

Training and on-Job doing as an Investment in Human Capital to Improve Business Management in Chibuku Traditional Beer Business, City of Beira-Mozambique

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Abstract:- The study aims at analyzing training and on the-job-doing as an investment in human capital to improve business management. Chibuku traditional beer marketing agents' business is not competitive because of a widespread illiteracy, also low and flawed schooling. One of the objectives of this study is to design a simple bookkeeping model accessible to illiterate managers and the other one is to recommend training as an investment in human capital to improve Chibuku marketing agents' business management and enhance the agents' performance. Using a mixed methodology to gather information on the importance of the training, quantifying data from management training and management support (learning-by-doing) that is, on the job doing, corroborated by generated and transformed secondary qualitative data was entailed. Transformed secondary qualitative data in numbers, is also termed quantification, as words are turned into numbers. The study concluded that training provide business management grounding, by supplying simple bookkeeping knowledge, as a solution to improve the agents' knowledge on the subject. This in turn helped to improve income, as the lack of profits, kept Chibuku agents trapped in a constant state of indigence. The statistical outcomes with the researched data, led to the conclusion that training together with management support through learning-by-doing or on-job doing, were an important form of investing in human capital.

Keywords:- Chibuku, on-job-doing, training, human capital, quantification.

I. INTRODUCTION

No nation has attained a continual economic development without a substantial investment in human capital. Studies have shown substantial gains from several types of human capital growth, they according to Ozturk (2001) are: fundamental education, investigation, training, on the-job-doing and ability building.

There is a widespread lack of management capability, as a result of an absent investment in human capital that keeps the industry stagnated and undeveloped with Chibuku marketing agents impoverished.

This was substantiated by Byiers (2009) who affirmed that a considerable number of managers in the informal sector in Mozambique, area of Chibuku sales, (74.3 percent) had simply primary education, while 12.1 percent, 11.8

percent and 0.3 percent were respectively illiterate, had never studied and had attended literacy lessons.

Additionally, the curriculum of secondary education reinforces the need of training as it according to Sparreboom and Staneva (2015), doesn't meet the labor market needs. However, it is neither feasible nor practical sending the agents to school, so the gap can be filled with training during the daily calls of the Chibuku supplier sales representatives at the agents' places. On-the-job-doing, as a management support to the execution of the trained matters, will take them to learn by picking up knowledge from doing the work in practice. This will also help both agent and supplier to achieve businesses plans and profit.

What is required from the agents, is just the ability to deal with quantities and symbols representing receipts, payments, general expenses and other business events and tasks, recorded as explained next in an appropriate model, shown in Table 5. Illiterate people will thus qualify for training, as this doesn't require formal reading and writing. This means all the Chibuku supplier's customers meet the requirements to be trained.

II. THE STATEMENT OF THE PROBLEM

Lack of business management skills, resulting in low efficient business control and income earnings, tend to affect firms' performance which keep Chibuku marketing agents trapped in a constant state of poverty. To add to this, is the inadequate educational curriculum at schools, regarding business management or controlling, and the low rate of secondary school conclusion, which is only 13 per cent according to AfDB (2011). All these factors contribute to a deficient business management, low performance and income earnings.

III. MANAGEMENT INABILITY AND ITS IMPACT

The inability to manage business, affects the marketing agents' performance and income earnings, influencing the industry's growth and economic development as well.

IV. TRAINING AND THE ON-JOB-DOING

Training and the practical doing of business administration tasks are seen as factors to develop management competence and enhance performance. The effect of these variables and the association to firms' functioning provide a framework for a tentative explanation of the research problem.

V. HYPOTHESES

A tentative explanation, following Creswell (1994) concept, is thus carried out through a relationship between variables that is, business management training and the on-job-doing (independent variables) and the agents' performance (dependent variable) in the form of hypotheses.

