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Approaches to Pricing Design Services: Evidence from Architectural Firms in Nigeria

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Abstract

The approaches adopted by firms in pricing design services have hitherto been a matter of speculation. Professional bodies often specify percentage and time charges, but there are indications that these firms use other approaches. The approaches adopted by architectural firms in pricing design services were therefore the object of this study. A sample of architectural firms from Nigeria, were asked to rate the prevalence of use, perceived benefits, and difficulties of the pricing approaches. The data were analyzed using mean ranking to obtain the level of use; and regression analysis to investigate the perceptions, which influence the use of the pricing approaches. The findings reveal that percentage fees were the most popular approaches adopted by most of the firms in the study in pricing design services. The

perceptions, which influence the use of the different approaches, were also presented. Samples were taken from only architectural firms in Lagos and Abuja, Nigeria, where there is a concentration of registered architectural firms. The results may therefore not be generalized to other service firms. In addition only design services were considered. The results suggest the reasons approaches may be used for pricing design services and may serve as a guide to upcoming firms. Implications for further research were also drawn. The value of this study lies in the fact that it represents one of the first attempts at examining the approaches used by architects in pricing design services.

Keywords: Pricing approaches, Architectural services, Design Services, Nigeria, Architects' perception

1. Introduction

Pricing is a major issue in the construction industry. Although the construction industry has been said to be highly competitive (Polat & Donmez, 2010), competition on price is often discouraged in the architectural industry. This probably suggests that pricing in the architectural industry may be different. Empirical research on the approaches used by architectural firms to price their design services has however been scarce. This is in spite of the fact that there are a number of researches on bid pricing in construction (Akintoye & Skitmore, 1992; Mochtar & Arditi, 2000).

The regulated percentage fees have been used in pricing design architectural services since the inception of professional practice of architecture. Some countries also have regulated percentage fees (Nigeria, Switzerland, Germany and South Africa among others), while others (such as Canada) have done away with such price regulations as can be seen in the professional practice abroad page of the International Union of Architects website. This is probably because of the complaints that clients are not willing to pay these percentage fees. Different countries have therefore approved other pricing approaches. This probably suggests that pricing approaches for architectural services may have been tailored to suit local requirements. Professional bodies regulating the practice of architecture in several countries publish approved means of remuneration for architects. In Nigeria, this has been published in the Conditions for Engagement, with the most recent edition having been published in 2011. In spite of these concessions, architects still complain that clients are often not willing to pay for architectural design services. This had been given as one of the reasons why architectural firms are opting for the design and build procurement method as was found by one of the author in an earlier study. In addition, although the Conditions of Engagements recommended the percentage fees and the time charges as approved approaches for pricing architectural services, there are still indications that architectural firms in Nigeria use other methods. Very little empirical study however exist which investigates the use of all these approaches which are peculiar to the architectural industry, although studies exist which investigated the approaches used generally in the service industry (Tung, Capella, and Tat, 1997).

The fact that Hinterhuber and Liozu (2012) noted that pricing approaches might vary with industry as well as location of firms probably suggests that studies should focus on particular industries and particular locations. This suggests a need to base studies on pricing strategies on specific industries and location. For the architectural industry, this has become important in light of the anecdotal evidence that architectural firms struggle to fix appropriate prices for their services. A study of this nature is important as it may provide insight into the gains and the difficulties of each approach.

The study examines the use, and perceptions of the advantages, and disadvantages of five pricing approaches used by architectural firms in pricing their design services. This study contributes to literature in several ways. First, there is no known empirical work, which focuses on the pricing approaches adopted by architectural firms. The study also identifies the perceptions of the benefits and difficulties of the pricing approaches, which may explain the prevalence of their use in pricing architectural design services. Third, architectural services

are professional services and the result may be indicative of other professional services pricing.

2. Literature Review

A scholar, Balaji (2002), observed that firms set prices to satisfy a set of objectives. These objectives include generating revenue, matching demand with supply and creating patronage for their services. Although, the neoclassical microeconomic theory, which focuses on the forces of demand and supply in determining price has been applied to pricing construction (Skitmore, Runeson, & Xinling, 2006), it appears to be of little value to the pricing of architectural services. This is because the force of demand is not often considered in pricing services in the architectural industry, although the objectives of generating revenue and creating patronage are still core. Skitmore, Runeson and Xinling (2006) however suggested that the practice of setting price in the construction industry is often a reflection of perceptions, thoughts, aspirations and preconceptions of the service provider. This is probably the reason the practice of pricing in the industry is often referred to as estimating (Balaji, 2002). The perceptions may give a more practical perspective of the approaches used in pricing design services in architecture and are the focus of this study. In addition, Skitmore and Smyth (2007) noted that although price in a conventional setting are fixed at aggregate levels, this is not the case with the construction industry. One reason given for this is that with the goods market, customers perceive the values of the product/ service and are able to accommodate different price structures. However, in the construction industry, the values of the services cannot be assessed before the production of the service. The fact that sales are secured before production is carried out in professional services such as architecture, also suggests that pricing with such services would be different. Skitmore and Smyth put this more succinctly by noting that actual work is not the basis for pricing in the construction industry. Therefore pricing is therefore based on estimates.

