Impact of Supply Chain Practices on Competitive Advantage: Evidence from Ethiopian Brewery Industry

Tigist Wolde Gebre, Rajwinder Singh

Abstract: *Supply chain (SC) rehearses assume a significant role for getting a competitive position in worldwide environment. This research study intends to explore the impact of SC practices/rehearses on the competitive advantage (CA) on account of the Brewery Industry in Addis Ababa (Ethiopia). Data for investigation were collected through field survey through questionnaire based on five-point Likert scale from 119 respondents from one industry. Current study employed the variance-based structural equation modeling (SEM) analysis by utilizing Smart-Partial least squares (PLS) 3.0 software for data analysis. The results showed that SCM practices have significant impact on competitive advantage. The results show that customer relationship and strategic supplier partnership are significantly and positively related to competitive advantage of the manufacturer but not relationship between information sharing and competitive advantage. The findings of the current study give experiences into mangers with respect to how to expand the SC rehearses for getting additional advantages. The outcome of this study analysis adds to the literature on SC practices by breaking down the impact of association between customer/client relationship, information/data sharing, and strategic supplier partnership on the CA towards a firm capacity in a particular Ethiopian Brewery Industry context.*

Keywords: *Supply chain management, Competitive advantage, Brewery industry.*

I. INTRODUCTION

Supply chain (SC) is an administration of numerous capacities performed by a firm incorporates sourcing and buying, producing, logistics coordination's exercises and the robust coordination between SC collaborators. Considerable number of firms has begun to understand that the SC is the basis for setting up a beneficial competitive edge in growingly busy and competitive markets [1-3]. Li and Ragu-Nathan (2006) [4] examined five components of SC practice *viz.*, strategic supplier partnership, customer relationship, level of data sharing, nature of data sharing, and delay.

The discoveries reason that more significant levels of SCM practice can prompt expanded CA and improve the firm's performance.

II. CONCEPTUAL BACKGROUND

A. Supply Chain Practices

(1) Customer Relationship: Customer/Client relationship (CR) is a one of vital SCM practice between all practices (Dell, 1998). The solid and shutting CR allows firms to separate its item/product or facilities from contestants, gain clients unwaveringly, and deliver essential items/products to clients significantly [5]. Vickery and Jayaram (2004) analyses the significance of setting up a close client relationship as a significant act of SCM reconciliation to empower firms to react rapidly [6].

Hypothesis 1: Customer relationship significantly and positive impact on competitive advantage.

(2) Level of Information Sharing: There are two parts of data exchange viz., quality and quantity and these two perspectives are significant for SC practices and in past research studies have been considered as an autonomous concept [7].

The level of data is basic and restrictive data about a SC collaborator to the degree that the data is informed. It can shift from specialized and key in nature and from coordination's exercises to general market and client data [8].

Noteworthy numbers of research studies have shown that the way into the consistent SCM is making accessible undistorted and cutting-edge marketing information at all SCM phases [8, 9]. Stein and Sweat (1998) [10] presume that SCM collaborators can fill in as a unit where the data is traded with collaborators at standard bases. Together, they can react with great ability to the end client's needs and along these lines quicker to market changes.

Hypothesis 2: Level of information sharing significantly and positive impact on competitive advantage.

(3) Strategic Supplier Partnership: Strategic supplier partnership (SSP) involves a long term relationship among buyers and suppliers. It substantially affects manufacturing activities like manufacturing costs, on time delivery, item quality and furthermore firmly influences the firms yield or operational capacities [8, 11].
A strategic relationships highlights immediate, long-term relationship and supports shared arranging and critical thinking endeavors [12].

This strategic relationship is extremely useful for advancing common advantages among the business parties and on-going support in various key vital zones like items, innovation and markets [13]. Strategically adjusted firms have capacity to work intently together that causes them to wipe out the inefficient time and exertion [4]. Subsequently, on the bases of above conversation we anticipate that:

Hypothesis 3: Strategic supplier partnership significantly and positive impact on competitive advantage.

