IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 22, Issue 4. Ser. I (April. 2020), PP 01-13
www.iosrjournals.org

Analysis of affects of e-commerce on Supply chain management to facilitate the entrepreneurship in Tanzania

Margreth George Ngussa, Frumence Valentine Mruma, Ahmed Nawaz
School of Management and Economics (MBA Education Center),
North China University of Water Resources and Electric Power, Zhengzhou, 450045, China

Abstract:
Purpose- *Key purpose of the study is to analyze the correlation between E-commerce and Drivers of Supply Chain Management to facilitate the Entrepreneurship Business in Tanzania, East Africa. Study Locale is the Chief Information Officers of the corporation of Tanzanian, e-commerce based Small and Medium sized Entrepreneurship business. Study tends to highlight the impact of E-commerce on SCM drivers: Procurement, Merchandise Management, Store Location, Transportation and Information*
Methodology/Design- *For the just cause, study uses the quantitative approach, self made questionnaire based design for the investigation of affects of E-commerce on SCM drivers. Causal relationship methods are adopted for the analysis based on IBM SPSS.*
Statistical Treatment- *Tools used for the analysis of the causal relationship variables are Biserial and Pearson correlation and linear regression for the analyzing the level of impacts of independent variable on dependant variable. ANOVA is used for the degree changed in Variance, T-test and Kurtosis is used for the hypotheses testing. Descriptive statistics will be used for interpretation of the 5 likert scale questionnaire.*
Results- *Expected results are highlighted as the key drivers of the SCM such as: Procurement, Merchandise Management, Store Location, Transportation and information are correlated with E-commerce and have positive relationship.*
Originality/Values- *Research is based on first hand data collection through 5 likert scale questionnaire, providing expert point of view on the subject, presents originality and valuable contribution for the Entrepreneurs of Tanzania.*
Key words: Supply Chain Management, Procurement, Merchandise Management, Store Location, Transportation and Information.

Date of Submission: 17-03-2020 Date of Acceptance: 02-04-2020

I. Introduction

Demand and supply of manufactured products has created intense global competition. Global markets have coerced many manufacturing companies to be more responsive to customers changing needs and requirements of value-added products and services (Davenport, 2014). Supply chain management is the mode to meet the requirement and compete in providing value added products to consumers. Supply chain management includes the integration of vision, culture, process and strategy to organize an optimal flow of high-quality, value-for-money raw materials, or components from reliable and innovative suppliers and ultimately providing customers with high quality products they designed and manufactured at competitive prices, especially in country like Tanzania. There are five major drivers used to determine the function and process Procurement, Merchandise Management, Store Location, Transportation and Information (Adnan, 2017). All these five drivers, if managed efficiently and effectively can prove to be facilitating point for the entrepreneurs in e-commerce business in Tanzania.

"E-commerce, consumers used internet for various purposes, such as: search for product features, prices, or review, the selection of products and services through internet, orders, payment, and for purchases (Siniha, 2010), B2B and B2C are two famous modes of doing business on internet. In Tanzania, although business-to-consumer e-commerce is much lower than expected as many of the consumers do not have internet access easily. E-commerce has its affects on the businesses in Tanzania in general especially for SCM drivers when it comes for cost effective business policies.

SCM also encompasses, all the activities involve to get the right product into the right consumers hands in the right quantity and at the right time" in the supply chain (Bai, Sarkis, & Dou, 2015), meaning integretion of SCM drivers with E-commerce business model is higher and with controlled implementations of SCM drivers using B2B or B2C models facilitation of new emerging bsuinesses can be improved. To minimize wastage, defects and enhance business performance, adoption of SCM has become life saving policy. The increased

importance placed on SCM is because it is considered a powerful driver and a significant strategic tool for firms striving to achieve competitive success (Alzola, 2012). This suggests that SCM in Tanzania can improve competitive markets as more entrepreneurs are promised. Therefore, SCM is increasingly being viewed by scholars to be having the ability to contribute to the enhancement of performances. Usage of SCM driver with the implementations of the E-commerce models into business integration can give double hand advantages for suppliers and manufacturers to facilitate the entrepreneur business in Tanzania and relatively high satisfaction of consumer of business.

Entrepreneurship, in Tanzania is encouraged by the government and tends to open recently many institutes prevailing on the subject to enhance the understanding of modern age technologies in youth and in startup businesses. One of the forms for such activities is on e-commerce trade platform for getting enriched business strategies. Rich in mineral resources and steel manufacturing, Tanzania stands still on low side of usage of E-commerce and intervention of E-commerce on entrepreneurship businesses.

This study therefore offers a firsthand investigation to support the entrepreneurs' business in Tanzania using E-commerce platform as mode of trade. Investigation approaches questionnaire based situation to understand the needs and demands of business holders to formulate a policy based decisions about SCM drivers and effects of drivers on Business model.

