IMPACT OF PRODUCTIVITY ON THE SURVIVAL OF CONSTRUCTION ORGANISATIONS IN A COMPETITIVE MARKET

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ABSTRACT

The construction industry plays an essential role in the life of every nation, as it makes a meaningful contribution to countries GDP, shelter and infrastructure provisions and employment generation. A critical problem that is challenging the delivery of these benefits to citizens is declining productivity among construction organisations, and pressure from competition, modern technologies and management techniques. These have led to construction projects being delivered behind schedule, over budgets and reduced quality standard. Productivity is found to have a link with the performance of construction projects and organisations growth and survival. This study showed that increase in productivity influence the growth and survival of construction organisations. This study was carried out among construction organisations in the south-south geopolitical zones of Nigeria. The study adopted quantitative and qualitative approaches using a well-structured electronic questionnaire and semi-structured interview as the tool for data collection. The survey participants were construction organisation employees (i.e. both construction professional and non-construction professionals) of middle to top management levels in their various organisations. The snowball sampling technique and electronic means was used in selecting both quantitative and qualitative participants. With a sample size of 114 and a reliability index of over 0.70, the quantitative data collected were analysed using mean item score, Mann-Whitney U test, and correlation analysis. While the thematic analysis was used for the qualitative data. A significant correlation was found between productivity and organisational growth and survival. Productivity brings about increase organisational profitability, improves competitive advantage, customer loyalty and repeat patronage, excess profits are available for re-investment for expansion purposes, and opportunity for expansion and growth. Regular leadership improvement was recommended as effective leadership/management is at the centre of ensuring sustainable productivity and organisation survival.

Keywords: Productivity; Construction organisation; Competitive market; Organisational survival; Nigeria.

INTRODUCTION

Globally, the construction industry regardless of the level of industrialisation of a country is a very critical sector that serves as a pillar for supporting economic growth and development. According to Onyejeakor et al. (2020), the construction industry is the prime-mover that influence and catalyse national growth and development Onyeagam et al. (2019) maintained that the construction industry is an influential sector of a nation's economy that stimulate economic growth and provides jobs for the citizenry. In different nations, the

Citation Information: Justina, O., Emmanuel, E., & Samuel, E. (2022). Impact of productivity on the survival of construction organisations in a competitive market. *Journal of Management Information and Decision Sciences, 25*(S3), 1-18.

construction industry contributes a range of 8-10% on average to the GDP, and it is linked to providing mass employment, encourage growth, and act as a cord that connect the other sectors to the economy (Wells & Evans, 1985; Dixit et al., 2017; Dixit et al., 2019). The industry is however faced with the problem of declining productivity in the face of high competitive pressure and modern management techniques.

Productivity problems have impacted construction organisations' capabilities to deliver projects on schedule and within budget and with the required quality standard. The labour-intensive nature and inability of the construction organisations and their managers to manage this labour effectively have remained a problem confronting labour productivity, organisational and project performance. Construction labour productivity is among the crucial issues the construction managers face on every business day, as they endeavour to improve on it and satisfy their clients (Attar et al., 2012). Construction productivity improvement helps organisations to increase their revenue drive and survival in the extreme competition that characterise the construction sector.

According to Awodele et al. (2020), the survival of construction companies within the industry depends mainly on effective competition. In order to remain competitive, construction firms have devised various means of improving productivity. Productivity triggers organisational success, growth, and guarantees continuous customer satisfaction, loyalty and patronage. Owing to the need to remain above competitors, the recruitment and engagement of experienced and knowledgeable workers is the order of the day for construction organisations. The productivity of the construction workers (tradespeople, construction professionals, non-construction professionals) is critical to the survival of construction organisations and the success of construction project delivery. The skill and knowledge of the construction workforce is an important factor to the success of the firms, especially as it has to do with surviving the kind of competitive market of the construction sector. Therefore, human capital is now being realized to be a key asset of organisations (UK Essay, 2017). Furthermore, the survival and growth of companies is a goal that requires investment in terms of resources and energy (Jones & Bartlett, 2008). Staying above competitors is the sole reserve of the construction companies' leaders or owners but also the entire workforce. This is because the company's workforce is its resources that appreciate over time in terms of skills, abilities, experiences and knowledge (Olughor & Oke, 2014). Over time, if they are properly managed, they become more productive and contribute meaningfully to providing solutions to the myriads of problems of the construction projects.

Construction organisations in Nigeria have continued to experienced failures in the delivery of construction projects owing to poor productivity among other factors (Usman et al., 2012). The construction industry of Nigeria has continuously experienced a decline in the number of construction organisations which are mostly SMEs. The National Bureau of Statistics (Kale, 2019) of Nigeria reported a -45.1% decline in the number of SMEs in river state alone. The reason may not be far from poor productivity and inefficient management of organisational resources as well as harsh economic condition (Eze et al., 2020a). According to Eze et al. (2020b), productivity is a key criterion for the survival and sustenance of construction-based organisations and other organisations in other sectors of the economy. It was further added that an organisation that wishes to be ahead and above its competitors, such an organisation must be productive and productivity comes from a motivated workforce. It is based on this knowing that this study assessed the impact of productivity on the survival of construction organisations in the south-south region of Nigeria, with a view to determining the critical factors for sustainable productivity and organisational growth. In addition, sustaining a place in the competition is the responsibility of both managers/owners and their

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employees. It is based on this that this study assessed the perception of both construction and non-allied construction professionals on the subject of this study.

