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ENABLERS OF EFFECTIVE PROFESSIONAL SERVICES: EVIDENCE FROM THE NIGERIAN BUILDING INDUSTRY

Ralph Olusola Aluko[1], Adedotun Ayodele Dipeolu and Sunday Samuel Omoniyi

Department of Architecture, Olabisi Onabanjo University, Ibogun Campus, Ogun State, Nigeria

ABSTRACT

Purpose: This study is aimed at achieving improvement of service delivery through identification and establishing of main factors affecting professional services in the building industry.

Design/methodology/approach: A cross-sectional survey of randomly selected firms of Architects, Structural Engineers, Mechanical and Electrical Engineers and Quantity Surveyors was used for the study. Mean Score (MS) was used to rank the factors and ANOVA was used to test the hypothesis of the study.

Findings: The three most important factors were the use of modern hardware and software, commitment of staff and ability of the client to choose the right design team for their projects. The result of ANOVA result showed a differences in the perceptions of the professionals in respect of the following: frequency of changes in regulations by government, capacity of the local building materials industry, supply and price of construction materials, availability of specified materials and enforcement of regulations on foreign firm's practices.

Research limitations/implications: The generalisation and application of the results of the study to projects which do not have full services of Architects, Structural Engineers, Mechanical and Electrical Engineers and Quantity Surveyors.

Practical implications: The result will guide practitioners on the effects of these factors for learning and sharing of knowledge on their experiences in order to improve service delivery.

Originality/value: The enablers identified in this study will provide the support that makes competitive services possible, providing understanding and insight into the elements that catalyses success in professional services.

Keywords: Building projects; consultants; building industry; professional services; Nigeria.

[1]olusola.aluko@oouagoiwoye.edu.ng

1. INTRODUCTION

Consultancy services in building projects are interconnected and complements each other (Brandl, 2010). The services are normally provided by architectural, engineering and quantity surveying firms and are largely based on knowledge acquired by the human capital of the firms (Jewell, Flanagan & Anac, 2010). This implies that activities in building projects are team work and the project delivery process is rooted in team practice approach where each member of the team performs unique roles (Kwofie, Amos-Abanyie & Afram, 2016). According to Olatunde, Ogunsemi and Oke (2017), the composition of construction team members has a significant effect on the completion time of construction projects, and recommended that effort should be made in establishing roles of team members when they are appointed. The team could either be within the same organisation or put together as consultants from different organizations as a unified team for the delivery of the project design (Oyedele, 2013).

Meanwhile, it has been reported that these service providers in Nigeria are not meeting the needs of their client because of conflicting design information, delays in issuing revised drawings, dimensional inaccuracies resulting into delays in project delivery (Aiyetan, Smallwood & Shakantu,2014). Oyedele et al. (2015) emphasise further that these deficiencies have resulted in poor construction quality performance. In addition, Mbamali and Okotie (2012) identifies threat of globalization as a result of debit balance of trade in professional services in building practice in Nigeria.

Several factors in the environment constitute enablers or bottlenecks for these professionals in an attempt to improve their services for the benefits of their clients who are investing resources in the projects. These factors manifest in form of internal factors (controllable) and external factors (uncontrollable), which organization often attributes to their success or failures (Assessing Women in Engineering (AWE), 2005). This study is aimed at achieving improvement of service delivery through identification and establishing information on these factors so that project team can learn and share knowledge on their experiences.

2. REVIEW OF RELATED LITERATURE

Factors that can influence activities in construction settings are very important (Ejohwomu, Oshodi & Lam, 2017). Zhao, Zuo, Zillante and Zhao (2012) asserted that the knowledge of these factors are necessary to be competitive in the market place. Some of these factors can be internal which the stakeholder has control over, and it could be external in which case the person has no control over such factors (Plotnik & Kouyoumdjian, 2011). This study equally focuses on both internal and external factors that act as barriers towards providing effective services. The internal factors are staff development and motivation (SDM), innovation (INV), investment in information and communication technology (ICT) and internationalization (INT). External factors are regulatory framework (RGF), construction materials (CMT), client factors (CLF), competition (CMP) and professional fees (PFF).