II. Background

Officially the United Republic of Tanzania is a country in East Africa within the African Great Lakes region. It has population of 58.01 million and largest city, Dar es Salaam, with population of 6,368,000 @ 2019, serving as our research locale of the study. Tanzania is a low income country with a population growth of 3.1% in 2018 (Population Census, 2019). Risk associating with business, in Tanzania is high due to lack of intellectual contribution of the research based investigation and empirical approach of entrepreneur's business relation with e-commerce and supply chain management. Study opts to choose this subject to provide the correlation of factors of SCM with the E-commerce and Entrepreneurship. Tanzanian entrepreneurship is facilitated by different bodies' governmental and non-governmental, working on target groups and international sponsors (Bifet, 2012). Government agencies are promoting the business and as a whole providing the platform for new businesses and ventures to increase the overall GDP, for which E-commerce platform is best, suited as low cost investment portfolios are more of the mode of business for entrepreneurs. Focusing on the general economy, trade and investment, society, consumers, retail and e-commerce markets, infrastructure, and politics, it can be interpreted that Tanzania is working hard to facilitate the entrepreneur business relations with e-commerce and supply chain management. This paper indicates the established impact of the E-commerce on drivers of the SCM that will enhance capacities of entrepreneurship to make new startups at low cost and controlled risks (Sumant, 2016). Low cost and less risk association is high in demand strategic formulation for business holders in Tanzania as being a poor country government subsidized rates of electricity and taxation cannot make enough provision for manufacturers and suppliers

III. Literature Review:

Agus (2017) define SCM as a systemic, strategic coordination of the business functions, processes and transactions within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole. This relates the drivers as important function of suppliers business and enhances the importance of integration of SCM with E-commerce in Tanzania. Functions of SCM that may affect portfolios in Tanzania are its drivers that impact the whole as or partial on the entrepreneurship and market oriented business models best influenced by E-commerce. Baker (2007) stated that SCM creates value added products at low cost where market is saturated and failed to provide new entrants a chance to do business, this means for the Tanzanian market it is important for entrepreneurship and e-commerce to have efficient usage of drivers of SCM.

Procurement- is the sourcing and purchasing of goods and services for business use from an external source (Baker, 2007). Definition of procurement has changed to Electronic Procurement for the purpose of E-commerce integration in business model. Terms procurement and purchasing are often interchangeably used, however, purchasing refers to the process of acquisition in manufacturing, while procurement is a term used in governmental circles for acquisitions (Murray, 2009). As per Baker and Murray definition implies that procurement is the function of purchasing raw materials for manufacturing and with e-commerce integration which can reduce to maximize the profits which is the acute need of Tanzanian entrepreneurs. (Kono, 2014) added to it as procurement is the piller of Tanzanian markets to improve on the business models based on B2C and B2B entrepreneurships which can lead Tanzania to compete in global market production of steele and agri-products.

Merchandise Management- techniques include displaying related merchandise together, simple and spotless displays, ample walkway space, well-stocked shelf and important featuring of promotional items Agus (2017). This means that merchandise management as the process through which each retailer decides what items to carry, how much to have on hand to meet the needs of customers, which is important in market place like Tanzania where not much demands are met. Decided merchandise that should be displayed in the store to maximize sales is as much of importance as of how they should be priced to sell the best and maximize profits (Bifet, 2012).

Store Location- It is essential for business operators to put location at the top of their minds (Davenport, 2014). If you're preparing to open a food or retail business with a storefront, putting your business in the proper location might be considered the most important factor during startup. Tanzanian market is with less affording consumers and more cheap and less costly products are demanded. As of SCM drivers this factor influences the entrepreneur business in cost effective and cost saving for startups and making new appearances in business (Hsinchun Chen, 2012). This refers to more of African and Asian markets as store location is time saving and less costly way of providing products at affordable rates.

Transportation- By using fast transportation service we can increase responsiveness but efficiency becomes low because of high cost of fast transportation and more chances of damage (Sunil Chopra and Meindl, 2007). Cutting cost of transport is more reasonable than cutting cost through quality comprising policies. E-commerce can give entrepreneurs the less affordable transportation systems, it becomes easy for markets like Tanzania to avoid transportation cost and convert operation on B2B or B2C models. Joint route planning can be achieved by two ways that are outsourcing transportation function or horizontal cooperation with other transportation service providers. These two concepts lead to achieve the economies of scale by decreasing the distribution cost. Joint route planning concept save 30.7 percent costs in comparison with traditional transportation system (Cruijssen, 2007).

Information- Information provides customer taste to supplier that leads supplier's responsiveness and efficiency because supplier forecasts customer demand and only supplies required product (Sunil Chopra and Meindl, 2007. Information is as important to be true as it is important to assure the quality of the products especially for entrepreneurs' business on internet models. Many authors argue about the credibility of the portrait information about the final products which is mandatory for consumer to that provided knowledge is authentic (Lundkvist and Yakhlef, 2004). This increase in cost efficiency of the firm can only be achieved through direct information sharing between firm and customer for market as Tanzanian manufacturing industry less available information has remained an issue, this SCM function can make sellers satisfy the consumers need by prior getting demanded information on products.

IV. Theoretical Framework

"Supply chain management is a set of approaches utilized to efficiently and responsively integrate all channel partners through applying quality management practices across the whole supply chain, in order to enhance trust between channel partners and deliver maximum value to customers". It is apparent that much of the focus in the increasingly voluminous literature on supply strategy, operations strategy and supply chain management is directed at meaning making. Often this comprises assertions about what it essentially "is". The precepts of SCM as currently portrayed are a mixture of three elements: description, prescription and the identification of alleged trends.

