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Integrating Financial and Non financial measures to measure the performance of commercial banks: Evidence from Tanzania

Gwahula Raphael[1]*, Wang Man[2] (PhD)
1. School of Accounting, Dongbei University of Finance and Economics
PO box 116025, Hei Shi Jiao, Dalian, P. R. China, Tell: +8615041124626
2. School of Accounting, Dongbei University of Finance and Economics
PO box 116025, Hei Shi Jiao, Dalian, P. R. China,Tell +8613624912162
* E-mail of the corresponding author: gwahulagr@yahoo.co.uk

Abstract
The study intends, to assess the performance of commercial banks in Tanzania, using financial and non financial measures. Using financial Data from annual reports and non financial data from balanced score card templates obtained from commercial banks as well as from survey data, the overall performance indexes were established for every individual commercial bank. A total of 21 commercial banks were involved in this study.Generally the overall performance indexes of commercial banks were found to be higher in large foreign banks, followed by large domestic bank and lastly Small banks. These results are consistent with efficiency score estimates found in previous studies. Where large foreign banks were found to be more efficient compared to the counterparts. The high performance of large Foreign Banks is due to the fact that these commercial banks have long history of implementing BSC compared to the counterparts. Therefore experience of application and technical know has enabled them to have a higher performance index compared to the premature adopters' large domestic banks and Small banks. Moreover we performed a statistical test to verify if the performance difference between the groups of commercial is significant or occurred by chance. Using one way ANOVA, The results indicate the performance differences between groups of commercial banks did not occur by chance, we reject the null hypothesis and accept the alternative one, which explain the significant difference in performance index between groups of performance of commercial banks.
Keywords: Overall performance index, Balanced scorecard, Non financial measures, Financial measures

Introduction

Current competition in the banking industry enables the bank to rethink on better ways of measuring performance. Competition within this sector, as well as customer awareness of different services offered by the banks, stimulates most banks and financial institutions to adopt non financial measures in order to acquire competitive ability. Most banks and financial institutions are struggling to go further beyond the application of financial measures. Therefore non financial measures arise as the result of limitations of financial performance measures and the rising prominence of intangible assets, Niven P.R (2006).

Similarly because of ever changing business environment business leaders are questioning on excessive reliance on financial measures and have started thinking about operational drivers of future business performance measures. Some drivers may involve customer satisfaction and loyalty, internal business process and continuous innovation and organization growth and learning. Numerous studies have indicated the need of non financial measures on varying issues related to compensation, investment innovation and learning and growth, the study performed by Ernst and Young indicated that on average 35 percent of investor's decisions rely on whether the firm has no financial measurement criteria. The objectives of this study are twofold, first to measure the performance of Tanzanian commercial banks using the performance index, second, to compare and rank commercial banks using the performance index approach and lastly to investigate if there is a cause effect relationship within the perspectives of the balanced scorecard.

However the study is also motivated by the fact that it has been reported that many commercial banks are currently using non financial measures to supplement the traditional measurement tools. But to the best of my knowledge neither comprehensive literature nor large scale empirical research has been conducted regarding the adoption and implementation of multiple performance measurement chiefly the BSC in Tanzanian commercial banks, Despite the case studies and conferences promoting the virtues and alleged benefits of using both financial and non financial measures, in particular the Balanced Score Card. The research motivating question is that to what extend the use of

nonfinancial measures has influenced the performance of the banks or is there any causal effect relationship between the different perspectives of the balanced scorecard?

2. Literature review

The integration of financial and non financial measures into performance Index is one of the achievements of the balanced scorecard, we have seen number studies some of which were aimed at investing the level of use of the BSC, while other directing their attention on the performance implication of the BSC. The methodologies used to reach on the empirical results were almost qualitative. This is to say limited number of empirical studies used balanced performance index which is quantitative in nature to obtain the overall performance of the firm. But we have seen combined approach of Balanced score card and same econometric approach in measuring the efficiency of the firm.

The balanced performance index can therefore be defined as a measurement tool involving both two limbs of performance measurement i.e. financial and non financial performance measurement. Balanced performance indices are usually used by investors and manager evaluates company performance of business units in the entire company, moreover the balanced performance index can enable the business to compare its self from competitor company`s information. Therefore a balanced performance index sets the benchmark for comparison and raking between business units, similarly it can be used for planning, budgeting, informing investors on the performance status of the firm as well as employee also it can as well be used for compensating. Ouyang, L; Liu, C.C and Hwang Y.D, (2003) highlighted on the benefits associated with a Balanced performance index such that it offers a yardstick on which various factors can be computed, also it allows managers and investors to get a complete view of the organization, by eliminating the limitations of financial perspectives.

