



Influence of Balanced Score Card Adoption on Professional Examinations Success

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Abstract

The gap existing in the contemporary viewpoints of scholars in the developing countries on whether or not the adoption of BSC have significant influence on the ability to pass professional exam by the students of the Nigerian higher institutions, necessitated this study. Primary source of data was employed through the administration of questionnaire. Data were collected using a five point likert scale questionnaire from 209 respondents purposively drawn from the various categories of staff of the institutions selected to participate in the study. The data were analyzed using both descriptive and inferential statistics. The result of the inferential statistics revealed that the combine effect of all the independent variables (financial metrics, customer metrics, internal process metrics and learning and growth metrics) accounted for about 31% variation in the ability of Nigerian graduates to pass relevant professional exams with a short period after graduating from higher institution.

The study therefore concluded that balance scorecard has a significant positive effect on the ability of the students of tertiary institutions in the south west Nigeria to pass professional exam.

Keywords: Balanced Score Card, Professional Exams, Tertiary Institutions

Received 28 Mar, 2022; Revised 06 Apr, 2022; Accepted 08 Apr, 2022 © The author(s) 2022.

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I. Introduction

From the beginning of twenty first century, there has been an increasing agitation by the stakeholders in the educational sector for adoption of new strategy in the attainment of vision and mission of not for profit organizations with specific emphasis on the tertiary institutions. One of such strategy is the Balance Score Card. This agitation arises from two potential problems identified in literature. First, there is a consistent decline in the performance of tertiary education in Nigeria. This decline has manifested in the quality of output of the tertiary institutions as well as the productivity of their output which many scholars blamed on the quality of training received. According to Malina, & Selto, (2001), any insufficiency in the educational structure and anti-intellectual values would affect academic performance. Poor academic performance according to Kaplan and Norton (1996) is one that is evaluated by someone that is examined or tested as falling below an expected standard. Various research work carried out revealed that educational standards had fallen at all levels of education. They also found out that the tertiary institutions were the most hit, followed by secondary, and least, primary level (Michalska, 2005; Niven 2003; James, 2009).

In higher education, there are certain conventions that are acceptable as a measure of value creation different from other sectors. Higher education has emphasized academic measures, rather than emphasizing financial performance. These measures are usually built on and around such aspects as faculty/student numbers (ratios), student pass percentages and dispersion of scores; student ranking through out of school performance, percentile scores; graduation rates; percentage graduates employed on graduation; students who pass their professional examinations before graduation; faculty teaching load; faculty research/publications; statistics on physical resource and soon.

Secondly, empirical evidences revealed that despite the magnanimity of benefits associated with BSC, adoption of balanced score card is still at the rudimentary stage in the Tertiary Institutions in Nigeria. Unlike business sector, the education sector has apparently not embraced the BSC concept widely as indicated by the dearth of published research. As remarked by Adejuwon, (2016), that while there is an abundance of literature

on implementing the BSC in the public sector in many developed countries, there is a dearth of literature that explores the situation of public sector organisations in Nigeria. Some of the few attempts were made in this regard by Iwarere and Lawal (2011), Etim and Agara (2011), and Mohammed and Sirajo (2015). Adejuwon (2016) further noted that despite the attempts by few scholars to link BSC to Nigerian Civil Service, most of them failed to address how BSC can improve value creation in the Nigerian Civil Service system. The public universities shared a lot of features with the general public service system and consequently suffered similar challenges.

Again, the rapid expansion in tertiary education system has changed the educational sector. Traditionally, these institutions were owned and controlled by the government and hence at times strategic management and its derivative tenets are not so visible in the initiation and operation of such institutions. With the advent of private higher institutions, clearly, higher institutions are now under pressure to change and to become more responsive to the external environment. To survive, they are thus forced into examining their operations from a decidedly business-like perspective, and are required to adopt performance indicators rooted in the creation of value-to state, alumni, prospective students and other external stake holders. This is therefore calling for further research to discover the level of adoption of BSC in tertiary institutions in the South West Nigeria as well as the trend in the value creation in term of success in professional examinations by students in tertiary institutions in the South West Nigeria. This will enable the study discover whether BSC influences success in the professional examinations written by students of tertiary institutions in the South West Nigeria. It is also unclear in literature whether adoption of BSC granger cause value creation in term of success in professional examinations. Therefore, it is pertinent to investigate the effect of some control variables such as Age and Size of the institution on the strategic performance of tertiary institutions in South West Nigeria.