Description- Debates here relate to scope and focus. Some academics openly declare that they use the terms supply chain management and purchasing "synonymously" (Stuart, 1997). Pragmatically there may be much to commend this but the identification with one function and one process seems to miss much of the idea of supply chain or network management. Others evidently have a more expanded notion in mind, for example, the lean supply approach focused on the "purchasing activities of vehicle assemblers and the supply activities of the component (and component system) manufacturers" (Lamming, 1996, p. 183). Accordingly, Lamming argues, for the merits of the broader concept of "supply management". Some purchasing specialists see SCM as about developing relations with suppliers (Giunipero and Brand, 1996), while others say that good supplier management is not enough; there is an additional requirement for a wider, more integrated, all-encompassing perspective embracing all processes from sourcing through make and transportation and on to merchandising to final customers (Davis, 1993).

Prescription- Problems arise when the shift from description to prescription is relatively covert. Beneficial attributes are often attributed to certain features. For example, one definition suggests that: ... any chain or network connected through electronic means can be considered virtual if it facilitates efficient and effective flows of physical goods and information in a seamless fashion (Chandrashekar and Schary, 1999, p.

27). Some prescriptions stem from observed superior practice in particular domains. The IMVP prescription deriving from Toyota and its suppliers leading to the lean production formula is arguably of this type. Another example might be the prescription for mass customization and agility (Pine, 1993; Goldman et al., 1995; Meier and Humphreys, 1998).

Trends identification- The literature on supply chain management tends to move rather imperceptibly between description, prescription and trend identification. Key trends which have been identified include, most notably, "cooperation" rather than competition, a shift from the "antagonistic" model to a collaborative model (Matthyssens and Van den Bulte, 1994; Carr, 1999), the increasing use of supplier-evaluation tools (Carr, 1999), a trend towards supplier management, and so on. While the alleged trends may be similar, different kinds of assessments are sometimes made. Some authors suggest an irresistible trend while others note the relatively limited take up to date (Skjoett-Larsen, 1999; Kemppainen and Vepsalainen, 2003). Another facet of the trends dimension is the concern with the "impacts" of SCM on various functions such as purchasing (Andersen and Rask, 2003; Wisner and Tan, 2000), the impacts on suppliers required by retailers to replenish stock based on actual sales (Abernathy et al. 2000), and the increasing use of tools and techniques such as "Quick Response" (QR) and "Efficient Consumer Response" (ECR). A trend, possibly mainly restricted to the auto industry, is towards a pattern of differentiation in the supply chain with, for example, a few "system integrators" at first tier supply level (Senter and Flynn, 1999).

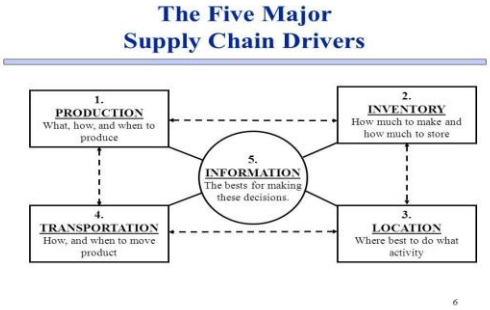

Figure 1 *SCM Drivers, Based on Theory of Sunil Chopra and Meindl, 2007*

Supply Chain Replenishment- Supply chain replenishment encompasses the integrated production and distribution processes. Companies can use replenishment information to reduce inventories, eliminate stocking points, and increase the velocity of replenishment by synchronizing supply and demand information across the extended enterprise. Real-time supply and demand information facilitates make to-order and assemble-to-order manufacturing strategies across the extended enterprise. Supply chain replenishment is a natural companion to Web-enabled customer orders. E-procurement is also a tool to enhance the facility based on e-commerce in supply chain management, to facilitate the entrepreneurship in supply china management of Tanzania. E-procurement is the use of Web-based technology to support the key procurement processes, including requisitioning, sourcing, contracting, ordering, and payment. E-procurement supports the purchase of both direct and indirect materials and employs several Web-based functions, such as online catalogs, contracts, purchase orders, and shipping notices

S. No.	***Perspective***	***Best value supply chains***	***Traditional supply chains***
1	***Transaction cost Economics***	*Focus on total costs, not just transaction costs, as the basis of make or buy"" decisions. Short term costs play a secondary role if the potential for long term, trusting relationships exists*	***Focus on transaction costs as the basis of „„make or buy"" decisions. Opportunism undermines trust; short term costs are a primary consideration***
2	***Agency theory***	*Use reward structures and cultural competitiveness to align members" interests Potential for opportunism minimized*	***Interests of supply chain members only partially aligned Strong potential for opportunism***
3	***Resource dependence theory***	*Supply chain members recognize that dependence can create forbearance and trust*	***Each member tries to avoid becoming dependent on others and tries to make others dependent on it***