The hypotheses encompass an investigation of business management training and business management support (on-job-doing) relationship with the agents' performance and business control. They are:

- H_0 = Daily management support is not important to the agents' performance
- H_1 = Daily management support is important to the agent' performance
- H_0 = Management training is not important to an efficient business control
- H_1 = Management training is important to an efficient business control

VI. METHODOLOGY

To statistically check these hypotheses, data is gathered using a mixed method to overcome as Almeida (2018) says the limitations of quantitative and qualitative methodologies. Together they allow the researcher to get rich information that could not be acquired utilizing each method alone. Mixed method authenticates quantified data used in the hypotheses testing, thus the framework related to the research process, involves quantitative data explained by qualitative views, and substantiated by quantitised secondary qualitative data on the same questions. This guarantees that diverse opinions and standpoints of a range of partakers are represented as Almeida (2018) asserts. Therefore, validated quantified data corroborated and justified, respectively by quantitised and qualitative data, are used to examine the hypotheses. Data is collected under a procedure which design is described below.

A. Design

Research design as Creswell (2003) and Crotty (2004) asserted, entangles a plan of action that connects the philosophical or theoretical gathering models, to the real conditions of collection of data in the Chibuku agents. Research schedules with mixed questions, had to be interpreted in this study by enumerators, in order to get correct answers, as most respondents don't speak Portuguese correctly and are not familiar with business terminology. As a result of this difficulty in the research process, quantified data required *qualitative* justification and *quantitised* corroboration.

B. The mixed method research

Mixed method as Kemper, Springfield and Teddlie (2003) defined, comprised data collected quantitatively and generated qualitatively. They were gathered in parallel from Chibuku marketing agents. Alongside, secondary qualitative data from events with a certified operational efficiency, from same questions, in the same context of research themes, transformed in numbers (quantitised), were used to confirm the cyphers from quantitative responses and validate

respondents' views. Transformed data also confirmed respondents' qualitative standpoints. Qualitative and quantitative methods used separately, won't grab the tendencies, the essentials, and the particulars of the problem, however when merged, both qualitative and quantitative data provide a comprehensive analysis, complementing each other. (Creswell, Fetters and Ivankova, 2004).

VII. VALIDITY AND RELIABILITY

Confidence in the source of data and the questions recipient was needed and as result, trust in the data itself, while expressing validity to ensure a bias free research result. Triangulation that included three sets of data, fitted the bias free purpose, as Mohammad (2007) posited. The triangulation involved using multiple data from quantified, quantitised to qualified sources. This helped to gain knowledge about data validity.

This broadening of a variety of measures, as Mishra and Rasundram (2017) postulated, diminished the dependence on any one method, and quantitative reliable valid data, could be attained, to achieve dependable results from hypotheses testing. Qualitative secondary data from Stubner et al (2007), with which quantitisation was computed, encompassed management training and management support to managers of startups in Germany, with crude business management expertise.

Therefore, quantitised data for triangulation commonly believed to stimulate an ample understanding of events under research, and to increase the exactitude of a study, assumed equal weight. They had same importance and substance of the investigated topics, under which primary data was researched, as a result of similar weights.

Equal weight is corroborated by Heale and Forbes (2017), as a requisite to form dependable triangulation references. Research data, from a diversified set of measures, were from an analogous circumstance and significance, so triangulation points had similar weight and could validate quantitative data for the hypotheses testing.

VIII. DATA GENERATION AND COLLECTION METHODS

Interviews using research schedules, took place at the Chibuku marketing agents' premises after seeking the agents and the supplier's permission. The interview schedule in Table 1 was used by enumerators, who were former sales representatives of the Chibuku brewery, a fact that eased the approach between the parties, facilitated the interviews and brought some trust on the source of information and confidence on who in fact were Chibuku marketing agent.

Table 1: Interview schedule

Questions	Quantitative					Qualitative
	Importance and score					Responses
	VI (5)	I (4)	N (3)	NI (2)	NIAA (1)	
How important is the daily management support to the agents' performance?						
How important is management training to an efficient business control?						

