Journal of Business and Organizational Development
Volume 13, Number 2, 2021
ISSN: 2277 - 0070
http://www.cenresinjournals.com

EVALUATION OF FINANCIAL PERFORMANCE USING ALTMA Z-SCORE INDEX: EVIDENCE FROM SENIOR STAFF MULTIPURPOSE CO-OPERATIVE SOCIETY, FEDERAL POLYTECHNIC, BIDA FROM 2013-2019

Ibrahim Abubakar Mikugi & Hauwa Daniyan- Bagudu
Department of Business Administration and Management, Federal Polytechnic, Bida,
Department of Banking and Finance, Federal Polytechnic, P.M.B. 55 Bida, Niger State
Email: tatafoundation@hotmail.com & hauwadaniyan77@gmail.com

ABSTRACT

Most investors, stakeholders, customers and financial institutions develop perception about a firm's financial performance due to the insufficient analysis of the firm in terms of financial performance. Focusing on only one indicators of financial performance and ignoring others may lead information users to wrong financial decisions, while analysing financial performance of companies based on only asset criteria size may be misleading. The objective of this paper was to evaluate the financial performance of Senior Staff Multipurpose Society, Federal Polytechnic Bida. The methodology used was through secondary data collection. Through this method the researchers made use of the annual financial statement of Senior Staff Multipurpose Co-operative Society, Federal Polytechnic Bida from 2013-2019. Analysis was done using Altman Z-Score index which predicts corporate financial performance, bankruptcy and distress. Findings revealed that Senior Staff Multipurpose Co-operative Society financial performance using Z-Score Index stood at 2.37, 2.19, 2.14, 2.36, 2.33, 2.34 and 2.24 for 2013, 2014, 2015, 2016, 2017, 2018 and 2019 respectively. It can be concluded based on the study that Senstaf Co-operative Society financial evaluation result compared to Z-score decision criteria is in grey zone but needs to do more by our evaluation. The Altman index decision criteria is given as Z-Score higher than 2.99 means good performance, Z-Score between 1.89-2.99 as in good condition but needs to do more & Z-Score less than 1.89 as the firm financial performance is poor. We therefore recommended that Senstaf Co-operative Society should put more effort to improve in its Sales to Total Asset Value, this would help drive more investment.

Keywords: Financial Performance, Bankruptcy, Financial Distress Co-operative Society, Altman Z-Score.

INTRODUCTION

Cooperative societies world over are established for providing welfare services and to allow for savings and investment. Managers of these cooperatives must defend the capital contribution of members by way

of safeguarding their interest and promoting the cooperative in area of financial performance. In recent times, many companies that are considered too big to fail have closed down over time. Businesses with high credibility in the eyes of the investors and financial institutions may suffer from distress and bankruptcy issues thereby affecting their financial performance. This perception of investors, stakeholders and other financial institutions about the firm's financial performance is in fact due to the insufficient analysis of the firm in terms of financial performance.

Mustapha, (2020) established a connection between traditional financial analysis and statistical techniques and in this context tried to measure the quality of ratio analysis as an analytical technique for financial performance of firms. For this purpose, during the analysis period, he has formed 2 categories as bankrupt and non-bankruptcy firms and analyzed 33 firms in each group and analyzed 66 firms in total. In the category which is named as the first group, there are manufacturing companies that declare bankruptcy from 1946-1965. In Altman Z-Score model, he developed five financial ratios that show the financial performance of a firm in various aspects. These ratios are respectively Working Capital / Total Assets Ratio, Retained Profits / Total Assets Ratio, Profits before Interest and Taxes / Total Assets Ratio, Market Value of Equity / Book Value of Liabilities and Sales / Total Assets Ratio. He stated that each financial ratio differs from each other in terms of importance depending on the sample studied and each weighted differently in terms of importance. He found out that the importance of each ratio will be different according to the relevant situation, so the order of importance of ratios used in the analysis is not clear and constant. Although high leverage is considered important as it will increase the financial risk of a firm, it will not pose a risk for firms with high positive cash flow. Therefore, he concluded that the weight of each ratio should be revised according to the financial position of the analyzed firm. In this way, he established the discriminant function and determined the risk degree of the firms according to the Z score calculated.

The Altman Z-score formula are as follows:

Z-Score = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 0.999X5

Below is the analysis of Z-Score;

X1 = Working Capital/Total Assets

This ratio indicates the company's ability to generate net working capital of the whole of its total assets. Working capital is the difference between current assets and current liabilities.