4	***Institutional theory***	*Use industry recipes and best practices to inform, but not dictate, supply chain management activities*	***Rely heavily on industry recipes and best practices to guide supply chain management activities***
5	***Game theory***	*Mutual dependence and trust overcome members" temptation to pursue self-serving behavior*	***Some members use free riding, hold up, and leakage to benefit themselves and to the detriment of the chain***
6	***Network theory***	*A blend of strong and weak ties that matches supply chain needs is created in order to maximize supply chain performance*	***Strong and weak ties formed on a case by-case basis rather than strategically***
7	***Social capital theory***	*Shared goals, values, and experiences create shared sense making and improved performance*	***Mix of shared and firm-level goals, values, and experiences circumscribe shared sense making and limit performance***
8	***Strategic choice***	*Strategic decisions made with concern for the chain as the primary driver. This „„strategic supply chain management"" opens the door to unique blended strategies that transcend the firm*	***Strategic decisions made with concern for the firm as the primary driver. This approach constrains firms to using a generic strategy such as prospector or low cost leader***
9	***Resource-based view/knowledge based view***	*Assume that unique resources exist at the supply chain level, and that supply chains can be inimitable competitive weapons*	***Assume that unique resources reside within firms. Supply chain management is thus a tool to complement these resources***

Source: Ketchen, 2007

Table 1 *Theoretical Perspective of Supply Chain Management*

V. CONCEPTUAL FRAMEWORK

Study uses drivers of supply chain management: Procurement, Merchandise Management, Store Location, Transportation and Information as the independent variables to investigate the impact of E-commerce on supply chain management of the Tanzanian entrepreneurs. Focus of the study is to identify the correlation of drivers of SCM with the E-commerce that can influence entrepreneurship business in Dar es Salaam, capital city of Tanzania. Regression line will provide the analytics of the variable impacts on dependent variable of the study Entrepreneurs business relevancy with supply chain management of the Tanzanian business.

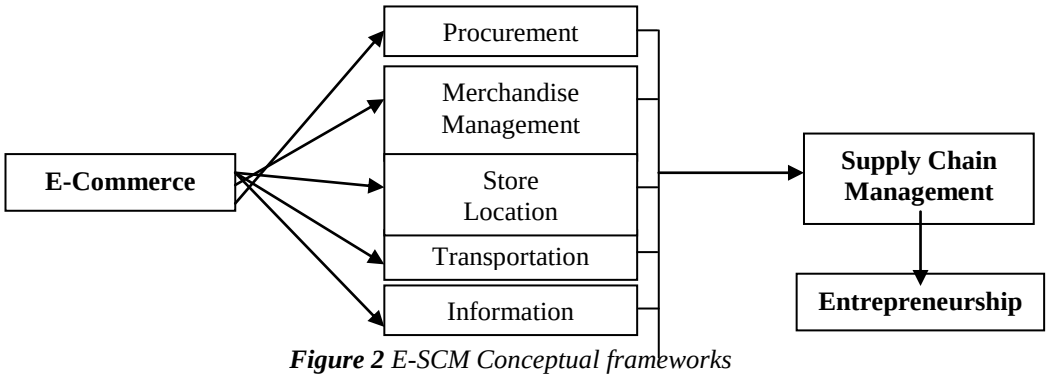

Figure 2 *E-SCM Conceptual frameworks*

HYPOTHESES:

On the basis of conceptual framework and related theories of Supply Chain Management and drivers of SCM, study designed following null hypotheses:

$H_0$1: There is no significant relationship between E-Commerce and drivers of Supply chain Management to facilitate the entrepreneurship in Tanzania

$H_0$2: There is no significant relationship between Supply Chain Management and Entrepreneurship of Tanzania

VI. RESEARCH METHODOLOGY:

Study uses quantitative design; survey based, through self made 5 likert scale questionnaire to investigate the affects of (Independent variable), E-commerce and Procurement, Merchandise Management, Store Location, Transportation and Information drivers of Supply Chain Management for entrepreneurship of Tanzania (dependent variable). For the purpose of the survey, online methodology was adopted to collect data from the chief information officers of the Tanzanian medium sized and large corporations in Dar es Salaam (listed in Stock Exchange). 50 major corporations were selected from the Dar es Salaam stock exchange list for the composition of sample, applied random selection of sample from population.

S/No.	***Categories***	***Numbers***	***Percentage***
1	Chief Information Officers	139	100%
	Total	139	100%

Source: Survey Data @

Table 2 *Composition of Sample*

Slovin's formula was applied to sample the participant size from the population (known) size, producing 139 sampled participant of the study (see table 2). Participants were randomly selected once the sample size was established from listed corporations. Participants were briefed about the study objectives and given orientation regarding questionnaire. 5 likert scale questionnaire from strongly disagree to strongly agree (from 5 to 1) were presented to participants.

S/No.	***Scale***	***Categories***
1	1 to 1.49	Strongly Disagree
2	1.50 to 2.49	Disagree
3	2.50 to 3.49	Neutral
4	3.50 to 4.49	Agree
5	4.49 to 5.0	Strongly Agree

Table 3 *Impact Ratings of questionnaire*

RELIABILITY ANALYSIS:

Before collecting complete data from (139) participants', reliability test was conducted to authenticate the questionnaire. 20 recipients were selected from the sample and distributed the questionnaire for initial test, "Cronbach's Alpha" value for all 5 categories of the questionnaire surpassed .70 or 70% required percentage. Table 4 exhibits the values of Cronbach Alpha for Procurement, Merchandise Management, Store Location, Transportation and Information, which implies that categorically all the values of reliability test surpassed required results, hence questionnaire proved reliable for further process.

