Effects Of The Relationship Between Factors Affecting Cost of Construction Projects And Financial Performance of Small Scale Contractors In Nigeria: A Pls-Sem Approach

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**ABSTRACT**

Financial performance of small scale contractors in developing countries like Nigeria posed a challenge to the sustainable development of construction industry. Studies in the past focused most attention on the performances of large scale multi-national contractors’ mostly owned and managed by expatriates in developing countries. Yet very few studies focused attention on the effects of the relationship between factors affecting cost of construction projects and the financial performance of small scale contractors in developing countries. This study was aimed at assessing the effects of the relationship between major factors affecting cost of construction projects and the financial performances of small scale contractors. Three major factors were identified namely: cash flow problems, effects of fraudulent practices and the effects of the nature of construction environments these factors posed a serious danger to financial performances of small scale contractors. Survey questionnaires were administered to stakeholders comprising of project clients, small scale contractors and project consultants in Nigerian construction industry. A proportionate stratified random sampling method was used to select the research subjects and a total of 550 questionnaires were administered, 357 questionnaires were returned which represented 65% response rate. The analysis results indicated that cash flow problems, effects of fraudulent practices and the effects of the nature of construction environments were having small negative relationships with the financial performances of small scale contractors. The study concluded that effects of the nature of construction environments was the main factor affecting cost of construction projects in Nigeria and hence posed a serious danger to the financial performances of small scale contractors. The study recommended the use of mediator variables such as project client’s support with Advance Payment Systems and pay for performances to support/intervene on the financial performance of small scale contractors in Nigeria.

**INTRODUCTION**

Small scale contractors’ financial problems are financial difficulties contractors’ faced of not having sufficient funds to carry out any construction project. Such as purchase of construction materials, plants and equipments, payments of labour wages etc. These contribute to the realization of any construction projects (Ali, A.S., et al., 2012). Poor financial performances of small scale contractors normally resulted from inability of the project clients to honour contractors on time, which is usually due to the clients’ cash flow problems (Johnson, I.M., 2010). Small scale contractors’ low profit margins, contractors’ insufficient capital bases and excessive debts, effects of fraudulent practices and the effects of the nature of construction environments are the major factors contributing to poor cost of construction projects and hence leads to financial strain on the projects that subsequently affect the financial performances of small scale contractors (Johnson, I.M., 2010). Cash flow problems and the effects of the nature of construction environments; topped the list in the years 2005 and 2007, where contractors received late payment from project clients in addition to improper and detailed investigation of construction sites. This argument was supported by (Faridi, A.S., and S.M. El-Sayegh, 2006; Majid, M.Z.A., and R. McCaffer, 1998; Arditi, D., et al., 1985; Al-Khalil, M.I., and M.A. Al-Ghafy, 1999; Frimpong, Y., et al., 2003). Cash flow problems have disastrous effects on the financial...
performance of small scale contractors which lead to delays and abandonment of projects (Sambasivan, M., and Y.W. Soon, 2007). Fraudulent practices in construction industry were ranked as the second most important factor that contributed to the poor financial performances of small scale contractors (Ali, A.S., A. Smith and M. Pitt, 2012). Small scale contractors have very low financial reserves and use the profit from one ongoing project to finance the next project; hence a loss in one project ultimately lead to cash flow problems and liquidations (Stretton, A., 1984). There is also a tendency for small scale contractors in developing countries to take money out of the business and spend it on personal items (ILO, 1987).

Most small scale contractors businesses are owned, operated and controlled by single person i.e. the sole owner, and it is likely therefore, that project funds will sometimes be channeled into other personal matters which might result to financial strain on the projects. In addition, delays in contractor payment caused by the cumbersome process of making contractor payments in the public sector create financial problems for the contractor. Unless well managed, this delay is very damaging to financial performances of contractors (Edmonds, O., and D. Miles, 1984; Wasi, D., and M. Skitmore, 2001).

