

# **EFFECT OF PARTNERSHIP ON SUPPLY CHAIN DEVELOPMENT OF COOPERATIVE ORGANIZATIONS IN SOUTHWEST REGION OF ETHIOPIA**

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## **ABSTRACT**

*This study has been carried out to identify effect of partnership on supply chain developments in Southwest region of Ethiopia. It is based on data collected from primary and secondary sources. Structural equation modeling was used to identify the effect of partnership on supply chain developments. The result reveal that, the correlation coefficient between partnership and upgrading is positive and significant ( $\beta=0.48$ ,  $p<0.05$ ). This means if partnership increases by 1 percent, upgrading will increase by 0.48 percent. This reveals that Hypothesis of the research was supported. The findings also indicate that there is less free flow of information which assists development and growth of the partnership. The farmers could upgrade the coffee collecting, cleaning, storing and transportation to upper level. Storage is one of the most important and critical stages in the processing of any agricultural commodity. In line with this the results of this study revealed that there is no such considerable change in collecting, storing, cleaning, bagging and transporting. In line with this the government and non-government organizations should provide different facilities, technologies and infrastructure regarding collecting, storing, cleaning, bagging and transporting their produce. Farmers (members of cooperatives), management of primary cooperative and Oromiya Coffee Farmers Cooperative Unions have to work on creating linkage and harmony between and among supply chain actors of coffee farmers' cooperative organizations to enhance the performance and growth of coffee farmers and primary cooperatives.*

**Keywords :** partnership, cooperatives, upgrading



## INTRODUCTION

The coffee supply chain in Ethiopia is composed of a large number of actors. It includes coffee farmers, collectors, different buyers, processors, primary cooperatives, cooperative unions, exporters and various government institutions (Gemech and Struthers,( 2007) cited in Anteneh, R. Muradian, R. Ruben ,2011). Ethiopian coffee is sold both at local level and at the international market, the latter mainly through the newly established commodity exchange market and directly to international buyers through specialty market channels by coffee cooperative unions. Normally, all Ethiopian coffee should pass through Commodity Exchange Market. Since 2001, however, cooperatives have been granted permission to by-pass coffee auction opening the way for direct export sales (Dempsey, 2006).

Rapid change in dynamics of production and trade in the global economy has a major impact on producers and workers in developing countries. A significant proportion of trade now takes place through coordinated value(supply) chain in which lead firms globally and locally play a dominant role. Firms engaged in global production networks have opportunities for economic upgrading through engaging in higher value production within value chain. But they also face challenges meeting the commercial demand and quality standards required by buyers, which smaller and less efficient producers find hard to meet(Barrientos, S., Gereffi, G., & Rossi, A. ,2011).

## LITERATURE REVIEW

### Partnership and Upgrading

Partnerships<sup>2</sup> are about the shared agendas as well as combined resources, risks and rewards. They are voluntary collaborations that build on the respective strengths and core competencies of each partner, optimize the allocation of resources and achieve mutually beneficial results over a sustained period. They imply linkage that increases resource, scale and impact (WEF, 2005).

Partnerships are about people working together in a mutually beneficial relationship, often doing things together that might not be able to achieve alone. Partnership implies the sharing of resources, work, risk, responsibility, decision

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<sup>1</sup> The Ethiopia Commodity Exchange (ECX) is an organized marketplace, where buyers and sellers come together to trade, assured of quality, quantity, payment, and delivery. The Exchange is jointly governed by private-public Board of Directors.

<sup>2</sup> A partnership is a relationship where two or more parties, having compatible goals, form an agreement to do something together.



making, power, benefit, and burdens. It should add value to each partner's respective service, product, or situation. Partnerships, therefore, are based on identifiable responsibilities, joint right and obligations, and are often founded on legalities or regulations. A true partnership (in strict sense of word) establishes a formal relationship between partners (Frank and Smith, 2000). International partnership for sustainable food and poverty alleviation increasingly pay attention to the organization and performance of agro food chains and network. Improving market access and competitiveness of small holders in developing countries require concerted efforts for linking different stakeholders (producers, traders, and retailers) in order to reduce transaction cost and to reinforce learning capacities. Meeting the market requirements of scale, reliable supply, locality and quality is critically important for reaching competitiveness (Ruben R. et.al, 2006).

One of the strength of partnerships is that each partner or each entity usually has a clear identity outside the partnership. The degree to which partners will contribute both time and skill vary from group to group and individual to individual. Regardless of the function, structure or time involved, the partnership work is most often in addition to the regular work of the group or partnership members. People in the partnership are not always involved to the same degree all of the time. Some may have less involvement as the alliance evolves, while others form the core group that is constantly active (Frank F. and Smith A., 2000).

