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ARTICLES

Full Length Research Paper

Production and marketing of camel milk in Eastern Ethiopia

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In the fragile and uncertain environment of arid and semi-arid area, camel plays a crucial role as a primary source of livelihood for pastoralists and agro-pastoralists. However, pastoral and agro-pastoralists in developing countries including Ethiopia are marginalized and generally not given due consideration in wider social-political analysis, although the camel and camel milk had been victim of neglect by policy, research and development under the livestock subsector. Therefore, this study is initiated with providing information on camel milk production and marketing though chain analysis and multiple linear regression model in agro-pastoral and pastoral area of Easter Ethiopia as such information would be useful to develop policy which is based on evidence.

Key words: Camel milk, agro-pastoral, fermented milk, lactation period.

INTRODUCTION

Ethiopia has Africa's largest livestock inventories and diversity (ANRS, 2010). In the arid and Simi-arid area of the country camel plays an important role as a primary source of subsistence for pastoralists and agro-pastoralists which are living in this fragile environment (Tura et al., 2010). However, pastoral communities are marginalized and generally not given due consideration in wider socio-political analysis and strategies of the country (Simenew et al., 2013) and worldwide. In Ethiopia, the livestock sub-sector has traditionally been given low priority within the agriculture sector, although the camel had been victim of neglect by policy, research and development under the livestock subsector. Therefore, pastoralist communities and their livestock production in general and camel production in particular need to be given due attention by policy makers for better

development of the pastoralists livelihood, through research and development.

According to FAO (2008) statistics, the total population of camels in the world is estimated to be about 20 million. Out of these Ethiopia possesses over 2.4 million dromedary camels that stand the country third in Africa camel population (FAO, 2012) and majority of camels are found in the dried areas of Eastern part of the country were water is limited. In this areas camel are mainly kept by pastoralists for milk production, especially in the dry season when milk from cow is scarce. Cattle, camel and goats are the main livestock species that supply milk in Ethiopia. According to CSA (2008), the annual milk production of the country is estimated about 3.2 billion liter, of this 2.76 billion liters of cow milk and 16.2 million liters of camel milk is produced by sedentary

populations annually. However, as compared to its largest livestock population in Africa milk productivity has remained low and its contribution to the national economy is limited (Kedija et al., 2008).

Besides this low milk production level, milk collection, processing and marketing are not well developed (USIAD, 2010) as a result milk marketing is characterized by high margins and poor marketing facilities and services, especially in arid and Semi-arid area. In addition to that, market infrastructure and marketing facilities are not well developed this in turn reduced pastoralists incentives to participate in economic transactions and result in subsistence rather than market-oriented production system.

Despite the great role of pastoralism in contributing to the national and continental economic values and services to the Ethiopian and African economy, there is no adequate information that is disaggregated and focused on pastoral system, especially in Ethiopia the national data on production, consumption and marketing of livestock and livestock product in pastoral area is scantly and mere estimates.

Therefore, this study is initiated with providing information on camel milk production and marketing though chain analysis in agro-pastoral and pastoral area of Easter Ethiopia, as such information would be useful for policy planning and implementing camel milk production and marketing development programmes.

MATERIALS AND METHODS

Topography and climate of the study region

The study was conducted in the area extending from Gursum to Babile in the Eastern Ethiopia, Hararghe Zone, Oromia Regional State of Ethiopia, along the main road to Jijjiga having an area of 967.3 km^2 and 3022.2 km^2, respectively. Gursum and Babile districts are characterized by warm lowlands between 1.200m to 2.950m and 950 to 2.000m above sea level, respectively. The area have a good potential for camel and camel milk production, which is mainly commenced by agro-pastoral and pastoralists households of both Oromia and Ethiopia Somali tribe. The districts livestock population are comprises of 125, 996 cattle, 23,160 sheep and 10,936 camel (East Hararghe profile, 2009).

Source of data and sampling techniques

The field was conducted during 2010/11 year. Data collection focused on household heads, key informants, rapid market appraisal and focus group discussions. In addition to the primary data, different sources were used to collect secondary data. The selected districts and Peasant Associations (PAs) were selected as they were considered the milkshed due to their potential for camel milk production and marketing. Two-stage stratified sampling was employed to select the sample households (HHs). The base for stratification of sample household was milk production type as only camel, and both camel and cow milk producers as pastoralists and agro-pastoral own only camel and both camel and cow milk as their livestock herd. Based on the stratification, 53 and 40 households were selected from only camel and both camel and cow milk

producers, respectively. Then using probability to proportional sample size sampling technique making the sample HH level 93 households.

Methods of data analysis

To identify major camel milk marketing channels, the role and linkages of marketing agents, the structural conduct and Performance (S-C-P) framework and the commodity approaches were applied while to investigate factors affecting marketed surplus of camel milk in the study area, the linear regression models was used. When analyzing factors affecting marketed surplus of camel milk, the following variables where used as an independent variable: Age of the household head (AG_HH), Sex of the household head (SEX_HH), educational level of household head (EDL_HH), household members under 5 years (HH_MMYR), distance to near district market (DS_MLK_MRK), livestock extension services (LV_ESV), number of milk camel owned (N_MIK_CAM), camel milk market information (MRK_INFO), family size (FS_HH) income from non-dairy source (IN_NOND) and market price of camel (PRIC_MLK).