The outcome of this study will be useful to managers and owners of construction organisations as it showcases how critical and essential of productivity is to organisational growth and survival. Corporate survival is crucial in a highly competitive sector like the construction industry. Furthermore, sustainable productivity is possible where every stakeholder is doing their part. Companies in the construction sector will be better informed on the most important factors that could trigger the needed change in production and construction project delivery that will help sustain the organisation and its client base.

LITERATURE REVIEW

Productivity and Its Importance in the Construction Industry

Productivity is simply the ratio of the total resources input to the total production output. Bawa (2017) defined productivity as the optimum use of available resources in the production of goods and services with the sole aim of meeting pre-established objectives. Regarding labour productivity (Allan & Yin, 2010) defined it as the measure of Labour productivity as the volume measure of output to a volume measure of input. Labour productivity is a key indicator of the economy. This is because it is linked with growth, competitiveness and the living standards in economies.

The productivity of individual labour (workforce) has an influence on the productivity of construction organisations and their performance on construction projects. Allan & Yin (2010) submitted that the number of hours worked, workforce and the number of people employed are the three commonly used measures for labour productivity. Furthermore, these measures are impacted by the quality of labour, social norms and innovation. It follows that productivity is positively and /or negatively influenced by the quality of labour. More qualified and experienced workforces are more productive. The higher the quality of labour, the better and more improved the productivity will be. A summary of the productivity definition is shown below:

$$Productivity = \frac{Output}{\text{Input}} = \frac{\text{Units}}{\text{Work hours}} = \frac{\text{Total output}}{\text{Total work hours}}$$

According to Conlon (2018), a lot of benefits exists from having a productive workforce and efficient production lines. The implementation of a suitable productivity strategy will aid the organisations' growth rate and survival. Conlon (2018), highlighted some major benefits of productivity in the construction industry, and they are;

Improve profitability

As the efficiency of employees improves, they become productive as tasks are taken lesser time to deliver. It further means more output for reduced or same input level. With a less expensive production system, more savings for expansion and continuous business are available.

Reduced Cost of Operation/Production

Through the introduction of initiatives like investing in technology and ICT-based tools; could over time result in lower cost expended on labour, thus, having the production cost appreciably lowered. Improving the workflow of labour would often lead to a reduction

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in the length of time work gets done. Meaning that the same output can be achieved at a reduced time.

Improved Competitive advantage

Increase in efficiency and faster delivery of projects, give organisations a competitive edge over their competitors. Reduced cost of production means that charges on clients will be less. Also, faster delivery of projects implies that more clients can be satisfied at a lesser time and more projects can be handled. A better competitive edge increases revenue and profits; therefore, firms are in a better position to re-invest for expansion and this would strengthen their longevity and survival.

Increase Workers Morale and Commitment to Work and Company

Increasing production efficiency has a positive impact on the well-being of the workforce. When work items are executed with ease and less stress, the workers experience less stress and burnout and could be more focused. The benefits of improved productivity in the organisations must be felt by the workers so that they can be more motivated to work and support the project delivery goals.

Better Services to Customers

Productivity improvement influences the level of time and attention given to clients (customers). An organisation that is generating more revenue and profits will have a system that runs well. Customers are happy because they feel the benefits from the company, through the improved services delivered to them.

Less Stress and Employee Burnout

Efficient working leads to better employees' productivity and performance. Work is delivered in a lesser time and workers will be more relaxed, organised and focused in their daily assignments.

Resources Optimisation

An effective human resource management leads to reduced cost and improved productivity. The distribution of roles and responsibilities ensure that workers are used optimistically for the benefits of the company and the clients. Workforce optimisation and utilisation brings change and improve workflow and assist in tracking overlaps for responsibilities.

Opportunity for Expansion and Growth

A sustainable improvement in productivity is equally an opportunity for growth and expansion (Colon, 2018) increase in productivity influence the profitability of firms and these profits could be used for expansion and /or diversification of portfolio.

Less Waste and Environmental Issues

Increase productivity means that the production process is efficient and time of tasks execution is reduced. Declining productivity leads to inefficiency which results in loss of

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time, money and other resources. Office buildings should be designed to maximize natural lights and reduce the cost of lighting as well as workers' productivity and health and safety.

Critical Factors for Sustained Productivity and Survival of Organisations

According to the findings of Karimi et al. (2014), a significant, strong and direct relationship exists between socialisation and productivity. Organisational sociability has an effect on workforce productivity and performance. It was pointed out that a reasonable amount of organisational budget should be dedicated to human resource management, as it is the foundation for a glowing manpower's productivity (Akbari et al., 2005).

The success of businesses is to a very large extent dependent on leadership (Sakiru et al., 2013). Effective leadership plays a very vital role in ensuring the upliftment of the human resource of an organisation, and this has an impact across the entire value chain. Among the key areas of leadership have effects according to (Sakiru et al., 2013), are inspires access to new information and ideas, organises training and enhance the capabilities of the workforce. New information, ideas gained through adequate knowledge sharing via training; help to increase employees' capabilities, skills and knowledge for sustainable productivity and survival and growth.

Productivity is central to every business to grow and succeed. Employees play a very crucial role in the success of every business and the level of support and commitment to their employers can make or mar the progress and survival of organizations. Also, business growths and survival is central to and have an impact on the careers of the employees (Mackay, 2014).