S/No.	***Variables***	***No.***	***Cronbach's Alpha***	***%***
1	Procurement	20	.883	88.3
2	Merchandise Management	20	.921	92.1
3	Store Location	20	.976	97.6
4	Information	20	.904	90.4
5	Transportation	20	.912	91.2
6	Overall	20	.901	90.1

Table 4 *Reliability Analysis Test*

HYPOTHESES TESTING

Null hypotheses were testes for *t*-values and *p*-values, in order to nullify the null hypotheses and accept study hypotheses. Independent sample test (2 tailed) applied for rejection of null hypotheses exhibited in table 5. Further Kurtosis test was applied for more confirmation of nullifying the null hypotheses in the study.

S/No.	***Variables***	***T-statistics for Impact of E-commerce on Supply Chain Management***
1	$t_{Procurement}$	3.43 > table value
2	$t_{Merch.Manag}$	3.21 > table value

3	$t_{Store.Location}$	2.99 > table value
4	$t_{Information}$	3.12 > table value
5	$t_{Transportation}$	3.01 > table value

Table 5 Statistics of impact on SCM through E-commerce

Values exhibited in table 5 and 6 imply that all null hypotheses of the study are rejected and study hypotheses are accepted. *P-values* exhibited in table 6 are less than .50 which implies model is significant different and fit for prediction.

S/No.	***Factors***	***t-test statistic***	***P Value***
1	Procurement	3.43	.012
2	Merchandise Management	3.21	.000
3	Store Location	2.99	.123
4	Information	3.12	.000
5	Transportation	3.01	.000

Table 6 *Hypotheses Testing (Independent Sample Test)*

Results of the independent sample test (2 tailed) establishes argument that model is fit and null hypotheses of the study are rejected, qualitative expression for this narration is that SCM drivers used through e-commerce will surely effect the efficiency of supply chain management and impact the entrepreneurship positively for the locale of Tanzania.

S/No.	***Factors***	***Z value***	***Error***	***Z value/Error***	***Kurtosis Range***
1	Procurement	12.34	.387	13.6330	Greater than +1.96
2	Merchandise Management	18.23	.387	23.9018	Greater than +1.96
3	Store Location	9.32	.387	23.038	Greater than +1.96
1	Information	10.12	.387	15.2816	Greater than +1.96
2	Transportation	20.38	.387	19.521	Greater than +1.96

Table 6 Kurtosis (Normality Test) for Hypotheses Testing

Table 6 exhibits values of skewness-Kurtosis, all values are greater than +1.96 as exhibited in table, which implies that data is normally distributed and null hypotheses are reject. Skewness is 0 for data normalization (see figure 3 & 4).

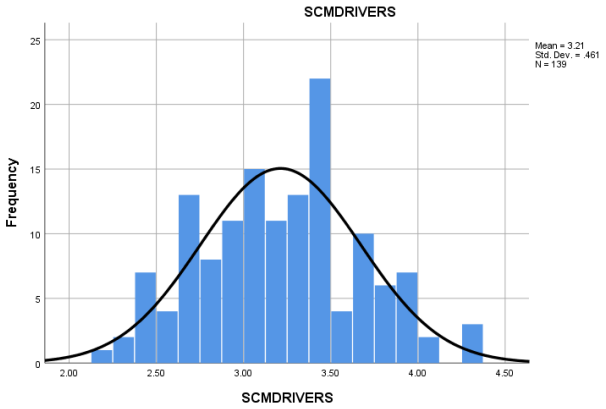

Figure 3 *Normal Distribution of SCM Drivers*

DESCRIPTIVE STATISTICS

Interpretation of mean ratings of the summary from the participant of the study (Chief Information Officer) is covered in descriptive statistics section of the paper. Study used 5 likert scale ratings to record the ratings of the participant, sharing experienced based knowledge. Entrepreneurship business development and SCM are dependent on usage of procurement, merchandise management, store location, information and transportation in this digital age. Problem arises when these drivers are linked with E-commerce integration though cost is low but the high skilled managerial expertise are required to manage the portfolio of business and combination of drivers on supply chain management.

Factors	***CIO***	
	Mean	Classification
Procurement	3.9	A
Merchandise Management	4.4	S.A
Store Location	4.2	S.A
Information	3.3	A
Transportation	4.1	S.A

Table 7 *comparison of mean ratings and classification*

Table 7 exhibits value of mean ratings of ratings by Chief information officer of the corporations listed on stock exchange of Dar es Salaam (Participants) on procurement, merchandise management, store location, information and transportation, drivers of supply chain management and impacts of e-commerce on these drivers to facilitate the entrepreneurship of the Tanzania. Values of table 7 imply that all the participants are either agreed or strongly agreed with the statements of the questionnaire. Chief information Officers is key post holder in any corporation for highlight and identifying the need and impacts of variables. Qualitatively expressed their opinion in form of ratings and maintained the rating with highly agreed statements in particular with the SCM drivers and the impact of e-commerce of SCM drivers.

