeed true that advanced technology and innovation in South Africa’s construction industry though not at an advanced stage is momentously being adopted and part of the firm’s daily operations. South Africa has reasonable access to the latest technology [12], and this tends to limit the scope of the projects that can still be undertaken using traditional methods and human labour, increasing tensions between technology and labour relations. Construction firms are encouraged by government policy to employ more human labour to boost the economy and lessen poverty [19] than fully embracing the technological wave. However productivity is said to be slow without the usage of construction technology [31] and where projects involve and require relatively new technology, small contractors do not have the capability and resources to undertake them [32].

2.4 Investing in sustainable construction

According to Agenda 21 [33], South Africa is a developing country that experiences two significant problems namely limited natural resources such as water and the increasing pollution in the environment. These problems are caused by the construction activities employed to which the resultant is increased pollution and enormous consumption of energy. [34]. In this situation, and due to the increase in energy prices and shortage of water, the government set a vision to drive towards sustainable construction to ensure the importance of natural resources for the development plan and to improve the quality of life [35].

Huovila and Ritcheter [36] adds that the construction industry plays an important role as it is responsible for the infrastructure that economies require to maintain development. The development comes at a price as it exerts pressure on natural resources and this has had a serious impact on all living organisms and on the environment. The degradation of the environment has caught the world’s attention and has been one of the most discussed subjects nationally and globally [37], the effects of the construction are felt throughout the projects’ life cycle. The economic development of every nation has to focus more on the protection and sustainability of the environment. A lot of this attention has to be on the construction industry as it is a large consumer of resources and energy and its activities have a significant impact on the environment [38].

Another important aspect of sustainability which is ignored under the umbrella of sustainable construction is the health and safety of workers and the surrounding environment. The construction industry is alarmed with the health and safety not only of workers but also of the individuals who actually live or work around the construction project. Employee health and productivity are connected to the quality of the indoor environment, and that quality is largely determined by decisions made during
2.5 Construction corruption

Transparency International [41] states that the construction sector is the industry most affected and susceptible to corruption. Forms of corruption experienced are not limited to bribery, tender rigging, fronting, kickbacks and conflict of interests [42]. The nature of the construction industry, where the procurement of goods and services and the selection of contractors and suppliers on large-scale projects may be decided or influenced by individuals within an organization, provides a number of opportunities for manipulation and eventual corruption [43]. The continuation of corruption is amplified by a lack of confidence in the justice system to deal with corruption cases, lack of accountability and transparency and poor governance [43].

3. Methodology

The study assessed factors affecting the progression of South Africa’s construction industry. The study adopted a quantitative survey approach to gather data from the nominated respondents through a structured close-ended questionnaire. The snowball technique was utilized because the researcher used a google form to distribute the questionnaire, a criteria was used to select the initial respondents. The questionnaire was divided into two parts. Part A deliberated on the background information of the respondents. Part B with the use of a 5-point Likert scale determining the level of agreement dealt with factors affecting the progression of South Africa’s construction industry. The respondents were inclusive of economists, researchers in the Department of Construction Management and Quantity Surveying under the Sustainable Human Settlement and Construction Research Centre as well as the construction professionals in the construction industry, quantity surveyors, engineers, construction project managers and project managers. A total of 77 questionnaires were returned and fit for analysis. The reliability of the questionnaire (Part B) was tested and a Cronbach’s alpha value of 0.939 was attained. A higher value, closer to +1 satisfies the reliability of the research instrument (Santos, 1999). In terms of data analysis a percentile approach in analysing Part A of the questionnaire was considered whilst in Part B mean item score (MIS) and standard deviation (SD) to rank factors affecting the progression of South Africa’s construction industry were employed.

4. FINDINGS AND DISCUSSION

4.1 Background information

The results of the study on the background information of the respondents revealed that from a total of 77 participants 72.8% were between the ages of 25-39, whilst the remaining 27.2% were aged 40 and above. From the pool of respondents targeted it is evident that the target area has less professionals aged 40 and above which is good for the industry to invest more on young people. The respondents were also required to indicate their level of education, majority of the respondents with 42.9% had bachelor’s degree, 28.6% had a diploma, 22.1% had a master’s degree, 5.2% had a doctoral degree and 1.3% had
only a matric certificate and no formal higher education. The evidence that the respondents poses some form of education contributes to the study’s reliability and ability to answer the questions in a manner that is acceptable and not skewed. More responses were obtained from quantity surveyors (36.4%), followed by construction project managers (26%), project managers (14.3%), researchers (10.3%), engineers (5.2%), architects and economists (each with 3.9%). The findings thus gravitates more on the perception of quantity surveyors and construction project managers on their view on the progression of South Africa’s construction industry pre-covid-19 crisis. The background information of the study further revealed 48% of the respondents had experience in the construction industry ranging from 1-3 years, this finding is a direct reflection of a higher percentage of young people in the industry, which is also indicated under the section of respondents’ age. Only 13% of the respondents had an experience in the range of 4-6 years, clearly revealing that as the age of participants increases so does the experience. It was also recorded that 21% of the respondents had experience in their respective fields ranging between 7-9 years, whilst 18% of the respondents had 10 years’ experience and more in their respective fields. It is thus evident that the pool of respondents used for this study was a mixture of professionals with different levels of qualifications, experience, and age groups, with new entrees in different professions dominating. The dominance of new entrees to the industry can be attributed to sectors investing in the development and empowerment of young people.