RESULTS AND DISCUSSION

Use of camel milk in the study area

Camel milk is a vital part of a diet for households in environment that may be right termed as hostile in terms of temperature, and its contribution to a healthy nutritional status especially during the drought and lack of pasture is undoubtable.

In the study area, camel milk is consumed as a raw state or fluid milk, milk tea, and in the form of fermented milk by pastoralists and agro-pastoralist without any subject of processing. However, small number of sampled respondent's process camel milk into milk product such as butter and cheese by mixing it with cow and goat milk, as a result milk utilization patter is only limited to calve, family and sale.

However, Huilu et al. (2014) indicated the possibility of coagulating camel milk by using ginger rhizome crude extract and improved firm curd at a pH value of 5.0, a temperature of 65 0C and crude extract concentration of 10% by volume.

Regarding the value addition on camel milk, we Ethiopian's can learn much more from our neighboring country Kenya (even though we are the leading country in camel population and milk as compared to Kenya). For instance Vital Camel Milk Limited plant based in Nanyuki, Laikipia district process camel milk into fermented milk, yoghurt, cheese and pack fresh milk in half liter units (Musinga et al., 2008).

In addition to these, in Rajasthan district of India good low-calorie ice cream called "Desert Dessert" is processed by adding value to the camel milk and it has already been very popular with both Indian and foreign tourists (Lokhit Pashu-Palak Sansthan, 2010). Although in the US, Israel and Australia soaps based on camel milk are on the market.

Description of the sampled dairy camel size

In the study area, pastoralists and agro-pastoralists own more camel than cattle, and their products are considered as the most important source of livelihood than small ruminants. Sheep and goats are also considered important next to camel and cattle since they are considered as liquid assets. According to the survey, the number of camel for the sampled household was found to be 1,237 TLU. While the average was 14.69 TLU in Gursum, and 12.34 TLU in Babile districts.

Milk yield and lactation length of camel

The survey showed that the average lactation period for camel in the study area was found to be 10 month which is lower than the lactation period reported by Tefera and Gebreab (2001) which is one year for Eastern Ethiopia and 12 to 18 months for Kenya (Dasel et al., 2011). Even for the study sampled districts Gursume and Babile the lactation period had shown difference.

The average milk yield per day per camel was estimated to be 4.8 L under desert condition for the study area, which is higher than 1.24 L reported in Meso district of Oromia Regional State, Ethiopia (Kedija et al., 2008) and lower than 20 liters a day or more in Israel (Yagil et al., 1994).

However, according to Gindeel and Ahmaddon (2012) it is possible to increase the milk production of camel milk from 3.5 liters under desert condition to 40 liters under intensive management condition. Moreover, the study revealed that total camel milk production per day in the study area was calculated to be 1.720.25 L or 12.041.75 liters of milk per month, and the average milk yield per lactation/head was found to be 1.391.23 liters.

However, this is very low as compared to Pakistani average milk yield of 4.179 liters per year with a lactation length of 9 to 18 month (Asim et al., 2013). This showing that, there is a need for genetic improvement of indigenous camel by implementing development project in the country like it has been done to improve the indigenous zebu breed cow of Ethiopia, which produces about 400 to 680 kg of milk/cow per lactation compared to grade animals that have the potential to produce 1120-2500 litres over a 279 day lactation (Ahmed et al., 2003).

Composition and physical characteristics of camel milk

Dromedary camel milk composition is excellent from nutritional view point (Sisay and Awoke, 2015) as it has valuable nutritional properties as it contains a high nutritional value, with vitamin C, which is three times greater than the cow's milk, iron content ten times and B vitamins present in reasonable amount (Arrowal et al.,

2005). In addition to that, cow milk tend to make people fat, causing obesity but camel milk gives strength, endurance and stamina, and attribute that pastoralists need in order to pursue a nomadic life style (Sisay et al., 20115). However, the camel milk has not been given as much attention in research and development as the cow milk, especially in Easter Africa.

Market participation of camel milk producers

Camel milk is one of the most important traded dairy product in pastoral and agro-pastoral area of Easter Ethiopia, even at the global market camel products has a potential of US$10 billion a year (FAO, 2011), however, Ethiopia is unable to reap the full benefit from the global camel product marketing even though the country is the third largest country in camel population and camel milk production next to Somali and Sudan.

The share of camel milk sold by sample producer was 77.76%, and the mean milk production per day per dairy household during the survey period was found to be 18.48 liter. The survey result found that, 98.9% of sampled camel milk producers were found to participate in milk marketing during survey period by confirming that milk is a cash product for the sampled households, therefore, Ethiopian government has to give attention to improve the camel milk market by developing a long-term strategic framework.