Clients pay for the value that they hope to get from architectural services. These values encompass all aspects of the built environment, including, design, erections, commissioning, maintenance and management (ARCON, 1990). Although, in Nigeria, the architects' Conditions of Engagement (ARCON, NIA, 2011) established the bases for remuneration, these are often based on some estimates of tentative works to be done. Often, when the architect's fees for design services are calculated, the design would not even have taken off. The client is however expected to agree to a payment at this stage of the architectural services. The architect will therefore adopt different approaches to price their services. The approaches they used in arriving at these estimates have however been subjects of little empirical investigation. Often built into the price estimates are compensations for the architect's time, costs of equipment, supplies, salaries of employees, and other expenses.

Within the service industry, scholars have identified pricing approaches that are prevalent. Vlonitis and Indounas (2005) identified twelve approaches, which they categorized into three. The first category was pricing based on cost, while the second category was based on competition. The approaches constituting the third category were based on demand. Five approaches constituted the cost-based pricing category. These include the cost plus, target

return, break even, contribution analysis and marginal pricing. Pricing similar to, above, or below competitors, as well as pricing according to dominant price in the market were the approaches that constituted the competition- based pricing. The third category to which value pricing belongs was demand- based pricing, which according to Skitmore, Runeson and Xinling (2006) is aimed at maximizing profit. The assertion of Skitmore, Runeson and Xinling (2006) that costs and market conditions determine construction prices however suggest that the approaches used by architectural firms may differ. This is partly because architectural professional bodies often specify standards for pricing, which often holds irrespective of market conditions. Architects have therefore adopted different methods of pricing their architectural design services.

Several architectural professional bodies have adopted percentage fees to regulate pricing of architectural design services and limit competitions based on price. The percentages fees are computed based on the estimated total cost of construction of the project, which may reflect the time and level of expertise that will be required to provide the services. It will be noted that percentage fees are often on sliding scales depending on the estimated total cost of the project. With the percentage fees, additional services outside established scope are paid for at agreed rates. Davies (2008) observed that percentage fee pricing offers the greatest potential for profitability and it is convenient. In addition, risks are often covered in the contingency sum often added to the percentage fees. However, the tendency of inequities may limit its use. This is because clients may believe that architects will deliberately increase the estimated cost of construction to increase fees that accrue to them.

Another popular pricing approaches used in the construction industry is the time charges, referred to as hourly billing rates by Davies (2008). The architectural professional body fixes man- hour rates, which architects can adopt in pricing their services. These rates, according to Dutta (2001) include allowances for overhead, profits, personnel benefits and risk factors. They will usually reflect the level of expertise, seniority and experience of the architect. The rates are multiplied by the number of hours spent on the job to obtain the charges for the services. Davies however suggested that this approach might only be suitable for preliminary phases of assignments. It may therefore be expected that architects may not use this approach in pricing design services. In addition, hourly rates are said to result in limited profitability. For this reason and because the risk of losses is often high, Davies advised architects to avoid the use of the time charges.

With the competitive pricing approach (also referred to as going rate by Mochtar and Arditi, 2000, and market-based pricing by Skitmore, Runeson. and Xinling, 2006), the architect charges the client a price that is similar to the average market price. With this approach, the architect has to be familiar with the prices that other architects are charging for similar services. The industry leaders are expected to have established market prices, which clients become aware of (Wesemann, 2012). These prices often cover the cost of providing the service, with fair profit. Wesemann further emphasized that this can only be possible in a mature market. The implication of this is that the occurrence of this approach for pricing architectural design services may suggest that the architectural market in Nigeria is mature. The competitive pricing approach is said to yield a fair return (Mochtar and Arditi, 2000) and

service providers may charge lower than competition, yet covering cost and allowing a fair profit, to attract more jobs. In this way, the firm discourages competition, provide a barrier to entry by other firms, and retain market share (Akintoye & Skitmore, 1992). New firms may therefore use this approach to gain entry into the market and gain speedy market share (Balaji, 2002). Sometimes, the service provider may also charge the same or more than competition to portray value. This pricing approach encourages architects to compete on price, which may lead to the compromising of quality and may undermine profitability.