Contractor’s financial performance is one of the most important criteria for contractor’s success from inception to completion of any construction project and is of serious concern to the parties involved in any construction project (Memon, A.H., et al., 2011). In a construction industry it is very rare that projects are completed within initial estimates, this is attributed to poor cash flow policies, effects of fraudulent practices and the effects of construction environments which lead to poor contractors’ financial performances (Elinwa, A.U., and S.A. Buba, 1993). Previous studies argued that cash flow problems, effects of fraudulent practices and the effects of nature of construction environments are the major factors affecting financial performances of small scale contractors in developing countries (Odeyinka, H.A., et al., 2008; Gambo, N. and I. Said, 2014). Although, other studies in the area of performance management have different views on the major factors that lead to poor financial performances of small scale contractors for example, Baloi and Price (2003) stated that frequency of clients variation orders during progress of works and claims are the major factors that affect financial performance of small scale contractors in developing countries, but Iyier and Jha (2005) argued that conflicts among parties in projects, ignorance and lack of knowledge, poor project specific attributes, hostile economic and climatic environments are the major factors contributing to poor financial performances of small scale contractors. Cash flow problems, poor site management issues, and effects of fraudulent practices are viewed as the major factors contributing to the poor financial performances of small scale contractors in Malaysia, New Zealand and Nigeria (Rahman, I.A., et al., 2012; Johnson, I.M., 2010). Generally, factors affecting financial performance of small scale contractors are viewed or group into environmental or site management factors, cash flow problems factors and effects of fraudulent practices factors (Gambo, N. and I. Said, 2014; Inuwa, I.I., et al., 2014).

Cnuddle (1991) related the causes of poor financial performance in construction industry to the poor cash flow policies, effects of fraudulent practices and the problems associated with working environments.

Meeampol and Ogunlana (2006) stated that, financial performance is the most important indicator of successful project used by the parties to any contract. Financial performance presents not only the firm’s profitability margin but also the value of good productivity of organizations at any point during the construction processes. It can be seen easily in the project account and is always used to measure contractor’s financial performance against the estimated budget target. The study found that cash flow problems, effects of fraudulent practices and effects of construction environments are the most important factors affecting financial performance of small scale contractors. Poor financial performances of small scale contractors were been the major concern to stakeholders in construction industry. Past studies have attempted to solve the problem by sourcing opinions Al-Khalil & Al-Ghafly, (1999), studying the relationships among factors affecting cost performances (Elinwa, A.U., and M. Joshua, 2001). Poor financial performances are common and have serious negative consequences on the overall performance of contractors and construction industry in general. The effects are almost associated with nearly all construction projects in developing countries (Azhar, N., et al., 2008). The problem of poor financial performance is important and therefore, requires an in depth study to ascertain the magnitude of major factors affecting it with the view to improve on the situation. Previous studies identified that poor financial performance is the major problem facing small scale contractors in developing countries (Angelo, W.J. and P. Reina, 2002). The trend was very severe in developing countries where the final cost of projects sometimes exceeds 100% of the initial estimates (Charoenngam, C., and E. Sriprasert, 2001). A study by Koushki, Al-Rashid, and Kartam (2005) stated that the major factors affecting financial performance of small scale contractors is the inadequacy of working capital (funds), then followed by the problems associated with nature of construction environments. In Ghana Frimpong, Oluwoye and Crawford (2003) concluded that poor construction environments such as problems of surface water is the major factor affecting financial performances of small scale ground water contractors in Ghana. The study
recommended prompt payment to these contractors to alleviate their sufferings.

Cnuddle (1991) found that the effect of poor small scale contractors’ financial performances due to non-conformance to financial regulations lies between 10% - 20% of the total estimated costs. In addition, the study found that 46% of total financial deviations were attributed to factors affecting cost of construction projects. Hammarlund and Josephson (1991) suggested that large part of the poor financial performance in construction projects were attributed to the factors that affect cost of construction projects. The study concluded that major causes of poor financial performances were: inability of contractors to apply cost efficient practices, contractors’ accuracies in pricing of tender documents, inability of contractors’ to tackle financial difficulties during constructions, non conformity to planned expenditures, contractors inexperience to financial management skills and inability of contractors’ to attract loans from commercial banks. Hammarlund and Josephson (1991) found that the effects of poor financial performances of contractors at the completion of projects were estimated as high as 4% of actual project production costs. Interestingly, it was found that 51% of these factors were related to cash flow problems and the effects of construction environments factors, while 36% were related to fraudulent practices. There is need to study and assess the effects of the relationships between major factors affecting cost of construction projects and financial performances of small scale contractors for improving the overall performance of small scale contractors in Nigeria.