According to Mackay (2014), factors that can influence the productivity, growth, survival and fortunes of an organization over the long run are;

1. An atmosphere of trust across every level of the organisation is a very strong factor required for business growth and survival. This involves the organization providing an environment where the employees believed and trust them, and they in turn can hold the employees to their words. Customers want to know that the organization is dependable and reliable.
2. Promptness of decision making. A productive and progressive organization is one that is decisive; decisions are made without delays to avoid ideal time for both human and material resources.
3. Know your competitors; being at the defensive end might not be good for the progress and survival of the company. Companies should know their environment, especially other players in the industry. The construction industry is a competitive sector, and only the strong and competitive construction organizations live for long.
4. Effective and sufficient record-keeping shows that an organization is serious and wants to succeed. Record keeping encourages and preserved knowledge and ideas, establish credibility and improve transactions and productivity of the organizations.
5. Building strong networks of relationship and connections with stakeholders in and outside the construction industry. Networking is a source of knowledge, information, people and advice; that could change the fortune of the company.
6. Minimize risk and build every stakeholder confidence through a habit of slow but incremental progress. As the popular saying goes 'slow and steady wins the race'.
7. Organizations should exercise optimism in all their activities and operations. Maintaining a positive disposition towards investment risks and a look at the bright side of every decision should be engendered in the minds of every stakeholder.

Relationship between Productivity and Organisational Survival

Balestrero & Udo (2013) submitted that the design of strategies to create a durable business that will satisfy today's customers need and still position the organisation to outpace

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its competitors while making a significant impact on the environment, community, society and bottom line; is the rationale for organisational survival. Engendering sustainable productivity is the responsibility of organisational management (leadership). Making productivity an integral part of the organisational culture is the bedrock for ensuring the stability and survival of an organisation. It is also the mechanism for a sound competitive advantage (Karimi et al., 2014). Burgelman & Grove (2007) posit that the dynamics of competition impacts the positions and survival of companies.

In the USA, Wu (2017) found that the survival and growth of new firms is dependent on productivity more than profitability. It was confirmed that the impact of productivity is 14 times more than the impact of profitability on a company's survival and growth rates. Conlon (2018) assert that a sustainable improvement in productivity is equally an opportunity for growth and expansion by organisations. The survival and sustenance of organisations is dependent on productivity (Eze et al., 2020b). This implies that an organisation that is not productivity will be unsuccessful and will not grow and survival in a competitive environment like the construction sector. Construction project being undertaken by such company will suffer from time and cost overruns, quality issues, disputes and claims, customer dissatisfaction and loss of future businesses.

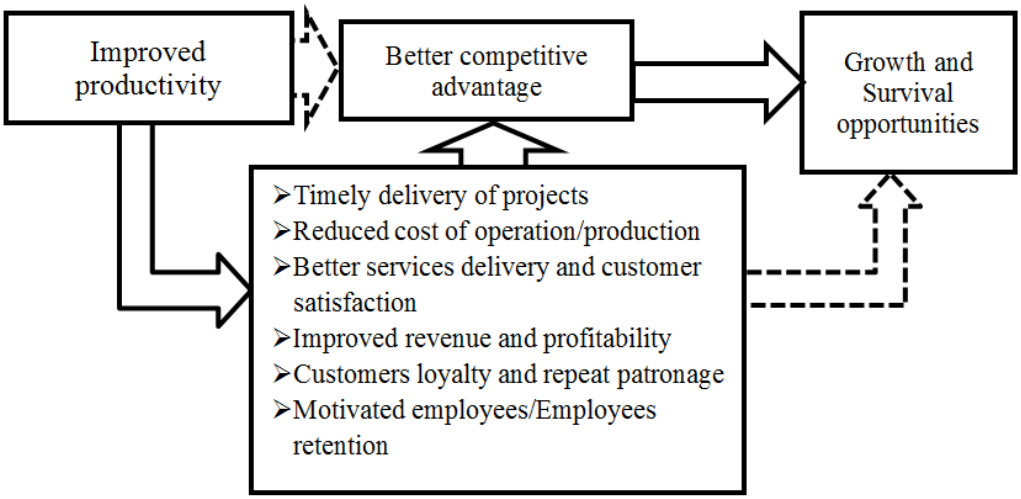

FIGURE 1

RELATIONSHIP BETWEEN PRODUCTIVITY AND ORGANISATIONAL SURVIVAL

Construction firms like other companies are made of construction professionals, construction tradespeople are the major employees of the industry. When these employees are productive, work is delivered in less time or lesser time to accomplish work. The noticeable impact is in the lowering of the cost of production/operation as fewer workforces are needed to produce the same or more output. This has an influence on the profitability of the firm (Mansinghka & Moha, 2021). In addition, high productivity helps to meet customers' satisfaction and their expectation. The implication of a happy customer is that there is stronger loyalty, repeat patronage, referrals of potential clients. These will give an opportunity for an organisation have a better edge over its competitors, and growth and survival chances. It was posited that productivity guarantees business profitability, employees retention, among others; thus, providing an opportunity for growth, survival and a more sustainable business outfit (Mansinghka & Moha, 2021). A conceptual framework showing

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the relationship between productivity and organisational growth and survival is presented in Figure 1.

RESEARCH METHODOLOGY

This study adopted a quantitative and qualitative approach in achieving its aim. The purpose of this study is to assess the impact of productivity on the survival of construction organisations in a competitive market. The study was carried out in the south-south geopolitical zone of Nigeria and among construction employees (i.e. construction professionals and non-construction professionals). The south-south region is rich in oil and gas and has six states (Akwa Ibom State, Bayelsa State, Cross River state, Delta state, Edo state, and Rivers state). Thus, this region is a huge revenue generator for the nation. The presence of oil in these states makes them a business and investment destination for all categories of companies. The construction professionals form a majority of the employees of the construction companies. The non-allied construction professionals employees such as (legal experts, accountants, medical experts, among others), were considered because they also a play vital role in the management of the organisations and in project delivery.