II. Literature

The inquisitiveness to proffer lasting panacea to performance measurement challenge in tertiary institutions has given spur to increasing the debate on whether or not BSC is appropriate for the performance measurement in term of success in professional examinations in tertiary institutions.

Stephen, Kezzie & Rabiya (2017) conducted a research on the evaluation of performance of the University of Malawi's Polytechnic using the Balanced Scorecard model. The research employed a deductive approach and adopted a survey strategy. A closed questionnaire eliciting demographic characteristics and work-related factors was sent to a sample of the Polytechnic stakeholders who were selected using a non random purposive technique. The study revealed that the performance of the Polytechnic is poor. However, the performance of the College had been rated as good on the basis of the output performance measures. The study has also established that whereas there was a weak relationship between the financial and customer factors and the performance measures, there was a strong relationship between internal processes and innovation and learning on one hand and performance measures on the other.

Dkhili and Noubbigh, (2013) stated that the conceptualization of the BSC was done with an underlying goal of linking business activities with the strategy, all directed towards achieving the ultimate end result which is organizational performance. In the words of Kaplan and Norton, BSC is defined as a framework that assists entities transform strategy into operational objectives that drive both behavior and performance (Kaplan & Norton, 2002). Ittner (2008) provides a general idea of the statistical verification on the performance consequences of intangible asset measurement. There are some evidences that non-financial performance measures are positively associated with performance (Abernethy and Lillis, 1995; Ittner & Larcker, 1995; 1997; Chenhall, 1997; Perera, Harrison & Pole, 1997; Ittner et al., 2003; Kaynak, 2003; Said et al., 2003; Davis & Albright, 2004). It has been recommended that organizations embracing performance estimation framework would enhance their corporate performance and gainfulness by distinguishing the causal connections amongst activities and performance (Buhaovac & Slapničar, 2007).

Xiong (2008) looks at the results of a study that found that most Chinese firms have utilized non-financial related performance measures to keep up an upper hand. Thompson and Mathys (2008) advocate the use of an Aligned Balanced Scorecard as a way to upgrade the scorecard approach to enhance authority adequacy as an instrument for growing superior administration systems. Edmonds and Tsay (2000) express that managerial performance can be measured by looking at the working consequences of the appointed duty focus with built up norms or with the after effects of the allotted obligation focuses with the entity. One method for assessing managerial performance is to contrast standard sum and real outcomes. The adaptable spending plan can be utilized for arranging and performance assessment. For example, administrators might have the capacity to assess the ampleness of the organization's money position by expecting diverse levels of movement. So also, the quantity of representatives, the measures of materials, and the vital hardware and storerooms can be assessed for an assortment of various potential movement levels (Edmonds & Tsay, 2000).

In a similar vein, Hansen and Mowen (1999) express that financial measures concentrate for the most part on figures which may not recount the entire story of the organization. Likewise, lower-level chiefs and

representatives may feel vulnerable to influence net salary or speculation. Accordingly, non-money related working measures have been produced. Numerous measures incorporate both financial related and non-financial. They included that Balanced Scorecard was produced to gauge a company's execution in different areas. Owusu (2010) inspected the financial related performance of Ghana Breweries limited after merger and selection on the Ghana Stock Exchange. The review went for evaluating the gainfulness level of Ghana Brewery Ltd (GBL), its dissolvability and liquidity position; the adequacy and proficiency of the utilization of proprietors and banks subsidize and the fittingness of blend of obligation and proprietor's value in financing its operations. The discovering demonstrates that notwithstanding the serious assault from less expensive brands on its items and the negative financial condition that took after the merger, the organization's execution over the period under review has been acceptable. In any case, the expansion in net turnover, working benefit before remote trade misfortunes declined from 6.97 billion in 2000 to 02.94 billion in 2001; yet enhanced altogether to 06.3 billion in 2002 therefore of the \$5 million store against shares paid by Heineken in December 2002.