The objectives of this study are
i. To identify major factors affecting cost of construction projects and their influence on financial performances of small scale contractors.
ii. To assess the effects of major factors influencing cost of construction projects on the financial performances of small scale contractors.
iii. To suggests possible ways of minimizing the effects of major factors affecting cost of construction projects in order to enhance financial performances of small scale contractors.

2.0 Financial Performance of Small scale Contractors:
Financial performances of small scale contractors in developing countries like Nigeria were criticised by stakeholders involved in the realization of construction projects in Nigeria. Local Government Monitoring and Evaluation Committee LGMEC (2009) reported that between 2008-2009, twenty local governments of Bauchi State (i.e. One state out of thirty six states and federal capital territory, Abuja) in Nigeria awarded a total of 1607 projects, which about 65.5% of these projects were poorly executed and later abandoned half way to completion. The committee attributed the effects of performances to lack of sound cash flow policy, fraudulent practices and difficulties in accessing construction sites. In confirmation to the above allegations the Director General Bureau of Public Procurement in Nigeria at the PAN Africa Conference held at National Theatre Accra Ghana between 21-22 May, 2013 attributed poor performance of projects in Nigeria to the poor cash flow policies, open abuse of rules and standards in the award and execution of public projects, loss of confidence by the public on the performance of contractors and public service, the report also revealed that out of every NGN1.00 spent by Government, 60k i.e. 60% is lost to fraudulent practices, contracts are awarded to unqualified and ill equipped small scale contractors, inadequate site preparation and investigation, in adequate working drawings, and other relevant project documents (Ezeh, M.E., 2013).

Most small scale contractors in Nigeria are contracting firms that are completely owned and managed by Nigerians; the ownerships of the firms are completely Nigerian. According to Uduak (2006) and Ibrahim (2012) the financial performance of small scale contractors in Nigeria are better and claimed they can be entrusted with large and highly technical projects such as oil and gas, whereas most studies reported that the financial performances of small scale contractors in Nigeria were poor with stuffed project abandonments, cost and time overruns, poor workships, poor management capabilities, financial difficulties, poor planning, poor mechanization and high frequency of litigations (Odediran, S.J., et al., 2012; Oladimeji, O., and G.K. Ojo, 2012; Muazu, D.A. and S.A. Bustani, 2004; Achienu, E., et al., 2000; Bala, K.B., et al., 2009; Adams, O., 1997). Many studies showed that the financial performances of small scale contractors were poor, which replete contractors’ incompetence, inexperience and lack motivations (Ekundayo, D., et al., 2013; Odediran, S.J., et al., 2012; Aniekwu, A.N., and H.O. Audu, 2010; Muazu, D.A., and S.A. Bustani, 2004; Achienu, E., et al., 2000; Bala, K.B., et al., 2009; Adams, O., 1997). These lead to few foreign firms which constitute only 5% of the total number of contractors in the formal sector controlling almost 95% of the major public projects in Nigerian construction market, leaving the small scale firms just a 5% share of the market (Aniekwu, A.N., and H.O. Audu, 2010; Oladapo, A.A., 2006; Muazu, D.A, and S.A. Bustani, 2004). This also resulted into low income to the industry due to expatriates repatriating their profits abroad, leaving an insignificant value addition to local small scale firms in Nigerian construction market and consistent contribution of 1% GDP over the last decade as against the World Bank’s average observation of about 3.2% in other developing countries (Aniekwu, A.N., and H.O. Audu, 2010; Idrus, A.B., and M. Sodangi, 2010; Jinadu, A.M., 2007).
3.0 Factors Affecting Financial Performance of Small scale Contractors:

Major factors affecting performances of small scale contractors in Nigeria are: cash flow problems, fraudulent practice and the nature of construction environment (Gambo, N. and I. Said, 2014; Ezeh, M.E., 2013; LGMEC, 2009). Cash flow was considered in construction projects as the net income or net expenditure that occur as a result of a difference between money received and money disbursed at the same period of time (Odeyinka, H.A., et al., 2008).

\[ \text{Cashflow} = \text{Receipts} - \text{Disbursements} \]

Equation 3.1 above showed that positive cash flow indicates net receipts during a specified period of time, in the other hand, negative cash flow showed net disbursement in that period. Equation 3.2 below indicated that cash flows is the actual movement or transfer of cash (money) into a firm or out of a firm [48]. Therefore, based on this definition money coming to the firm is regarded as cash flow positive because the money is credited to the account of the firm while money going out from the firm is regarded as cash flow negative due to the money being debited from the account of the firm, the different between the two is regarded as net cash flow expressed as follows:

\[ \text{Netcashflow} = \text{PositiveCashflow(Cashin)} - \text{NegativeCashflow(Cashout)} \]

Based on the above two definitions of cash flows, positive cash flow is derived from the monies or payment proceeds by a firm during particular period of time and negative cash flow is the monies expended on a contract for the procurements of materials, plants, equipment, services, wages and salaries, and other overhead costs (Odeyinka, H.A., et al., 2008). Memon, Abdul Rahman, Abdullah, and Abdu Azis (2011) stated that the effects of cash flow problems in Malaysian construction industry were the main cause of contractors’ financial difficulties. Cash flows are predicted to suffer more severely from timing and matching problems that reduce their ability to reflect firm’s financial performance. Therefore, cash flow seriously affects the financial performance of projects (Dechow, P.M., 1994). The factors influencing proper performance of cash flow are delay in settling of claims and agreeing of variations/day works, under valuations of performed works, clients’ insolvency and delays in payments of approved valued works (Gambo, N. and I. Said, 2014; Odeyinka, H.A., et al., 2008).

Iyer and Jha (2005) identified that fraud in construction industry was one of the major factors influencing financial performances of construction projects in India. Elinwa and Buba (2001) stated that fraudulent practices, kickbacks, nature of working environments were the most important factors influencing financial performances of small scale contractors in Nigeria. Rosenbaum, (1997) mentioned that all government-funded projects in developing countries were political in nature. Political problems in turn, always lead to poor cash flow, bribery and corruption. Patrick and Denise (2013) defined fraud as the intent to deceive through false representation of a matter or a fact, whether by word or by conduct, or by concealment of information, which should have been disclosed, in order to cause an entity relying upon that false information. The fraud factors influencing financial performances of small scale contractors are as follows: actions not taken for non compliance with the terms and condition of contract, double payment for same item, substitution of specified item with used or inferior ones, expenses paid when not incurred, and falsification of contract document and given gratitude to induce a party to in contract (Patrick, K.M.K and K. Denise, 2013).

Nature of the construction environments influence financial performances of small scale contractors, which also now become a major topical issue among stakeholders in construction industry (Shen, L.Y. and V.W.Y. Tam, 2002). The major environmental factors influencing financial performance of small scale contractors are harsh construction sites, civil commotions and disturbances, topographies of the construction sites, sites site constraints and storage limitations, availability and supply of adequate and qualified labour, Hostile political and economic environments etc (Jaselskis, E.J., et al., 1996; Yasamis, F., et al., 2002) Effects of site pollution and inadequate safe water for construction works were seen as the major factors influencing financial performance of small scale contractors. Accumulation of construction waste was also seen as the second most influencing factor affecting financial performances of small scale contractors (Shen, L.Y. and V.W.Y. Tam, 2002).