4.2 Factors affecting the progression of South Africa’s construction industry

The results of ‘factors affecting the progression of South Africa’s construction industry’ are presented in Table 1. From the table it is evident that the factors have and average mean score of over 4.0. In the Likert scale employed in Part B of the close-ended questionnaire 4.0 represented ‘Agree’, clearly revealing that the respondents were in agreement on the detrimental impact of the factors affecting the progression of South Africa’s construction industry. Prior to the agreement obtained it was further necessary to rank the factors in a descending order to determine their criticality. From the results corruption with a mean score value of 4.38 (SD=.744) was the factor above any other factor that has the most detrimental impact in the progression of the construction industry. The study agrees with Bowen et al. (2012) that construction corruption in the form of bribery, collusion, rigging, fronting and kickbacks affect the progression of the industry. Commissioned projects due to corruption suffer from cost and time overruns to a point where projects are abandoned, when the projects are not abandoned but complete inferior materials and methods are used, further affecting the sustainability (MIS=4.24; SD=.855) and maintenance of built-facilities. Transparency International [41] states that the construction industry is susceptible to corrupt activities, without measures regulating the susceptibility of the industry to corruption, corruption will always find expression with the industry.

Technology and innovation plays a significant role in the advancement and competitiveness of the industry locally and globally, this factor was ranked second with a mean score value of 4.35 (SD=.943) after corruption. The significance of technology cannot be over emphasised in the progression of any industry, however there are challenges delaying the full embracement of the aspect, fear to change, less use of human labour (MIS=4.31; SD=.979) and digital divide are amongst the issues. Though embracing technology is followed by productivity changes including restructuring (MIS=4.09; SD=.955) in the construction firms may affect progression, and fundamental questions remain unanswered whether these firms have the capacity and resources to embrace the change, whether there are plans to cater for the replaced human labour and most importantly the inclusivity of procurement practices to include small medium-micro enterprises (SMMEs) in the new wave. SMMEs are susceptible to digital divide due to limited resources and are likely to be excluded from the progression of the industry thus affecting the overall output of the industry.

Any form of development and innovation must be guided by the government of that country through political certainty and decisiveness. But the industry is subjected to indecisiveness and overregulation which then leads to non-compliance by the construction firms. The inability to show decisiveness and certainty has made observers to question the capacity of the state to carry out its responsibilities [15; 13]. Changes and indecisiveness on policies and regulatory frameworks contribute to the uncertainty and instability of any country’s infrastructure development. The ability and capability to take strategic decisions and implement them is also informed by the capacity of the government institutions to handle
responsibilities and be accountable. The study concurs with the Price Water House Coopers [7] and World Economic Forum [39] that changes in health and safety regulations (MIS=4.35; SD=.774), financial and labour policy and environmental standards interrupt planning and operational responsibilities of construction professionals. Indecisiveness and poor governance which has resulted in the country’s instability has also affected investor interest and confidence. Lack of investor confidence in the country’s ability to return investments limits any form of investment that can be made towards infrastructure development [9]. The study concurs with Dithebe et al. [18] and Dlamini [17] that limited project finance has had a negative impact on the performance of the construction industry and has thus negatively impacted South Africa’s economic growth.

| TABLE I. FACTORS AFFECTING THE PROGRESSION OF SOUTH AFRICA’S CONSTRUCTION INDUSTRY |
| --- |
| Factors | $\bar{X}$ | $\sigma X$ | R |
| Corruption | 4.38 | .744 | 1 |
| Technology and Innovation | 4.35 | .943 | 2 |
| Political uncertainty and indecisiveness | 4.35 | .900 | 2 |
| Health and safety | 4.35 | .774 | 2 |
| Inclusive procurement practices | 4.31 | .765 | 3 |
| Investor interest and confidence | 4.31 | .782 | 3 |
| Public-sector capacity | 4.26 | .834 | 4 |
| Sustainable construction | 4.24 | .855 | 5 |
| Regulatory and legislative framework | 4.23 | .841 | 6 |
| Labour workforce and available skills | 4.14 | .979 | 7 |
| Restructuring and productivity of construction firms | 4.09 | .955 | 8 |

5. Conclusion and recommendations

The study presented a case that the woes currently experienced by South Africa’s construction industry must not be solely associated with the impact covid-19 pandemic has had in the industry due to limited movement and closure of firms in recent months. It must be categorically stated that the industry already and has consecutively made negative contributions to the country’s economic growth, the pandemic just shined light to the existing crisis. But the question then remains, is there hope for the industry, even beyond the covid-19 crisis? The answer is yes, whilst the need for infrastructure development exists the need for a prosperous construction industry indeed still exists.

The study reflected on the economic decline of South Africa’s construction industry with a clear view on the factors affecting the progression of the industry. The study revealed that any attempt on the resuscitation of South Africa’s construction industry, even beyond the covid-19 crisis must pay particular attention to the industry’s structural challenges including restructuring of firms and susceptibility to corruption, it cannot be that the culture of corruption is treated as a secondary if not a third contributor to economic decline if things are to change. The study further concurs that though the contribution of advanced technology cannot be disputed inclusive measures on the side of SMMEs are required to regulate its full adoption. Political certainty and decisiveness from the public sector cannot be emphasised enough, this has a direct impact to investor interest and confidence. An industry that is futuristic and protective of its future generations and environment is an industry that is developmental, sustainable and not afraid to change, South Africa’s construction industry has potential in abundance to be that industry.
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