Using established indices obtained from various indicators within the balanced scorecard perspectives; the balanced performance index can be established. Well accepted metrics should be used by managers and investors to measure the overall performance of the firm. (Kaplan and Norton (1992, 1996), Fitzgerald, (1991). The performance index should include financial measures (outcome measures) and non financial measures (leading measures). Balanced performance index forms the best alternative way of evaluating banks and financial institutions compared to the widely used financial measures which does not provide the overall picture of the firm. Most studies use the survey method to obtain the required weight from each perspective of the balanced scorecard. Studies performed by Shengde, H& Xiaoting, S (2010); Ouyang, L; Liu, C.C and Hwang Y.D, (2009) and other studies used Principle Component Analysis to arrive at required metrics, (PCA), Aggarwal, G&Gupta V.K (2012).

The following are empirical studies on Performance index evaluation approach, in the banking industry; Aggarwal, G&Gupta V.K (2012) using weighted scores of operating efficiency and financing effectiveness, the study aimed at assigning ranks at different bank groups on the basis of the overall performance scores, the empirical findings indicates that although foreign banks and new private banks were significantly better than public banks and old private banks but the traditional banks had improved their performance post WTO.

A similar study was done by Ticker, S, Teker, D &Kent, Y (2011) using indexing model by considering fundamental characteristics of the bank, all sampled banks were ranked by employing the proposed indexing approach .Similarly another Balanced performance Index approach was successfully used in Taiwan commercial banks by Ouyang, L; Liu, C.C and Hwang Y.D (2009), the empirical findings indicated privatized government owned banks are larger than private new banks. Therefore size was found to significantly influence the performance of the banks. The empirical findings indicate privatized-government owned banks have significantly higher financial performance index than private banks but both types of banks were found not significantly different from each other in non - financial performance index.

3. Data and variables

We used a combination of financial and non financial measures to measure the performance of Tanzanian commercial banks. The overall performance index is proposed to get indices from both limbs of performance measurement; the indices provide the complete view of the commercial banks to both investors and stakeholders on performance status of the banks. We used both quantitative and qualitative information during construction of balanced Performance index based on customer survey and bank officials from three departments of commercial banks Human Resource Department (HR), Operations Department (OD) and Commercial Department (CD). This is to say the relative weights are placed according to the survey information.

We classified further commercial banks according to ownership and size, there after we construct the performance indexes of individual banks, followed by re- grouping according to the selected criteria. Finally, the commercial banks are analyzed using Spearman correlation for both financial and non financial measures hence the overall performance of commercial bank is obtained. In financial performance of the commercial bank we used established financial indices used by the Bank of Tanzania (BOT) for on sight inspection (CAMEL), such as capital adequacy standard ratio, management efficiency ratio, liquidity as well as asset quality and growth.

For the purpose of balancing measures between perspectives of the balanced scorecard, we followed Kaplan and Norton (2000) approach, with much weight placed on internal business process, which is regarded as the foundation of strategy implementation. The basis for the selection of these weights is based on different scorecards obtained, from three departments namely, Human Resource Department (HR), Operations Department (OD) and Commercial Department (CD) in which the average scores are calculated as shown below.

Table: 1 Performance characteristics and performance factors for the banks

PERSPECTIVES	WEIGHTS	INDICATORS	WEIGHTS
Financial *(FM)*	28%	Operating efficiency (OE)	20%
		NPL/Asset (NPLA)	20%
		Liquidity (LQ)	20%
		NII/Interest expenses (NNI)	20%
		ROAA (Return on Average Asset)	20%
Customer perspective *(CP)*	25%	Interest income to Total income (IIT)	33.30%
		Gross loan to deposits (GD)	33.30%
		HHI index. (HHI)	33.30%
Internal Business process *(IB)*	31%	Response Time (RT)	25%
		Production of timely service (PTS)	25%
		Producing timely report, (PTR)	25%
		Accuracy of handling Transactions (AHT)	25%
Learning and growth *(LG)*	16%	Loan portfolio per employee (LPE)	33.30%
		Income per employee (IPE)	33.30%
		Employee income to employee portfolio (EIP).	33.30%