B. Competitive Advantage Manufacturing Organization

The term CA has been talked about extremely in the business system. Numerous researchers has characterized the idea of CA, for example, Li et al. (2006) [4] expressed that CA is the capability of an firm to make and support defensible situation over its rivals, Tracey et al. (1999) [14] additionally proposed that the CA includes particular competencies that separates an firm from contenders, in this manner giving them an edge in the commercial market. They further include that it is a result of critical management choices. CA customarily included the decision with respect to the business sectors where a firm would contend, protecting market share of the overall industry in obviously characterized portions utilizing cost and product performance attributes [15]. In the study research frame model, SC responsiveness the accompanying five measurements of competitive abilities [16]: competitive and premium pricing, worth-to-client quality, reliable delivery, and product development.

In light of these research studies conducted, the five measurements of CA develop utilized in this research study are value/cost, quality, distribution dependability, product development, and time to advertise/market and can be characterized as: Price/Cost: "The capacity of an firm to go up against significant contenders dependent on low cost" [4], Quality: "The capacity of an firm to offer item/product quality and execution that makes higher incentive for clients" [16], Delivery Dependability: "The capacity of an firm to give on time the sort and volume of item/product required by customer(s)" [4], Product Innovation: "The capacity of an firm to present new items/products and highlights in the market center" [16], and Time to Market: "The capacity of an firm to present new items/products quicker than significant contenders" [4].

C. Conceptual Research Model

Based on the literature reviewed and objectives of the study, Fig. 1 shows the conceptual research frame model for the present study.
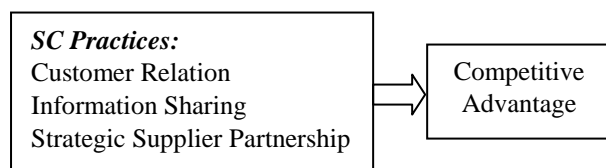
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┌─────────────────────────────────┐
│ SC Practices:                   │          ┌──────────────┐
│ Customer Relation               │─────────▷│ Competitive  │
│ Information Sharing              │          │ Advantage    │
│ Strategic Supplier Partnership  │          └──────────────┘
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Fig. 1. Conceptual research frame model for the study

III. METHODOLOGY

A. Research Design

The research deign study utilized in this investigation comprised of distinct exploration with a variable comprising of client relationship, data/information sharing, strategic supplier partnership and CA and confirmation study to decide the connection between factors through theory testing just as testing reality of the hypothesis through data assortment in the field. Primary data was collected through questionnaire by using a 5-point Likert scale *i.e.,* 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree. Secondary data was collected through research papers published in various journals. Simple random sampling technique was used while distribution of questionnaire. SPSS (version 25) and SmartPLS (Parth Least Square) (version 3.0) were to use to analysis the primary data. Three developed hypotheses were developed and also tested.

B. Population and Sampling

The breweries industry has a significant contribution to the Ethiopian economy. In a manufacturing-focused firm's operations, activities are overseen by the support of various departments. In this way, various departments are distinguished for leading the present research study are Marketing Department, Supply Chain Department, Logistic Department, Quality Control Department, Sales Department, and Distributors.

The marked respondents comprise of middle to top-level managers in the applicable useful departments or responsible for SC rehearses. The sampling outline comprises of 119 possible respondents from one of the notable Brewery Industry in Addis Ababa (Ethiopia). The replies demonstrated that the greatest number of respondents filled the research the questionnaire was a part of top and senior administration with different specializations. The research at first includes the questionnaire review; a pre-test was given to experts, thesis advisor in the SC field for final approval of the questionnaire. The estimation of factors was utilized embraced by Li and Ragu-Nathan (2006) [4] for SCM rehearses and CA.