Other approaches used in pricing architectural design services are based on either the cost or the value of the project. Davies (2008) noted that the cost-based approach has become popular in pricing architectural services in the turn of the twentieth century due to the complexity, scale and uniqueness of many projects. With the cost-based pricing, architects use self- determined methods to arrive at costs, and a rate to compensate for the architect's time is added. The aim of the cost-based pricing approach is for the architect to recover the cost expended in providing the service and make profit as adjudged necessary (Avlonitis & Indounas, 2005; Davies, 2008). The charges based on cost may vary from project to project and from firm to firm, even for the same complexity of project. The final price, using the cost-based pricing approach often depends on the bargaining strength of both parties. Cost-based pricing has been reputed to be popular in pricing services (Hintehuber, 2008). The reason given for this is that it implies a level of accuracy and reduces risks of losses (Wesemann, 2012). With the cost-based approach, it is easy to calculate prices. This is in addition to the fact that it has been said to be flexible (Davies, 2008). Although the cost-based approach can be managed for profitability, Wesemann noted that it might be difficult to calculate accurate and acceptable cost because it involves both direct and indirect cost. One of such indirect costs, according to Davies (2008) is the ideas of the architects, which constitute value to the clients but is often not included in the cost. This puts the service provider at a loss, although the client may perceive fairness in the price. This is probably the reason Mochtar and Arditi (2000) asserted that services may be underpriced with the cost-based approach, with Hinterhuber (2008) noting that cost-based approach yield low profits. In addition, Hinterhuber and Liozu (2012) noted that another disadvantage of the cost-based approach is the fact that clients may still want to negotiate the already lean price.

Value-based pricing depends on the architect's perception of the value that the service holds to the client. The architect tries to set a price that the client may be willing to pay to get the required quality of service. In other words, the client is the basis for the pricing. With value-based pricing, architects fix prices based on the match between values created and clients' willingness to pay (Hinterhuber & Liozu, 2012). The objective of this approach, according to Akintoye and Skitmore (1992), is often to meet expectations of the clients and the industry. Davies (2008) noted that clients would pay premium price when they perceive value in terms of design pre-eminence, building type expertise, experience, project leadership capability, and unique service methods. Although Hinterhuber (2008) observed that the value-based approach works better at generating higher profit than other pricing strategies, its use in pricing is still not so popular. One other advantage of the value-based approach, according to Hinterhuber and Liozu (2012), is that it encourages entrance into the market by

new firms, in addition, the value-based approach may lead to higher prices for unique products. The needs of clients are also taken into consideration. Data on client values, preferences and willingness to pay are however difficult to find, making it difficult to calculate fees based on the values to clients. This is because the focus is not the cost of providing the services but the perceived value by the clients.

A few empirical studies exist along this line. Reporting a summary of researches on pricing approaches in the service industry between 1983 and 2006, Hinterhuber (2008) found that competitive pricing ranked first, cost-based approach second and value-based pricing ranked third. This is in spite of opinions that value-based pricing have implications for the highest profit, while cost-based pricing have implications for the least profit. The reason given for this observation was the difficulty in convincing clients of the unique values of services. These results however covered a broad range of industries.

The research by Avlonitis and Indounas (2005) found the objectives related to pricing strategies. The target return pricing, which is a cost-based pricing approach was found to be positively related to achievement of satisfactory sales and profit, but negatively related to stability in the market. These authors explained this finding by noting that cost-based approach in general tend to disregard the market, conditions leading to pricing below or above the average market prices and thus market destabilization. Pricing according to average market price, (which is a competitive pricing approach), was positively related to competition and market share objectives, but negatively related to profit maximization objective. This, according to these researchers is because efforts to maximize profits often lead a price above the market price. When service providers price below the market price however, it is often to increase market share.

Specific to the architectural industry, the study by Dutta (2001) found that about half of the respondents adopted the cost of design as the basis for pricing architectural services. This appears to support the findings of Avlonitis and Indounas (2005) who found the predominance of the cost-based approach in the service firms that they investigated. Dutta noted that cost-based pricing represents more realistic cost of the work to be carried out by the architect. With the cost-based pricing approach, Dutta noted that the architects recover the cost of carrying out the job along with stipulated profit. This probably suggests that pricing approaches used in architectural firms may be similar to other service industries.

It will be noted however that architectural firms use the percentage fees (Davies, 2008), which is not popular with other service industries. Dutta (2001) found that percentage fee was not popular as a pricing approach for architectural services. This scholar highlighted the major disadvantage of the percentage fee as inaccurate representation of the cost of the services to be provided. This is because at brief stage when fees are set, the client may not be clear as to the scope of the work.