Source: Author`s formulation

Based on research survey we selected few financial ratios, as the most preferred ratio used by commercial banks in Tanzania. The management efficiency is measured by operational efficiency which is measured in percentage, this ratio comprises of non interest expenses, and interest expenses on loan and advances as well as probable losses, this ratio determine how well the management is making its loans by keeping the costs down. The other ratios considered in this study are Nonperforming loans to total assets (NPL), which indicates how the bank is capable of managing its loan portfolio. We also considered the liquidity ratio, which is measured by Liquid asset to deposit liability, this ratio indicates how much the bank`s liquid asset is capable of covering customer deposits, taking into account that most commercial banks operating in Tanzania depends on customer deposits. We refer liquid assets as those which can generate cash quickly without significant losses, example of liquid asset in this case is cash reserves, securities as well as interbank loans, therefore its calculation involves the sum of cash, balances with the bank of Tanzania (BoT), balances with other banks , interbank loans and receivables. We also considered profitability ratio as an important financial measures, one ratio was considered, Return on average Asset (ROAA) this will help us to gauge how commercial banks with what it possess and is most useful in comparing competitive ability of commercial banks, before leverage on another hand this ratio is one of useful element when used in financial analysis using DuPont identity, which we shall describe later on during measuring performance of commercial bank by econometric method.

Basing on literatures and survey from customers as well as bank officials, we managed to establish non financial performance measurement metrics from the rest of the perspective of the balanced scorecard. Kaplan and Norton in their useful article "linking to strategy" the following indicators were used , in customer perspective the following indicators were used in their study, customer satisfaction, customer retention, market share, and customer profitability, while in Internal business process the following performance metrics were used, customer acquisition, response time, production of timely service, on another hand in learning and growth the following indicators were used , employee satisfaction, employee retention, employee skills. Taking consideration of previous findings on the usefulness of the balanced performance index we used the following non financial measures, in customer perspective two important ratios were considered, interest income to total income, gross loan to deposits as well as HHI index , we used these ratios because most of the income is generated from deposits and loans as far as an intermediation approach as concern on another hand customer satisfaction and increased market share is measured by HHI index the higher the percentage the higher the satisfaction.

For internal business process, we depend entirely on the survey report from bank officials and customers on varying services and technology offered by the commercial banks, in which the weight of performance factors was determined .In this case the bank`s official and customers were supposed to choose among the five points of the Likert scale, the lowest being 1 and the highest being five, 1 refers to … strongly disagree where 5… refers to strongly agree. The survey results were standardized and used in this analysis.
Lastly we used the following indicators for learning and growth, loan portfolio per staff this indicates how efficiency is an employee is in generating more loans in other words it indicates theoretical productivity in terms of the amount of loans per number of staff, another indicator is income to staff which show the profitability of employee with reference to bank earnings, similarly it shows how much each staff has contributed to bank`s profitability, we used the staff income in a staff portfolio to measure the level of employee satisfaction.

For the purpose of the comparison values of individual banks were standardized, by assuming the following units

$$Z_{ijt} = \frac{X_{ijt} - \mu_{jt}}{\sigma_{jt}}$$

Where:

μ_{jt} is sample mean of *jth* factor at given time (t)

σ_{jt} is the standard deviation *jth* factor at given time(t)

The value of Z-score greater than zero indicates the bank is doing very well at given period of time in terms of jth factor, similarly if the standardized value is less than zero; the particular bank is doing worse.

We followed the approach by Kent, O; Teker, D&Teker, S (2011) to obtain the performance index (PI). we calculated the weighted averages of different performance indicators as shown in the table above. The weights were obtained from commercial banks` scorecards by which the average weights were calculated. Through the above weights the general Performance Index (PI) model can be generated. The PI can be subdivided into financial measures and Non financial measures.
Financial Performance Index of i^{th} bank at time (t) is calculated as follows

$$FM_{it} = \sum_{j=1}^{n} W_{it} Z_{it}$$

Whereas non financial performance index is given by

$$NFE_{ut} = \sum_{j=1}^{n} W_{it} Z_{it}$$

Where Z_{it} = is the standardized performance factor for

W_j = Predetermined weights for all banks at a given time

We calculated the bank performance index characteristics for each year as follows,