IV. RESULTS AND DISCUSSION

The current data analysis employed a variance-based structural equation modeling (SEM) analysis by utilizing Smart-Partial least squares (PLS) 3.0 software and by running partial least squares-calculation, blindfolding and bootstrapping to test the stated three hypotheses. Also estimating path models through latent variables by means of the partial least squares-structural equation modeling algorithm, the software calculated standard outcomes assessment measures *i.e.,* the goodness of fit (GoF). The reliability of the estimation model was checked through factor loadings and composite reliability.

All the estimations of factor loading surpass the base adequate value that is .7 [17]. According to the outcomes of reliability, all the items have external loading more noteworthy than .7 (Table I).

The link among constructs and associated items were determined by external or estimation model in spite of the fact that the structural model characterized the relations between construct items as revealed in Fig 1.

In this manner, the reflective estimation models' indicators accomplish the acceptable levels. Correspondingly, as appeared in the Table I all the estimations of average variance extracted (AVE) and composite reliability is higher than the .50 cut-off value, which offers support for the convergent validity of the measures.

Table-I: Evaluation results of measurement model

Constructs	Items	Loading	CR	AVE
Customer Relation (CR)	CR1	.801	.927	.617
	CR2	.839		
	CR3	.818		
	CR4	.847		
	CR5	.860		
	CR6	.820		
	CR7	.790		
	CR8	.753		
Information Sharing (IS)	IS3	.835	.921	.702
	IS4	.905		
	IS5	.913		
	IS6	.896		
	IS7	.808		
Strategic Supplier Partnership (SSP)	SSP1	.746	.922	.601
	SSP2	.829		
	SSP3	.825		
	SSP4	.875		
	SSP5	.865		
	SSP6	.803		
	SSP9	.726		
	SSP10	.749		
Competitive Advantage (CA)	CA3	.781	.923	.599
	CA4	.826		
	CA5	.864		
	CA6	.869		
	CA7	.805		
	CA8	.784		
	CA11	.785		
	CA18	.721		

The structural model exploration focuses on the higher-order component task capability, which shows discriminate validity with the various constructs [18].

The assessment of the estimation model affirms that all the constructs measures are appropriate and consistent (Table II). All the values of average variance extracted demonstrate the discriminate of a construct (Fig. 2).

Table-II: Discriminant validity

Constructs	CA	CR	IS	SSP
Competitive Advantage (CA)	.77			
Customer Relation (CR)	.59	.78		
Information Sharing (IS)	.41	.28	.83	
Strategic Supplier Partnership (SSP)	.71	.56	.33	.77

As indicated by Henseler et al. (2009) [17] the R-square i.e., coefficient of determination is a proportion of the predictive exactness of the model. In the current research study as appeared in Table III, the estimation of Q-square is more noteworthy than "0" which shows the steadiness of the model and the predictive appropriateness of the inner model are fulfilled.

Table-III: Significance of the model

GoF Indices	R-Square)	Q-Square
Competitive Advantage (CA)	.591	.360

As appeared in the Table IV, all the estimations of path coefficients demonstrate the strong affirmative significant association among the constructs. The customer relation (CR) has significant and positive influence on CA with path coefficient = .252, t-values = 2.178, p-value = .030. The information sharing (IS) has insignificant and no positive influence on competitive advantage (CA) with path coefficient = .167, t-values = 1.905, p-value = .057. The strategic supplier partnership (SSP) has significant and affirmative impact on competitive advantage (CA) with path coefficient =.482, t-values = 5.143, p-value = .000. The consequences of variance-based PLS-SEM introduced in Table IV, shows the outcomes of the projected hypotheses. The hypotheses 1 and 3 expresses that firm with high levels of SC practices through customer relationship (CR) and strategic supplier partnership (SSP) have significant levels of competitive advantage (CA).

Hypothesis 1: Customer relationship significantly and positive impact on competitive advantage: Accepted

Hypothesis 2: Information sharing significantly and positive impact on competitive advantage: Rejected

Hypothesis 3: Strategic supplier partnership significantly and positive impact on competitive advantage: Accepted

Table-IV: Path coefficient and t-statistics

Path	Coefficients	t	p	Results
CR→CA	.252	2.178	.030	Accepted
IS→CA	.167	1.905	.057	Rejected
SSP→CA	.482	5.143	.000	Accepted

V. CONCLUSION

This research study introduced a model for examining the association between three SC rehearses and CA. The comprehensive, reliable and effective instruments were established for examining the proposed model.