Access to public services

Despite the country's huge and extensive investment in promoting extension services, the survey shows that only 40% of the sampled respondents received extension services. In addition, the contact of development agents with milk producers was not frequent and regular. The rapid market appraisal showed that some development agent (DAs) did not have the time to offer technical advice due to the fact that they were involved in other non-related activities. Thus, it is worthwhile to mention the necessity of efficient and committed DAs for their needy technical advices, which is aimed to bring significant changes in the livelihood of milk producers in the remote pastoral and agro-pastoral area. The source of extension service for milk producers in the districts were government agents and NGO (Meschen für Meschen) agents.

According to the survey result, only 6% of the sampled milk producing households in the study area had access to credit. Indicating that, 94% of the sampled milk producing households was in need of credit. Most of the time market information is said to be perishable than the agricultural commodity itself, however, in the study area there is no organized market information system on milk market. However, 80% of the total sample households
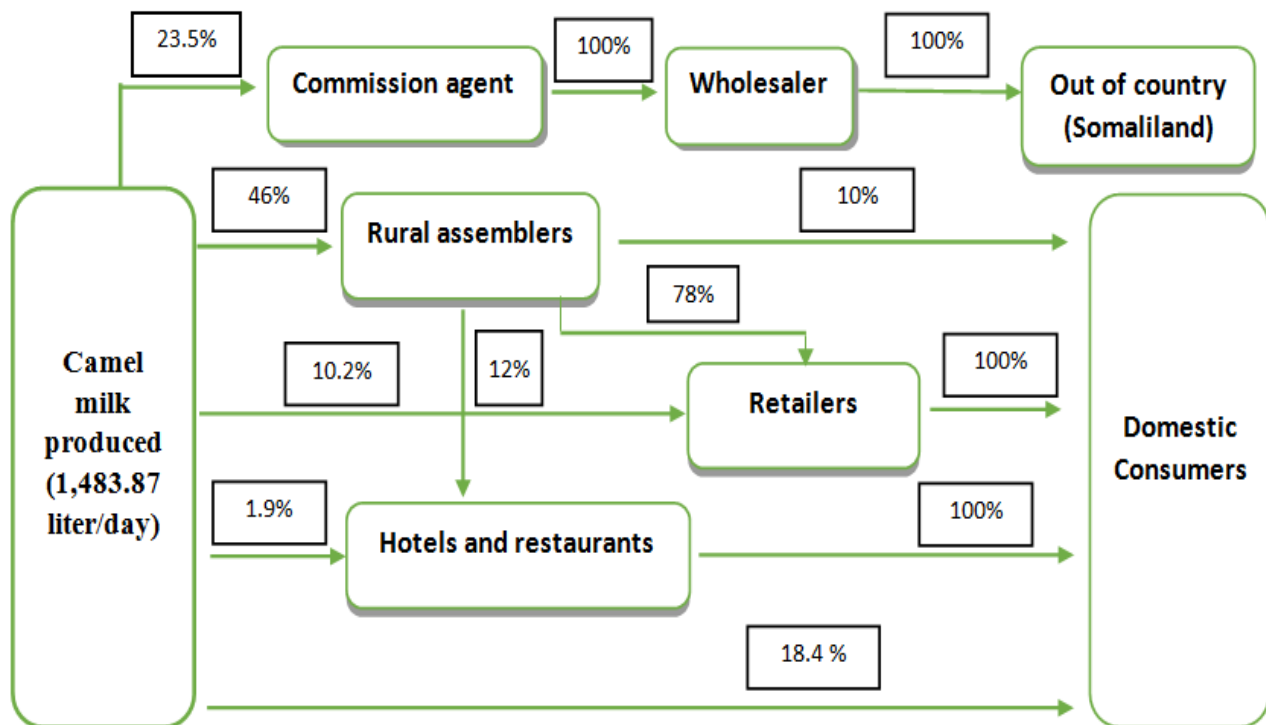
Figure 1. Camel milk marketing channel.

had milk market information on supply, demand and price before they sold their milk, from unorganized market information source. Most of the time sample pastorals and agro-pastoralists have to walk a long distance from home to the nearest district market center to sell their dairy products. The average distance from home to the nearest district market center was found to be 17 km and about 27% of the sample respondents had to travel more than 20 km to reach the nearest district market place.

Milk traders' social and intellectual capital

In the study, forty milk traders and five hotels and restaurants were interviewed. From forty milk traders 49% of milk traders were engaged on only camel milk trading while the rest were engaged in trading both camel and cow milk. The survey result reveals that traders at the wholesale level were only engaged in camel milk trading.

The average initial and current working capital for the sampled respondents milk traders were 928.33 ETB and 2.950 ETB, respectively. The initial and working capital of only camel milk traders was estimated to be 11.8 times greater than initial working capital of both camel and cow milk traders, respectively.