Supply chain partnership typically aims at improving the production and delivery of products and services of small scale producers (O Rourke, 2006; Glasbergen et al., 2007; Backstrand, 2006). They can create new institutional arrangements in order to address important technological and institutional gap that hinder small producers from producing for and transacting into (global) supply or value chains. In line of the importance of agricultural activities for the livelihood of millions of people in rural areas, poverty alleviating growth strategy is improving access to formal and commercial market (Bitzer, V., Glasbergen, P., & Leroy, P., 2012) and Van Wijk and Kwakkenboss, 2012).

Low cost producers are entering global market, intensifying competition in market. However, Firms in developing countries are under pressure to improve their performance and increase their competitiveness. Porter, (1990), Kaplinsky, & Morris (2001), indicated that the most viable response is to upgrade-to make better product, make them more efficiently, or move into more skilled activities.



Market forces urge supply chain partners toward closer cooperation. Especially for local producers in developing countries who wish to participate in regional or global markets, supply chain collaboration is of key importance for guaranteeing: access to new and profitable market outlets, based on supply chain management for innovative product-market combinations; network governance for enabling timing response to demands for especially development and knowledge dissemination; and chain upgrading through partnership that increase the size and distribution and add value through improved production systems, information exchange or logistics (Ruben R.et.al,2006).

Due to their size, smallholders have difficulties benefiting from economies of scale that would help to reduce production and transaction costs. Farmer's cooperatives can reduce the transaction costs associated with accessing inputs, information, technology and credit and with processing and marketing activities. This enables stakeholders to compete with larger producers and improve their bargaining power vis-à-vis buyers

It is evident that most of the literature focuses on the types of partnerships and cooperatives while neglecting the role of supply chain partnerships has on supply chain development.

## **MATERIALS AND METHODS**

This study was conducted in three districts of Jimma Zone, Southwest Ethiopia, namely Gomma, Manna, and LimmuKosssa district (woredas). Jimma zone is one of coffee growing zones in the Oromiya Regional State, which has a total area of 1,093,268 hectares of land (JZARDO,2008) as cited in Anwar (2010). Coffee is the major cash crop of the zone, which is produced in the eight districts namely, Gomma, Manna, Gera, LimmuKossa, Limmu Seka, Seka Chokorsa, Kersa, and Dedo, which serves as a major means of cash income for the livelihood of coffee farming families(JZARDO,2008).

### **Research design**

The research design of this study is cross sectional survey design, in which both qualitative and quantitative data were used. It is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data (Kotahri, 2004). According to Bryman and Bell (2003) a research design provides a framework for the collection and analysis of data. It is a blueprint that is followed in carrying out the study.

### **Data Types and Sources**

The types of data were Quantitative and qualitative in this study. In order to



get these data types, both secondary and primary data sources were used. Secondary sources include, journals, books, internet browsing, national policies, cooperative union reports, zonal and district (woreda) reports. Primary data sources include coffee farmers, primary cooperatives, zonal and district (woreda) cooperative office.

### **Methods of Data Collection**

The data collection was conducted through the use of value chain partnership and value chain upgrading questionnaire adopted from pervious literature. In addition, secondary data sources of unions and primary cooperative reports were used. The questionnaire composed of statements measuring value chain partnership and upgrading of coffee farmers primary cooperatives in Jimma zone to be responded on a five- point likert scale (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree) for value chain partnership items and three point scale, 1= no change , 2=modest change, and 3 = considerable change for upgrading items. To improve the questionnaire in terms of wording, sequence, layout, familiarity with respondents, etc., a pilot study was carried out to determine the reliability of the scales in the questionnaire.

### **Sampling Techniques and sample size determination**

Sampling refers to the selection of some part on an aggregate or totality on the basis of which a judgment or inference about the aggregate or totality is made. It is the process of obtaining information about an entire population by examining only a part of it (Kothari, 2004).

To conduct formal survey, multi stage probability and non-probability sampling were used. In the first stage Jimma Zone was selected from southwest Ethiopia based on high coffee production and sales. Next three districts (woradas) namely, Mana, Goma and LimuKossa were selected on the ground that they are major coffee production areas. At third stage out of 14, 12, and 8 primary cooperatives from Goma, Limu, and Mana districts respectively, three primary cooperatives from each districts were randomly selected. Finally, the researcher selected 324 coffee farmers by stratified proportional random sampling and 66 cooperative experts and staffs at managerial and administrative levels in which they are members of primary cooperatives by census survey. Bacon (1997) had reviewed SEM applications from other publication and pointed out that SEM typically uses 200–400 samples to fit models within 10–15 observed variables.