In line with this, Ling, Ibbs and Hoo (2006) emphasise that keeping up with new laws and regulations is one of the most significant risks faced by architectural and engineering design firms. According to Zhao et al (2012), sound regulatory framework has a lot of implications on professional staff registration and licensing, requirements of procurement acts for tender, and requirements for collaborations with foreign firms. It protects local

firms from foreign firms with stronger human and technical resources. The development of knowledge and expertise in the industry drives the human capital and play a major role in engineering, procurement and construction projects in the industry (Nguyen & Hadikusumo, 2017). Lowendahl (2005) opines that efforts at maintaining the best professionals in the building industry requires investment in human capital development.

Educated experts build reputation for the organization and thereby attract interesting clients and projects. This lead to better relationship that galvanize competitive advantage for firms (Nguyen & Hadikusumo, 2017). The adoption of ICT has become a norm during design process by design firms. Russell (2007) says that the development of Computer-Aided- Design (CAD) programs have assisted firms in no small measure, it leads to easier distribution of the service product more efficiently. Firms that give attention to research and development (R&D) get new knowledge that can be applied in practice to achieve innovations (Ling et al. 2006). Scholars particularly from technology and science-based disciplines emphasized investment in R&D to be very critical for a successful innovation (Czarnitzki & Thorwarth, 2012; Filippetti & Archibugi, 2011; Zhao & Ordonez de Pablos, 2011).

The importance of management competencies cannot be over-emphasized as this determine the right allocation of expertise of the employees (Brandl, 2010). As a result of the strong dependency on experts, commitment and loyalty of employee are important and should possess the characteristics of human relations for the image of the firm (Razavi, Safari, Shafie & Khoram ,2012). To retain qualified staff and avoid unnecessary staff turnover, firms should attract good staff with salary, social welfare, remuneration package and benefit package (Zhao et al., 2012).

The study of Kamal, Yusof and Iranmanesh (2016) emphasized the capacity of firms to innovate in order to remain competitive in ever dynamic environment. Other researchers (Roxas, Battisti & Deakins, 2013; Moohammad, Yusof & Kamal,2014) observe that larger firms have the capacity to innovate than smaller firms because of access to resources. In contrast, Yusof, (2011) notes that smaller firms have the tendency to innovate because of flexibility. Kamal et al, (2016) suggested that experience would have significant effect on the innovation orientation of firms. Innovation in project-based firm involves using new or improved services for clients and using new technologies to solve clients' problems better than existing technologies (Blindenbach-Drissen & Ende, 2006).

In a project based organization, the various dimensions of innovations are categorized as process innovation, product/technological innovation, strategic innovation and should be seen as strategies to cope with ever increasing challenges in the globalized environment of construction industry (Terzungwe, 2013). Kissi, Dainty and Liu, (2012) advocate for environment that is supportive in construction professional services firms for their human assets to seek innovative solutions in the ever-changing environment. The level of innovations and creativity in design help firm to remain competitive. Clients prefer firms that have capacity to provide innovative ideas covering broad areas of their services (Zhao et al. 2012). Kamal et al. (2016) differentiates between innovation creation and innovation adoption. According to Kamal et al. (2016) the method and regularity of research and development (R&D) activities determines major difference between innovation creation and innovation adoption. Innovation creation involves investment in R&D by the organization. It involves collaboration with external sources of information like research institutes (Zhao & Ordonez de Pablos, 2011).

In the past, professional services have been delivered locally. However, advancement in technology and deregulation in most countries have resulted into larger and global PSFs operating beyond their geographical boundary. This is known as internalization (Brock & Alon, 2009). The concept is used to describe the outward movement of economic activities

of a firm from its domestic market to international market (Wong, 2012). Brandl (2010) reported that firms that operate internationally are more likely to survive than firms operating in domestic market only. Internalization as a concept is often used interchangeably with globalization. This opens up economic space for global participants who are more skillful and with advancement in information and communication technology (Mbamali & Okotie, 2012). Globalization promotes open competition, specialization and breaks down economic barriers (Brandl, 2010). However, Nigerian's building industry are in a disadvantage position from globalization as a result of debit balance of trade in professional services and construction materials, foreign companies' domination of project execution and diminishing opportunities for the indigenous professionals to development (Mbamali & Okotie, 2012). Some of the strategies that can be developed by firms towards internationalization includes establishment of good relationship with clients and government, focusing on new emerging markets, formation of strategic alliance with local architectural and engineering firms and business restructure (Zhao et al. 2012). Internationalization processes in professional service firms are however not industry specific, it is driven by the characteristics of the firm concerned (Canavan, Sharkey-Scott & Mangematin, 2012).