VII. REGRESSION ANALYSIS

The linear regression was developed to investigate how one or more independent variables influence a dependent variable (Hutchinson, 2011). More specifically, in a linear regression analysis, the result produces one intercept and one slope, based on the mean, which represents the best fit for variable X to predict variable Y. The regression line can be calculated by using the equation (Noon, 2003): This study uses procurement, merchandise management, store location, information and transportation drivers of SCM as dependent variables and E-commerce as independent variables for facilitating the entrepreneurship in Tanzania

MODEL	***R***	***R Square***	***Adjusted R Square***	***Std. Error of the Estimate***
1	.920[a]	.912	.912	.1234

Table 8 *Regression Model Summary*

Adjusted R square of the model is .912 that means .912 * 100 = 91.2 %. It implies that one unit of change E-commerce usage by entrepreneurship will bring 91.2 % change in efficiency of drivers of SCM. It also implies that model is highly predictable to dependant variable. Predictor is constant with R-square 91.2 %. Corporation entrepreneurships capacity is effectively and efficiently increases to 91.2 %, affected by E-commerce with respect to the drivers of SCM. Businesses thus are information driven and more effective in linear model

	CHANGE STATISTICS				
MODEL	***R Square change***	***F – Change***	***Df1***	***Df2***	***Sig. F Change***
1	.912	303.21	2	137	.125

Data source: survey data dated: October, 2019

Table 9 *change statistics of model*

Table 9 explains R-Change is the same in change statistics as was in the summary model table 10, with f (2, 137) =303.21, p=.125 model is significant and will bring change for sure as $P < .05$, it can be predict that model is significant and will bring changes in business efficiency of corporation (entrepreneurship based) for sure with the changes in all the independent variables. It implies that % change in procurement, merchandise management, store location, information and transportation will bring % change in fashion of SCM used through e-commerce for the entrepreneur's business in Tanzania.

	MODEL	***Sum of Squares***	***Df***	***Mean Square***	***F***	***Sig.***
1	Regression	75.644	2	25.322	303.21	.125[b]
	Residual	2.106	137	.125		
	Total	73.750	139			

Table 10 *Analysis of variance for decision making of manufacturing industry*

Table 10 implies the analysis of variance in model.$\sum (Y_1\text{-}Y)^2 = 75.644$ for the mean difference square of predicted value of D.V and I.V and f (2, 137) = 303.21, p=.125, implies that model 1 of ANOVA is significantly fit to predict values and explain variation in factors. Qualitative expression for this variance implies that it can be predicted that procurement, merchandise management, store location, information and transportation will be affected by the usage of E-commerce in business portfolio of Tanzania

	MODEL	***Unstandardized Coefficient***		***Mean Square***	***F***	***Sig.***
		B	***Std. Error***			
1	(Constant)	.213	.123		2.536	.000
	Procurement	.212	.245	1.037	233.516	.000
	Merchandise Management	.762	.010	.172	38.731	.000
	Store Location	.567	.013	.232	56.345	.023
	Information	1.872	.245	1.234	32.124	.012
	Transportation	2.122	.135	2.345	1.223	.010

Table 11 *Regression analysis*

@ p = .000, .000, .000, .023, .012 and .010 all the values are less than .005 model is fit and significant to predict the effect of independent variable on dependent variable. With coefficients @ .212, .762, .567, 1.872 and 2.122 values, merchandise management, store location, information and transportation, linear model of regression predicts the degree change in independent variable with coefficients will change the in usage of E-commerce in supply chain management. Linear model exhibits the values that imply research hypotheses are true and drivers of SCM are affected with the high and effective usage of E-commerce integration in supply chain management in Tanzania

$$ENT\_EF\_FCT = \alpha + \beta\,(P) + \beta\,(M) + \beta\,(S) + \beta\,(I) + \beta\,(T) + e$$

Efficiency measurement of entrepreneurship for the business portfolios of Tanzania is linear and causal in nature, with a constant change unit of .213 in entrepreneurship's efficiency and capacity. Change can be positive and negative subject to coefficient of, merchandise management, store location, information and transportation drivers of SCM. Level of transformation of decision system depends on control implementations of decisions. Previously authors established the argument that supply chain management depends upon the manual themes but latest investigative findings tell that usage of e-commerce can improve the efficiency of the supply chain management that can impact directly and positively to facilities of entrepreneurship businesses in Tanzania.

VIII. CORRELATION ANALYSIS

A correlation coefficient is a numerical measure of some type of correlation, meaning a statistical relationship between two variables. The variables may be two columns of a given data set of observations, often called a sample, or two components of a multivariate random variable with a known distribution. Linear function of E-commerce is directly related to Drivers of SCM and significantly related to Entrepreneurship.

Information gathered from digital sources or literature is business intelligence and is based on value added criteria of the SCM usage and integrated modules to E-commerce. Drivers of SCM are inter-related with each other and are in causal relation with E-commerce models.

Items	*Description*	*SCM, Drivers*	*E-commerce*
Drivers, SCM	Correlation Coefficient	1	.923**
	Sig. (2-tailed)		.125
	N	139	100
E-commerce	Correlation Coefficient	.923**	1
	Sig. (2-tailed)	.125	
	N	139	100

Table 12 *Pearson Correlation of SCM drivers and E-commerce*

Table 11 exhibits the Pearson correlation between Drivers of SCM and E-commerce thar will build a causal relationship of SCM drivers used via E-commerce with entrepreneurship in Tanzania, both the variables are positively correlated with each other at 0.923 with N = 139. Table 12 implies that there is a positive correlation with strong bonding. Positive usage and change in E-commerce with integration of SCM driver will affect the efficiency and cost effective business of entrepreneurship.