Apart from the above, very little is known about the use, and the perceptions of the gains and difficulties of the approaches used in pricing architectural design services, which may determine their use. The methods commonly used by architectural firms in pricing design services were therefore the focus of this study.

3. Research Methods

The survey method was the major research strategy for this study. This is because the study requires standardized data so that the results can be compared. However, to explain some of the findings of the survey, interviews of two practicing architects were carried out. Data were gathered from architects who were either principals or senior architects in their firms. Data were collected using questionnaires. The list of architectural firms registered to practice in Nigeria was obtained from ARCON (2010). The highest number of architectural firms were found in Lagos and Abuja. Out of the 649 registered firms, 221 were located in Lagos State and 96 in Abuja representing 48.8 percent of the firms in Nigeria, located in these areas. Next to these was Kaduna, with 45 registered firms. This statistics, coupled with the fact that Lagos is the commercial capital of Nigeria, and Abuja the administrative capital, informed the selection of samples from these areas. Using the formula derived by Frankfort-Nachimias and Nachimias, (1992), a sample size of 141 for Lagos and 77 for Abuja were obtained. Questionnaires were administered to 141 randomly selected firms in Lagos and 77 in Abuja, between March, 2012and January 2013. Only fifty- one (51) usable questionnaires were returned from firms in Lagos and 22 from Abuja; representing a response rate of 40.4 percent for Lagos and 28.6% for Abuja respectively.

The questionnaire, which was developed with the help of practitioners in the field, was addressed to the principals or senior architects, and had three sections. The first section concentrated on the firm profile. In the second section, the principals were asked to rank on a scale of 1 to 5 their use of the five pricing approaches in setting prices for their architectural design services. The Likert scale had 1 as never used, 2- rarely use, 3- sometimes use, 4- often use and 5 represented always use. In the third section, the respondents were asked to rate their levels of agreement on twelve statements which were meant to measure the relative perceptions of the benefits and difficulties of each of the pricing approaches. The score 1 represented totally disagree, while 5 represented totally agree. Data were analysed using frequencies, and mean ranking. Kruskal-Wallis tests were carried out to investigate differences in the levels of the use of pricing approaches based on the ages and ownership forms of the firms. Categorical regression analysis was also carried out to investigate the perceptions, which explain the use of the pricing methods. With regression analysis, the variance in the use of the pricing approaches explained by the perceptions of the respondents was investigated.

Table 1. Profile of responding firms

Firm Profiles		Percentage
Location of Firms	Abuja	30.1
	Lagos	69.9
age of firms	5 years and below	9.9
	6-10 years	21.1
	11-15 years	7.0
	16-20 years	21.1
	above 20 years	4.08
legal ownership form of firms	sole principal	21.5
	partnership	41.5
	limited liability company	36.9

4. Results

Most of the firms that responded to the questionnaires had the partnership form of ownership and had existed for more than 10 years as shown in Table 1. The results show that stipulated percentage fees was still most used by the architectural firms in pricing their architectural design services (Table 2). Next to this, the cost of carrying out the job served as a popular basis for pricing architectural design services followed by time-based pricing. Competitive pricing was the least popular for pricing architectural design services. The results of the means were corroborated by the percentage of respondents who selected 4- often use and 5- always use.

To investigate if there is significant difference in the rate of use of the different pricing approaches based on the ownership forms of the firms as well as their ages, Kruskal-Wallis Tests were carried out. The results show that the use of pricing approaches varied with the legal ownership forms as well as the ages of the firms (Tables 3 and 4). The results show that the use of the stipulated percentage fees did not vary significantly across the ownership forms (λ^2=5.229, df=2, p=0.073). The use of the time-based (λ^2=9.820, df=2, p=0.007), competitive (λ^2=6.931, df=2, p=0.031), value-based (λ^2=22.773, df=2, p=0.000) and cost-based (λ^2=16.815, df=2, p=0.000) approaches however varied with the ownership forms of the firms. While the sole principal firms indicated the highest use of the time-based pricing, while the limited liability firms indicated the highest use of the competitive, value- and cost-based approaches.

The use of the stipulated percentage fees (λ^2=25.023, df=4, p=0.000), time-based (λ^2=14.500, df=4, p=0.006), competitive (λ^2=31.833, df=4, p=0.000), value-based (λ^2=43.089, df=4, p=0.000) and cost-based (λ^2=20.144, df=4, p=0.000) approaches also varied with the ages of the firms. While the percentage fees was most popular with firms that has existed for 20 years and above, the time and cost-based approaches were most popular with the youngest firms (5 years and below). The competitive and value-based approaches were however most popular with the firms aged between 6 and 15 years. Since the firms were from two locations and

literature (Hinterhuber & Liozu, 2012) suggests that pricing approaches will vary with location, Kruskal-Wallis tests were carried out to find out if this was so with architectural firms. The results show that the frequency of use did not significantly vary between the two locations.