As compared to cow milk, camel milk is less perishable, and it is not processed into different dairy derivatives to improve its shells life. Therefore, the opportunity cost of working capital tied in the dairy trade especially liquid milk is insignificant. Almost all traders in the study area milkshed don't involve brokers in buying and selling processes and operate by owners themselves.

Social capital has a significant role in the milk marketing process in the study milkshed as it reduce transaction cost of milk marketing, as a result traders take milk from suppliers on credit basis and repayment is made ones a week after the sale based on trust. However, sometimes traders have high opportunity cost because of inability to look for quality milk and negotiate or haggle over the price.

Milk marketing participants, their roles and linkages

In this study, different camel milk market participants were identified in the exchange function between producers and the final domestic consumers. These were; producers, rural assemblers, retailers, commission agents, wholesalers, hotels and restaurants, and domestic consumers (Figure 1).

The survey showed that, camel milk in the study area was found to be marketed only through informal marketing system. The actual marketing channels of camel milk were more complicated in the pastoral and agro-pastoral milkshed area, however, the main marketing channels of camel milk market in terms of

quality flow in 2011/12 was show in Figure 1.

Most of the pastoralists and agro-pastoralists sold milk in an open milk collection centers located at their vicinities area. As Figure 1 shows that, 18.4% of the total camel milk producers pass from producers to consumer's channel, accounting about 199.86 L. On the other hand, 46% of the camel milk pass from producers to rural assemblers at vicinity milk collection centers. The main duty of rural assemblers in the study area was accumulating milk from rural village for sale to retailers in the regional markets, hotels, restaurants and consumers in urban markets.

Pastoral and agro-pastoral in the study area supply milk in two ways, the first way of supply camel milk to market is as a unit of household and the second way is by forming informal types of groups locally called '*affosha*' and supply milk to one another by grouping themselves up to 10 persons together to market milk by round up to same amount as they were agreed.

As Figure 1 shows, about 10% of camel milk produced by pastoralists/agro-pastoralists was sold for rural and urban area.   The lowest share from the total camel milk produced went to hotels and restaurants which accounted for 1.9% of the total milk sold. The camel milk collected by commission agents (23.5%) at the nearest collection centers for wholesalers was informally exported in to Somaliland, Kenya and sometimes to Gulf States, this result is also supported by Abdi et al. (2012) study in Gode town, Somali Reginal State, Ethiopia.

Structure, conduct and performance of Camel milk market

The market concentration for camel milk market refers to the numbers and relative size, and distribution of camel milk buyers and sellers in a milk market. For an efficient market where the demand and supply determines the market price, there should be sufficient number of buyers and sellers in each market. However, the camel milk market for the sample milk market was found to be inefficient in general as almost all of the sample milk market were characterized by a strong oligopoly market, which is character by few numbers milk seller.

The CR_4 measure of market concentration ratio shows that the top four or 44.44% of the camel milk traders controlled 63.87% of the camel milk per day at Gursum district. While the Babile milk market was strong or tight oligopoly with 93.47% concentration ratio for camel milk market. Although the milk market for Harar was with similar concentration ratio of 66.65%, this means that the first four traders controlled 66.65% of the purchase of camel milk market in Harar. The Dire Dawa milk market concentration ratio was 73.32%, indicating strongly oligopolistic market types which is similar with Gursum, Babile and Harar market. As compared to the other milk market, the Jijjiga milk market had weakly oligopoly with

CR_4 of 45.06%, this was because of that there were a number of farmers who bring camel milk from nearby rural area to Jijjiga market.

Degree of market transparency

The degree of market transparency refers to the adequacy, timeliness and reliability of market information that the traders have for their marketing decision. Survey result indicates that 39.1% of milk traders got information through other traders. About 29% of the traders knew price by personal observation and 21.6% of the traders got information through friends. The rest of camel milk traders had information through combination of friend, other traders, personal observation and neighbors. It was observed that wholesalers and their commission agents line up by mobile to check market price in distance market. In the case of nearby market information was not as such problem for milk traders but market information on distance market was the main problem in milk marketing.

The most important factors considered by sampled camel milk producers in their decision to who to sell were proximity to market center (60%), followed by price of milk (40%). The structure of the camel milk market indicates that licensing and formal education did not hinder entry into camel milk market and most of the traders (75%) were illiterate in the sample markets. However, business experience, clan relationship, risk and capital were important barriers to enter into camel milk market.

There was no organized standardization and grading system in purchasing and selling camel milk. However, locally camel milk traders can differentiate quality by testing the milk. The milk marking system for camel milk was predominantly tradition, fragmented, weak seasonal demand, low price and low value addition along the milk chain. In addition to that, the camel milk was characterized by poor quality, also study by Mulugojjam et al. (2013) reviled that camel milk in Eastern Ethiopia was generally poor and microbial contamination of camel milk occurs along the value chain while transporting.