**Table 1. Sample of members of cooperatives**

No	Districts	Sample cooperatives	members	Sampling fraction (Multiplier) (n/N )	Proportionate to Samples size
1	Gomma	Chocheveda	1421	1,421(324/11,843)	39
		Ilbu	1263	1,263(324/11,843)	35
		Kota	646	646(324/11,843)	18
2	Limukossa	Ambuye	1959	1,959(324/11,843)	54
		Shogole	1693	1,693(324/11,843)	46
		Debelo	1289	1,289(324/11,843)	35
3	Mana	Afatawanja	1291	1,291(324/11,843)	35
		Garuke	1314	1,314(324/32,668)	36
		Haro	967	967(324/11,843)	26
T.	3	9	11843		324

**Table 2. Sample of employees**

No.	Name of districts	Sample cooperatives	Male	Female	Total number of employees	Samples
1	Gomma	Chocheveda	7	-	7	7
		Ilbu	5	1	6	6
		Kota	7	1	8	8
2	Limukossa	Ambuye	5	2	7	7
		Shogole	9	-	9	9
		Debelo	6	2	8	8
3	Manna	Afatawanja	10	1	11	11
		Garuke	3	-	3	3
		Haro	7	-	7	7
To.	3	9	59	7	66	66

### Methods of Data Analysis

The descriptive statistics such as mean, standard deviation, correlations, and inferential statistics such as structural equation model (SEM) were used for analyzing the data collected. Structural Equation Modeling (SEM) with Analysis of Movement Structure (AMOS) version 23 software were used to conduct factor analysis of value chain partnership and value chain



upgrading. Structural equation model can examine a series of dependence relationship simultaneously. It is particularly useful in testing theories that contain multiple equations involving dependence relationship (Hair.et.al, 2010).

### **Variables of the study**

The variables of this study were the predictor variables (partnership constructs such as openness in partnership, equality in partnership, conflict management in partnership); and outcome variables value chain upgrading. Hence, upgrading (development) is the dependent variable of this study.

## **RESULTS AND DISCUSSION**

### **Response rate**

The questionnaire was distributed to 324 members and 66 employees of primary cooperatives of the study area. Out of 390 questionnaire distributed all are returned and usable with minor edition which is 100% response rate.

### **Demographic characteristics of respondents**

The findings of respondents profile such as age, sex, educational levels, marital status, and family size were described in table 2 below. Table 3 below, shows 45 (11.5%) of respondents were female and 345 (88.5%) of respondents were male. This indicates that the majority of respondents and members of the primary cooperatives were male. As indicated in table 3, 19 (4.9%) of respondents fall in 18-26 age interval, 51(31.1%) of respondents were between the age of 27-35 years ,130(33.3%) respondents were in the age interval of 35-44 years, 80 (20.5%) respondents were in the age interval of 45-53 and finally110 (28.2%) respondents were above 53 years. This reveals that majority of respondents were ranged between 36-44, followed by age above 53 years. Fewer respondents were in the age between 18-26 years. As shown in table 3, 81(20.8%) of respondents didn't have formal education, 151(38.7%) of respondents had 1-6 grade level of education, 155(39.7%) of respondents had 6-12 grade and 3(0.8%) of respondents had diploma and above. Thus, majority of respondents ranged from grade 6-12, and followed by those who didn't have formal educations. Few respondents hold diploma and above. As indicated in table 3,361(92.6%) and 27(6.9%) of respondents were married and unmarried respectively, 1(0.3%) of respondents were divorce and widowed each. The finding indicated that majority of respondents were married and few respondents were divorce and widowed.



**Table 3 : Respondents Profile**

Demographics	Category	Frequency	%
Age	18-26	19	4.9
	27-35	51	13.1
	36-44	130	33.3
	45-53	80	20.5
	above 53	110	28.2
	Total	390	100.0
Sex	Female	45	11.5
	Male	345	88.5
	Total	390	100.0
Educational level	No formal education	81	20.8
	1-6 grade	151	38.7
	7-12 grade	155	39.7
	Diploma and above	3	0.8
	Total	390	100.0
Marital status	Married	361	92.6
	Unmarried	27	6.9
	Divorce	1	0.3
	Widowed	1	0.3
	Total	390	100.0
Family size	1 to5	202	51.8
	above 5	188	48.2
	Total	390	100.0

Source: Questionnaire result of 2016

### **Data Screening**

The researcher has employed experts who can understand both English and local language during data collection. Supervision of enumerators was also made by researcher in every site (Kebeles) to get the intended respondents and information from study area. Moreover, minor data editions were made every day by the researcher. The collected questionnaire survey was entered in to SPSS statistical software version 23. By use of basic descriptive statistics, screening of data was conducted. Values that were found to be out of range and improperly



coded were checked. To every variable frequency tests were made to check missing data. However, there was no missing data and all data were complete.

After data screening, the researcher had done reliability test and validity test, multi-co-linearity test, outlier of the items and the variables. Outliers are scores that are different from the rest. Typically it is judged to be an unusually high or low value on a variable or a unique combination of values across several variables that make the observation stand out from the others (Hair, et al., 2010).