Financial perspective ; $FM_{it}=W1_{it}Z1_{it}+W2_{it}Z_{2it}+W3_{it}Z3_{it}+W4_{it}Z_{it}+W5_{it}Z_{it}$
Customer perspective ; $CP_{it}= W1_{it}Z1_{it}+W2_{it}Z_{2it}+W3_{it}Z3_{it}$
Internal business process; $IB_{it=} W1_{it}Z1_{it}+W2_{it}Z_{2it}+W3_{it}Z3_{it}+W4_{it}Z_{it}$
Employee learning and growth; $EG= W1_{it}Z1_{it}+W2_{it}Z_{2it}+W3_{it}Z3_{it}$

Where Z_{it} = is the standardized performance factor for
W_j = Predetermined weights for all banks at a given time
The overall Balanced Scorecard Performance index (BSCPI) for individual bank of every year is calculated as the weighted average of performance indexes of financial perspective, customer perspective, internal business process and employee learning and growth, there the overall Balanced Scorecard performance index evaluation is shown below

$$BSCPI = \xi_{j1}FM_{it} + \xi_{j2}CP_{it} + \xi_{j3}IB_{it} + \xi_{j4}EG_{it}.$$

Where ξ_j the predetermined weight for all banks at all times, while FM_{it}; CP_{it}; IB_{it} and EG_{it} are performance characteristic of i_{th} bank for time (t)

4. Results

This section intends to present the empirical findings obtained after using the balanced performance index to evaluate the performance of commercial banks. We obtained the average estimates from 2005 to 2011 from all sampled commercial banks, and the results were compared for analysis. The table 6.1 shows the average results of performance index of 21 sampled commercial banks. We used the results obtained to compare and rank the performance of commercial banks with special emphasis to total Asset, Deposit, Loan and ROAA.

Our results reveal the observed differences between commercial banks. In terms of deposit and asset size CRDB bank rank the first, however with respect to Performance Index, CRDB bank rank as 6th, similarly NMB ranked the second in terms of Deposit and Asset size and Loan , but with respect to the performance index , the bank is ranked 17th. Some commercial banks were also ranked as a poor performer in terms of some financial indicators however they were found to have a good performance index, for example Citibank is ranked 6th in deposit, 7th in total asset, and 12th in terms of loan but it ranked as the best performer in terms of Performance index, see appendix 1

Source: Author Calculation: Note, Asset, Loan and Deposit are presented in Natural Logarithm

4.1 Analysis of commercial banks performance index within perspectives of BSC.

We found differences in terms of performance index within the perspectives of balanced scorecard; some commercial banks were found better off in financial perspective, but experiencing lower performance with another perspective of the balanced scorecards. The perspectives of the balanced scorecard are Financial perspective (FP), internal business process (IB) as well as Customer perspective (CP). The Table 2 indicates differences in performance index within the perspectives of the balanced scorecard.

Table 2: Ranking of performance Index within perspectives of balanced scorecard

	NAME	LG (pi)	Rank	CP (pi)	Rank	IB (pi)	Rank	FP (pi)	Rank
1	ACB	3.52298	20	4.883681	4	-0.29868	15	2.574845	2
2	Access	-0.86869	21	6.146887	1	-1.03382	19	2.429874	4
3	Azania	20.83708	8	5.94764	2	-1.00567	18	0.985761	19
4	Bank M	16.77741	13	3.798503	16	-0.27053	12	1.625776	13
5	Barclays	18.47556	11	4.690132	6	1.073514	4	2.125482	9
6	BOA	12.74212	15	3.463494	18	1.122558	2	1.802445	12
7	BOB	37.32399	3	4.005488	14	0.000694	11	0.547586	21
8	CBA	19.05015	10	5.740387	3	1.101658	3	1.568907	14
9	Citibank	85.57739	1	2.430918	20	1.073514	6	1.462626	16
10	CRDB	23.33241	7	4.048644	13	0.338374	10	1.970722	11
11	D Trust	20.47632	9	4.620198	8	-0.29143	14	1.522292	15
12	Exim	23.42057	6	4.43562	9	0.387418	7	1.257989	18
13	ICB	6.19775	19	2.749002	19	-0.6645	16	2.095183	10
14	I&M	26.10534	4	4.656677	7	-1.3924	20	0.892066	20
15	KCB	9.499634	17	4.298752	10	1.122558	1	2.251341	6
16	NBC	17.11629	12	4.132583	11	0.387418	8	2.170232	8
17	NMB	9.516516	16	3.545065	17	-0.76259	17	2.331052	5
18	NIC	13.2248	14	4.705156	5	-2.07849	21	1.449574	17
19	PBZ	8.181006	18	2.292162	21	-0.27053	13	2.924919	1
20	Stan Ch	23.8351	5	3.829504	15	1.073514	5	2.445723	3
21	Stanbic	40.61275	2	4.108537	12	0.387418	9	2.213583	7

Source: Author calculation Pi=Performance index; LG=Learning and Growth; CP=Customer perspective; IB=Internal Business, FP =Financial perspective.