Design team requires information about different types of building materials in order to evaluate and specify building materials during the design process and crucial for successful implementation of any design concept (Tas, Yaman, & Tanacan, 2008). This is of course subject to the availability of these materials in the market. The issue of accessing up-to-date information about the materials, the sources and how they are obtained remain topical issue in the industry (Hoxha, Haugen, & Bjorberg, 2017). Hoxha, et al., (2017) emphasise energy efficiency and durability as critical consideration in choosing sustainable building materials. It is important however that building material information bank, classification systems for these materials preferably using information technology will give practitioners easy access to reliable, timely, up-to-date and accurate technical information.

2.1. Attribution theory

The concept of attribution theory is concerned principally with interpretation of information by individuals to determine cause of events (Savolainen, 2013). Plotnik and Kouyoumdjian (2011) categorise causal attribution into internal and external attributions. Identifying the cause of an event is the major issue attribution theory seeks to unfold (Weiner, 1995). It uses the term causal locus as the location of a cause that is either within (internal) or outside (external). Internal attribution refers to factors that an individual has control over while external attribution refers to issues over which a person has little or no control over (Weinere, 1995; Kouyoumdjian, 2011). Success is often associated with internal attribution while associating failures to external attribution. This is termed self-effacing (Stewart, 2005). Valerie and Brian (2008) defined attribution as the internal (thinking) and external (talking) process of interpreting and understanding reasons for our achievement including those of others. According to the study, attribution is not only based on 'casual locus' but also on stability and controllability. This agrees with the assertions of other researchers (Stewart, 2005; Plotnik & Kouyoumdjian, 2011) as pointed out above.

Attribution theory have been used in construction related studies in the past. It was used to explain the study of assessing women in engineering project (AWE,2005); factors responsible for ineffectiveness of communication in mass housing projects (Kwofie, Adinyira, & Fugar, 2015); factors responsible for nail injury as a result of risk behaviours in using tools and work pressures on site (Albers, Hudock, & Lowe, 2014) and factors

responsible for ineffective communication in construction projects in developing countries (Ejohwomu et al. 2017). From the above, it is reasonable to conclude that causal attribution is crucial to develop appropriate response strategies to mitigate observed weaknesses. This study therefore extends the concept of attribution theory to the assessment of factors affecting the provision of professional services in building projects.

3. RESEARCH METHOD

The population consists of firms of Architects, Structural Engineers, Mechanical and Electrical Engineers (M&E), and Quantity Surveyors who are involved in recently completed or on-going building projects that have reached advanced stage of completion for both public and private clients. The public clients whose building projects formed the basis of the population of the study are Universities, Polytechnics, Colleges of Education approved by the National Universities Commission (NUC), National Board for Technical Education(NBTE) and the National Commission for Colleges of Education (NCCE). This was retrieved from the websites of NUC (http//www.nuc.edu.ng), NBTE (http//.nbte.gov.ng/institutions) and NCCE (hhtp//www.ncce.edu.ng) on 28th March 2017.Others are Ministries, Departments and Agencies (MDA) of State governments in the South-West States of Nigeria. The private clients are Banking institutions (twenty-one in number) and Real Estate Development companies. They were identified on the Nigeria Business Directory (www.nigeriabusinessdirectory.com) on 28th March 2017.