In multivariate detection of outliers, the researcher needs to objectively measure the multidimensional position relative to some common point. This issue is addressed by the Mahalanobis D2 measure, multivariate assessment of each observation across the variables. The Mahalanobis D2 measure has statistical properties that allow for significant testing. The D2 measure divided by the number of variable involved (D2/df) is approximately distributed as t-value. It is suggested that conservative level of significance (0.005 or 0.001) be used as the threshold value for designation as outlier. Observation having a D2/df value exceeding 2.5 in small samples and 3 or 4 in large samples can be designated as possible outliers (Hair, et al., 2010).

**Table 4 : Test of outlier**

Model	Largest D per model	df	D2/df
Mahal. Distance	15.563	386	0.0403

**Reliability test**

As per Hair, et al., (2010) Reliability is a measure of the degree to which a set of indicators of a latent construct is internally consistent in their measurements. The indicators of highly reliable constructs are highly interrelated, indicating that they all seem to measure the same thing. Individual item reliability can be computed as 1.0 minus the measurement error. It is extent to which a variable or set of variables is consistent in what it is intended to measure. If multiple measurements are taken, the reliable measures will all be consistent in their values.

Cronbach's alpha statistics is used to provide a measure of the internal consistency of scale or items; it is expressed as a number between 0 and 1. Internal consistency describes the extent to which all the items measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test. Internal consistency should be determined before a test can be employed for research or examination purposes to ensure validity. In addition,



reliability estimates show the amount of measurement error in a test. This interpretation of reliability is the correlation of test with itself. Squaring this correlation and subtracting from 1.00 produces the index of measurement error. In exogenous variable analysis, there is no gold standard as to how high coefficients should be in order to consider score reliability as good, but there are some guidelines; reliability coefficient around .90 are considered excellent, values around .80 are very good and values around .70 are adequate. Somewhat lower levels score reliability can be tolerated in latent variable methods compared with observed variable methods, if the sample size is sufficiently large (Hair et,al.,2010).

**Table 5 : Reliability estimate of value chain partnership**

Factors	Corrected Item -Total Correlation	Cronbach's Alpha if Item Deleted
Openness in the Partnership		
Openess1	.50	.715
Openess2	.558	.701
Openess3	.565	.700
Openess4	.523	.704
Openess5	.500	.733
Equality of the Partnership		
Equality1	.523	.757
Equality2	.534	.754
Equality3	.542	.752
Equality4	.574	.744
Equality 5	.636	.733
Equality 6	.500	.782
Conflict Management in the partnership		
Conflict1	.505	.700
Conflict2	.53	.701
Conflict3	.501	.700
Conflict 4	.527	.700
Conflict 5	.493	.701

**Table 6 : Internal consistency test of construct**

Factors	Cronbach's Alpha value
Oneness in partnership	.751
Equality of the partnership	.786
Conflict management in the partnership	.726
Product improvement	.882
Process improvement	.724
Functional improvement	.584



Internal consistency among items of the partnership, and upgrading construct helps to measure the reliability for each dimension of the construct. Cronbach's alpha and item to total correlation were utilized to avoid the poor performing items from the initial model. Item to total correlation was obtained to determine how each item related to the other item in the scale. It was tested by corrected item- total correlations. Kline, P. (1993).A correlation higher than 0.2 indicated that each item has a good correlation with the domain. According to Tavakol & Dennick (2011) and Kline, P. (1993) 0.5 to 0.7 alpha value of the item is recommended to retain in manifest variable. Thus 0.5 to 0.7 and 0.2 for Cronbach 'salpha and corrected item to total correlation respectively were used as an acceptable level to maintain the item. The internal consistency result showed that Cronbach's alpha value for all item were acceptable. Also the corrected item to total correlation for all items is acceptable and maintained. As indicated in table 7 below, the Cronbach's alpha coefficient value was in range from 0.68 to 0.78 for three sub construct (openness in partnership, equality in partnership and conflict management in partnership) of partnership.

**Table 7 : Reliability estimate of Partnership**

Factors	Corrected Correlation	Item -Total	Cronbach's Alpha if Item Deleted
Openness in the partnership			
Openess1	.50		.715
Openess2	.558		.692
Openess3	.565		.689
Openess4	.523		.704
Openess5	.442		.733
Equality of the partnership			
Equality1	.523		.757
Equality2	.534		.754
Equality3	.542		.752
Equality4	.574		.744
Equality5	.636		.733
Equality6	.433		.782
Conflict management in the partnership			
Conflict1	.505		.701
Conflict2	.453		.691
Conflict3	.465		.700
Conflict 4	.527		.712
Conflict 5	.493		.703

The internal consistency result showed that Cronbach's alpha value for all item were acceptable. Also the corrected item to total correlation for all items is acceptable and maintained. As indicated in table 8 below the Cronbach's alpha coefficient value was in range from 0.5 to 0.91 for all value chain upgrading and institutional support items.