The above table indicates the performance index within the perspectives of the balanced score card. The performance index as shown above is not the same within and across the perspectives of the balanced score cards. Starting with learning and the growth, the best performer commercial bank was Citibank, followed by Stanbic, however with other perspectives, they hold different positions. Citibank holds 20th position in customer perspectives, 6th internal business process and 16th in financial perspective. With customer perspective Access bank was found to hold the first position, however was found to hold the last position in terms of Learning and growth. In internal Business process KCB was found to hold the first position, however it was found to hold the 6th position in financial perspective. PBZ was found to hold the first place in financial perspective however it was also found to hold the last position in terms of customer perspective.

We performed a test to verify the differences in performance within the perspectives of the balanced scorecard. Our null hypothesis indicates there is no significant differences in performance within the perspectives of the balanced scorecard. Single factor ANOVA was carried out and the following results were revealed.

Table: 3 Summary Single factors ANOVA.

SUMMARY

Groups	Count	Sum	Average	Variance	std.dev	min	max
LG	21	434.9565	20.71221	323.4159	17.98377	2.728446	38.69598
CP	21	88.52903	4.215668	1.042193	1.020879	3.194789	5.236547
IB	21	-8.1E-06	-3.9E-07	0.871934	0.933774	-0.93377	0.933773
FP	21	38.64798	1.84038	0.370425	0.608626	1.231754	2.449005

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5691.413	3	1897.138	23.29917	6.16E-11	2.718785
Within Groups	6514.009	80	81.42511			
Total	12205.42	83				

Our results indicates the calculated F value (23.29917) is greater than the critical value (2.718785), we can therefore we can reject our null hypothesis and accept the alternative Hypothesis. Therefore the performance differences within the perspective of the balanced score card is significant. Our results are similar to Hoque and James (2000) in Australia, which provide the effect of the balanced scorecard usage on firm performance.

4.2 Analysis of performance Index within groups of commercial banks

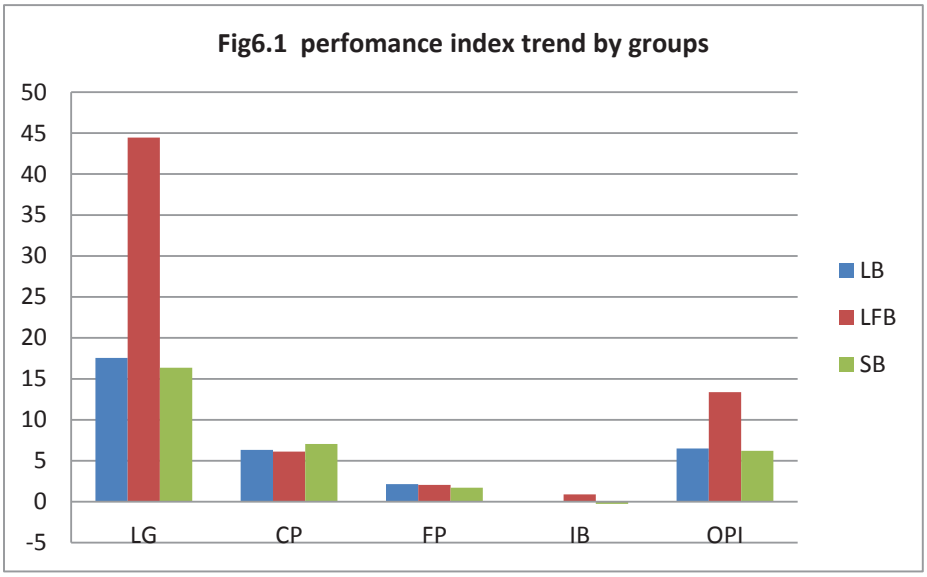
The second part of our analysis is to rank and compare the performance of commercial banks within their groups, so as to see whether there is significance difference in the performance index, within and across groups of commercial banks.