VI: Very important; I: Important; N: Neutral; NI: Not important; NIAA: Not important at all

IX. THE DIVERSIFIED SET OF MEASURES

The diversified set of measures shown in Table 2, according to Heale and Forbes (2013), supply a combination of findings from three approaches that provide a more

comprehensive and far-reaching image of the outcomes than either approach could do by itself. They besides increasing confidence in the results, substantiate the numbers (questions grades) used in the hypotheses testing.

Table 2: Quantitative, qualitative and quantitised data

Question	Question Grade (Quantitative)	Degree of Importance	Generalized responses from Cubuku agents (Qualitative)	Number of responses	Quantitised secondary qualitative data on the question
How important is the daily management support to the agents' performance?	4	Important	Management support from supplier is important to help Chibuku firms to run business while acquiring knowledge for performance	121	4.4 ≈ 4 (Calculated as shown below)
How important is management training to an efficient business control?	4	Important	Management training helps acquiring skills for business control	122	3.66 ≈ 4 (Calculated as shown below)

Qualitative and quantitative data are raised from questions in the research schedules as exposed earlier. Quantitised data are obtained from secondary qualitative data as previously mentioned and explained in the next sections.

out during the daily calls of the supplier's sales representatives.

The degree of importance of business management support to the agents is quantitised, as illustrated below, using Bayes probability method. The reason is that the outcome from quantitisation, of businesses with certified efficiency, operating in common contexts share the same likelihood, and corroborate the data gathered from Chibuku marketing agents. They thus provide a high degree of confidence in the primary data from respondents. They are seen as able to remove uncertainties from human behaviour, which very often conduct to disastrous results, being this the reason that Bayes method is used in management support and extended to training.

B. Quantitisation of business management support

The degree of importance of business management support to the agents is quantitised as follows:

X=event 0.2 (20%) of refusal from the inquired marketing agents, resulting from not being sure of benefits from business management support (on-job-doing), to their performance

This occurs as a result of the agents not being sure of the skillfulness and benefits as appraised by Mole et al (2017)

The quality of management support offered by venture capital firms, on the other side is considered insufficient by only 10.4% of the startups inquired.

X. QUANTITISED SECONDARY QUALITATIVE DATA

A. Business management support

Secondary qualitative data, from same questions, are transformed in numbers to parallel with quantified data and check dependability of the numbers assigned by marketing agents to business management support. This also validates qualitative justification of quantitative cyphers, thus raising an interrelated corroboration of measures.

Business management support that is "on-the-job-doing" of tasks taught in management training, encompasses activities whose execution only require drawing symbols. They are meant to record business movements to document costs and revenue, avoid losing information (kept in the head, as usually happens among Chibuku agents), and maintain a daily control of the operation. The agents have no need to know the conventional writing and reading to use the "on-job-doing" papers, as shown in the model represented in Table 5. The model is conceived to record business movements using symbols and get in the end the result of the operation the firm carries out. The support of management duties, as referred above, is set to be carried

Y=event 0.104 (10.4%) stemming from respondents, judging training insufficient to provide skills for business control

The X and Y are events from businesses in the same context of Chibuku marketing agents.

The conditional probability checks the significance of the doubt from some marketing agents on the benefits provided by management support to their performance. The study examines this, conditional on the judgement, of another fraction of inquired elements, in the same population, on the inability of training from the on-the-job-doing, to provide skills for business control.

The computation is as follows:

$$\text{Prob}(X|Y) = \frac{\text{prob}(Y|X) \text{prob}(X)}{\text{prob}(Y)}$$

$$\text{prob}(Y) = \text{prob}(Y|X) \text{prob}(X) + \text{prob}(Y|\text{not}X)$$

$$\text{Prob}(Y) = 0.104 \times 0.2 + 0.2 \times 0.8 = 0.1808$$

$$\text{Prob}(Y) \text{Prob}(X|Y) = \text{Prob}(Y|X) \text{Prob}(X)$$

$\text{Prob}(X|Y) = \frac{\text{prob}(Y|X) \text{prob}(X)}{\text{prob}(Y)}$ this is the new probability of X if Y occurs

$$\text{Prob}(X|Y) = \frac{0.104 \times 0.2}{0.1808} = 0.11504424$$

$$1 - 0.11504424 = 0.88495576$$

Management support is, therefore, rated 0.88495578 reflecting the degree of benefits to those engaging the on job doing. It is in fact important as it gets on the 1–5 Likert scale a 4.4 score.