**Table 8 : Reliability estimate of Upgrading**

Factors	Corrected Item Total Correlation	- Cronbach's Alpha if Item Deleted
Process improvement		
Process improvement1	.554	.626
Process improvement2	.539	.643
Process improvement3	.542	.640
Product improvement		
Product improvement1	.668	.923
Product improvement2	.840	.769
Product improvement3	.812	.796
Functional improvement		
Functional improvement2	.345	.553
Functional improvement3	.356	.539
Functional improvementg4	.347	.501

### Multi-co-linearity

Multi-co linearity occurs when two or more predictor variables in the model are correlated and give redundant information about the response. A direct measure of multi-co-linearity is tolerance, which is defined as the amount of variability of the selected independent variables not explained by the other independent variables. The tolerance value should be high, which means small degree of multi-co-linearity. A second measure of multi-co-linearity is a variation inflation factors (VIF), which is calculated simply the inverse of tolerance. Small tolerance value (and thus large VIF values  $VIF=1/\text{tolerance}$ ) denote high multi-co-linearity. A common cutoff threshold is a tolerance value of .10, which corresponds to a VIF value of 10 (Hair, et al., 2010). In this study two measure of multi-co-linearity were used (tolerance and VIF) which is depicted in table 10 below. The result indicated that there is no multi-co-linearity problem in the data.

**Table 9 : Multi-co-linearity test**

Model	Constant	Co-linearity Statistics	
		Tolerance	VIF
	Openness	.879	1.138
	Equality	.893	1.120
	Conflict	.936	1.068



# CONFIRMATORY FACTOR ANALYSIS

In this research AMOS version 23 was used to carry out Confirmatory Factor Analysis (CFA). A number of fit indices were employed to examine the model fit of the construct. As per Hair et.al. (2010) Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI) requires 0.9 or more to accept the model. Standardized Root Mean Square Residual (SRMR) was used and smaller values are better. Root Mean Square Error of Approximation (RMSEA) was also used to test model fit index. The value .06 near to 00 indicates close and exact fit. Chi-Square divided ( $\chi^2/df$ ) to degree of freedom is the other way of testing model fit and value below 2.0 is acceptable. On the other hand, when the initial model fail fitting, they needs to revise. Once the model was modified, the hypothesis model would be done by using confirmatory factor analysis (CFA) procedure. In subsequent section, the measurement model of each sub scales were measured and goodness of fit were examined.

## Initial measurement model of partnership

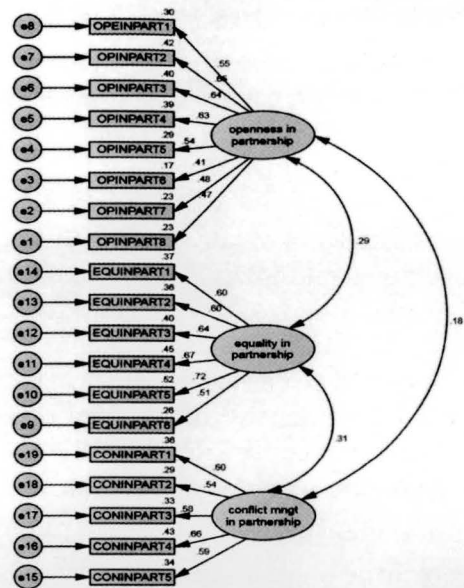
Partnership is measured by 19 items adopted from Goedegebuure R.V., Ssejjemba K. and De Waal (2013). These items measures three sub constructs of partnership (openness in partnership, equality in partnership and conflict management in partnership). The initial model failed to fit the data,  $\chi^2/df=2.208$  which is still significant but lower factor loading,  $P=00$ ,  $GFI=.915$ ,  $AGFI=.892$ ,  $RSMEA=.056$ . In the initial measurement model poorly fitting items which are low factor loading (openness item 6, 7, and 8) were removed.

Table 10 : Initial model of partnership items

Partnership sub constructs	Item description	Standardized loading
Openness in partnership	Our partner immediately informs us if something significant has happened	.55
	Our partner always takes decision that affect the partnership together with us	.65
	Our partner regularly exchange ideas with us	.64
	Our partner often has contact with us	.63
	Our partner keeps us well (completely, honestly, openly, timely) informed on developments	.54
	Our partner continuously aligns his processes with our processes	.41
	Our partner has a strong personal relation with us	.48
	Our partner does everything to fulfill his promises to us	.47
Equality in partnership	Our partner has the same amount of power in the partnership as we have	.60
	Our partner and we have equal say when taking decisions	.60
	The organizational culture of our partner strongly matches our organizational culture	.64
	Our partner is equally dependent on us as we are on him	.67
	Our partner communicates his changing demands regarding the partnership in time to us	.72
	Our partner and we always confer(discuss) on the planning of activities	.51
Conflict management in partnership	There are no personal conflicts between partners	.60
	There are no cultural misunderstanding between partners	.54
	There is trusts between partners	.58
	Partners do not have conflicting goals.	.66
	Differences between partners are being actively managed	.59