From the client organisations, 122 building projects with a team of four consultancy firms of Architects, Structural Engineers, M & E Engineers and Quantity Surveyors were selected using purposive sampling technique. This is translated to a sampling frame of 488 consultancy firms. From this, the sample size was calculated using the following formula as posited by Udofia (2011).

$$'n' = \frac{N}{1+\mathrm{N}(e^2)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(i)}$$

Where n = sample size, 1 = Unity; *e* = Level of significance = 0.05; N = Universe or population =**488. 'n' = 488 / 1+ 488 (0.05^2) =220.** To arrive at a reasonable response rate, 70% of 220 was added, given a sample size of **374.** Questionnaire was used as the instrument for data collection. The questionnaires were delivered by hand and through electronic format using survey monkey, a software that assist in creating survey and stores data online. This involved sending a brief introductory letter to the respondents through an email along with a hyperlink (https://aluko.typeform.com/to/vgy7JZ) of the survey created electronically. From the 374 questionnaires distributed, 270 (72%) were received for analysis.

3.1. Data measurement

The factors were divided into nine major groups namely staff development and motivation, innovation, internationalization, information and communication technology (ICT), regulatory framework, construction materials industry, client factors, competition and professional fees**.** The variables are sub-divided into 38 sub-variables and perceptions

of the professionals on the effects of the variables on services were measured on a 5-point Likert scale using 1= Nil, 2=Low, 3=Average, 4= High, and 5= Very High.

4. DATA ANALYSIS

4.1. Respondents characteristics

The descriptive information in Table 1 below shows the characteristics of the respondents of the study. The majority of the respondents (73.3%) are male, while 26.7% of the respondents are female. This reveals that more male participated in this study than female. The result also shows that 16.3% of the respondents in Consultancy firms had B. Sc, 27.8% had Master's degree and 22.2% had Higher National Diploma as their highest academic qualifications. Also, 31.5% had PGD as their highest qualification while 2.2% had PhD. The results indicated the respondents in client organization had adequate academic qualification with HND as minimum qualification.

Table 1: Descriptive results of the bio-data of the respondents

Variable	Frequency	Percentage
Gender		
Male	198	73.3
Female	72	26.7
Total	**270**	**100.0**
Highest Academic Qualification		
HND	60	22.2
B.Sc	44	16.3
PGD	85	31.5
MSc	75	27.8
PhD	6	2.2
Total	**270**	**100.0**
Professional Affiliation		
MNIA	70	25.9
MNSE (Structural)	68	25.2
MNSE (M &E)	67	24.8
MNIQS	65	24.1
Total	**270**	**100**
Professional Cadre		
Graduate	142	52.6
Corporate	88	32.6
Fellow	40	14.8
Total	**270**	**100**
Professional Experience		
1-10 years	130	48.1
11-20 years	73	27
Above 20 years	67	24.9
Total	**270**	**100.0**

Table 1 further revealed that (25.9%) of the respondents in client organizations are members of the Nigerian Institute Architects, 25.2% are members of NSE (Structural Engineering division), 24.8% are members of NSE (M & E division), while 24.1% are members of NIQS. The results indicated that the four professionals who are basically

involved in providing consultancy services in building projects are evenly represented in the study. The analysis of the cadre of membership of professional bodies in Table 1 shows 52.6% are in graduate cadre, 32.6 in corporate cadre and 14.8% are also fellowship cadre in their professions. The results also revealed that 48.1% had 1-10 years of experience on the job, 27.0% had 11-20 years of experience while 24.8% had more than 20 years of experience on the job. The results show that the respondents of the study are made up of professionals with relevant experience in the industry.

4.2. The descriptive analysis of factors affecting provision of professional services of consultancy firms

The descriptive analysis was carried out using mean score of each of the factors. Table 2 shows the descriptive statistics results for the different professionals under the main category. The descriptive analysis of the thirty-eight factors was carried out using mean score.