The value of $0.88 \times 5 = 4.4$ supports the 4 quantified score and confirms the consistency of qualitative answers, three measures that validate the 4 cypher as suitable for the hypothesis testing.

The quantitised finding is then judged appropriate to validate quantitative data from Chibuku marketing agents, used in the hypothesis testing.

XI. THE IMPORTANCE OF BUSINESS MANAGEMENT TRAINING TO EFFICIENT BUSINESS CONTROL

A. Quantitisation of business management training

Chibuku marketing agents training integrates a bookkeeping and business management instruction to help run sales operations, complemented by an on job doing of the training. It uses symbols or signs to reach all in the business that is, illiterate women and men, no matter what the education background is, everyone can be accessed. Training using symbols integrate a Simple Bookkeeping and Business Management Skills written by Ria Meijerink (1994) developed and tested in Ghana with an incorporation of trainers' experience in several African countries. How the record works is elucidated ahead in this study.

Management training would be helpful for firms' operation continuity in the business, as Amit et al (1990) cited by Stubmer et al (2007) assert; Without training 33% of firms could fall in three years with high incidence on small firms 0 — 9 employees, which is the case of Chibuku small businesses. The failure rate that is, businesses collapsing with training is 0.1 or 10%, so firms' survival is 90%.

What follows is the calculation of training importance.

X = business failure with training at 0.10

Y= business failure raising from 0.1 to 0.33 without training

$$\text{Prob}(Y) = \text{prob}(Y|X) \text{prob}(X) + \text{prob}(Y|\text{not}X)$$

$$\text{Prob}(X|Y) = \frac{\text{prob}(Y|X) \text{prob}(X)}{\text{prob}(Y)}$$

$$\text{Prob}(Y) = 0.33 \times 0.1 + 0.1 \times 0.90 = 0.123$$

$$\text{Prob}(X|Y) = \frac{0.33 \times 0.1}{0.123} = 0.033 / 0.123 = 0.268$$

new probability of X if Y occurs

$1 - 0.266 = 0.732$ thus if Y occurs, the rate of firms' survival may be as high as 73.2%

In a 1–5 Likert scale this value reveals an 'importance' of $0.732 \times 5 = 3.66 \approx 4$. Training therefore, appears as important to reduce failure.

B. The hypotheses testing

This for calculations below, follow the testing association between two variables using measurements (numbers) obtained from mixed method that is, the observed response frequencies, corroborated and justified respectively by quantitised and qualitative data shown in Table 3. The expected frequencies of responses in the testing in both cases below, follow quantitisation and reflect the trend of marketing agents positions, in the secondary events, under investigation.

C. How important is management training to an efficient business control?

Table 3: Data for hypothesis testing

Responses	% of opinions	Expected response frequency	Observed response frequency	O – E	(O – E) ²	(O – E) ² /E
Very Important	19.6	0.3278x122=40	24	-16	256	6.4
Important	77	0.5901x122= 72	94	22	484	6.72
Neutral	0.81	0.0409x122= 5	1	-4	16	3.2
Not important	2.45	0.0409x122= 5	3	-2	16	3.2

O: Observed frequency; E: Expected frequency

Level of significance $\alpha = 0.05$.

The degrees of freedom: $k = 4 - 1 = 3$

The test is calculated using a statistical table

$$\chi^2 = \sum (O - E)^2 / E = 19.52$$

The null hypothesis H₀: There is no relationship between management training and efficient business control.