For the quantitative data, a well-structured questionnaire was used to gather responses from the participants who met the sample selection criteria. Similarly, for the qualitative data, a semi-structured interview was used to gather responses from nine (9) top management level construction professionals.

In order to ensure that only quality data are collected with little or no bias, the following criteria were set: 1) the organisations must have been working in the region for at least 5 years, 2) participants must be well informed about the running of his/her employer, 3) have an understanding of productivity and how to improve it, 4) must have at least 5 years working, and 5)must be willing to take part in the study.

The questionnaire used has two divisions, the first part gathered information on the respondents' background information, and the second part gathered responses to the 16 selected importance of productivity from a literature review. The respondents were required to rate the variables based on their perceived level of influence ad contribution to organisational growth and survival, using a 5-point Likert scale, where (1=lowest scale; 5 =highest scale). The snowball sampling technique was used in the administration of the questionnaire using electronic means. The snowball sampling technique depends on referrals and it is suitable to reach difficult to access participants (Naderifar et al., 2017). The sampling method has the capability to increase survey sample size, reduce survey time and cost (Ramsey et al., 2016; Heckathorn, 2011; Atkinson & Flint, 2001). Furthermore, since there was no database of construction employees with this study's set criteria, the use of snowball sampling technique became essential. The questionnaire is suitable for a large audience and it is economical and fast (Tan, 2011). The electronic means of questionnaire distribution is fast, economical and environmentally friendly (Nwaki & Eze, 2020). Initial contacts were established among 28 potential survey participants that met the survey criteria during a preliminary survey of the study areas. The emails and WhatsApp details of these potential participants were collected and the questionnaires were sent to them. Thus, they were the first set of participants who referred the study to others who met the study's sample criteria.

A total of 114 completed and useable questionnaire responses were received, after a survey period that lasted for 20 weeks. It was impracticable to ascertain the response rate because there was no sample size established initially. The 114 responses were deemed adequate for analysis, and were subsequently used for the study.

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The questionnaire data were analysed using frequency and percentage, mean item score, Mann-Whitney U test and correlation analysis. The data garnered on the background information of the respondents were analysed using frequencies and percentages. Data gathered on the influence of productivity on organisation survival were analysed using the mean item score. In order to justify the use of the Mann-Whitney U test to determine the difference in the rating style of the construction professionals and non-construction professional employees of the construction industry, the normality assumption of the gathered data was ascertained using the Shapiro-Wilk test. This was based on the knowledge that the sample size of 114 is less than 2000 as suggested by (Ghasem & Zahediasl, 2012). A p-value of zero (0) was obtained for the assessed variables, thus, indicating that the data are non-parametric. Since, there a possibility to have some differences in the perceptions of the construction professionals and non-construction professional employees of the construction industry, the Mann-Whitney U test was used to determine if a difference exist in the rating style for the variables assessed. The reliability evaluation result indicates that the questionnaire is reliable and has high internal consistency. This is based on the Cronbach's alpha value of 0.852 obtained for the 16 variables assessed.

Nine (9) top management staff participated in the interview session. The semi-structured interview contained two sections; section 1) collected data on the background information and section 2) contain question related to the relationship between productivity and organisational survival, and question related to the critical factors for sustainable productivity for project success and organisational growth and survival. The responses from the interviewees were recorded and later transcribed to aid analysis. The interviewees' responses were examined thematically to identify common themes and commonality in their responses.

RESULTS AND DISCUSSION

Respondents Background Information (Questionnaire Participants)

Table 1 shows the result of the analysis of the data from the questionnaire participants' background information. From the respondent category, 71.93% are construction professionals, while 28.07% of them are non-allied construction professionals working in various capacities with construction organisations. The average working experience of the sampled participants is 11.94 years. A further look at the years of experience revealed that; 42.11% have about 5-10years in the construction industry, 36.84% have 11-15years of experience, 14.04% have 16-20years of experience, and 7.02% have spent 21years and above. These indicate that they have gained reasonable and useful experiences in areas of building and civil engineering construction that could be useful in meeting the study aim.

Furthermore, in terms of the highest academic qualification of the respondents, 25.44% holds HND, 15.79% have PGD, 47.37% have B.Sc./B.Tech., 11.40% holds MSc./M.Tech., and none of them have a PhD. This shows that the sampled participants have an appreciable level of education to understand the major aim of this study.

Table 1
QUESTIONNAIRE RESPONDENTS' GENERAL INFORMATION

Variables	Classification	Freq.	Per cent
Organisational size	Construction professional	82	71.93
	Non-construction Professionals	32	28.07
	Total	**114**	**100.00**
Years of experience	5-10years	48	42.11

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	11-15 years	42	36.84
	16-20 years	16	14.04
	21-above	8	7.02
	Total	**114**	**100.00**
Highest Educational Qualification	Higher National Diploma (HND)	29	25.44
	Postgraduate Diploma (PGD)	18	15.79
	Bachelor of Science/technology (B.Sc./B.Tech)	54	47.37
	Master's Degree (MSc./M.Tech.)	13	11.40
	Doctorate degree (PhD)	0	0.00
	Total	**114**	**100.00**

Interviewee's General Information

From Table 2, it can be seen that the interviewees are top management staff of their various organisations. This is evident in their positions which range from being site superintendents to project director. In terms of their profession, Architects and Quantity Surveyors are 2 each, 1 builder and 1 project management expert, and 3 Engineers. In terms of their educational qualification, 6(66.67%) of them holds a master's degree, while 3(33.33%) holds a bachelor's degree.