It was attempted and verified by the multivariate statistical analysis comprising discriminate validity, composite reliability, path coefficient and t-statistics.

The outcomes of this investigation are promising and give guidance for the additional surveys. Concerning the social ramifications, the current study can add to a superior comprehension of SC and its administration rehearses. The contemplated SC rehearses are required to support and encourage further study.
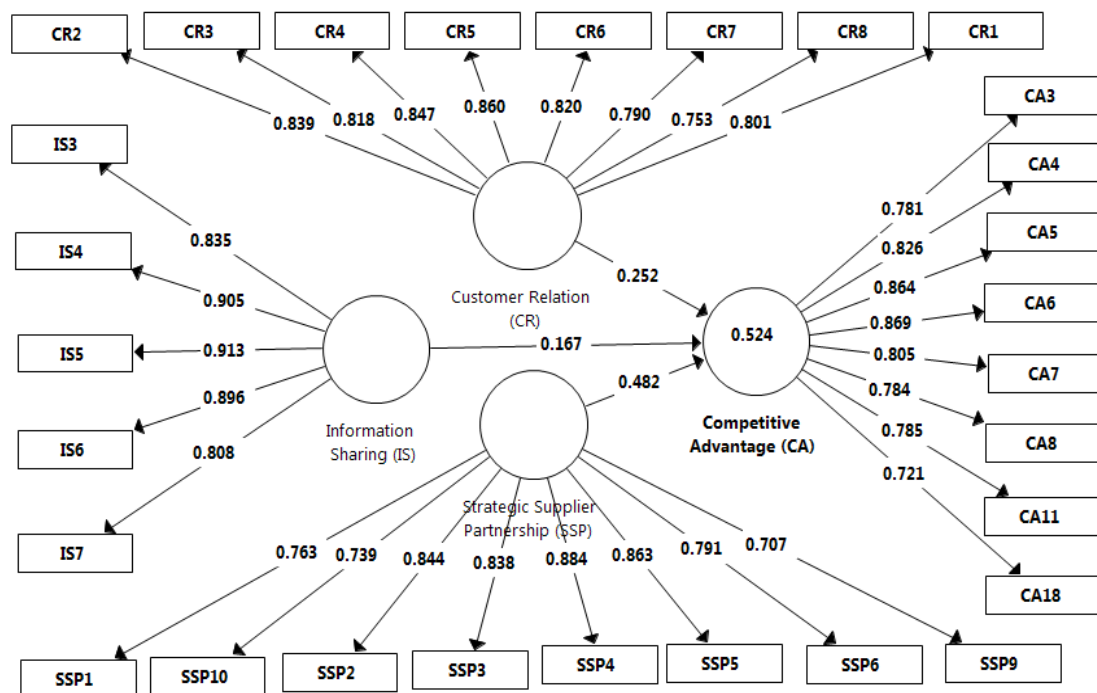

Fig. 2. Results of PLS algorithm

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AUTHORS PROFILE

Ms. Tigist Wolde Gebre is a Ph.D. Scholar at Centre for Project and Supply Chain Management, School of Management Studies, Punjabi University, Patiala, Punjab, India. She completed MBA in Marketing Management and Information Technology and also holding certificate in Business Analytic from School of Management Studies, Punjabi University, Patiala, Punjab, India. She has presented and published papers in peer-reviewed journals and conferences at national and international levels.

Her research interest includes marketing management, supply chain management, and information technology.

Dr. Rajwinder Singh is an Assistant Professor at Centre for Project and Supply Chain Management, School of Management Studies, Punjabi University, Patiala, Punjab, India. He has published and presented many research papers in national and international conferences and journals. His research interest includes project management, supply chain management, and operations management.