X2 = Retained Earnings/Total Assets

This ratio indicates the company's ability to generate retained earnings of the total assets of the company. This parameter is useful to measure whether the cumulative profit is able to compensate for the total assets of the company.

X3 = Earnings before Interest and Taxes/Total Assets

This ratio indicates the company's ability to generate profits from the assets of the company, before interest payments and taxes.

X4=Market Value of Equity/Total Liabilities

This ratio indicates the company's ability to meet the obligations of the market value of equity (Common Stock). The value of equity market itself is obtained by multiplying the number of outstanding common shares at the market price per share of common stock. The book value of debt is obtained by summing current liabilities with long-term liabilities.

X5=Sales/Total Assets

This ratio is also called asset turnover and are usually used to measure the efficiency of the overall management of the use of corporate assets to generate sales and profit.

Altman specified 3 basic ranges for the Z score and stated that the financial risk level of the firms would be determined depending on the related range. These range are as follows:

A. If the Z score is higher than 2.99, then the firm is considered as good in terms of financial health.

B. If the Z score is between 1.89- 2.99, it is assumed that the firm is not in poor condition but must be carefully monitored.

C. If the company's Z score is less than 1.89, it is emphasized that the firm should be considered as risky. He has proved that discriminant-ratio model created in his study can explain 95% of firms' risk of bankruptcy or distress.

Altman (2006), carried out revisions to the Z model and applied the modified model on a sample includes 31 European and 3 other countries. All companies in the sample, except the USA and China, are operating in the private sector and all of them are included in the manufacturing industry. They also stated that other models competing with the Z score model were successful, but it would be very difficult to generalize the results without international analysis. As a result of the study, the predictive power of the traditional Z score model was determined to be 75%, however, it was stated that the predictive power of the model could be increased up to 90%. Altman Z-score model is a multivariate analysis model which serves to predict corporate bankruptcy with the level of precision and accuracy that is relatively reliable. (Muammar et-al, 2017).

Alhassan (2014) opined that financial performance is usually measured through analytical procedure conducted on financial statement so as to resolve or separate like items into their component parts, evaluate relationship between the components parts in order to obtain the better understanding of firm's financial position, and hence the term 'financial performance analysis'. Financial performance analysis can be used to compare similar firms across the same industry, same firm over some period of times or to compare industries or sectors in aggregation. This paper tries to look into Senior Staff Cooperative Society, Federal Polytechnic Bida, with a view to know how it performed financially. Senior Staff Cooperative Society is one of the leading cooperative Societies in Federal Polytechnic, offering welfare services in terms of savings and investment. This has boosted the economic wellbeing of its members. The research paper is divided into Eight (8) sections as follows: Background introduction, statement of the research, objective of the paper, Conceptual Framework, literature review, Methodology, discussion of result, conclusion and recommendation.

STATEMENT OF PROBLEM

Financial performance indicators are not the same in both small and big size organisations. Focusing on only one ratio or indicators of financial performance and ignoring others may lead information users to wrong financial decisions. In analysing financial performance of companies, the results of an analysis based on only asset criteria size may be misleading. If the asset size financed by the debt, this will likely to increase a firm's financial fragility and bring difficulty in repaying the debt, especially for short-term ones. As a result, the size of assets alone cannot provide sufficient clues for the overall financial situation of any given business. Using Single ratios analysis to evaluate companies or firms to ascertain financial performance could reveal little of the firms or companies position in long run hence the need for wider or complex system in understanding firm's financial performance.

OBJECTIVE OF THE STUDY

The general objective of this paper was to examined the financial performance of Senior Staff Multipurpose Co-operative Society, Federal Polytechnic Bida from 2013-2019 using Altman Z-Score index. However the paper intends:

1. To examine financial performance of senior Staff Cooperative Society through the analysis of its working capital to Asset Value, Retain Earnings to Asset Value and other Ratios.
2. To investigate whether Senior Staff Cooperative Society has been financially sound for the period 2013-2019.
3. To examine the predicting power of each ratio as given by Z-score index of firms financial performance and that of Senior Staff Multipurpose Cooperative Society, Federal Polytechnic, Bida.