Furthermore, the participants are members of their respective professional bodies except for the project management expert who was silent about his professional cadre. The average years of experience of the interviewees are 19.44years, with a maximum of 22 years and a minimum of 15years. In addition, the participants are experts in building and civil engineering construction.

It can be drawn from the interviews general information that, they are experienced enough and with the requisites professional and education and industry experiences to give information that could be relied upon, as regards the subject of this study.

Table 2
INTERVIEWEES GENERAL INFORMATION

S/No	**Profession**	**Position**	**Highest Educational Qualification**	**Professional Cadre**	**Year of experience**	**Areas of expertise**
A	Architect	Project manager	Master's degree	Fellow	22 years	Building/wood
B	Builder	Site superintendent	Bachelor degree	Corporate	19 years	Building/civil projects
C	Engineer (Civil/structural)	Production manager	Master's degree	Corporate	19 years	Civil/steelworks
D	Quantity Surveyors	Commercial /Estimating manager	Master's degree	Fellow	20 years	Building/civil projects
E	Project management	Procurement/Logistics manager	Bachelor degree	-	15 years	Developmental projects
F	Engineer (M&E)	Project director	Master's degree	Corporate	23 years	Building/civil projects
G	Quantity Surveyors	Contract manager	Bachelor degree	Corporate	18 years	Building/civil projects
H	Engineer (Civil/structural)	Project manager	Master's degree	Corporate	22 years	Building/civil projects
I	Architect	Design manager	Master's degree	Corporate	17 years	Building projects

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Influence of Labour Productivity of Organisational Growth and Survival

Table 3 and Figure 2 contains the results of the analysis of the data collected on the influence of productivity on organisation survival. It can be seen that the most influenced increased productivity have on an organisation are; increase organisational profitability (MIS=4.70), Improves competitive advantage (MIS=4.70), Opportunity for expansion and growth (MIS=4.67), Customer loyalty and repeat patronage (MIS=4.62), and Excess profits are available for re-investment for expansion purposes (MIS=4.54). While, the least influenced is observed to be in; Less waste and environmental issues (MIS=3.65), and Resources optimisation (MIS=3.52).

Regardless of the relative ranking of the variables, they all have a significant impact on the productivity of an organisation. The mean average of the MIS scores is 4.28 (85.60%), with a minimum of 3.52(70.4%) and a maximum of 4.70(94.0%). This implies that productivity has an influence on the growth and survival of construction organisations.

These results corroborate the findings of (Karimi et al., 2014; Wu, 2017; Colon, 2018; Mansinghka & Moha, 2021). It was found by Wu (2017) that the growth and survival of firms are dependents on productivity. Productivity ensures that the organisation survives harsh competitions and remain progressive (Karimi et al., 2014). Conlon (2018) assert that a sustainable improvement in productivity is equally an opportunity for growth and expansion by organisations. Mansinghka & Moha (2021) submitted that productivity guarantees business profitability, employees' retention, among others; thus, providing an opportunity for growth, survival and a more sustainable business outfit.

The same view on the importance of productivity was held by the interviewees. Top of the major themes are; improved revenue drive, increase in profitability, delivery of a project on time, cost savings, better competitive advantage, improved patronage and market share, and organisational progress.

Further analysis of the variables using the Mann-Whitney U Test (see columns 7 & 8), showed that out of the 16 variables assessed, the two participants group rated 14 variables in a similar pattern. These 14 variables represent 87.50% of the assessed variables. This implies that the sampled participants have a convergence opinion on 87.50% of the assessed variables. This decision is based on the significant p-value for the variables which is greater than 0.05. it was then concluded that there is no significant statistical difference in the perception of construction professionals and non-allied construction professionals regarding the benefits of productivity organisational survival. A statistically significant difference was however observed in the perceptions of the participants on 2 (12.50%) of the assessed variables. This implies a divergent opinion among the participants from the sampled organisations. This decision is based on the facts that these variables have p-values of less than 0.05.

The two variables with their respective Z and p-values scores displayed in (column 7 & 8 of Table 3) are; Resources optimisation (Z=-2.2847, Sig.=0.0223) and Less waste and environmental issues (Z=-2.6693, Sig.=0.0076). This difference in the rating style of these 2 variables could be as a result of 1) the varying level of production and efficiency enhancement factors implemented in the organisations sampled, 2) differences in understanding of the participants of what benefits productivity brings to organisations, and 3) varying productivity levels and associated impact on the participants and organisations.

As can be observed from Figure 2, these variables also show a clear divergence from the 4.0 and 4.5 MIS marks on the web (contours). Notwithstanding the differing views on these variables, productivity still have a significant and meaningful impact on them as the mean score is higher than 3.5

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Table 3
INFLUENCE OF LABOUR PRODUCTIVITY OF ORGANISATIONAL GROWTH AND SURVIVAL