Table 2: Descriptive results of factors affecting provision of professional services of consultancy firms in building projects

Factors	MS	Rank	Group
The use of modern hardware and software	3.99	1	ICT
Commitment of members staff	3.83	2	SDM
Ability to choose the right design team	3.80	3	CFF
Client's financial position	3.76	4	CFF
Staff education and training	3.75	5	SDM
Previous relationship with the client	3.74	6	CFF
Authority for design team effective perform	3.71	7	CFF
Availability of materials for design	3.69	8	CMT
Supply and price of construction materials	3.68	9	CMI
Adoption of building information modelling	3.56	10	ICT
Effects of sub-standard materials	3.54	11	CMI
Client's involvement in design process	3.50	12	CFF
Internet for comm link among employees	3.49	13	ICT
Adequacy of fees paid by clients	3.48	14	PFF
New methods for service leverage	3.48	14	INV
New activities for knowledge of employees	3.48	14	INV
Salary and social welfare structure	3.47	17	SDM
Payment of fees by milestone	3.45	18	PFF
New internal administration and operation	3.44	19	INV
Capacity of the local materials industry	3.43	20	CMI
ICT link to all relevant external information	3.40	20	ICT
Regulation of fees by the government	3.40	22	PFF
Public clients' response to fees payment	3.38	23	PFF
Private clients' response to fees payment	3.34	24	PFF
Availability of created new line of services	3.33	25	INV
Allocation of resources to R&D in ICT	3.33	25	ICT
Available govt regulatory framework	3.31	27	RGF
Policy framework for tech staff registration	3.25	28	RGF
Requirements of procurement acts for profs	3.25	28	RGF
Fair competition between small & large firms	3.18	30	CMP
Competent Staff with international exposure	3.16	31	INT
Enforce regs on foreign firms' practices	3.16	31	CMP
Strategies for entering international market	2.99	33	INT
Networking/collaboration with foreign firms	2.98	34	INT
Regulations to encourage internalizations	2.97	35	INT
Frequency of changes in regulation	2.96	36	RFF
Legislation protection for indigenous firm	2.91	37	CMP
Level of involvement in international market	2.90	38	INT

The results are shown in Table 2. The factors that had the highest mean scores are the use of modern hardware and software (ICT=3.99), commitment of staff (SDM=3.83), ability of the client to choose the right design team (CLF=3.80), the client financial position (CLF=3.76) and staff education and training (SDM=3.75). The implication of this is that deployment of modern technological tools, the design team commitment, and education/training of the design team have the highest effect in delivering excellent service by consultancy firms. The factors with the least effect based on mean scores are: frequency of changes in regulations by government (RGF=2.96); government protection through legislation for indigenous firm (CMP=2.91) and firms' degree of involvement in international market (INT=2.90).

4.3. Test of hypothesis

The variations in the perceptions of the four professionals on the factors affecting the professional services by the firms was carried out to test the hypothesis of the study. The hypothesis states that there is no significant difference in the perceptions of Architects, Structural Engineers, M & E Engineers and Quantity Surveyors on the factors affecting professional services by consultancy firms. To test the hypothesis, Analysis of Variance (ANOVA) was used. The hypothesis was tested at $p \leq 0.05$. The rule for the rejection of the hypothesis (Ho) is that when the calculated p-value is ≤ 0.05, the test rejects the hypothesis. But when the calculated p-value > 0.05, the test accepts the hypothesis. The results of the test of the hypothesis are presented in Table 3 below.

The results in Table 3 show that the p-value for the test of difference in the perceptions of the four professionals on the effect of five factors namely frequency of changes in regulations by government, capacity of the local building materials industry, supply and price of construction materials, availability of specified materials for design and enforcement of regulations on foreign firm's practices on the provision of consultancy services are less than the critical p-value (0.05). Therefore, the test rejects the hypothesis. The results imply that there is a significant difference in the perceptions of the architects, structural engineers, mechanical and electrical engineers and quantity surveyors on the effects of these five factors on the level of provisions of professional services.

The results of the mean score of the effect of the five factors in Table 3 show that the frequency of changes in regulations by governments has the highest effect on the level of provision of M&E services (MS = 3.27). The factor has the second highest effect on QS services (MS = 2.91) and least effect on the level of provision of architectural services (MS =2.79). The capacity of the local building materials industry has the highest effect on the level of provision of QS services (MS = 3.59), the second highest effect on architectural services (MS = 3.52) and least effect on the level of provision of structural engineering services (MS =2.79). Supply and price of construction materials has the highest effect on the level of provision of architectural services (MS = 3.80). The factor has the second highest effect on M&E services (MS = 3.74) and least effect on the level of provision of structural services (MS =3.31).