Likewise, Leah (2004) utilized a few measures of benefit to inspect the determinants of productivity for the alcohol business. Taking after Leahy (1998), Leah (2004) tried the suggestion that benefit is identified with the capacities performed and hazards expected by an organization. In particular, three measures of benefit are inspected and identified with intermediaries for the capacities performed as well as dangers expected by those makers. The outcomes shift as indicated by the measure of benefit utilized, i.e., the criticalness of the free factors may rely on upon the productivity measure utilized. Leah (2004) discoveries bolster those of Leahy (1998), who found that the outcomes did not fluctuate methodically as indicated by estimation method. According to Abernathy (2000), the normal worker does not comprehend the association's methodology and subsequently neglects to concentrate on the correct things; does not know his or her own part in achieving the technique and therefore does what is required, not what is required. What's more, representatives in numerous associations seek after individual instead of hierarchical objectives, as a result of disharmony amongst worker and authoritative methodologies and objectives, and on the grounds that of existing prize structures that emphasis on individual or sub-unit accomplishments as opposed to the accomplishment of corporate objectives (Kerr, 1975). In such a professional workplace, hierarchical sub-streamlining is the after effect of sub-authoritative enhancement. Frigo and Krumwiede (2000) recommend that the BSC can help cure this circumstance since it obliges associations to take part in a few useful exercises. These exercises depict the real qualities of the BSC. Enthusiasm among both scholastics and experts in execution estimation frameworks as an apparatus for conveying key goals is currently settled in the administration writing (Kaplan & Norton, 1992; Eccels & Pyburn, 1992).

General performance estimation including non-financial related measures has been a subject of incredible enthusiasm all through a large portion of the 1990s. This is on the grounds that non-money related measures conquer the impediments of simply utilizing budgetary execution measures. "Delicate" measures, for example, representative fulfillment and duty, are going to the fore as heroes of the business execution estimation insurgency encourage associations to supplement their customary budgetary concentration with milder information. Kaplan and Norton (1992) propose that what is required is "an adjusted introduction of both monetary and operational measures". What's more, while customary money related measures provide details regarding what occurred amid the last time frame without demonstrating how administrators can enhance execution in the following, the scorecard capacities as the foundation of the association's present and future achievement (Kaplan & Norton, 1996).

Theoretical Framework

The need to anchor the concepts of balanced scorecard and value creation of tertiary institutions within the framework of a certain theory cannot be over emphasized. Therefore, this work will be anchored on Stakeholders' theory, resource based and Agency theory. Stakeholders' theory suggests that the purpose of a business is to create as much value as possible for stakeholders. Also, the theory begins with the assumption that values are necessarily and explicitly a part of doing business. In order to succeed and be sustainable over time, executives must keep the interests of customers, suppliers, employees, communities and shareholders aligned and going in the same direction.

The theory states that the organization itself should be thought of as grouping of stakeholders and the purpose of the organization should be to manage their interests, needs and viewpoints. These stakeholders' management is thought to be fulfilled by the managers of a firm. The managers should on the one hand manage the corporation for the benefit of its stakeholders in order to ensure their rights and the participation in decision making and on the other hand the management must act as the stockholder's agent to ensure the survival of the firm to safeguard the long-term stakes of each group. The main groups of stakeholders are: customers, employees, local communities, suppliers and distributors, shareholders, competitors, government, regulators, policy makers and the general public. The theory of resource-based view emphasizes the internal capabilities of a firm in formulating strategies to achieve a sustainable competitive advantage in its market and industry. The

theory is grounded in the perspective that a firm's internal environment, in terms of its resources and capabilities, is more critical to the determination of strategic actions to undertake and hence, performance. This is not to say that the external environment is not important but that there is need for a fit between the external market contexts in which a firm operates and its internal capabilities.

A stakeholder approach was to try to build a framework that was responsive to the concerns of managers who were being confronted with unprecedented levels of environmental turbulence and change. Freeman (1984) argued that traditional strategy frameworks were not helping managers anymore to develop new strategic directions and also did not help in creating new opportunities. Both internal and external change has meant that the model of the organization as a mere resource e-converter is no longer "valid" and suitable. Internal change includes owners, customers, employees and suppliers. The idea of stakeholder management suggests that managers must formulate and implement processes which satisfy all and only those groups who have a stake in the business. The main task in this process is to manage and integrate the relationships and interests of shareholders, employees, customers, suppliers, communities and other groups in a way that guarantees the long-term success of the firm. A stakeholder approach is very much concerned about active management of the business environment, relationships and the promotion of shared interests in order to develop business strategies.