Following Hoque and James approach, the mean score was calculated from each, perspectives and grouped in terms of banks category as follows.

Table 4 Performance index within groups

	LG	CP	FP	IB
LDB	17.54757	6.326284	2.157335	-0.01227
LFB	44.45028	6.119086	2.061854	0.90199
SB	16.35645	7.052277	1.709183	-0.25508

Note: LDB (Large Domestic Bank), LFB (Large Foreign Bank), SB (Small Bank), LG



The above and graph indicates Large Foreign Banks (LFB) have a higher performance index in Learning and growth and internal Business process, on the other hand Small banks were found to be effective in Customer Perspective, where as Large Domestic Bank was found to be effective in financial perspective.

Generally the overall performance indexes of commercial banks were found to be higher in large foreign banks, followed by large domestic bank and lastly Small banks. These results are consistent with efficiency score estimates found in previous studies, Gwahula R (2012). Where large domestic banks were found to be more efficient compared to the counterparts. The high performance of large Foreign Banks is due to the fact that these commercial banks have long history of implementing BSC compared to the counterparts. Therefore experience of application and technical know has enabled them to have a higher performance index compared to the premature adopters' large domestic banks and Small banks.

Moreover we performed a statistical test to verify if the performance difference between the groups of commercial is significant or occurred by chance. We applied one way ANOVA and the following results were revealed.

Table: 5 Single factors ANOVA between groups of commercial banks.

SUMMARY

Groups	Count	Sum	Average	Variance	std .dev	min	max
LG	3	78.3543	26.1181	252.4062	15.8873	10.2308	42.0054
CP	3	19.49765	6.499216	0.24014	0.490041	6.009175	6.989257
FP	3	5.928371	1.976124	0.055722	0.236056	1.740068	2.21218
IB	3	0.63464	0.211547	0.372274	0.610142	-0.3986	0.821689

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1276.494	3	425.498	6.725264	0.014054	4.066181
Within Groups	506.1488	8	63.26859			
Total	1782.643	11				

The results indicate the performance differences between groups of commercial banks did not occur by chance, we reject the null hypothesis and accept the alternative one, which explain the significant difference in performance index between groups of performance of commercial banks.

4.3 Analysis of cause and effect relationship.

We attempted to answer the question whether there is a causal effect relationship between the perspective of the Balanced score card. The causal effect relationship has brought some contradicting results, some researcher reporting there is no causal effect relationship between the Perspectives of the balanced scorecard, Norreclit 2000.

We first run the correlation analysis between the perspectives, we found there is positive correlation; however the strength of the correlation is very weak. This implies a weak cause effect relationship existing within commercial banks in Tanzania. The following table indicates correlation between the perspectives of the balanced Scorecard.

Table: 6 correlation coefficients between the perspective of the balanced scorecard

	LGP	IBP	CP	FP
LGP	1			
IBP	0.3150688	1		
CP	0.3717937	0.019934369	1	
FP	0.1559708	0.19782702	0.080991	1

Note: LGP indicates Learning and Growth Perspective; IBP indicates internal Business Process; CP indicates Customer Perspective and FP indicates Financial Perspectives.

Some literature argued about the unidirectional nature between the perspectives of the balanced scorecard, i.e. one perspective may result into the performance of the other, more specifically some literatures have argued on the influence of non financial measures (NFM) on financial performance (FP) of the firm.

Using FP as dependent variable we performed regression analysis, to test which among the perspective of the Balanced score card has significant impact on the financial performance. Our analyses revealed no among the perspective of the balanced scorecard have significant impact on the financial performance. Therefore we accept the null hypothesis, which states that there is no causality between the perspectives of a balanced scorecard, however this could have been caused by various reasons.

i. *Selection appropriate non financial measures. During the period of the study we found different selection criteria of non financial measures across different commercial banks. Much consideration of NFM was emphasized on customer profitability and employee profitability.*
ii. *Time of implementation, in most developing countries the implementation of the balanced scorecard is still in the juvenile stage, during the period of the study we found that many commercial banks started implementing the BSC in recent years with the exception of foreign banks which are subsidiaries of major international banks. Therefore we agree with Norreclit, 2000 that for the impact to be observed performance there must be time dimension.*
iii. *Linking strategy, our literatures indicate the performance metrics must be linked to strategy. We found no evidence to whether the Tanzanian commercial banks are implementing balanced score card according to the strategic orientation of the firm.*
iv. *Most commercial banks were using a number of scorecards with different weight. However using non financial measure indicators together with financial indicators did not mean the commercial banks were using the BSC, since most scorecards were not integrated into organizations strategy*
v. *Most employees were not well conversant with the application of the BSC; this is to say during the period of the study the BSC was well known to the head of departments, this was found as the impediment to the success of the firm. For better performance results the BSC should be integrated through different levels of the organization, poor integration could actually result in poor performance*

Table: 7 Regression analysis of a causal effect relationship.