S/No	Variables	MIS	S.D	S.EM	Rank	Mann-Whitney		
						Z	Sig.	Decision
1	Increase organisational profitability	4.70	0.609	0.0617	1	-1.130	0.290	Accept
2	Excess profits are available for re-investment for expansion purposes	4.54	0.864	0.0809	5	-0.805	0.414	Accept
3	Increase organisational reputation	4.39	1.060	0.1013	8	-1.065	0.286	Accept
4	Lower production/operational cost which leads to stability in the long run	4.53	0.844	0.0790	6	-0.761	0.441	Accept
5	Results in improved wages and bonuses of the workforce	4.52	0.801	0.0750	7	-1.365	0.172	Reject
6	Improve the standards of living of construction stakeholders	3.86	1.382	0.1294	14	-0.875	0.382	Accept
7	Less stress and employee burnout	3.97	1.201	0.1125	12	-0.558	0.577	Accept
8	Creates a better working environment and satisfaction among stakeholders	4.39	1.060	0.0993	8	-0.678	0.434	Accept
9	Improves competitive advantage	4.70	0.752	0.1033	1	-0.946	0.344	Accept
10	Increase workers morale and commitment to work and company	3.97	1.286	0.1205	12	-1.721	0.085	Accept
11	Better services to customers	4.20	0.904	0.0847	10	-0.602	0.547	Accept
12	Customer loyalty and repeat patronage	4.62	0.846	0.0792	4	-0.059	0.953	Accept
13	Resources optimisation	3.52	1.403	0.1314	16	-2.285	0.022**	Accept
14	Opportunity for expansion and growth	4.67	0.838	0.0785	3	-0.126	0.900	Accept
15	Less waste and environmental issues	3.65	1.596	0.1495	15	-2.669	0.008**	Reject
16	increase the engagement level of employees	4.17	1.088	0.1019	11	-0.933	0.336	Accept

**Sig<0.05

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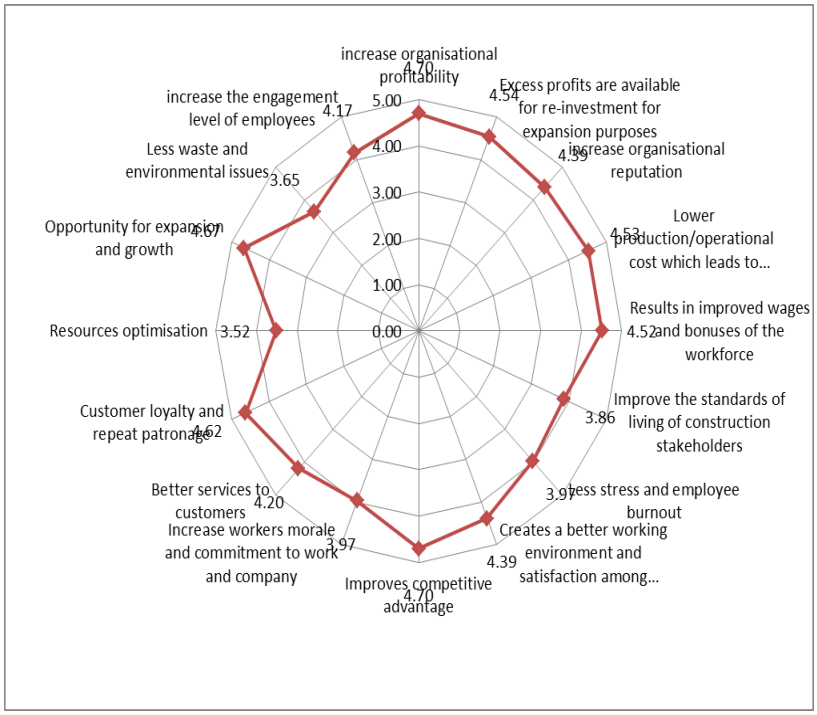

FIGURE 2

INFLUENCE OF PRODUCTIVITY ON ORGANISATION GROWTH AND SURVIVAL

An additional Mann-Whitney U test shown in Table 4 was conducted to ascertain the general perception of the participants regarding the impact of productivity on organisations growth and survival. The results show that there is no statistically significant difference in the views of the construction professionals and non-construction professionals from the different construction organisations within the study area. This decision is premised on the significant p-value (0.56) obtained. This obtained p-value of 0.56 is greater than 0.05.

Table 4
MANN-WHITNEY U TEST

Participants group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	p-value
Construction professionals	82	64.372	5278.50	1223.50	1751.50	-0.6182	0.56
Non-Allied construction professionals	32	39.891	1276.50				
Total	114						

Correlation Analysis Results

Further to the Mann-Whitney U test which revealed a no statistical significant difference in the views of the construction professionals and non-construction professionals from the different construction organisations within the study area.

Correlation analysis was executed to determine the nature of the relationships that exist between the variables. The 16 variables correlated significantly with each other and with at least two other variables (see Appendix A). The top five constructs from the descriptive

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analysis showed a significant correlation with at least three other influences of productivity on construction organisations (Table 5).

Table 5
CORRELATION ANALYSIS RESULTS

Constructs		Variables	Correlation coefficient
increase organisational profitability	1	Lower production/operational cost which leads to stability at the long run	0.278**
	2	Creates a better working environment and satisfaction among stakeholders	0.257**
	3	increase the engagement level of employees	0.348**
Excess profits are available for re-investment for expansion purposes	1	Lower production/operational cost which leads to stability in the long run	0.260**
	2	Improve the standards of living of construction stakeholders	0.302**
	3	Customer loyalty and repeat patronage	0.193**
	4	Creates a better working environment and satisfaction among stakeholders	0.271**
	5	Increase workers morale and commitment to work and company	0.276**
	6	Resources optimisation	0.189*
	7	Less waste and environmental issues	-0.29**
Customer loyalty and repeat patronage	1	Creates a better working environment and satisfaction among stakeholders	0.230*
	2	Improves competitive advantage	0.393**
	3	Increase workers morale and commitment to work and company	0.578**
	4	Less stress and employee burnout	0.356**
Improves competitive advantage	1	Better services to customers	0.369**
	2	Less stress and employee burnout	0.256**
	3	Resources optimisation	0.224*
Opportunity for expansion and growth	1	increase organisational reputation	0.299**
	2	Results in improved wages and bonuses of the workforce	0.22*
	3	Improve the standards of living of construction stakeholders	0.456**
	4	Creates a better working environment and satisfaction among stakeholders	0.405**
	5	Better services to customers	0.23*
	6	Less stress and employee burnout	0.296**
	7	Resources optimisation	0.284**