**Figure 1 Initial measurement model of partnership construct dimension**



**Table 11 : Fit Indices of the Initial and Revised Model of the Partnership Dimension**

The Fit Index		df	$\chi^2/df$	p-value	RMSEA	GFI	AGFI
Initial Model	329.054	149	2.208	.000	.056	.915	.892
Revised model	184.999	101	1.832	.000	.046	.943	.923

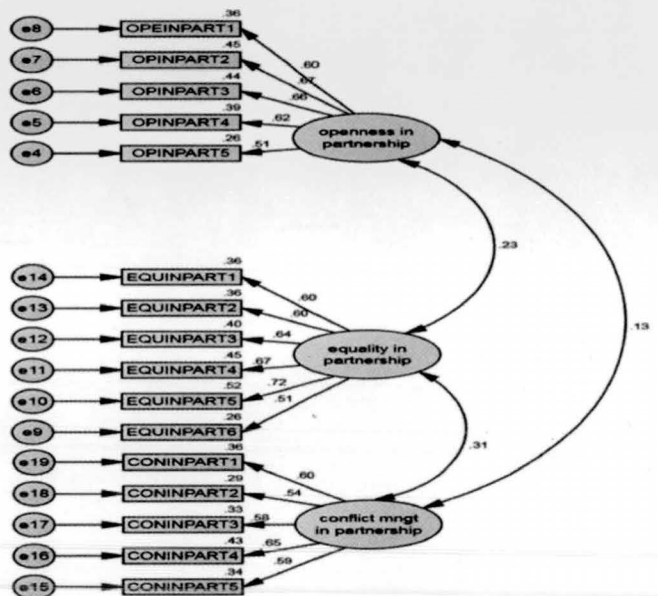
**Revised model of partnership**

Figure 1 Shows the initial model of three sub construct (openness in partnership, equality in partnership and conflict management in partnership) of partnership main construct. Openness in partnership is measured by 8 items; equality in partnership by 6 items and conflict management in partnership is measured by 5 items. The confirmatory factor analysis (CFA) revealed that the measurement of partnership did not fit the data. However, in modifications, the model was revised as indicated in figure 2 below. The revised model comprises 5 items for openness in partnership, 6 items for equality in partnership and 5 items for conflict management in partnership. The fit data of revised model indicated an acceptable fit,  $\chi^2/df=1.832$ ,  $RMSEA=0.046<0.08$ , and  $GFI=.943$ ,  $AGFI=.923$ . To sum up the revised model fits the model than initial model



**Table 12 : Revised model of partnership items**

partnership variables	Squared Multiple correlation	Standardized loading
Openess1	.40	.60
Openess2	.50	.67
Openess3	.44	.66
Openess4	.40	.62
Openess5	.30	.51
Equality1	.40	.60
Equality2	.40	.60
Equality3	.40	.64
Equality4	.50	.67
Equality5	.50	.72
Equality6	.30	.51
Conflict 1	.40	.60
Conflict2	.30	.54
Conflict3	.33	.58
Conflict4	.43	.65
Conflict5	.34	.59



**Figure 2 Revised model of partnership construct dimension**



Initial measurement model of upgrading

Value chain upgrading is measured by 11 items adopted from Goedegebuure R.V., Ssejjemba K. and De Waal (2013). These items measure three sub constructs of value chain upgrading (process upgrading, product upgrading and functional upgrading). The initial model failed to fit the data,  $\chi^2/df=3.415$  which is still significant but lower factor loading,  $P=00$ ,  $GFI=.939$ ,  $AGFI=.901$ ,  $RSMEA=.079$ . In the initial measurement model poorly fitting items which is low factor loading (process upgrading, item 4, functional upgrading item 1, and 5) were removed.