ANOVA

	df	SS	MS	F	Significance
Regression	3	0.375329	0.12511	0.3024043	0.823231722
Residual	17	7.033174	0.413716		
Total	20	7.408503			

5. Conclusion

Generally we found different commercial banks experiencing different position when using the performance index approach, moreover with respect to the perspectives of the Balanced Scorecard some commercial banks were found better in performance with financial perspective but experiencing lower performance with other perspectives. Using single factor ANOVA we tested whether there is a significant difference between the perspectives of the Balanced score card. The null hypothesis was rejected, hence the performance difference within the perspectives of the Balanced scorecard were found to exist.

In terms of bank groups we found large foreign banks were found to have a higher Overall performance index compared to the counterparts small and Large Domestic Bank (LDB). The higher performance index of LFB might be caused by a long history of implementing BSC compared to the counterparts small and Large Domestic Banks. In addition we wanted to discover if there is the causal effect relationship between the perspectives of the BSC, Our results revealed no significant impact between financial measures and Non financial measures. Hence during the period of the study no evidence of causality between the perspectives of the BSC was found.

6. Study limitation and direction for future research

The most limitation of this study is data availability especially on Balanced Score card, in which the overall performance index was established. Information on Balance score card application in some commercial banks were difficult to obtain in some cases were missing. Hence we were forced to use limited available information on balanced scorecard application.

With reference to BSC as a performance measurement tool, our study revealed the premature development of BSC application, therefore future study will be concerned with the analysis of the implementation of the Balanced Scorecard as a performance measurement tool, which will also take into account the investigation of factors affecting implementation of balanced scorecard as performance measurement tool,which was beyond the scope of this study.

References

Fitzgerald L., J. R., Brignall T.J., Silvestro R. &Voss C. (1991). Performance Measurement in service organization, . *CIMA London*.

Hoque, Z. James, W. (2000). Linking balanced scorecard measures to Size and Market factors: Impact on Organizational Performance. *Journal of Management Accounting Research, 12*, 1-17.

Hwang, D., Lee, C. Liu and L. Ouyang. (2009), Review of Pacific Basin Financial Markets and Policies. Balanced Performance index and its implications: Evidence from Taiwan's commercial banks. *Review of Pacific Basin Financial Markets and Policies12* (1), 27-62.

Kaplan, R. S., & Norton, D. P. (2000). *The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment*. Boston: Harvard Business School Press.

Kaplan, R. S., Norton, D.P. (1996). The Balanced Scorecard: Translating Strategy into Action. Harvard Business School Press.

Kaplan, R &Norton, D.P (2001)Transforming the Balanced scorecard from performance measurement to strategic management: part2. *Accounting horizons, 15*, 147-160.

Norreklit, H. (2000). The balance on the Balanced Scorecard a critical analysis of some of its assumptions. Management Accounting Research. Vol. 11, 65-88.

Norreklit, H. (2003) The Balanced Scorecard What is the score? A rhetorical analysis of the Balanced Scorecard. *Accounting, Organizations and Society, 28* (6), 591-598.

Paul, R Niven. (2006) Balanced Scorecard Step by step: Maximizing performance and Maintaining Results, Hoboken, New Jersey, John Wiley&Sons, Inc, John Wiley&Sons, Inc

Suat Teker, Dilek Teker and Oya Kent (2011). Measuring commercial banks' performances in Turkey: A Proposed model. *Applied Finance and Banking, 1* (3), 97-112.

Thakkar, J., Deshmukh, S.G., Gupta, A.D. and Shankar, R. (2007), "Development of a balanced scorecard: an integrated approach of interpretative structural modeling (ISM) and analytic network (ANP)", *International Journal of Productivity and Performance Management,* Vol. 56 No. 1, pp. 25-59.