Table 2. Ranking of pricing approaches based on prevalence of use

	mean	% of respondents who selected 1 and 2 (not used at all and rarely used)	% of respondents who selected 4 and 5 (often or always used)
stipulated percentage fees	3.93	15.1	72.6
negotiation based on the cost of carrying out the job	3.71	9.7	51.4
pricing based on time expended on project	3.33	11.0	40.3
negotiation based on the value it brings to the clients	3.22	29.2	40.3
competitive pricing (comparative to what others offer)	2.94	41.7	30.6

Table 3. Results of Kruskal-Wallis test for ownership forms of firms and use of pricing approaches

	ownership form	N	Mean Rank	Chi-Square	df	Asymp. Sig.
stipulated percentage fees	sole principal	14	33.68	5.229	2	.073
	partnership	27	38.22			
	limited liability company	24	26.73			
time-based pricing	sole principal	14	41.57	9.820	2	.007
	partnership	26	24.75			
	limited liability company	24	35.60			
competitive pricing	sole principal	14	28.39	6.931	2	.031
	partnership	26	27.67			
	limited liability company	24	40.13			
value-based pricing	sole principal	14	30.71	22.773	2	.000
	partnership	26	21.35			
	limited liability company	24	45.63			
cost-based pricing	sole principal	14	24.79	16.815	2	.000
	partnership	26	25.92			
	limited liability company	24	44.13			

Table 4. Results of Kruskal-Wallis test for ages of firms and use of pricing approaches

	Ages of Firms	N	Mean Rank	Chi-Square	df	Asymp. Sig.
stipulated percentage fees	5 years and below	7	26.93	25.023	4	.000
	6-10 years	15	23.97			
	11-15 years	5	19.70			
	16-20 years	15	31.80			
	above 20 years	29	49.40			
time-based pricing	5 years and below	7	58.36	14.500	4	.006
	6-10 years	15	31.10			
	11-15 years	4	38.75			
	16-20 years	15	26.67			
	above 20 years	29	36.38			
competitive pricing	5 years and below	7	24.29	31.833	4	.000
	6-10 years	15	59.73			
	11-15 years	4	42.25			
	16-20 years	15	25.93			
	above 20 years	29	29.69			
value-based pricing	5 years and below	7	44.64	43.089	4	.000
	6-10 years	15	59.67			
	11-15 years	4	52.50			
	16-20 years	15	18.53			
	above 20 years	29	27.22			
cost-based pricing	5 years and below	7	50.21	20.144	4	.000
	6-10 years	15	47.63			
	11-15 years	4	34.38			
	16-20 years	15	19.90			
	above 20 years	29	33.90			

Regression was carried out to investigate the impact the perceptions of the respondents on the various attribute of the pricing approaches on the level of use of those approaches, using the optimal scaling method. This is because the variables in the study were categorical. The level of confidence was set at 0.05, representing 95 percent confidence level. One categorical regression analysis was performed for each pricing approach. The results are presented in Table 5. The results show that the level of use of the percentage fee approach is positively associated with the perception that it generates prices that can be related with industry standards and it is applicable to all project types.

Positively related to the use of time charges were the perceptions of the possibility of delegating pricing decisions and suitability of the pricing approach for highly competitive architectural market. Similarly, the use of competitive charges was predicted by the level to which the respondents perceived that, pricing decisions could be delegated with the approach.

In addition, the use of competitive approach in pricing architectural designs was also positively related to the perception of its likelihood to generate more jobs, arrive that prices that can be related to industry standards and enhance the growth of the architectural firms. The use of the competitive approach is negatively related, however, to the perception that actual pays for tasks cannot be anticipated.

The results further show that the use of value-based pricing approach is also negatively related to the perceptions that actual pay for tasks cannot be anticipated. However, the use of the value-based pricing approach is positively related to the perception of the likelihood that the approach makes it difficult to calculate acceptable fees and actual costs may be underestimated. For the cost-based approach, the perception of its propensity to enhance the growth of the architectural firms positively influenced its use.

5. Discussion

Although the results suggest a predominance of the partnership form of ownership, the ARCON register reveals that the sole ownership form of ownership was generally more predominant. It will be noted however that the ARCON register gives the name(s) of principals, based on which the firms can be categorized as either partnerships or sole principals owned. What this suggests is that the data may be peculiar to Lagos State and Abuja. It is interesting to note however that architectural firms in these locations in Nigeria are also opting for the limited liability ownership form as suggested by Chappell and Willis, (2002).