IX. SUMMARY OF FINDINGS:

All the null hypotheses are rejected and study hypotheses are accepted as exhibited in table 4 and table 5. T-values of procurement, merchandise management, store location, information and transportation are greater than t-table value. There is a significant relationship between procurement, merchandise management, store location, information and transportation and E-commerce of Tanzanian Entrepreneurship. Skewness and Kurtosis exhibited in table 6 implies that data is normally distributed and rejection of null hypotheses in justified. Descriptive statistics of the study exhibited in table 6 implies that summary of mean ratings of drivers of SCM is influenced by usage of e-commerce by entrepreneurs of Tanzania. Regression analysis and change statistic exhibit that model is fit for prediction and significantly different with *p*-values less .50. Function of SCM is linear, effects of E-commerce on Drivers of SCM is linear with constant. Q-Q plots exhibited the diagrammatic explanation of research problem.

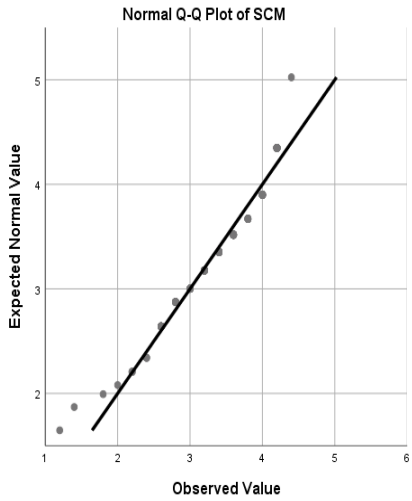

Figure 4 *Q-Q plots for SCM*

Figure 4 Q-Q plots for SCM drivers

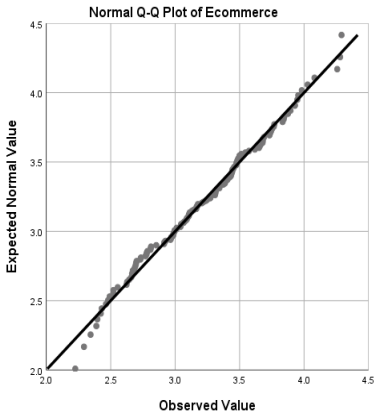

Figure 5 *Q-Q plots for E-commerce*

X. CONCLUSION

Study concludes, on the basis of statistical treatment of the data in IBM SPSS that E-commerce is linear to SCM drivers: procurement, merchandise management, store location, information and transportation and is affected through efficient and effective usage of E-commerce functions on it. In other words it can be expressed that E-commerce is positively associated with the SCM drivers and can facilitate the Entrepreneurship in Tanzania. Model of effectiveness and correlation below explains the theorem of efficiency.

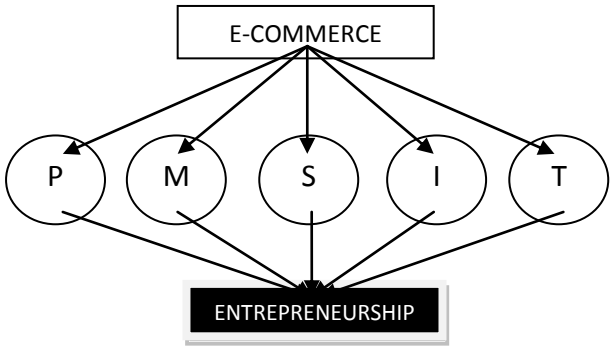

Figure 6 Entrepreneurship Supply Chain Management Model

Usage of E-commerce with integration of SCM drivers; procurement, merchandise management, store location, information and transportation can change the shape of the business efficacy and reliability for new startup and new ideas. New ideas contain risks especially in market and economy like Tanzania which can be reduced with the usage and integration of e-commerce in supply chain. Model suggest that E-drivers of supply chain management will bring new dynamic dimension to business portfolios of entrepreneurship as they have high positive correlation and impact factor on SCM drivers.

$$ENT\_EF\_FCT = .213 + \beta\,(P) + \beta\,(M) + \beta\,(S) + \beta\,(I) + \beta\,(T) + .005$$

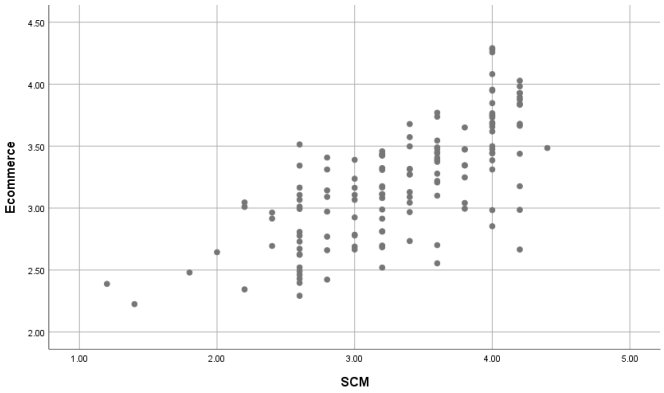

Figure 7 scatter plot diagram for SCM and E-commerce

Study also finds and concludes causal relationship between SCM drivers and E-commerce integration models of B2C and C2C, in case of new or old business procurement, logistics, information display, location placement and transportation for suppliers' goods in hands of consumers with low cost and low risk. Tanzania low economy and less developed country recorded on world scale has potential of being one of the leading countries, rich in minerals and natural gases. Efficiency of supply chain can change the fate of the country and portfolio of business into new dimensions, which can best be utilized with proper handling of E-commerce in supply chain to influence the Entrepreneurship.