4.0 Research Methodology:

This study is a quantitative in nature; a questionnaire survey was administered to 550 contractors, consulting firms and project client in northern part of Nigeria. The region comprises of 19 states and federal capital territory Abuja. The region representing almost 80% of the total country’s land mass of 744,249.08 Sq Km and a population of about 95 million peoples (National Population Commission, 2000). A total of 357 questionnaires were returned and analyzed. This represented 65% response rate against researches of Odeyinka, Lowe & Kaka, (2008) with 52% and Yassamis, Arditi & Mohammadi, (2002) with 54%. A warp3 PLS regression algorithm software was used for analysis of collated data. The research samples were regenerated using bootstrapping technique. Bootstrapping technique generates an empirical representation of the sampling distribution of the
effect by treating the original sample size as a representation of the population in miniature; this is repeatedly resampled during analysis as a means of copying the original sampling process (Hayes, Andrew F., 2009). The original samples were regenerated or resampled up to 999 from original data with replacement. The reliability of the survey instrument indicates an extent to which the factors are without bias (free from error) and hence ensures consistencies of measurement across the various items in the instrument (Sekaran, U., and R. Bougie, 2011).

4.1 Operationalization of the Research Constructs:

The research constructs: Financial performances of small scale contractors and affecting cost of construction projects which comprises of the following: cash flow problems, effects of fraudulent practices and effects of the nature of construction environments were all measured using five-point Likert Scale. Likert Scale concern with unidimensionality that makes sure all factors measured the same thing and it is the most popular scaling procedure in use today (Giudici, P., 2003; Oppenheim, A.N., 2000). Financial performances of small scale contracting businesses was the dependent variable and was measured using five-point Likert Scale, the scale defines the level of financial performances of contractors businesses. This ranged from very low performance to very high performance levels. Level of performance is described as the journey so far reached by the business (Elgar, D., 2008). The performance levels were defined by Team Leadership (2010) below:-

Very low performance (Level 1) refers to unsatisfactory performance that does not meet all the requirement of job standards. Low Performance (level 2) implies to performance that slightly or nearly meets some requirements of the job standards. Average performance (level 3) described the performances that consistently meet the normal expectations of work standards. High performance (level 4) implies where the contractor consistently meets and frequently exceeds most expectations of the work standards. Very high performance implies achievement in all aspects of responsibilities is consistently and substantially beyond expectations.

The independent variables comprised of cash flow problems, effects of fraudulent practices and effects of the nature of environmental factors influencing financial performances of small scale contractors’ businesses were also measured using five point Likert Scale. The scale ranged from factors with no severe effects on the financial performances of small scale contracting businesses to factors with extremely severe effects on the financial performances of small scale contracting businesses (Amoah, P., D.K. Ahadzie and A. Dansoh, 2011; Oyewobi, L.O. and D.R. Ogunsemi, 2010). The severity of the factors on the scale is described below:-

No severe effects (Scale 1) described the factors that have no any negative effects on the financial performances of small scale contracting businesses. Least severe effects (Scale 2) refer to factors that have small negative effects on the financial performances of small scale contracting businesses. Severe effects (Scale 3) refer to factors having moderate negative effects on the financial performances of small scale contracting businesses. Very severe effects (scale 4) refers to factors having large negative effects on the financial performances of small scale contracting businesses and lastly, extremely severe effects (Scale 5) refers to factors having disastrous effects on the financial performances of small scale contracting businesses.

4.2 Reliability Test:

Tables 1.0 and 2.0 present the composites reliability coefficients and Cronbach’s alpha coefficients for the latent variable; the financial performances of small scale contractors (Finper) were having composite reliability coefficients of 0.927 and Cronbach’s alpha coefficients of 0.911, cash flow problems were having composite reliability coefficient of 0.941 and Cronbach’s alpha coefficient of 0.930, the effects of fraudulent practices in construction industry(frapra) were having a composite reliability coefficient of 0.927 and Cronbach’s alpha coefficient of 0.915 and the effects of environmental factors (envfac) were having composite reliability coefficient of 0.717 and Cronbach’s alpha of 0.730 both the composite reliability coefficients and Cronbach’s alpha coefficients were well above 0.70, this indicated that the survey instrument (questionnaire) is considered reliable (Sekaran, U., and R. Bougie, 2011).