Stakeholders' theory in relation to balanced scorecard generally identifies five stakeholder groups for a company: three of them, shareholders, customers, and communities, define the external expectations of a company's performance; the other two, suppliers and employees, participate with the company to plan, design, implement and deliver the company's products and services to its customers (Atkinson, 1997). This means that an organization should not only base its performance measurement on financial parameters but rather on both financial and non-financial. Since, an entity either private or public is an open system that influences or being influenced by the environment, and then all stakeholders must be put into consideration when the performance measurement of such an entity is to be done. In view of the fact that, all the stakeholders including governing bodies, taxpayers, students, and parents demand evidence that their funds utilization is efficient and transparent and is on most important outcome learning.

On the other hand, agency theory is a management approach where one individual (the agent) acts on behalf of another (the principal) and is supposed to advance the principal's goals (Jean et al 2002). The agent therefore advances both the principals' interests and his own interests in the organization. A balance of these interests should be merged in order to arrive at the corporate objectives of the organization through the agent because he/she is in charge of the vast resources of the organization. Laffort and Martimost (2002) contends that the agency theory of strategic management is so crucial since the action chosen by a particular individual (the agent) affects not only one, but several other parties (the principals). Hence, the agents' role in strategic formulation and the overall strategic management implementation process cannot be underestimated.

The institution is often characterized as a nexus of both explicit and implicit contracts linking the management and its different stakeholders, including workers, unions, customers, suppliers and the state among others. The Agency Theory holds the view that there should be proper synergy between the management, stakeholders and its customers in order to work towards a common goal. The Agency Theory has also been described as the central approach to managerial behavior. Ross (1987) says that the Agency Theory is used in the managerial literature as a theoretical framework for structure and managing contract, which is among the emerging issues in strategic management. It therefore explains the behavior of principals and agents' relationships in performance contracting in management. It is on this premise that the agency theory should be embraced in balanced scorecard strategy implementation where the principals should always co-operate with the agents in formulating the organization's mission, vision and the objectives. All that is done at the strategy formulation to strategy evaluation and control should carry the hopes, aspirations and the values of the principals, the agents and all other stakeholders of the firm.

III. Methodology

The study used a survey research design. The population of the study consisted of all the sixty eight (68) tertiary institutions in the South Western Nigeria which comprises of publicly and privately owned universities and polytechnics from where a sample size of 34 institutions were drawn using multistage sampling technique. Data were collected using a five point likert scale questionnaire from 209 respondents purposively drawn from the various categories of staff of the institutions selected to participate in the study. The data were analyzed using both descriptive (mean, median, mode and standard deviation) and inferential statistics (rank order correlation coefficient and multiple linear regression analysis). Necessary diagnostic test such as reliability, normality, multicollinearity was conducted before accepting the data for statistical analysis.

Model Specification

The two variables involved in this study are the explanatory/independent and dependent variables. The explanatory/ independent variable in this study is Balanced Scorecard (BSC) proxied by Financial Metrics (FMET), Customer Metrics (CMET), Internal Process Metric (IPMET) and Learning and Growth Metrics (LGMET) while the dependent variable in this study is the ability of the students to pass relevant professional exam within the required time. Given the theoretical linkage between balanced score card and value creation in term of success in professional examination within the required time, there is need to build linear equations that was used to capture their relationship. Therefore, the linear relationship between balanced score card and success in professional examinations is as shown in equation below;

Thus;

$$Y = f(X)$$

Where:

Y = dependent variable

X = independent variable

$$PPE = f(BSC)$$

Where:

PES = Professional Exam Success

BSC = Balanced Scorecard

Y = Professional Exam Success (PES))

X = $x_1, x_2, x_3, x_4, x_5, x_6$

Where X = Balanced Scorecard

x_1 = Financial Metrics (FMET)

x_2 = Customer Metrics (CMET)

x_3 = Internal Process Metrics (IPMET)

x_4 = Learning and Growth Metrics (LGMET)

x_5 = Age of the Institution (AINS)

x_6 = Size of the Institution (SINS)

The empirical models are as follows:

$$PES = \beta_0 + \beta_1 FMET + \beta_2 CMET + \beta_3 IPMET + \beta_4 LGMET + \beta_5 AINS + \beta_6 SINS + \mu$$

Apriori Expectation

$$\beta_1, \dots, \beta_6 > 0$$

Where;

β is the constant term, β_0, \dots, β_6 are the coefficients of the regression estimated and μ is the stochastic error term.