Bibliography

[1]. Adnan, A. (2017). Factors affecting the organizational performance of manufacturing firms. *International Journal of Engineering Business Management* , pp. 12-16.
[2]. Agus, A. (2017). The importance of incorporating new technology and innovation in Supply Chain Management (SCM) processes in enhancing performance. *Journal of Innovations and Sustainable Future.* , pp. 23-24.
[3]. Alzola, L. M. (2012). Cost in E-commerce B2C model: Customers Perspective. *Reviews on Internet Shopping* , pp-12.
[4]. Ara, I. (2019). Is Pakistan's Manufacturing Sector Competitive? *The Pakistan Development Review* , pp. 23-34.
[5]. Bai, C., Sarkis, J., & Dou, Y. (2015). Corporate sustainability development in China: review and analysis. *Industrial Management & Data Systems; Wembley* .
[6]. Baker, P. (2007). "An exploratory framework of the role of inventory and warehousing in international supply Chain. *The International Journal of Logistics Management* , pp. 61-62.
[7]. Bean, R. (2013). *Organizational Alignment is SCM drivers* . Boston: MIT Sloan Management Reviews.
[8]. Bifet, W. F. (2012). Social supply chain management of Services and manufacturing . *SIGKDD Explorations* , pp.-2-3.
[9]. Chang, L. (2013). SCM: Analysis of Drivers. *Supply Chain Reviews* , pp. 23-24.
[10]. Cook, J. J. (2006). A Visual Analytics Agenda. *IEEE Computer Graphics and Applications* , pp. 10-13.
[11]. Cook, L. A. (2018). Effects of Perceived Scarcity on Financial Decision Making. *Journal of Public Policy & Marketing* , pp. 23-28.
[12]. Davenport, T. H. (2014). *Business on Tanzanian Turf: Solutions through E-commerce.* Boston: Harvard Business Review Press.
[13]. Fawcett, F. P. (2013). Data Science and its Relationship to Big Data and Data-Driven Decision Making. *Big Data* , pp. 12-15.
[14]. Hsinchun Chen, R. H. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly* , pp. 1165-1188.
[15]. Hutchinson, J. R. (2011). A Computational Analysis E-coomerce impacts on Entrepreneurship. *PLOS/ONE* , pp. 25-29.
[16]. Jagadish, H. (2015). SCM and Organizational Behavior. *International Journal of Supply Chain* , pp. 7-12.
[17]. Khaista Rahman, S. A. (2017). Some Interval-Valued Pythagorean Fuzzy Einstein Weighted Averaging Aggregation Operators and Their Application to Group Decision Making. *Journal of Intelegent Systems* , pp. 23-29.
[18]. Kono, D. Y. (2014). Buying National:Democracy and Public Procurement and Internatioanl Trade. *International Interactions* , pp. 123.127.
[19]. Liu, P. Z. (2016). A new trend for knowledge-based decision support systems design. *International Journal of Information and Decision Sciences* , pp. 12-13.
[20]. Lu, H.-P. (2001). The effects of cognitive style and model type on DSS acceptance: An empirical study. *European Journal of Operational Research* , pp. 1-4.
[21]. Murray, J. G. (2009). Public procurement strategy for accelerating the economic recovery. *International Journal of Public Procurement* , pp. 429-434.
[22]. Newell, A. (1972). *Human Problem Solving.* Newyork: Prentice-Hall, Inc. Upper Saddle River.
[23]. Newell, A. S. (1958). Elements of a theory of human problem solving. *Psychological Review* , pp. 155-166.

[24]. Noon, B. S. (2003). A gentle introduction to quantile regression for ecologists. *Frontier in Ecology and the Environment* , pp. 12-14.
[25]. Russom, P. (2011). *Data analysis of Theoretical Framework on SCM.* Newyork: TDWI: Best Practices Report.
[26]. Santoso, L. W. (2017). Data Warehouse: Usage of Store Location as Image Presentation \. *Procedia Computer Science* , pp. 93-99.
[27]. Simon, H. (1961). Does SCM affect Business Image and efficieny of Production . *Technology Review* , pp. 63-64.
[28]. Sumant, V. R. (2016). Big Data Analytics: Basic Concepts and Perspectives . *Journal of Advance and Scholarly Researches in Alied Education* , pp. 12-23.

Margreth George Ngussa,etal. "Analysis of affects of e-commerce on Supply chain management to facilitate the entrepreneurship in Tanzania." *IOSR Journal of Business and Management (IOSR-JBM)*, 22(4), 2020, pp. 01-13.