Table 13 : Initial model of upgrading items

Upgrading	Questions	St. loading
Process upgrading	Productivity increase	.72
	Increased use of Farm implements	.68
	Better farm management	.64
	Investment in technology	.40
Product upgrading	Shift to varieties accepted by the customer	.70
	Enhanced attention to quality aspects	.94
	Diversification actively encouraged by partnership	.91
Functional upgrading	Collecting coffee	.40
	Storing coffee	.54
	Cleaning coffee	.54
	Bagging coffee	.63
	Transporting coffee	.25

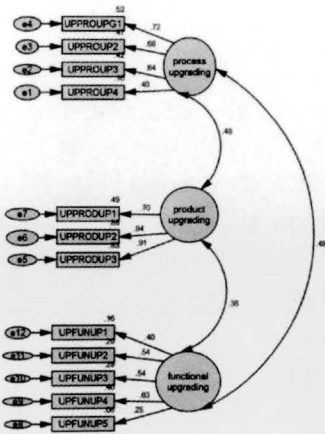


Figure 3 : Initial model of upgrading sub construct dimension



Figure 4 : Revised model of upgrading sub construct dimension

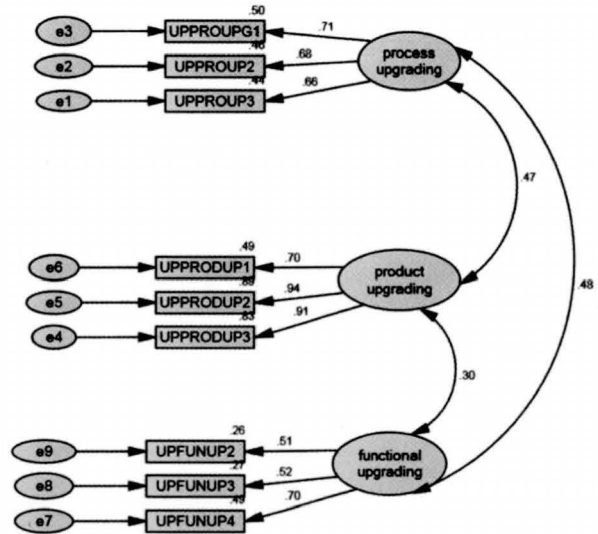


Table 14 : Revised model of upgrading items

upgrading variables	Squared Multiple correlation	Standardized loading
Process upgrading1	.50	.71
Process upgrading2	.46	.68
Process upgrading3	.44	.66
Product upgrading1	.49	.70
Product upgrading2	.89	.94
Product upgrading3	.83	.91
Functional upgrading2	.26	.51
Functional upgrading3	.27	.52
Functional upgrading4	.49	.70

Revised model of upgrading

Figure 3 Shows the initial model of three sub construct (process upgrading, product upgrading and functional upgrading) of value chain upgrading mediating variables. Process upgrading is measured by 4 items; product upgrading by 3 items and functional upgrading is measured by 5 items. The confirmatory factor analysis (CFA) revealed that the measurement of upgrading did not fit the data. However, in modification indices, the model was revised as indicated in figure 4. The revised model comprises 3 items for Process upgrading, 3 items to product upgrading and 3 items for functional upgrading. The fit indices of revised model indicated an acceptable fit,  $\chi^2/df=1.581$ ,  $RMSEA=0.039<0.08$ , and  $GFI=.979$ ,  $AGFI=.961$ . In general the revised model fits the model than the initial model



**Table 15 : Fit Indices of the Initial and Revised Model  
of the upgrading Dimension**

The Fit Index	$\chi^2$	df	$\chi^2/df$	p-value	RMSEA	GFI	AGFI
Initial Model	153.617	51	3.012	.000	.072	.939	.906
Revised model	37.941	24	1.581	.035	.039	.979	.961

### Structural model and hypothesis testing

Structural equation modeling (SEM) was conducted to estimate the fitness of the model. To perform structural analysis AMOS version 23 programs was used.  $\chi^2/df$ , Root Mean Square of Approximation (RMSEA), Goodness of Fit Index (GFI), Comparative Mean Index(CFI), and Adjusted Goodness of Fit Index(AGFI) were undertaken to check the model fit.  $\chi^2/df$  less 5 was recommended by Browne & Cudeck (1993) as threshold. The model fits of all measure fulfills the recommended threshold indicating good fit structural model with data.

In this study  $\chi^2/df$  was 2.844 which indicate the acceptable goodness of fit. RMSEA equal to or less than 0.05 to 0.08 is acceptable goodness of fit. GFI and AGFI indicate model fitness when compared to models non-existence. To accept the model GFI, AGFI and CFI should be equal to or higher than 0.9. In this research, Goodness of Fit Index (GFI), Adjusted Goodness Fit of Index (AGFI) and Comparative Fit Index (CFI) were 0.939, 0.907 and 0.900 respectively.

**Table 16 : Path Analysis by Structural Equation Modeling (SEM)**

hypothesis		C.R	P-Value	Test result
H1. partnership → upgrading	0.48	2.453	0.014**	supported

\*\*P<0.05,\*\*\*P<0.01

### H1. Partnership has a positive influence on upgrading.

The correlation coefficient between partnership and upgrading is positive and significant ( $\beta = 0.48$ ,  $p < 0.05$ ) this means if partnership increases by 1 percent, upgrading will increase by 0.48 percent. This reveals that H of the research was supported.