The results also suggest that the pricing of architectural design services are more objective since value-based and competitive pricing were ranked low. In other words, the firms the study areas appear to use mostly well-established standards in pricing their services, which may imply that prices are mostly not arbitrary. The findings of this study also suggest that approaches used in pricing of architectural services may differ from that used in service industries (Hinterhuber & Liozu, 2012). This may be a new finding as the review of literature on pricing approaches used by service industries generally revealed the dominance of competitive pricing (Hinterhuber, 2008); while an empirical study of six service industries in Greece by Avlonitis and Indounas (2005) revealed the dominance of cost-based pricing approaches. The results of this study however show that the architectural firms in the study predominantly use percentage fees. This may be an offshoot of the restrictions by the architectural professional body. In particular, the restrictions of the architectural professional body on competition based on prices may also have limited the use of the competitive approach in pricing design services. One would however note that percentage fees are often not stipulated for other service industries. The interviewees in the study agreed that although firms still try to stick to the percentage fees, "*the economy of Nigeria does not make that easy. People prefer to negotiate what they can pay*". This appears contrary to the survey findings. It may therefore be possible that some respondents in the study gave the ideal, and not the *really* practiced methods, since the professional body still stipulates the percentage and hourly fees.

Table 5. Results of categorical regression of user perceptions on level of use of pricing approaches

	Percentage fees		Time Charges		Competitive Pricing		Value-based Pricing		Cost-based Pricing	
	Beta	Bootstrap. Error	Beta	Bootstrap Error	Beta	Bootstrap Error	Beta	Bootstrap Error	Beta	Bootstrap Error
generates higher profit margin	.394	.483	-.464	.353	-.335	.415	-.764	.637	.824	.464
repels clients	-.180	.421	.419	.426	.324	.336	.716	.529	-.629	.532
enhances growth of architectural firms	.271	.618	-.524	.339	.509**	.191	.397	.655	1.317**	.474
pricing can be related with industry standards	.834**	.476	-.497	.328	.725**	.283	-.609	.796	-.718	.491
difficult to calculate acceptable cost	.356	.450	.053	.361	-.288	.310	.773**	.715	.836	.599
likely to generate more jobs	.518	.425	-.821	.508	.729**	.393	.631	.591	-.291	.524
fees are easily calculated	.465	.460	.754	.411	-.238	.476	-.154	.432	-.623	.555
pricing decision can be delegated	.289	.457	.915**	.439	.608**	.591	-.670	.706	-.208	.652
it is applicable to all project types	.858**	.438	-.798	.601	.146	.338	.329	.653	-.838	.442
actual cost may be underrepresented	-.424	.466	.397	.364	-.465	.428	.958**	.593	.320	.709
it can be used when the architectural market is highly competitive	-.368	.519	.877**	.398	.118	.399	-.016	.459	.562	.326
pays for tasks cannot be anticipated	.441	.391	-.352	.310	-.958**	.351	-.750**	.680	-.381	.654
Adjusted R^2	0.80		0.76		0.93		0.79		0.82	
F	4.009**		3.436**		18.139**		3.245**		4.199**	

Note. *p< 0.10; **p<0.05.

The finding that the architectural firms in the study areas still mostly adopt the percentage fee as the basis for pricing their architectural design services appear to be contrary to the findings of Dutta (2001) who found that percentage fees are not popular in pricing architectural services. This may however be explained by the difference in context in terms of location. This study was carried out in Nigeria, while the study by Dutta concentrated on the United States. Although, this study found that the use of the pricing approaches did not vary significantly between the locations, it should be borne in mind that both locations are in

Nigeria and country contexts may differ. In addition, Dutta studied design- build services, but this study concentrates on just design services. This probably suggests that pricing approaches may vary for different services rendered by architectural firms. Anecdotal evidences also suggest that firms may be adopting different pricing approaches in pricing different services. There is however need to investigate this using empirical data. The findings further suggest that most of the firms in the area of study may still strictly adhere to the sliding scale proposed by the architectural professional bodies (ARCON and NIA).

It is also interesting to note that the cost-based approach may be popular with the service industry generally. This is because similar to findings in other service industries, this approach ranked second as a pricing approach for architectural designs in the study area. Balaji (2002) had observed that the cost-based approach would be popular when the material content of a service is high. Architectural design service may be presumed to be highly intellectual but it appears that architects find a way to attach a cost to this service. How the cost is arrived at is not certain, but it is possible that the architectural firms in the study area borrow leaf from their previous experiences and charge based on what their last similar job cost. This presupposes that the firms keep records of their expenditures on various jobs. Still, the ways in which these architects cost creative input need to be further investigated. Although Hinterhuber (2008) and Avlonitis and Indounas (2005) agreed that the cost-based approach yield profits that are lower than that yielded by using value-based pricing; the result of this study show that the popularity of this approach may be connected with the perception that it enhances the growth of the architectural firms. This appears to be similar to the findings of Avlonitis and Indounas that the cost-based approach helps in achieving satisfactory sales and profits. This is because a firm grows by virtue of the sales it is able to make.