It was also found that camel milk production and marketing played an important role in economic and socio-cultural tradition of pastoral and agro-pastoral in the study area, there were no commercial farms, value addition, vertical and horizontal integration at primary level and agro-processing industries in the study area. Although the production of camel was constrained by under developed infrastructure, lack of input supply, lack of properly functioning veterinary services and disease prevalence.

As a result, the current income generating capacity of camel milk was not encouraging, and the share of final price received by producers was apparently very small. The producers' share of the consumers' price was found

Table 1. OLS result of factors affecting marketed surplus of camel milk.

Variable	Coefficients	Standard error	t-ratio
Constant	-33.8	19.42	-1.74
AG_HH	0.044	0.013	0.33
SEX_HH	-3.52	14	-0.25
EDL_HH	-0.17	3.366	-0.05
HH_MM5YR	0.07	1.12	0.06
DS_MLK_MRK	0.46	0.13	3.36***
LV_ESV	2.36	3.13	0.76
N_MLK_CAM	1.23	0.17	7.07***
MRK_INF	7.14	3.58	2.00**
FS_HH	0.32	0.41	0.78
IN_NOND	0.001	0.00002	3.49***
PRIC_MLK	3.65	1.84	1.98**

Dependent variable= Total camel milk supplied to the market, mean= 13.63, St. deviation= 23.28 Model size parameter= 12, Deg.Fr= 81, R-squared= 0.70, Adjusted R-square= 0.66 (prob) = 0.0000, log likelihood= -367.096, restricted (b=0)= -424.207, Rho= 0.0752, significance level= 0.0000; Note: ** and *** represents significance level at 5% and 1% probability level, respectively.

Factors affecting camel milk marketed surplus

The data collected from the sampled respondents revealed that about 99% of the sampled camel milkproducer households were found to participate in camel milk market during the survey period.

The multiple linear regression model is used to identify factors affecting camel milk marketed surplus. In the model, eleven variables (eight continuous and three dummy) were hypothesized to affect sales volume of camel milk marketed surplus (Table 1).

Distance to nearby district market (DS_MLK_MRK) was expected to adversely affect sales volume. However, the opposite has been observed in the study result. Access to the market was significant (P<0.01) and positively affected marketable surplus. Indicating the benefits of being far from town, such as greater availability of pasture land outweigh the additional transaction costs of selling milk.

The model result depicts that number of milk camel owned (N_MIK_CAM) as expected had a positive and significant (P<0.01) impact on the quantity of camel milk volume supplied to the market. The positive and significant relationship between the two variables indicates that addition of one camel cause the marketable milk surplus of the dairy household to rise by 1.23 liters per day per dairy household

As hypothesized the regression coefficient of access to camel milk market information (MRK_INFO) had significant (0.05%) and positive impact on quantity of camel milk supplied, by suggesting that marketable milk surplus of the pastoral and agro-pastoral household are more responsive to milk market information.

As expected, (Table 1) income from non-dairy source (IN_NOND) was found to be significant at 1% probability level. The variable has positive coefficient, indicating that such income strengthen the ability of smallholders camel milk producers' to cope with different risk of production and consumption and enter to economic transaction.

Market price of camel (PRIC_MLK) has a positive effect on milk sale volume per household per day as expected because price has positive relation with the level of sale volume and it is statistically significant at 5% probability level, *cetris paribus*. The result depicts that when milk price is high in the market farmers tends to supply more milk to the market.

POLICY IMPLICATION

The result of this study suggests the following policy implications for the future intervention strategies in camel milk production and marketing.

One of the major constraints to market camel milk from remote pastoral area to high demand urban area are lack of well-developed infrastructure such transportation, roads and telecommunication service. To improve the situation, government should increase its efforts to develop appropriate dairy policy and investment in infrastructure. In addition to that, camel milk marketing lack inadequate horizontal and vertical integration among pastoralists and agro-pastoralists milk producers, milk assemblers, retailers, wholesalers and consumers.

to be the highest along channel-I, channel-II and channel-IV that was 100, 75 and 56.27%, respectively (Appendix 1 for more information).

Therefore, it is advisable to develop vertical and horizontal linkage among the pastoralists and agro-pastoralists through enhancing institutional arrangement, such as by developing dairy cooperatives and traders unions among the camel milk producers and traders as cooperatives and traders unions are more likely than individual agents both in overcoming information asymmetry and in attaining competitive edge by forming a strategic alliance in the camel milk production and market development.

As most of the milk traders in the camel milk at assembler and retailer level are females, improving the milk trading practice through vertical and horizontal linkage would empower the female milk traders to enhance their capacity and productivity. Also, there should be programs which aimed at gender smart intervention approach to consider gender as a core process in the camel milk value chain development, as such intervention brings the gender gap in the study area in particular and in arid and semi-arid area of the worldwide in general.

It was also found that the camel milk produced in the study agro-pastoralist and pastoralist can be increased by 12.5% if the current desert condition milk production system shifting to intensive management condition that allows the country to reap the full benefit of market opportunity provided by the European Union in importing camel milk from African countries if it is possible to adhere the international standards governing food safety, also there is a need to formalize the milk exported to Somaliland informality as it has a negative effect on welfare of pastorals and agro-pastorals.