The alternative hypothesis H_a: There is a relationship between management training and efficient business control.

Since 19.52 is higher than 7.815, there is enough statistical evidence to reject the null hypothesis and to believe that there is a relationship between management training and efficient control.

D. How important is the daily management support to the agents' performance?

Calculation follows same rationale used in management training, employing data from Table 4.

Table 4: Data for hypothesis testing

Responses	% of opinions	Expected response frequency	Observed response frequency	O – E	(O – E) ²	(O – E) ² /E
Very Important	11.57	0.049 x 121 = 6	14	8	64	10.66
Important	80.16	0.909 x 121 = 110	97	-13	169	1.53
Not important	8.26	0.041x 121 = 5	10	5	25	5

O: Observed frequency; E: Expected frequency

Level of significance $\alpha = 0:05$

The degrees of freedom: $k = 3 - 1 = 2$

The test is calculated using a statistical table

$$\chi^2 = \sum (O - E)^2 / E = 17.19$$

The null and alternative hypothesis formulation is as follows:

The null hypothesis H₀: There is no relationship between daily management support and agents' performance

The alternative hypothesis H_a: There is a relationship between daily management support and agents' performance.

Since 17.19 is higher than 5.991 there is enough statistical evidence to reject the null hypothesis and to believe that there is a relationship between daily management support and the agents' performance.

XII. CONCLUSIONS

It was statistically observed that among Chibuku marketing agents, business management support that is, the support of practical execution of management tasks taught in the business management training, enhanced know-how, an important condition to improve firms' performance and income.

Management training and management support to carry out the daily business administration, due to a high incidence of illiteracy and defective schooling programmes, had to be designed considering the agents' inadequate education, deficient writing and poor managerial skills.

Management training has, therefore, to be conceived considering symbols or signs as means to record business functions and get a picture of costs, revenue and financial movements, to enable business controls.

XIII. RECOMMENDATIONS

A. Business management training and support

Business management training has to be designed in such a way that people from all educational levels would understand the lessons, while engaging in an on-job-doing of the taught subjects, supported by the supplier's company representatives.

For training to be inclusive, it would use symbols or signs to represent all business operations. The agents without exception, would therefore be able to write down sales, payments, while bookkeeping credits, debts, deposits, financial obligations and other actions, in order to understand the real situation of the operation. Training and support would be a permanent effort, from suppliers.

B. Suggested model for a record of sales and payments

An example containing a record of sales and payments, inspired on Meijerink (1994) work, using symbols, is in the Table 5: first and second columns, two boxes of Chibuku sold to drinkers at 600 MT (\$1USD=72MT); third and

fourth columns, Chibuku boxes paid at 450 + 20 labour + hand cart transport 20 and municipality tax 10. Money in:

600, money out: 500, balance: 100.

➤ The symbols

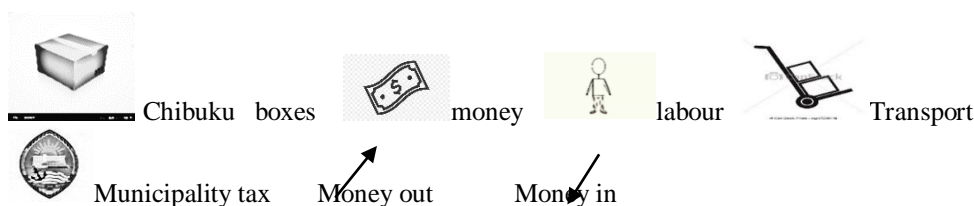
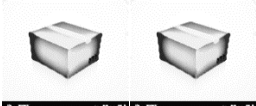















Table 5: Records of costs revenue and balance

<p>Chibuku boxes</p> 	 500  100  600	 <p>Chibuku boxes</p>   	 200+200+50  20  20  10  500	<p>Balance</p>  100
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C. Investment in Human Capital

The government through the ministry of education would improve the school programmes to suit the labour market needs, by including business management notions and entrepreneurship concepts. Education would be taken as an investment in human capital, the companies necessitate for administrating efficiently their operations, in order to avoid keeping Chibuku and the general businesses impoverished and underdeveloped.