It also appears that the competitive pricing approach helps in achieving satisfactory sales and profits, as it is perceived to enhance firm growth too. The use of the competitive approach was also positively related to the respondents' perception of the likelihood of price being related to industry standards and that more jobs will be generated when this approach is used. More jobs may be generated when a firm offers services at fees that are less than what competition offers. This is probably why Wesemann (2012) suggested that the competitive pricing approach might undermine profitability. This probably suggests that the firms are able to increase their market share (Avlonitis & Indounas, 2005) by offering competitive prices. In addition, the fact that the use of this approach was related the perception of the respondents that pricing decision can be delegated is an added advantage. This may be because competitive prices are industry standards, which may be public knowledge. As such when pricing decisions are delegated, all the representative has to do is to carry out a price survey. This however presupposes that such prices are made public. Cursory evidence however reveals that prices of design services are not common knowledge. This probably explains why the competitive approach to pricing architectural services was least ranked in terms of use. This is in line with the findings of the interviews, with the interviewees stating that there is no *ideal* fee. One of the interviewees stated: "*the fees for architectural services is not common knowledge*". This finding also suggests that the architectural market in the study

areas is probably not matured enough for certain firms to set industry prices (Wesemann, 2012). One other explanation for the finding may be that the architectural professional body prohibits competition on price.

The results suggest that the respondents who use the time- based approach in pricing their design services believe that it is appropriate when the market is competitive. Coupled with the fact that this approach ranked third in terms of use in pricing design services, one may infer that the time- based approach is the architectural firms' alternative to competitive pricing in a competitive business environment. One other issue, which significantly influenced the use of the time- based approach, was the perception of the ease of delegating pricing decisions with the approach. This may seem to be the case as one of the interviewees stated, "*If you run out of ideas, you can tell your client you have to spend a number of hours and charge accordingly*". The architectural professional bodies will usually stipulate the man- hour charges they expect their members to charge (for example, ARCON, NIA, 2011). The NIA/ ARCON condition of engagement also stipulates time charges for renovation design services. One thing that is not clear however is how the firms arrive at the number of hours they spend on design. This leaves room for ambiguities, as the client too may not be able to affirm the number of hours the architect may claim to spend. This may however be a subject for further studies. The fact that the time-based approach is used in pricing design services may seem to have contradicted Davies' (2008) assertion that this approach is not suitable for preliminary stages of architectural services. This is because the results show that almost 90 percent of the firms use this approach for pricing design services, although in varying degrees (Table 2). However, the results of the interviews also suggest that time charges is mostly used for feasibility studies and not the actual design stage. This is because it is often not easy to calculate the hours used in design. One of the interviewees however noted that most clients in Nigeria only come to the architect when they are ready to go to site, giving the architect little time to carry out the design. As such, the architect is able to cost each day.

The observed low rank of the value-based pricing approach may be connected with the perceptions that it is difficult to calculate fees using the approach, which may result in under-representation of actual cost and thus lead to reduced profit. This may be explained by the fact that the fees are fixed based on the perception of the service provider of the value the client may attach to the service. Since there is no objective data for pricing, the service provider may either over- estimate or under-estimate cost. The results of this study however suggest that one reason for the observed low level of adoption of the value-based approach may be that it may lead to under-estimation of cost. This probably suggests that although this approach had been reputed to be better at generating higher profit (Hinterhuber, 2008), there is a high risk of under- estimation. This is in the light of the fact that the scopes of work of many clients in Nigeria often change with time as noted by one of the interviewees. In addition, firms that rated their perception of the possibility of not being able to anticipate actual pay for tasks with the value-based approach high rarely adopted the approach in pricing design services. This may be explained by the fact that the lack of objective basis for pricing may lead to haggling which may not profit the architect as much. This probably

suggests that in as much as the value-based pricing may be good when higher profit is targeted, firms may need to set the minimum acceptable price, which covers the cost and allows for minimum profit.