CONCEPTUAL FRAME WORK

Cooperative society

A cooperative society is regarded as a social enterprise created voluntarily by members with the full support and assistance from

members in order to cater for the economic needs and interests of the members (Kassali, Adejobi & Okparaoche, 2013 cited in Alhassan, 2014). Cooperative society is also regarded as the association or union of ten or more persons in order to assist themselves (Kareem, Arigbabu, Akintaro & Badmus, 2012 cited in Alhassan, 2014).

Financial Performance

According to (Investopedia 2013 cited in Alhassan, 2014) financial performance is a general measure of a firm overall financial health over a given period of time. Financial performance analysis can be used to compare similar firms across the same industry, same firm over some period of times or to compare industries or sectors in aggregation. Financial performance is the process of identifying the financial strengths and weakness of the firm by properly establishing the relationship between the items of statement of financial position (balance sheets) and income statement (profit and loss account) so as to obtain a better understanding of the firm's position and performance. Financial performance is usually analyzed using the following tools; ratio analysis, comparative balance sheet, common size balance sheet and trend analysis.

EMPIRICAL REVIEW

Altman's Z-score is used to predict firms' bankruptcy and financial performance, it is also a measure of strategic performance of businesses, companies and organisations. It measures profitability, cash flow, and stock market forces (Altman, 1968 cited in Ahmed 2017). A high Z-score indicates sound financial health and performance while a low Z-score indicates distress or poor financial performance. Onyewu and Aliemeke (2009) examined financial ratios and state of health of Nigerian banks using Z-score model. The evidence of the study revealed that Z-score is a good model for predicting bankruptcy of banks in Nigeria. The research evidence also shows that Z-score provides the regulatory authorities with additional insights on how the Z-score model can be used to improve their supervisory oversight functions.

Kim, (2007) investigated the robustness of Z-Model under the assumption that it was no longer significant due to market factors. The evidence of the findings revealed that Z-score seems to be a good predictor of financial bankruptcy in firms one year prior to bankruptcy. Carton and Hofer, (2006) examined a variety of common performance metrics on information relating to market-adjusted return to shareholders using Altman's Z-score model. The evidence of the study revealed that Z-score provides a rate higher than other performance metrics such as return on equity and return on assets. Carton and Hofer (2006), therefore, concluded that Altman's Z-score is more than a financial distress predictor, it is also efficacious as a performance management tool.

Hayes et-al (2010), investigated the efficacy of Altman's Z-score in predicting bankruptcy of specialty retail firms in the USA. The result shows that Z-score is efficacious in predicting financial distress in retail firms. The Z-score accurately predicted bankruptcy filing 94% of the time and accurately predicted financial distress over 90% of the time. Ilahi et al (2015) examined financial performance analysis of Pakistan Banking Sector using Altman's Z-score model of corporate bankruptcy for a period of 5 years (2009-2013), the research evidence reveals that all commercial banks in this model are in monetary troubles but operating successfully. So, the Z-score model is unable to predict bankruptcy of Pakistan Banking Sector. Tyagi, (2014) measured the financial health of a sample of firms in Indian Logistic Industry using Altman's Z-score model from 2005-2012. The research evidence indicates that the overall performance of Indian Logistic Industry is good.

Unegbu and Onojah (2013) conducted an assessment of Z-score in selected sectors of emerging economies. The research evidence shows that Z-score is a significant tool for predicting corporate failures in emerging economies. The research also found that the predictive ability of Z-score across industrial sectors in a developing economy is significantly different. Celli, (2015) conducted a research and used a

sample of 102 industrial companies quoted on the Italian Stock Exchange in the period of 1995-2013, of this 102 companies, 51 companies had had their shares permanently suspended or delisted because of default whereas the remaining 51 companies, which have been selected based on same core business and year of data collection did not go bankrupt. The result of the findings suggests that Z-score works effectively and performs well in predicting failures of Italian firms. Thus, it is concluded that the Z-score can be applied to the Italian context.