Degree of Significance

The level of significance used for this study is 5%

IV. Discussion and Findings

Factor Analysis

The main reason for conducting a factor analysis as posited by Kothari and Garg (2014) was to summarize the information contained in a number of original factors into a smaller number of factors without losing the needed information. This implies that the newly created variables should represent the fundamental constructs which underline the original variables.

The result of factor analysis for the items on student's ability to pass profession exam within a period of five years after graduating revealed that, out of the 8 question drafted to capture this variable, only four items reached the acceptable threshold of 0.4 indicating a relatively high level of internal consistency as presented in table 4.3 and thus accepted for further statistical analysis. Similarly, factor analysis was conducted for items on financial metrics. The result revealed that all the 6 items registered an internal consistency level above the minimum threshold of 0.4 as presented in table 4.3 and therefore accepted for further statistical analysis.

In like manner, the factor analysis results for learning and growth metrics revealed that only 1 item produced a factor loading below the minimum threshold of 0.4 and was deleted. The remaining 7 items registered a threshold above 0.6 and were therefore accepted for further statistical analysis using the rule of thumb which says any item with factor loading of 0.4 can be accepted for statistical analysis. For the customer metrics, 6 items were also accepted for further statistical analysis based on the fact that they registered a threshold above the required 0.4 while the remaining 2 items with fewer thresholds were deleted since they did not produce the required threshold for statistical analysis.

Finally, factor analysis was carried out on all items of internal process metrics to determine the threshold of each item. Surprisingly, the 10 items registered a threshold that is greater than the minimum acceptable threshold of 0.4 and were therefore accepted for further statistical analysis.

Descriptive Statistics for Dependent Variable: Passing Professional Exams

This section sought to investigate the extent to which value has been created in the graduates of the Nigerian higher institutions through ability to pass professional exams within a short period. The responses in table 4.10 revealed that over whelming majority of the respondents affirmed that graduates from Nigerian Institutions are able to complete professional postgraduate studies in their field within the shortest time allowed by the regulation, as about 78% of the respondents either agreed or strongly agreed with the statement. The remaining respondents expressed opinion as 7.5% undecided, 8.3% disagreement and 6.2% strong disagreement.

Similarly, in line with the National Universities' Commission's repositioning agenda which focused on making Nigerian graduates globally competitive, the survey results on the Nigerian graduates' suitability for foreign studies revealed that about 84% of the respondents have the conviction that graduate from Nigerian Institutions are well equipped with the ability to pass qualifying exams for international scholarship in their field if given the opportunity and thus proceed for foreign studies. However, a few minorities (6.9%) were undecided while the remaining 3.2 and 5.6 disagreed and strongly disagreed respectively.

Again, on the level of suitability of the Nigerian graduates for international professional programme. There is about 79% confirmation from the respondents that there is significant improvement in the success rate of Nigerian graduates in international professional exams in the past five years compared to what it used to be. In like manner, the result also produced evidence indicating that there is significant improvement in the success rate of Nigerian graduates in local professional exams in the past few years. Generally, there is a sufficient evidence from the results presented in table 4.10 that there is improvement in value creation by the tertiary institutions in Nigeria based on the opinion expressed by the respondents for this study. The results for all the three measures of central tendency (Mean, median mode) revolve round 4.00 suggesting a high level of consistency in the result. The standard deviation of about 1 also implies that a little variation exists in the opinion of the respondents.

Reliability Test

Cronbach's Alpha which is a reliability coefficient was used to indicate how well the items in the set are correlated with one other. According to Sekaran, (2008) the closer a Cronbach's Alpha is to 1 the higher the reliability and thus, a value of 0.7 was recommended. Reliability analysis was conducted for dependent variable, professional exam success, the four items of independent variables such as financial metrics, customer metrics, growth and learning metrics and internal process metrics and the control variables which includes size and age of the institutions. The findings indicated that professional exam success had a coefficient of 0.701, financial metrics, customer metrics, learning and growth metrics, internal process metrics, age and size of the institution produce a coefficient of 0.704, 0.793, 0.710, 0.768 0.813 and 0.789 respectively. Since, all the items produced a Cronbach's Alpha greater than the minimum acceptable coefficient, the data collected can be considered reliable and therefore accepted for further statistical analysis.