**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).

Critical Factors for Sustainable Productivity of Labour

The interview participants were asked to mention some critical factors that could bring about sustainable construction labour productivity for a continuous organisations progress and project performance. Interviewee (A) said that

"*Project leadership is style and experience is the most important factors that can negative or positively influence productivity. He further maintains that if the project leader can manage properly the various categories of workers and other stakeholders on the project, he would have achieved at least 85% success".*

A similar theme was obtained from Interviewees (B, D, I), they were of the opinion that '*investment in modern technologies, construction equipment and tools, and the use of modern construction methods, like pre-cast components, is another was an organisation can improve efficiency and sustain productivity level for organisational survival and growth.*

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For Interviewee (E), *"A good and conducive working environment where they feel safe and comfortable, where there is an atmosphere of trust between workers and management, an experienced human resource management, good networking and social programmes for workers; are needed to achieve improved and lasting productivity on construction projects*".

Interviews (G) said that *"for a company to survive the level of competition in the construction industry, there must be proper competitors' analysis, sound decisions must be made regarding resource utilisation, and modern management methods must be brought in to improve the value and reduce waste experienced on construction site"*.

From the responses of (interviewees F & H), it was deduced that a good motivational package, knowledge-sharing culture, and good safety and health packages; could help to improve the productivity of workers.

It can be deduced from the interviewees that for a sustained productivity performance of construction organisations, the major factors are summarised as; experienced leadership/management, use of modern equipment, tools and ICT based technologies, use of modern management techniques, a conducive workplace environment, sound knowledge of competitors, social networking, knowledge sharing, organisational optimism, and motivation & safety packages. This results support the reports of (Mackay, 2014; Karimi et al., 2014; Sakiru et al., 2013; Akbari et al., 2005).

Relationship Between Increased Productivity and Organisational Growth

Figure 3, shows that a sustainable increase in productivity can be achieved by having a sound and effective organisational leadership system, investment in modern methods and technologies, social networking, a good work environment and a culture of knowledge management. Organisations have the opportunities for improving their competitive edge, revenue and profitability and prospects for growth and expansion. A company with a superior competitive advance will have a better market share and generate more revenue and profits for its shareholders. Excess profits are used for diversification or invested in other aspects of the business for expansion purposes.

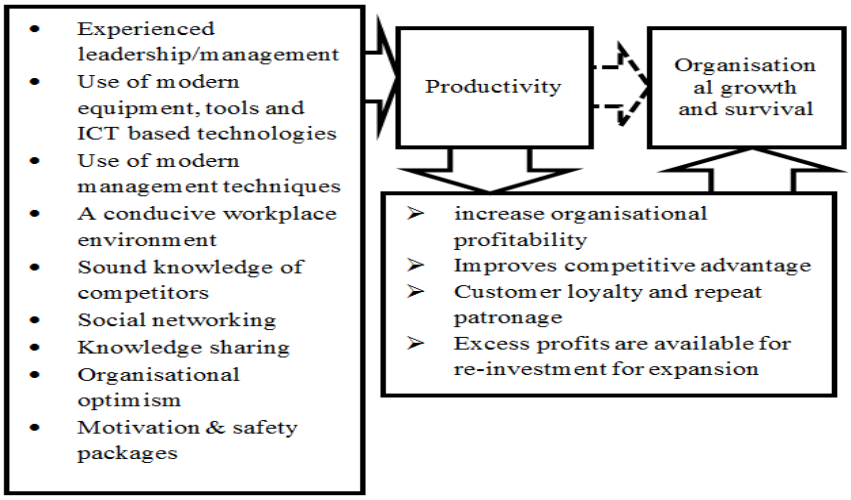

FIGURE 3

IMPACT OF PRODUCTIVITY ON ORGANISATIONAL GROWTH

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It can be concluded that a productive organisation is a prosperous organisation. Therefore, an increase in productivity has an impact on the growth and survival of construction organisations.

RECOMMENDATIONS

This study was aimed at showing that a sustainable increase in productivity influences the growth and survival of construction organisations. This study was carried out among construction organisations in the south-south geopolitical zones of Nigeria. The well-structured questionnaire administered through electronic means and a semi-structured interview questionnaire was used to gather data from the target samples. The survey participants were construction employees (i.e. both construction professional and non-construction professionals) of middle to top management level in their various organisations. The snowball sampling technique was used in selecting both quantitative and qualitative participants. Mean item score, Mann-Whitney U test and correlation analysis were used to analyse the data gathered; thus leading to vital findings.

It was found that productivity influence the growth and survival of construction organisations. The greatest influence of productivity is the areas of; increased organisational profitability, Improves competitive advantage, customer loyalty and repeat patronage, Excess profits are available for re-investment for expansion purposes, and opportunity for expansion and growth. Also, for sustainable productivity to be achieved, the critical factors are; experienced leadership/management, use of modern equipment, tools and ICT based technologies, use of modern management techniques, a conducive workplace environment, sound knowledge of competitors, social networking, knowledge sharing, organisational optimism, and motivation & safety packages.

It is obvious that labour productivity is very necessary for organisations productivity. A productive organisation is a competitive and winning organisation; it means that a construction organisation that is at the top of its competition, will generate more revenue and profits than its components. Productivity ensures that works are efficiently delivered in terms of time, quality and meeting customers' needs. A satisfied client is sure likely to come back in future to patronise the same company. In addition, achieving sustainable productivity is in the hands of the management/leadership. An effective leader will drive other critical factors identified in this study.