Sajjan, (2016) examined the use of Altman's Z-score in predicting bankruptcy of selected firms in India for a period of 5 years (2011-2015). The study reveals that Altman's Z-score model is efficacious in predicting corporate distress in India. Niresh and Pratheepan, (2015) examined the application of Altman's Z-score model in predicting bankruptcy in Sri-Lanka. The study revealed that 71% of the firms in trading sector were in financial distress and the remaining 29% were in the grey zone. Mohammed, (2016) studied the use of Altman's Z-score in predicting bankruptcy in Oman. The result of his finding shows that Altman's Z-score is an effective tool in predicting bankruptcy in Oman. It becomes pertinent to know that most studies about Z-score index has been on prediction of bankruptcy and distress. It is the view of researchers of this paper that not only evaluating financial performance to understand whether a business is likely to go bankrupt or distress but evaluation of financial performance can also serve as veritable tool for financial decision making and by extension business policy implementation. Mammaldi and Helhel, (2017), conducted a study and estimated bankruptcy for tourism companies. They examined Altman Z - Score Model to determine the probability of bankruptcy for tourism companies that have been ranked among the top 100 firms by reaching a certain stage in the implementation of talent management policies. Instead of establishing a regression relationship between talent management and financial failure, they made a general performance assessment of the tourism companies included in the sample, rather than making a general conclusion about

the tourism sector. Alhassan, (2014) examined evaluation of financial performance of Academic Staff Multi-purpose and Co-operative Society ltd, Niger State Polytechnic, Bida Campus. His study found that the computed Z-scores for the five-year period of the Co-operative are above 1.1 set as financial distress zone for non-manufacturing organizations like cooperative societies. The scores are 4.60, 2.35, 2.53, 2.20 and 2.79 approximately, for 2009, 2010, 2011, 2012 and 2013. He concluded that Academic Staff Multi-purpose and Co-operative Society ltd, Niger State Polytechnic, Bida Campus is not likely to be financially distress in the near future. We observed from literatures that most studies are on predicting corporate failure of businesses and bankruptcy. While bankruptcy and financial distress cannot be ascertained without the understanding of financial performance, there is need to conduct a research on financial performance as a basis for evaluation and policy management. This paper would guide readers to understand financial position of the organisation under study and other several businesses through analysis of Z-Score index.

METHODOLOGY

The general objective of this paper is to examined Altman Z-score Index and the financial performance of Senior Staff Cooperative Society, Federal Polytechnic Bida. The paper is an empirical paper and explore literature review to further the understanding of readers. Data were obtained from annual report and financial statement of Senior Staff Cooperative Society from 2013-2019. The data obtained for the purpose of the study were analyzed using Altman's Z-score. This are;
Z-Score =1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 0.999X5

DATA ANALYSIS

Table 1: Senstaff Financial Statement Extract

S/NO	YEAR	Working Capital =CA-CL ₦	Total Asset ₦	Retain earnings ₦	Earnings Before Interest and Taxes ₦	Market Value of Equity ₦	Book Value of Debt ₦	Sales ₦
1	2013	291,072,479	318,683,438	2,572,330	12,891,445	5,000	27,610,959	30,971,517
2	2014	295,183,917	322,552,929	1,236,536	6,196,622	5,000	21,670,301	24,565,799
3	2015	348,510,535	373,490,216	1,758,135	7,644,064	5,000	24,979,641	28,844,146
4	2016	332,969,661	366,469,658	1,723,804	7,835,471	5,000	27,818.998	32,023,240
5	2017	338,695,048	373,575,384	1,669,182	7,587,191	5,000	29,409,659	32,040,068
6	2018	390,783,496	432,888,914	2,066,652	9,841,198	5,000	36,550,272	40,230,371
7	2019	390,499,619	430,510,871	1,430,648	6,812,611	5,000	34,477,318	37,746,405

Source: Senstaff Annual Financial Statement 2013-2019

Table 2: Senstaff Z-Score Analysis

S/NO	YEAR	WC/TA X_1	RE/TA X_2	EBIT/TA X_3	MVE/BVD X_4	SALES/TA X_5
1	2013	0.9133592910	0.0780717404	0.0804521963	0.0681810875	0.8618583805
2	2014	0.9151487723	0.0938335909	0.0492111788	0.0992307305	0.7416052064
3	2015	0.9331182453	0.0547073120	0.0404665709	0.0682001630	0.7722865223
4	2016	0.9085872560	0.0947038109	0.0713809542	0.0551797332	0.8738305961
5	2017	0.9066310643	0.0744681263	0.0703096652	0.0761700121	0.8576600432
6	2018	0.9027338962	0.0647740931	0.0627337722	0.0591367978	0.9293462984
7	2019	0.9070609949	0.0833231402	0.0458244807	0.0781450228	0.8767816926

SOURCE: AUTHORS COMPILATION (2021)