In the study area, camel milk marketing system was predominantly traditional and fragmented due to lack of proper milk standardization, grading, inspection and licensing. It was also characterized by adulteration, poor quality, weak seasonal demand and low price. Hence government, private-public partnership and donors intervention in terms training, extension services, licensing, inspection, developing milk processing firm to add value to camel milk such as fermented milk, yoghurt, cheese, ice cream, soaps and packing fresh milk are required to ensure milk market competitiveness in the country.

The result of the linear regression model revealed that, the policy relevant variables having the greatest impact on camel milk sale volume were number of milk camel, access to market information, income from non-dairy source and market price of camel milk. Therefore, governmental and non-governmental partners who are involved in improving the camel milk production and marketing are required to due attention for increasing the herd size or/and integrate cross-breed camel that provide more milk yield (for instance the Pakistan dromedary for instance can produce 9.1 to 4.1 kg of milk when well fed) to improve the productivity of camel milk in the study area though the development of project which are aimed at

provision of AI service, distribution of crossbreed milk camels, and/or bull service.

Although, milk market information on supply, demand and price needs to be disseminated through public sector such as extension agent or public media (such as radio and TV) and even by dialing to specific mobile number and text as most of the pastoralists are mobile from place to place with their herds in search of better grazing place.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Appendix 1. Camel milk marketing channel and marketing margin.

Marketing cost	Marketing measures	Camel milk marketing channels						
		CH-I	CH-II	CH-III	CH-IV	CH-V	CH-VI	CH-VII
Quantity flow (liter)		273.67	68.22	81.87	532.17	150.61	328.84	28.5
Producers'	Price/liter	7	4.5	4.5	4.5	6	5	6
Rural assemblers	Price/liter	-	8	7	6.5	-	-	-
	Gross margin/liter	-	3.5	2.5	2	-	-	-
	Marketing cost/liter	-	0.35	0.35	0.35	-	-	-
	Net marketing margin/liter	-	3.15	2.15	1.65	-	-	-
Retailers	Price/liter	-	-	-	8	8	-	-
	Gross margin/liter	-	-	-	1.5	2	-	-
	Marketing cost/liter	-	-	-	0.1	0.1	-	-
	Net marketing margin/liter	-	-	-	1.4	1.9	-	-
Wholesalers	Price/liter	-	-	-	-	-	-	-
	Gross margin/liter	-	-	-	-	-	-	-
	Marketing cost/liter	-	-	-	-	-	-	-
	Net marketing margin/liter	-	-	-	-	-	-	-
Hotels and Restaurants	Price/liter	-	-	12	-	-	-	12
	Gross margin/liter	-	-	5	-	-	-	6
	Marketing cost/liter	-	-	0.75	-	-	-	0.75
	Net marketing margin/liter	-	-	4.25	-	-	-	5.25
Total gross marketing margin (%)		0	43.75	62.75	43.75	25	-	50
Producers portion (%)		100	56.25	37.5	56.25	75	-	50
Rank of channels by producers' share		1	3	5	3	2	-	4
Rank of channels by volume (liter)		3	6	5	1	4	2	7

Source: survey result, 2010/11; price are given in Ethiopian Birr; CH stands for channel, CH-stands for producers to consumers, CH-II stands for producers to rural assemblers to consumers, CH-III stands for producers to rural assembles to hotels and restaurants to consumers, CH-IV stands for producers to rural assembles to retailers to consumers, CH-V stands for producers to retailers to consumers, CH-VII stands for producers to commission agents to wholesalers to out of country, CH-VIII stands for produces to Hotels and restaurants to consumers.

Full Length Research Paper

Determinants and outcome of customer satisfaction at the commercial bank of Ethiopia: Evidence from Addis Ababa

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This study was conducted on determinants and outcome of customer satisfaction at Commercial Bank of Ethiopia by taking evidence from Addis Ababa which is capital city of Ethiopia. Seven branches were selected randomly. The overall objective of the study was to investigate major factors that influence customer satisfaction, and to examine resulting effect on customer future behavioral intension. To achieve the objective of the study, five point liker-scale questionnaires were developed and distributed to 210 customers in convenience sampling base. Among them, 178 questionnaires were responded representing 84% of the response rate. The data were feed to version16.00 SPSS computer program and analyzed accordingly. Correlation and regression were used to examine statistical significance of the relationship between the variables. Services quality, services features, and customer complaint handling system were found as major determinants of customer satisfaction in commercial bank of Ethiopia. Statistically, highly significant and positive relationships were found between the aforementioned three factors and customer satisfaction. Positive and significant relationship was examined between customer satisfaction and future behavioral intension with the organization. Current performance of the organization with regard to services quality, services features, and customer complaint handling is contributing moderately towards customer satisfaction

Key words: Service quality, service features, complain handling, customer satisfaction, customer loyalty.