Normality Test for Professional Exam Success

One-Sample Kolmogorov-Smirnov Test and P.P plot were used to test the normality of the dependent variables (professional exam success). The null and alternative hypotheses for this test were as follows:

H_0 : The sample from which the data was collected was not normally distributed

H_1 : The sample from which the data was collected was normally distributed

The results obtained in table 4.17 indicate that Kolmogorov-Smirnov Z was 3.258 (p-value = 0.000). Since the p-value is not greater than 0.05, the null hypothesis was not accepted. The study therefore concludes that the data was collected from a normally distributed sample. It was also noted in the table that the mean was 3.7630 with the standard deviation was 0.734 on a scale of 1-5, indicating that the data are closely related and can therefore be relied on for further statistical analysis. The result of the P.P plot in figure 4.5 also suggests that the sample was normally distributed since all the points are not far from the regression line.

Inferential Statistics

To further investigate the influence of balanced scorecard adoption on value creation of the tertiary institutions in Nigeria, another ordinary least square regression analysis was conducted using student ability to pass professional exam as a measure of value creation. From this analysis, the coefficient of determination, R-square presented in table 4.21 was 0.311, indicating that the combine effect of all the independent variables (financial metrics, customer metrics, internal process metrics and learning and growth metrics) accounted for about 31% variation in the ability of Nigerian graduates to pass relevant professional exams with a short period after graduating from higher institution while the remaining 69% might be due to other factors beyond the scope of this study.

The results of the beta coefficient are not significantly different from the first model except that the first model produced higher coefficient of determination. Specifically, it was discovered that three independent

variables (financial metrics, internal process metrics and learning and growth metrics) consistently have significant influence on two measures of value creation (employer rating and ability to pass professional exam) in the two models analyzed in this study while customer metrics remained insignificant for the two models. The result is also consistent with many of the existing literature (Spender, 2014; Kaplan & Norton, 1992; Poister, 2003; Abdullah & Hamzah, 2006). However, the result of the customer metrics produced a new evidence on the hypothesized link between the customer metrics and value creation, as previous studies either reported a significant positive relationship (Fernando, Coonghe, Gunathilaka, and Gunawardana, 2016; Iwarere & Lawal, 2011) or significant negative relationship (Niven, 2008; Porter & Kramer, 2011). This therefore necessitates the acceptance of the null hypothesis that customer metrics has no significant influence on value creation.

V. Conclusion and Recommendation

This study empirically determined whether adoption of BSC have significant influence on the ability to pass professional exam of the products of the Nigerian higher institutions. For the purpose of conducting an in-depth investigation for this study, a survey research design was adopted in which 34 tertiary institutions were purposively selected from the total population of 68 tertiary institutions in the south west Nigeria. From the selected institutions, 272 respondents were drawn to participate in the study using stratified and purposive sampling technique. However, out of the 272 respondents selected, only 209 responded which represents about 77% response rate. Descriptive statistics (mean, median, mode, standard deviation etc) and inferential statistics (rank order movement correlation and ordinary least square regression) were conducted on the opinion of these 209 respondents in line with the objectives of the study.

From the descriptive statistics result, it was established that there is a significant improvement in the performance of tertiary institutions in Nigeria after adoption of balanced scorecard. This improvement manifested in the institutions ability to generate sufficient revenue to argument the government subvention. It is also worth reporting that high-level adherence to the budget provision, that is, a high level of financial discipline was observed among the management of the tertiary institutions in Nigeria with the advent of balanced score card. In contrast, it was also discovered that majority of the higher institutions in Nigeria rely on the income from school fees as the only source of internally generated revenue which implies that adoption of balanced scorecard has not really assisted the management of tertiary institutions in Nigeria in diversifying the revenue stream of the institutions.

For the inferential statistics, the result revealed that the combine effect of all the independent variables (financial metrics, customer metrics, internal process metrics and learning and growth metrics) accounted for about 31% variation in the ability of Nigerian graduates to pass relevant professional exams with a short period after graduating from higher institution.

Based on the above findings, the study concluded that only the size of the institution has significant influence on the graduates' ability to pass relevant professional exams with a short period after graduating from the higher institution. It is therefore recommended that balanced score card should be adopted by all tertiary institutions.

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