On the other hand, availability of specified materials for design has the highest effect on the level of provision of QS services (MS = 3.84). The factor has the second highest effect on architectural services (MS = 3.80) and least effect on the level of provision of structural engineering services (MS =3.40). The enforcement of regulations on foreign firm's practices has the highest effect on the level of provision of QS services (MS = 3.34).

Table 3: Summary of results of ANOVA for test of difference in the perceptions of professionals on the factors affecting the provision of professional services of consultancy firms in building projects

Factors	Arc MS	SE MS	M&E MS	QS MS	Sum of Squares	F-value	P-value	Rmks
Staff Development and Motivation								
Staff educational and training	3.87	3.66	3.81	3.66	2.28	0.73	0.54	NS
Commitment of members of staff	3.91	3.71	3.83	3.88	1.69	0.69	0.56	NS
Salary and social welfare structure	3.61	3.37	3.34	3.55	3.86	1.21	0.31	NS
Innovation								
New Improved Service leverage methods	3.48	3.49	3.50	3.49	0.07	0.01	0.99	NS
New activities for knowledge of employees	3.36	3.61	3.46	3.49	2.25	0.88	0.45	NS
New internal administration and operation	3.35	3.45	3.41	3.53	1.13	0.46	0.71	NS
Availability of created new lines of service	3.43	3.32	3.30	3.35	1.56	0.55	0.65	NS
Internationalization								
Level of involvement in international market	2.92	2.99	2.93	2.77	1.94	0.51	0.68	NS
Networking /collaboration with foreign firms	2.84	3.12	2.97	2.98	2.65	0.61	0.60	NS
Strategies for entering international market	2.96	3.12	2.96	2.94	1.46	0.44	0.72	NS
Competent staff with international orientation	3.15	3.21	3.08	3.19	0.72	0.19	0.90	NS
Regulations to encourage internalizations	2.71	3.04	3.00	3.14	7.17	2.01	0.11	NS
ICT								
The use of modem hardware and software	4.06	3.84	3.96	4.12	3.20	1.17	0.32	NS
Adoption of building information modelling	3.67	3.53	3.52	3.49	1.37	0.38	0.77	NS
Allocation of resources to R&D in ICT	3.29	3.24	3.41	3.37	1.21	0.40	0.76	NS
Internet for communication among employees	3.40	3.59	3.51	3.48	1.31	0.38	0.77	NS
ICT link to all relevant external information	3.44	3.26	3.40	3.51	2.42	0.77	0.52	NS
Regulatory Framework								
Available government regulatory framework	3.20	3.19	3.42	3.44	3.79	1.52	0.21	NS
Frequency of changes in regulation	2.76	2.88	3.27	2.91	9.27	3.16	0.03	S
Policy framework for tech. staff registration	3.22	3.07	3.39	3.31	3.70	1.46	0.23	NS
Requirements of procurement acts for profs	3.12	3.22	3.24	3.44	3.50	1.35	0.26	NS
Construction Materials Industry								
Capacity of the local materials industry	3.52	3.06	3.54	3.59	12.54	3.92	0.01	S
Effects of sub-standard materials	3.59	3.31	3.63	3.62	4.83	1.12	0.34	NS
Supply and price of construction materials	3.80	3.31	3.74	3.62	10.14	3.25	0.02	S
Availability of specified materials for design	3.80	3.40	3.71	3.84	8.17	2.99	0.03	S
Client Factors								
Ability to choose the right design team	3.74	3.63	3.87	3.98	4.60	0.06	0.98	NS
Previous relationship with the client	3.70	3.75	3.77	3.75	0.16	0.06	0.98	NS
Authority for design team effective performance	3.67	3.59	3.69	3.91	3.94	1.81	0.17	NS
Client's financial position	3.84	3.64	3.75	3.81	1.61	0.52	0.67	NS
Client's involvement in design process	3.48	3.52	3.50	3.49	0.08	0.03	0.99	NS
Competition								
Legislative protection for indigenous firm	2.81	2.74	3.09	3.01	5.63	1.82	0.14	NS
Enforcing regulations on foreign firms' practices	2.92	3.07	3.33	3.34	9.03	3.08	0.03	S
Fair competition between small and large firms	3.05	3.15	3.27	3.28	2.55	0.80	0.50	NS
Professional Fees								
Adequacy of fees paid by clients	3.59	3.42	3.58	3.32	4.17	1.06	0.37	NS
Payment of fees by milestone	3.61	3.35	3.51	3.32	3.79	1.06	0.37	NS
Private clients' response to fees payment	3.38	3.28	3.42	3.26	1.22	0.38	0.77	NS
Private clients' response to fees payment	3.57	3.38	3.36	3.20	4.73	1.57	0.20	NS
Regulation of fees by government	3.48	3.32	3.43	3.38	0.93	0.20	0.99	NS