Construction organisations are encouraged to ensure regular training and retraining of project leaders and management for the continuous improvement of their skills and knowledge, and the need to ensure sustained efforts at increasing and maintain productivity should be emphasised. This study is unique in that it considered non-allied construction professionals other than the usual method of considering only construction professionals. This study gave non-allied construction professionals who are working under the employment of construction companies to contribute to such a very important subject that affect their employers and careers. The consequences of poor productivity affect both the construction and non-construction employees of the construction firms.

CONCLUSION

The outcome of this study is very essential to the construction industry which has been experiencing a declining level of productivity in spite of the level, of sophistication of operations in the 21st century. The management of construction organisations will find this study useful in areas of increasing capacities for efficiency and survival of the fierce completion of the construction industry. The leadership of construction projects sites are

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informed of the benefits of productivity and the need to motivate the productivity of their workforce for the success of the project being undertaken and for the overall progress of the company. This study also adds to the body of knowledge on productivity and organisation survival. Notwithstanding the benefits of this study, it is limited by geographical boundary and sample size. A similar study in other regions of the country or other country should be carried out so that data will be available for comparison. The role of leadership style on productivity and performance of construction organisations could be studied.

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Received: 11-Nov-2021, Manuscript No. jmids-21-9701; **Editor assigned:** 16-Nov-2021, PreQC No. jmids-21-9701(PQ); **Reviewed:** 19-Nov-2021, QC No. jmids-21-9701; **Revised:** 24-Jan-2022, Manuscript No. jmids-21-9701(R)**; Published:** 31-Jan-2022

Citation Information: Justina, O., Emmanuel, E., & Samuel, E. (2022). Impact of productivity on the survival of construction organisations in a competitive market. *Journal of Management Information and Decision Sciences, 25*(S3), 1-18.

Appendix A: Correlation analysis

Correlations																	
S/N	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Increase organisational profitability	1	0.017	0.103	0.278**	0.137	0.027	0.101	0.257**	0.102	0.105	-0.038	0.048	0.174	0.059	-0.16	0.348**
2	Excess profits are available for re-investment for expansion purposes	0.017	1	0.158	0.260**	0.114	0.302**	0.193**	0.271**	0.161	0.276**	0.108	0.005	0.189*	0.069	-0.29**	0.1
3	Increase organisational reputation	0.103	0.158	1	0.508**	0.621**	0.401**	0.266**	0.449**	0.266**	0.121	0.242**	0.14	0.238*	0.299**	0.2178	0.106
4	Lower production/operational cost which leads to stability at the long run	0.278**	0.260**	0.508**	1	0.523**	0.276**	0.136	0.562**	0.202*	0.233	0.034	-0.054	0.299**	0.163	-0.203*	0.386**
5	Results in improved wages and bonuses of the workforce	0.137	0.114	0.621**	.523**	1	0.218*	0.346**	0.419**	0.292**	0.254**	0.295**	0.212*	0.177	0.22*	0.081	0.245**
6	Improve the standards of living of construction stakeholders	0.027	0.302**	0.401**	.276**	.218*	1	0.350**	0.484**	0.278**	0.491**	0.384**	0.250*	0.334**	0.456**	-0.079	-0.008
7	Customer loyalty and repeat patronage	0.101	0.193**	0.266**	0.136	0.346**	0.350**	1	0.230**	0.393**	0.578**	0.144	0.356**	-0.002	0.141	-0.111	0.179
8	Creates a better working environment and satisfaction among stakeholders	0.257**	0.271**	0.449**	0.562**	0.419**	0.484**	0.230*	1	0.417**	0.416**	0.426**	0.450**	0.406**	0.405**	-0.123	0.281**
9	Improves competitive advantage	0.102	0.161	0.266**	0.202**	0.292**	0.278**	0.393**	0.417**	1	0.142	0.369**	0.256**	0.224**	0.099	-0.09	0.039
10	Increase workers morale and commitment to work and company	0.105	0.276**	0.121	0.233	0.254**	0.491**	0.578**	0.416**	0.142	1	0.362**	0.365**	0.297**	0.148	-0.194*	0.256**
11	Better services to customers	-0.038	0.108	0.242**	0.034	0.295	0.384	0.144	0.426**	0.369**	0.362**	1	0.564**	0.287**	0.23*	0.007	0.172
12	Less stress and employee burnout	0.048	0.005	0.14	-0.054	0.212**	0.250**	0.356**	0.4508*	0.256**	0.365**	0.564**	1	0.211*	0.296**	0.006	0.271**
13	Resources optimisation	0.174	0.189*	0.238*	0.290**	0.177	0.334**	-0.002	0.406**	0.224*	0.297**	0.287**	0.211*	1	0.284**	-0.195*	0.244**
14	Opportunity for expansion and growth	0.059	0.069	0.299*	0.163	0.22	0.456**	0.141	0.405**	0.099	0.148	0.230*	0.296**	0.284**	1	0.031	0.032
15	Less waste and environmental issues	-0.16	-0.29**	0.2178	-0.203*	0.081	-0.079	-0.111	-0.123	-0.09	-0.194*	0.007	0.006	-0.195*	0.031	1	-0.307**
16	Increase the engagement level of employees	0.348**	0.1	0.106	0.386**	0.245**	-0.008	0.179	0.281**	0.039	0.256**	0.172	0.271**	0.244**	0.032	-0.307**	1

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