Drost, van Wijk, & Mandefro (2012) explored the aspects of four partnerships –in the form of multi-stakeholder platforms (MSPs) - in the honey, dairy, pineapple and oilseeds sectors in Ethiopia. They found that the honey MSP was successful in this regard, because it managed to provide chain actors with access to relevant technological and market information, established a new and widely supported professional organization, and opened up foreign markets for Ethiopian honey. Changes in the opportunities to get loans or credit remained problematic in all four Ethiopian chains, including that of honey.

## **CONCLUSIONS AND RECOMMENDATION**

### **Conclusions**

This study was conducted to examine the effect of partnerships on development. Data were collected from both primary and secondary sources. Primary data was collected from 324 members of coffee farmers cooperative and 66 administrative staffs of primary cooperatives. Secondary data was collected from primary cooperatives, unions and cooperative promotional office of the district (Woredas) reports. Also journal and books were used as secondary sources of data.

The variables of this study were the predictor variables (partnership constructs such as openness in partnership, equality in partnership, conflict management in partnership); and outcome variables upgrading construct (process improvement, product improvement, functional improvement).

The results reveal that there is less free flow of information which assists development and growth of the partnership. Understanding the organization's objectives, expertise and focus, the diversity and equality will provide a strong platform to raise awareness and build closer relationships within cooperative members and management. The study also infer that there is less equality in decision making, interdependence and information sharing. Trust is a very important factor to build strong relationship in partnership and to have confidence on one another to exchange information, resources and knowledge. Understanding the behaviors and role of the partner were also important factors in building strong partnership. Cooperatives could support producer though linkage to facilitate changes in production and enhance productivity and build capacity of the farmers. However the results of the study revealed that there is no considerable change in producing accepted variety of coffee by customers and with the required quality and attentions. The farmers could upgrade the coffee collecting, cleaning, storing and transportation to upper level. Storage is one of the most important and critical stages in the processing of any agricultural



commodity. In line with this, the results of the study revealed that there is no considerable change in collecting, storing, cleaning, bagging and transporting .

Structural equation modeling (SEM) was conducted to estimate the fitness of the model. In this study  $\chi^2/df$  was 2.844 which indicate the acceptable goodness of fit. To accept the model GFI, AGFI and CFI should be equal to or higher than 0.9. In this research Goodness of Fit Index (GFI), Adjusted Goodness Fit of Index (AGFI) and Comparative Fit Index (CFI) were 0.939, 0.907 and 0.900 respectively. The result of Hypothesis partnership has a positive influence on chain upgrading is supported. The correlation coefficient between partnership and chain upgrading is positive and significant ( $\beta = 0.48$ ,  $p < 0.05$ ) this means if partnership increases by 1 percent, supply chain development will increase by 0.48 percent.

### **Recommendations**

Understanding the behaviors and role of the partner was also important factor in building strong partnership. Without knowing what was produced and processed by the farmers, it was difficult for management of the cooperative to find market for the produce. Opposing interests between members of cooperative and the management may lead to divergent goals and frustrations in the cooperatives. Strengthening mutual beneficial linkage among supply chain is the core for chain development so as to work together in order to capture opportunity in the environment.

As support providers, the government and the chain actors such as primary cooperative managements and Oromiya Coffee farmers Cooperatives Union have to create awareness through farmers training to produce customer accepted variety of coffee with the required quantity and quality attentions and obtain necessary certification to fetch high price premium

The farmers should upgrade the coffee collecting, cleaning, storing and transportation to upper level. Storage is one of the most important and critical stages in the processing of any agricultural commodity. In line with this, the government and non-government organization should provide facilities, technologies and infrastructure regarding collecting, storing, cleaning, bagging and transporting the produce.

The most important physical inputs for coffee production are improved seeds and compost. The members of the cooperatives have to have access and supply of inputs such as improved coffee varieties, compost and Training in crop management and post-harvest treatment.



Farmers (members of cooperatives), management of primary cooperatives and Oromiya Coffee Farmers Cooperative Unions should work on creating linkage and harmony between and among supply chain actors of coffee farmers' cooperative organizations to enhance the performance and growth of coffee farmers and primary cooperatives. Besides institutional support such as access to credit, access to market and input supply have a positive and significant influence on value chain upgrading. Thus, the government and non-government organization should provide credit facility and profitable market and input that could enhance process upgrading, product upgrading and functional upgrading. The government and Managements of the cooperatives should facilitate the credit service from financial institutions like Oromia Cooperative Bank for the members farmers.

At each level, training and capacity building in the value chain can increase efficiency or output, save time, increase product quality, minimize loss and increase income. So it is necessary to incorporate necessary inputs in a strategic plan that enhances capacities of employees. Using qualified personnel in primary cooperatives that produce product, is crucial in order to meet challenges of world market by producing demanded products of high quality.

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