The product supplying companies would engage in training and in supporting the daily management tasks. The on-job-doing of trained subjects would be performed, as an element human capital building, regarding the raise of incomes to free the marketing agents, from a constant state of poverty.

REFERENCES

[1]. AfDB - African Development Bank (2011) Republic of Mozambique: Country strategy paper 2011- 2015, (Tunis)
 [2]. Almeida, F. (2015) Strategies to perform a mixed methods study *European Journal of Education Studies* ISSN: 2501 - 1111 ISSN-L: 2501 - 1111 Doi: 10.5281/zenodo.1406214

[3]. Amit, R., Glosten, L., & Muller, E. (1990) "Entrepreneurial Ability, Venture Investments, and Risk Sharing", *Management Science* 36 (1990), 1232-1245.
 [4]. Byiers, B. (2009) *Informality in Mozambique: Characteristics, Performance and Policy Issues* This publication was produced by Nathan Associates Inc.
 [5]. Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed.). London: Sage Publications Ltd.
 [6]. Creswell, J. W., Fetters, M., & Ivankova, N. (2004). *Designing a mixed methods study in primary care*. *Annals of Family Medicine*, 2(1), 7-12.
 [7]. Crotty, M. (2003). *The Foundations of Social Research: Meaning and Perspectives in the Research Process*, London: Sage Publications, 3rd edition, 10.
 [8]. Denscombe, M. (1998). *The Good Research Guide*. Buckingham. Open University Press
 [9]. Ghauri, P. and Gronhaug, K. (2005). *Research Methods in Business Studies*, Harlow (UK): Pearson Education Limited
 [10]. Heale, R. & Forbes, D. (2017) *Understanding triangulation in research* Doi: 10.1136/eb-2013-101494 Downloaded from <http://ebn.bmj.com/> on January 30, 2017 - Published by group.bmj.com

- [11]. Kemper, A., Stringfield, S. & Teddlie, C. (2003). *Mixed methods sampling strategies in social science research*. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 273-296). Thousand Oaks, CA: Sage Publications.
- [12]. Lynch, L.M., & Black, S.E. (1995). Beyond the incidence of training: evidence from a national employers survey. *NBER working paper series* 5231.
- [13]. Meijerink R. (1994) Simple bookkeeping and business management. Food and Agriculture Organization of United Nations. Regional Office for Africa.
- [14]. Mishra. D., & Rasundram. J. (2017) Triangulation an essential tool to enhance the validity of a case study (Page 69-74) *Scholarly research journal for interdisciplinary studies* 2017
- [15]. Mohammad, K. (2007) *Analysing the role of triangulation in research*. Munich GRIN Verlag. ISBN 9783656368342
- [16]. Mole, K., North, D., & Baldock, R. (2017) *Which SMEs seek external support? Business characteristics, management behaviour and external influences in a contingency approach*. DOI: 10.1177/0263774X16665362
journals.sagepub.com/home/epc
- [17]. Sanchez, A., Aragon. B., & Raquel Sanz-Valle. S. (2003) Effects of training on business results *Int. J. of Human Resource Management* 14:6 September 2003 956–980
- [18]. Sarankatos, S. (1993) *Social research* Basingstoke Macmillan
- [19]. Sparreboom, T., & Staneva. A. (2015) *Structural change, employment and education in Mozambique*. Employment Working Paper No. 174
- [20]. Stack, L. (2014). *Execution is the Strategy: How Leaders Achieve Maximum Results in Minimum Time*: BerrettKoehler Publishers
- [21]. Stubner, S., Wulf, T., & Hungenberg, H. (2007), "Management support and the performance of entrepreneurial start-ups – an empirical analysis of newly founded companies in Germany", *Schmalenbach Business Review*, Vol. 59 No. 2, pp. 138-59.