Significant *p < 0.05 MS= Mean Score; Number of Respondents =270, S=Significant, NS=Not Significant

The factor has the second highest effect on M&E services (MS = 3.33) and least effect on the level of provision of architectural services (MS =2.92).

Table 3 however shows that the p-value for the test of difference in the perception of the four professionals on the effect of the remaining thirty-three factors on the provision of consultancy services are higher than the critical p-value (0.05). Therefore, the test accepts the hypothesis. The results indicate that the perceptions of architects, structural engineers, M&E engineers and QS on the effect of the 35 factors on the provision of consultancy services are not significantly different. The implication is that the thirty-three factors have the same effect on the level of provision of consultancy services of architectural firms, structural engineering firms, M&E engineering firms and QS firms.

5. DISCUSSION

The result of the study revealed the interactions of challenges which the design team faces in the process of giving direction to the implementation of building projects. The conception and eventual successful implementation of any building depends on the effectiveness of the design team, as the client decision to implement the project rest on the appraisal guide of the design team. The study is also consistent with Chileshe and Yirenkyi-Fianko (2012) with respect to availability of specified materials, supply and price of construction materials and the effects of sub-standard building materials.

Zhao, et al., (2012) also confirmed that factors of construction materials are emerging determinant for winning international projects. This is crucial for successful implementation of design concepts. This means that the place of the construction materials industry is very critical for the building industry. The study of Chileshe and Yirenkyi-Fianko (2012) categorised the construction materials factors as economic factors which were found to be the most impactful on projects in Ghana. The effects of sub-standard materials on building projects is also supported by Oyedele, et al (2015), and described it as critical factors affecting construction quality in Nigeria.

Factors of regulatory framework such as frequency of changes in regulations by government were found to be significant in contributing positively to overall provision of professional services in building industry. However, findings in respect of other factors such as requirements of procurement acts and available government regulatory framework showed that consultancy firms sampled were not in tandem with the laws and regulations of the industry sub-sector. This is in contrast with Ling and Low (2007) cited in Zhao *et al*. (2012). The study stated that "keeping up with new laws and regulations that are constantly being enacted is one of most significant legal risks faced by architectural and design firms". The regulatory requirements for competition are not enforced relative to foreign firms who have better financial and human resources to compete optimally. The result of this is that most indigenous firms remain at micro and small level without the ability to compete favourably.

6. CONCLUSION

In the past, elements of enablers and/or barriers of services have been carried out in general terms in the building industry. However, this study has contributed to knowledge by providing empirical analysis on the specific factors that describe performance of professional service providers in the knowledge driven sub-sector of the building industry.

The study established the factors that act as catalyst for success and/or failure of services of professionals in the building industry. The factors are frequency of changes in regulations by government, capacity of the local building materials industry, supply and price of construction materials, availability of specified materials for design and enforcement of regulations on foreign firm's practices.

The implication is that these five factors contribute positively on provision of professional services while others do not have effect. These are supposed to act as catalyst for success and/or failure of services of professionals in the building industry. The study recommends that there should be continuous investment by the professional service providers on ICT, staff development and motivation and relationship with the client. The policy maker should improve the capacity of manufacturers of local materials industry through effective legislation and increasing infrastructural development. Enforcement of relevant regulations on professional practices by foreign firms should be given a priority in order to protect the local firms. Hence, it is expected that service improvement would result from these for competitiveness in the industry. In future, further study can be explored to test the relationship between these factors and project success.

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