INTRODUCTION

This study was conducted on the "determinants and outcome of customer satisfaction" with reference to the commercial bank in Addis Ababa, Ethiopia. It was aimed to identify major determinants of customer satisfaction which in turn may affect future intension of the customers in using bank services.

In the current business environment, banking jobs are becoming more and more lucrative and many people are joining the industry (Asiedu, 2015a). This has made the industry to be highly competitive and as a matter of fact, satisfying customers and gaining their loyalty determine the long run fate of the business. This requires the employment of the effective competitive strategies to remain in the industry.

One of the most commonly used strategy by business firms is product differentiation. But this strategy is not

viable to the banking sector, since the products offered to the customers of the bank are more or less standardized in nature and easily imitated by the competitors. So banks are feeling on increasing need to differentiate themselves from the competitors by other criteria that can influence customers' satisfaction and loyalty (Gerpott et al., 2001).

Customer satisfaction is an evaluation by the customer after buying their goods and services (Oliver, 1981). Schiffman and Kanuk (2005) has defined customer satisfaction as individuals' perception of the performance of the product or service in relation to his/her expectations. Satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations (Olive, 1997).

According to the disconfirmations model, satisfaction is the consumers' response of perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption (Tse and Wilton, 1988). Schiffman and Kanuk (2005) had also defined satisfaction as a person's expression of pleasure or disappointment resulting from comparing a service outcome in relation to the expectations.

In an era of mature and intense competitive pressures such as the increased competition, the need for innovation, the need to improve quality of products and services, and availability of new and effective information management tools, many firms are increasingly investing in technology and humans with the aim of leveraging intellectual assets (Asiedu, 2015b) to maintaining a loyal customer base. This is particularly true in financial services sectors where deregulation has created an environment that allows customers considerable choice in satisfying their financial needs.

Satisfied customers are loyal to the organization and retained for longer period of time. In the words of Asiedu (2016), a "bank's performance determines how loyal its customers are, and it is normally measured in percentage of long term customers". Reich and Sasser (1990) has recognized the benefits that customer retention delivers to a bank. According to Asiedu (2016), customer satisfaction is very important because satisfied retained customers tend to lower cost, make vulnerable reference to new potential customers to increase banks market-share and spend more. For instance, the longer customer stays with a bank the more utility the customer generates. This is the result of a number of factors relating to the time the customer spends with a bank.

To meet the dynamic preferences of the customers and to stay ahead of competitors, bankers are bound to deliver quality and efficient services, improve their services features and deal with customers complaints effectively. Bankers can enhance customers' service by leveraging on technology, maintaining efficient service delivery standards and business process re- engineering. Despite this fact, customers' dissatisfaction remained features of banking sector accompanied by increasing number of complaints (Knights and McCabe, 1996).

Therefore, it was on the bases of the above background that this study was aimed to assess the factors that determine customers' satisfaction in commercial bank of the Ethiopia (CBE) with special reference to Addis Ababa.

Statement of the problem

In the banking sector where attaining customers satisfaction through product differentiation gives only temporary competitive advantage due to the standardized nature of the products, knowing major factors that strengthen customer base through sustainably satisfying them determines long term organizational performance.

Despite this fact, reports of banking ombudsmen has shown that increasing number of complaints resulting from services failure which in turn emanated from lack of enough knowledge concerning the factors that determines customers satisfaction (Wilkinson et al., 1995). Failures on the part of the bank and reluctance of customers to participate in banking relationship because of less switching cost cultivate ground for problems.

Schmenner (1986) classified the retail banking industry as a mass service. Mass service industries have a low degree of variation in customer interaction/customization. Mass service firms face several challenges including the problem of making their services "warm" responsive (responsiveness dimension of SERVIQUAL), attracting and retaining customers through innovative marketing practices (retention and relationship dimension), and paying attention to physical surrounding (tangibility dimension of the SERVIQUAL). These firms are also faced with managing a fairly inflexible work force and work procedure hierarchy with the need for standard operating procedures that ensures correct and reliable service delivery.(reliability and knowledge dimensions of the SERVIQUAL) (Schemenner, 2004).

As far as services provided by commercial bank of Ethiopia (CBE) are concerned in line with the above view, despite its effort to increase customer base and their loyalty it is facing stiff competition from private banks. Almost half of customers are dissatisfied by services provided by services sectors including banking industry (Potluri and Mangnale, 2011). Dissatisfied customers are in turn less loyal and switchers (Zeithaml and Bitner, 2003).

Therefore, it was on the bases of this back ground, this study was aimed to examine major determinants of customer satisfaction in the commercial bank of the Ethiopia by answering the following research questions.

(1) What are the major determinants of customer satisfaction in commercial bank of Ethiopia?
(2) Is service quality affects customers satisfaction in commercial bank of the Ethiopia?