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<th>Table 1.0: Composite Reliability Coefficients</th>
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<td>Finper</td>
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<td>0.927</td>
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<th>Table 2.0: Cronbach’s Alpha Coefficients</th>
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<td>Finper</td>
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Data Analysis and Results:

Model Fit Indices:

Warp3 Algorithm PLS-SEM software was used in the analysis of collated data which was bootstrapped almost three fold. The general model fit indices provides three main indices: average path coefficient (APC) which was found to be 0.213 at p<0.001 level of significance. This indicated that the average path coefficient was significant at 95% confidence level. The average R-squared (ARS) was found to be 0.179 at p<0.001 level of significance. This indicates that average R-squared was significant at 95% confidence level. The average variance inflation factor (AVIF) was found to be 1.500 and it was less than 5 which was considered good in the model.

Effects of Factors Influencing Cost of Construction Projects on Financial Performances:

Tables 2.0 and 3.0 below present the coefficients path of the PLS-SEM model and p values respectively, the path coefficient between cash flow problems (casflo) and financial performances of small scale contractors (finper) was β= -0.083 with p value = 0.194, this indicated that the model path was not significant at p=0.05 level of significance with regards to cash flow problems. The path coefficient between effects of fraudulent practices (frapra) in the industry and the financial performance of small scale contractors was β= -0.088 at p value=0.138 which was also not significant at p=0.05 level of significance with regards to the effects of fraudulent practices. The path coefficient between effects of construction environments and the financial performance of small scale contractors was β= -0.467 at p value<0.001 which was significant at p≤0.05 level of significance with regards to effects of environmental factors.

Relationship among the Research Variables:

Tables 5.0 and 6.0 present the correlations of the major factors influencing cost of construction projects and financial performances of small scale contractors and also the p values of the factors respectively. In table 5.0 the average variance extracted (AVE) for finper was 0.766, casflo 0.787, frapra 0.681 and envfac was 0.706 average variance extracted. The correlations between finper and the casflo was R= -0.130 at p=0.014 level of significance. This indicated that there was a small negative significant relationship exists between finper and casflo. The correlation between finper and frapra was R= -0.160 at p=0.002 level of significance. This indicated that there was a small negative significant relationship exists between finper and frapra. The correlations between finper and envfac was R= -0.433 at p<0.001 level of significance. This indicated that there was a moderate negative significant relationship exists between finper and envfac.

Likewise the relationships among the three factors influencing cost of construction projects: casflo, frapra and envfac (independents factors) were
that the relationship between casflo and frapra was 
\[ R = 0.656 \] at \( p < 0.001 \) level of significance. This indicated that fraudulent practices were having a significant large relationship with cash flow problems in the industry. The relationship between casflo and envfac was \( R = 0.273 \) at \( p < 0.001 \) level of significance this indicates there was a significant moderate relationship between cash flow problems and the effects of environmental factors. The relationship between envfac and frapra was \( R = 0.391 \) at \( p < 0.001 \) level of significance; this indicated that there was a significant moderate relationship between the effects of environmental factors and effects of fraudulent practices in the construction industry.

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<th>Table 5.0: Latent Variables Correlations</th>
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<td>Finper</td>
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Note: Square roots of average variances extracted (AVE’s) shown on diagonal

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<th>Table 6.0: ( p )-values for Latent Variables Correlations</th>
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5.4 Cash Flow Problems:

Fig. 2.0 presents the warped graph of the relationship between the financial performances of small scale contractors (finper) and cash flow problems (casflo). The data points and the regression line shows a non linear or curvilinear relationship between cash flow problems and financial performances of small scale contractors. The data line which started from \( (x_0, y_0) \) coordinates that was \((-2.60, -0.10)\) and curvely slopes down to coordinates \((1.25, -0.20)\) . This indicated that nonlinear relationship exists between financial performances of small scale contractors and the problems of cash flow policies in Nigerian construction business industry.