Table 3: Senstaff Z-Score Computation

S/NO	YEAR	WC = 1.2×1 / TA	RE = 1.4×2 / TA	EBIT =3.3×3 / TA	MVE =0.6×4 / BVD	SALES=0.999×5 / TA	TOTAL Z-SCORE	Remark
1	2013	1.0960311492	0.1093004365	0.2654922477	0.0409086525	0.86099652211	2.37	Fairly Good
2	2014	1.0981785267	0.1313670272	0.1623968900	0.0595384382	0.74086360119	2.19	Fairly Good
3	2015	1.1197418943	0.0765902368	0.1335396839	0.0409200978	0.77151423577	2.14	Fairly Good
4	2016	1.0903047072	0.1325853352	0.2355571488	0.0331078399	0.87295676550	2.36	Fairly Good
5	2017	1.0879572771	0.1042553768	0.2320218951	0.0457020072	0.85680238315	2.33	Fairly Good
6	2018	1.0832806754	0.0906837303	0.2070214482	0.0354820786	0.92841695210	2.34	Fairly Good
7	2019	1.0884731938	0.1166523962	0.1512207863	0.0468870136	0.87590491090	2.28	Fairly Good

Source: Authors Computation (2021)

If the Z score is between 1.81 – 2.99 it is assumed that the firm is not in poor condition but must be carefully monitored.

DISCUSSION OF RESULT

The basis of our analysis and discussion on Senior Staff Multipurpose Co-operative Society, financial performance is Altman Z-Score model which states that: If the Z score calculated is higher than 2.99, the firm is considered as good in terms of financial performance. If the Z score is between 1.81 -2.99, it is assumed that the firm is not in poor condition but must be carefully monitored. If the company's Z score is less than 1.89, it is assumed that the firm should be considered in a state of financial risk or distress. The Table 1 above shows the financial statement of Senior Staff Multipurpose Co-operative Society from 2013-2019 while Table 2 is the presentation of Senstaf Z-Score analysis which shows the values extracted from the financial statement from 2013-2019. The table shows the result of financial statement which explain ratios that include Working Capital / Total Assets Ratio, Retained Earnings / Total Assets Ratio, Earnings before Interest and Taxes / Total Assets Ratio, Market Value of Equity / Book Value of Liabilities and Sales / Total Assets Ratio.

Based on Senstaf Z-Score Computation as shown on Table 3 above, the year 2013 computed Z-score index of Senstaf Co-operative Society is **2.37,** in 2014 the Z-score index is **2.19,** and in 2015 the Z-Score is **2.14**. Further analysis indicates that Z-Score index for the Co-operative in 2016 is **2.36**, in 2017 its Z-Score is **2.33**, in 2018 the Z-Score computed is **2.34** and in 2019, the Co-operative Z-Score index as computed is **2.28.** In line with Z-Score criteria and basis for decision, the Co-operative is not doing bad financially but need to monitor its financial performance in a long run. This is because Altman Z-Score states that: ***If the Z score is between 1.81 - 2.99 it is assumed that the firm is not in poor condition but must be carefully monitored.***

CONCLUSION

The purpose of this paper was to evaluate the financial performance of Senior Staff Multipurpose Co-operative Society, Federal Polytechnic, Bida from 2013-2019. Evaluation and findings revealed that the financial position of Senstaf Co-operative Society is good but the co-

operative need to monitor its performance keenly. This is because the cumulative Z-Score for the period under study stood at 2.37, 2.19, 2.14, 2.36, 2.33, 2.34 and 2.24 for 2013, 2014, 2015, 2016, 2017, 2018 and 2019 respectively. It can be concluded based on the study that, Senior Staff Multipurpose Co-operative Society financial evaluation compare to Z-score decision criteria is doing fairly good. The paper also concluded based on the literature that, not only evaluating financial performance to understand whether a business is likely to go bankrupt or distress but evaluation of financial performance can also serve as veritable tool for financial decision making and by extension business policy implementation

RECOMMENDATIONS

Based on the study and conclusion above, the following recommendations were put forward:

1. Senior Staff Multipurpose Co-operative Society, Federal Polytechnic, Bida should put more effort to improve in its Sales to Total Asset Value. This would help drive more investment.
2. Since the performance evaluation are 2.37, 2.19, 2.14, 2.36, 2.33, 2.34 and 2.24 for 2013, 2014, 2015, 2016, 2017, 2018 and 2019 respectively which is less than 2.99 as a basis for describing high financial performance, we recommend that the Co-operative should do more to improve its financial performance.
3. The Co-operative should endevour to improve on the minimum contribution in terms of dues which stands for Market Value of Equity based on this study.