It is not clear why percentage fees were most popular with firms in the study, which had existed for more than 15 years, but not with firms that had existed for fewer years. It is however possible that since these younger firms were just entering the market, they had to survive first, then thrive. Therefore sticking to percentage fees, which are often not negotiated, may place young firms head to head with more matured firms. In addition, one of the interviewees noted that percentage fee is not for upcoming architect except "*they are working for the Government. If they stand on that, they will not get any commission*". Hinterhuber and Liozu (2012) suggested that younger firms might be able to gain entrance and find their places in the market by using value-based pricing approach. The results of this study however suggest that the use of this approach is most popular with firms that have existed for between 6 and 10 years, followed by those that have existed for between 11 and 15 years. One of the interviewees observed, "*It takes some experience to be able to convince a client on the value of a project and make him pay you accordingly*". This is probably why the approach is not as popular with the firms aged less than 6 years.

The fact that limited liability architectural firms indicate the highest use of the competitive, value- and cost-based approaches to pricing may be indicative of two things. First, as incorporated firms, they may be under pressure to make profit since they are often required to submit their accounts to the Corporate Affairs Commission. Second, as suggested by one of the interviewees, before a firm can be incorporated, it is required to have been in existence for some years and built reputation as well as viable accounting systems. These firms may therefore be in a better position to set industry price, as well as work with the hindsight of anticipated cost. The high popularity of the time-based pricing approach amongst the sole principal firms may be because these firms may not have the reputation to charge with other bases apart from those stipulated by the professional body. This can be further explained by the findings of this study that the firms young firms (five years and below) rated their use of time-based approach highest, coupled with the fact that the sole principal firms in the study were the youngest firms.

6. Conclusion

The purpose of this study was to investigate the approaches architectural firms adopt in pricing their design services along with the perceived advantages and disadvantages of the approaches. Lagos and Abuja, Nigeria were taken as the sample areas for the pilot study. This is because of the concentration of registered architectural firms in this location in Nigeria. The study found that in addition to percentage fees, cost-, and time- based approaches respectively were popular approaches adopted by most of the firms in the study areas in pricing design services, while competitive fees were the least popular. The pricing approaches mostly adopted by the firms may therefore be considered as objective. The findings of the study indicate that the popularity of pricing approaches varied with the legal structure as well as the ages of the firms. The perceptions of the architects, which

significantly influenced the use of the pricing approaches, were identified. Noteworthy is the fact that competitive pricing was generally less adopted in pricing design services. However, the time- based approach appears to be the architectural firms' alternative in pricing design services on competitive markets.

The results of this study have shown that the perceptions of the architectural design service providers influenced the use of pricing approaches. It will however be noted that this is a pilot study and the study is limited to a location. These findings may need to be checked with other locations within Nigeria and in other countries. This is because Hinterhuber and Liozu (2012) noted that pricing approaches might vary with location of firms. The fact that the dominant pricing approaches differed from those in literature on service pricing may also suggest the need to investigate pricing approaches by industry.

An important implication of these findings for practice is that it suggests the approaches an architectural firm can use in pricing design services to enhance commissions. It also suggests the approaches that are appropriate when the pricing decision has to be delegated. In addition, this study identifies the issues, which may have limited the use of value-based pricing, hitherto reputed to lead to higher profits. Specifically, the findings suggest a need for architectural firms to set minimum acceptable price when value-based approach is adopted.

As earlier noted, there are limitations to this study. The limitations of location and service focus have been identified. Even within the architectural industry, the pricing of only design services have been investigated. There is therefore a need to study design services in other locations before a conclusion on pricing approaches for design services can be drawn. Similarly, to arrive at any generalization on pricing approaches adopted by architectural firms, the pricing of other services within the architectural firms have to be investigated. In addition, the respondents were asked to indicate how often they adopted the pricing approaches under study, without cognizance to the type or scale of project. Further studies may however be required to investigate the approaches that are adopted in pricing different types of projects (for example, residential, commercial, hospitality, and transportation projects) at different scales. Future studies may also investigate how the pricing approaches adopted by the firms influence their performances.

It may also be worthwhile to compare fees calculated using the different approaches to draw inferences. In addition, the results suggest that firms adopted all the pricing approaches to varying degrees. It will be worthwhile for further studies to investigate the circumstances under which the firms utilize each of the pricing approaches. In other word, which factors influence the choice of pricing approach adopted in pricing design services? In addition, as earlier mentioned, the procedure for calculating the time spent in rendering design services need to be further investigated as the results of this study reveal the use of this approach in pricing design services, despite earlier conclusion that time- based pricing may not be suitable for this stage of architectural services. Similarly, the question of how architectural firms arrive at the cost of design service, which they have not embarked on, may need to be subject of empirical investigation. The results of this study show that respondents perceived that the percentage fees are applicable to all projects and can be related to industry standards.

Further research may however investigate other possible reasons why architectural firms may stick to percentage fees, even when the same set of architects complain that clients are often not willing to pay fees calculated using the approach.

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