Fig. 2.0: Warped graph between casflo and finper
5.5 Fraudulent Practice:

Fig. 3.0 presents the linear graph of the relationship between finper and frapra. The data points and the regression line shows a straight linear sloping down from left hand side of the graph to the right hand side starting from coordinate (-2.75, 0.40) then slopes down to coordinates (1.75, 0.90), this indicated a negative linear relationship exists between effects of fraudulent practices and the financial performances of small scale contractors in Nigerian construction industry.

![Fig. 3.0: Linear graph between frapra and finper](image)

5.6 Environmental Factors:

Fig. 4.0 presents the warped curvilinear graph of the relationship between the effects of environmental factors (envfac) and financial performances of small scale contractors (finper). The data points and the regression line shows nonlinear relationship line which slopes down from left hand side of the graph to the right hand side starting from coordinate (-3.75, 1.20) then slopes down to coordinates (1.10, -0.75), this indicates that there was negative non linear relationship exists between the effects of environmental factors (envfac) and the financial performances of small scale contractors in Nigerian construction industry.

6.0 Discussion of Results:

Warp PLS-SEM version 3.0 software was used to achieve the objectives of this study of assessing the relationship between major factors affecting cost of construction and the financial performances of small scale contractors. An intensive review of literatures was conducted and explored three major factors that influenced financial performances of small scale contractors in Nigeria. The major factors identified were; cash flow problems, effects of fraudulent practices and effects of the nature of construction environments [24; 48; 55; 36]. The results of the analysis shows that the path coefficient between cash flow problems and the financial performances of small scale contractors was $\beta = -0.083$ at $p=0.194$. This indicated that the path was not significant at $p=0.05$ level of significance. The relationship between cash flow problems and financial performance of projects indicated a negative relationship of with the correlation coefficient $R = -0.130$ at $p=0.014$. This indicated a small negative relationship between the two factors. The path coefficient in respect with the effects of fraudulent practices was $\beta = -0.088$ at $p=0.138$. This indicated that the path coefficient between effects of fraudulent practices and the financial performances of small scale contractors was not significant at $p=0.05$ level of significance, but the relationship between the effects of fraudulent practices and the financial performance of small scale contractors $R$ was $-0.160$ at $p=0.002$. This indicated a small
negative relationship between the two factors. The path model between the effects of environmental factors and financial performances of small scale contractors was $\beta = -0.467$ at $p<0.001$. This indicated that the path coefficient was significant at $p=0.05$ level of significance. The relationship between effects of environmental factors and the financial performances of small scale contractors $R$ was $-0.433$ at $p<0.001$. This indicated a moderate relationship between the two factors. Therefore the analyses for the model path coefficients in respect to the cash flow problems, effects of fraudulent practices were not significant at $p\leq0.05$ level of significance. But the model path coefficient for the environmental factors was significant at $p\leq0.05$ level of significance. The correlations coefficients ($R$) among the factors were all significance at $p\leq0.05$ level of significance.

![Fig. 4.0: Warped graph between envfac and finper](image)

7.0 Conclusions and Recommendations:
This study identified and assessed the relationship between major factors affecting cost of construction projects and financial performances of small scale contractors. The study found that effects of the nature of construction environments are the main factor affecting financial performances of small scale contractors in Nigeria. The three identified major factors influencing cost of construction projects were all having negative relationships with the financial performances small scale contractors in Nigeria. The study concluded that effects of the nature of construction environments was the major factor influencing financial performances of small scale contractors in Nigeria. Also, the study found that cash flow problems and effects of fraudulent practices had a small negative relationship with the financial performances of small scale contractors in Nigeria, while the effects of the nature of construction environments had a moderate relationship with the financial performances of small scale contractors. The study therefore, recommended the support of projects client’s with advance payment system to minimize the sufferings of small scale contractors caused by environmental factors for jump starting of projects against initial financial difficulties faced by these contractors. The study also recommends the practice of pay for performance which yielded more benefits in the area of health and boost performances of health workers.

REFERENCES


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