REFERENCES

Ahmed, A.B, Joseph B.A & Ebenezer M. (2017). The Effectiveness of Altman's Z-Score in Predicting Bankruptcy of Quoted Manufacturing Companies in Nigeria. *Journal of Business Economics and Accounting, 5 (5).*

Alhassan, K. A. (2014), Evaluation of Financial Performance of Academic Staff Multi-Purpose Cooperative Society (ASMPCS) Ltd, Niger State Polytechnic, Bida Campus. A paper presented at

Annual National Conference of School of Business and Management, the Federal Polytechnic, Bida

Altman, E.I. (2006). Corporate Financial Distress and Bankruptcy: Predict and Avoid Bankruptcy, Analyze and Invest in Distressed Debt. Hoboken, New Jersey: Wiley.

Carton, R.B. & Hofer, C.W. (2006). Measuring Organisational Performance. Metrics for Entrepreneurship and Strategic Management Research, Northampton, MA: Edward Elgar.

Celli, M. (2015). Can Z-Score Model Predict Listed Companies' Failures in Italy? An Empirical Test. International Journal of Business and Management, 10 (3), 57-66.

Hayes, S., Hodge, K. & Hughes, L.W. (2010). A Study of the Efficacy of Altman's Z-Score to Predict Bankruptcy of Specialty Retail Firms doing Business in Contemporary Times. Economic and Business Journal: Inquiries and Perspectives, 3 (1).

Ilahi, I., Jamil, R.A., Kazmi, S. Ilahi, N. & Lodhi, M.S. (2015). Financial Performance Analysis of Pakistan Banking Using the Altman's Z-Score Model of Corporate Bankruptcy. *Applied Research Journal, 1(1), 34-40.*

Kim, B.J. (2007). Bankruptcy Prediction: Book Value or Market Value? Paper Presented at 2007 APRIA Annual Meeting.

Mohammed, S. (2016). Bankruptcy Prediction using the Altman Z-Score Model in Oman: A Case Study of Raysut Cement Company and its Subsidiaries. *Australian Accounting, Business and Finance Journal, 10 (4).*

Mammadli, A., Helhel, Y. (2017). Fortune100 ListesindeYer Alan Turizm Şirketleri İçin Altman First International Congress on Future of Tourism: Innovation, Entrepreneurship and Sustainability, pp1219-1226.

Muammar, K., Falahuddin. Mohd. H., Ayu N. (2017). Analysis Z-score to Predict Bankruptcy in Banks Listed in Indonesia Stock Exchange

Mustapha, O. (2017). A Relationship between Altman's Z Scores and Stock Price Performance: A Review on Listed Companies in Bist-30 Index.

Niresh, J. & Pratheepan, T. (2015). The Application of Altman's Z-Score Model in Predicting Bankruptcy: Evidence from the Trading Sector in Sri Lanka. *International Journal of Business and Management, 10 (12), Pp269-275.*

Unegbu, A.O. & Onojah, L.A. (2013). Efficacy Assessment of Z-Score in Selected Sectors of Emerging Economy. *Greener Journal of Economics and Accountancy, 2 (1), 17-29.*

Sajjan, R. (2016). Predicting Bankruptcy of Selected Firms by Applying Altman's Z-Score Model. International Journal of Research-Granthaalayah, 4 (4), Pp152-158.

Senstaf Multipurpose Co-operative Society (2013). The 14th Annual Report and Accounts, Presented at the Annual General Meeting.

Senstaf Multipurpose Co-operative Society (2014). The 15th Annual Report and Accounts, Presented at the Annual General Meeting.

Senstaf Multipurpose Co-operative Society (2015). The 16th Annual Report and Accounts, Presented at the Annual General Meeting.

Senstaf Multipurpose Co-operative Society (2016). The 17th Annual Report and Accounts, Presented at the Annual General Meeting.

Senstaf Multipurpose Co-operative Society (2017). The 18th Annual Report and Accounts, Presented at the Annual General Meeting.

Senstaf Multipurpose Co-operative Society (2018). The 19th Annual Report and Accounts, Presented at the Annual General Meeting.

Senstaf Multipurpose Co-operative Society (2019). The 20th Annual Report and Accounts, Presented at the Annual General Meeting.

Tyagi, V. (2014). Study to Measure the Financial Health of Selected Firms with Special Reference to Indian Logistic Industry: An Application of Altman's Z-Score.