(3) What is the role of services feature on customers' satisfaction in commercial bank of Ethiopia?
(4) What is the effect of customer complain handling system on customer satisfaction in Commercial bank of Ethiopia?
(5) What is the relationship between customer satisfaction and loyalty in commercial bank of the Ethiopia?
(5) What suggestions can be made to improve the current situation?

Objectives of the study

The overall objective of this was to identify the major determinants of customer satisfaction in the commercial bank of Ethiopia by giving due emphasis in Addis Ababa. More specifically this study is aimed to;

(1) Investigate the effect of service quality on customer satisfaction in commercial bank of Ethiopia.
(2) Examine the roles of service features on customer satisfaction on commercial bank of Ethiopia.
(3) Understand the roles of complaint handling system on customers' satisfaction in commercial bank of Ethiopia.
(4) Investigate the relationship between customer satisfaction and loyalty in commercial bank of Ethiopia.
(5) Forward possible recommendations that may help decision makers in organization in attempt to improve service delivery.

LITERATURE REVIEW

Historical background of the banking industry in Ethiopia

The commercial Bank of Ethiopia (CBE) was legally established as a Share Company in 1963 to take over the commercial banking activities of the State Bank of Ethiopia, which was founded in 1942 with twin objectives of performing the duties of both commercial and central banking.

During the 1974 revolution, CBE got its strength by merging with the privately owned Addis Ababa Bank. Since then, it has been playing a significant role in the development endeavor of the country. The CBE, which is striving to become a world-class bank, is rendering state-of-the-art and reliable services to its millions of customers, both at home and abroad. The business strategies of the Bank focus on the interest of the public it serves.

The state-owned CBE still dominates the market in terms of assets, deposits, capital, and customer base and branch network, despite the growing competition from private banks over the last 15 years. This makes it one of the most reliable and strong commercial banks in the country and the region.

Service quality

Without any doubt service quality is very important component in any business related activity. This is especially so to marketer a customer's evaluation of service quality and the resulting level of satisfaction are perceived to affect bottom line measures of business success (Lacobucci et al., 1994).

Service quality has been defined in services marketing literature as an overall assessment of service by the customers. For example, Parasuraman, (1985) proposed that service quality is a function of the differences between expectation and performance along the quality dimensions.

Customers expected service quality is beliefs about a service that services should be provided in line with pre-specified standards against which its performance is judged (Zeithaml et al., 1993) which customer thinks a service provider should offer, rather than what might be offered (Parasuraman, 1988). Perceived service quality is believed to be resulting from comparison between customers' prior expectation about the services and their perceptions after actual experience of the services performance (Asubonteng et al., 1996).

From customers point view, services can be defined in terms of process and its outcomes. In other words, customers evaluate service quality by examining actual service delivery process and its out came at the end of the day (Parasuraman et al., 1985). Asiedu (2016) argued that "bank service offering is a service rendered to customers to satisfy their needs. He continued that banks' ability to know and understand their customer's level of needs and interest is important and beneficial in changing and shaping the firms service portfolio".

On the bases of the aforementioned views, Gronroos (1984) offered a service quality model with dimensions of technical quality (what customer gets), functional quality (how customers get the services) and corporate image (how customers perceive the firm and its services). Similarly, Lehtimen and Lehitmen (1991) offered another model with three dimensions of the service quality: physical quality which deals with physical product involved in the services delivery and consumption, interactive quality which refers to the interaction between customers and organization, and finally corporate quality which refers to the corporate image as perceived by the customers.

As the support to the aforementioned view, service quality can be attributed to the service quality theory which states that customers will judge quality as "low" if performance does not meet their expectations and quality as "high" when performance exceeds expectations (Oliver, 1980).

Literatures also show that between customers' expectations and perceptions always there is a gap.

These gaps always happen due to one or all of the following reason.

(1) The gap between consumer expectation and management perceptions of their expectation.
(2) The gap management perceptions of consumer expectations and the firms service quality specification. The gap between service quality specification and actual service delivery.
(3) The gap between actual service delivery and external communication with customers about the service.

It is marketers' effort that helps to close this gap. Closing this gap might require toning down the expectations or heightening the perception of what has actually been received by the customer (Parasuraman et al., 1985) Closing these gap increases service quality. Service quality is determined by the following factors: reliability, responsiveness, assurance, empathy, and tangible.

(1) Reliability: the ability to perform promised service dependably and accurately.
(2) Responsiveness: the willingness to help customers and to provide prompt service.
(3) Assurance: the knowledge and courtesy of employees and their ability to convey trust and confidence.
(4) Empathy: the provision of caring, individualized attention to customers.
(5) Tangible: the appearance of physical facilities, equipment, personnel and communication materials.

In broader terms, quality spells superiority or excellence (Zeithaml, 1996) or as the customers over all impressions of the relative inferiority / superiority of the organization and its services (Bitner, 1994). Given a premise that only customers judge quality, services quality can be also defined as "a judgment about services overall excellence or superiority' (Schneider and White, 2004). As they noted that service quality judgments were viewed as global evaluation that was composites of customers' experiences with an organization.

Customer satisfaction

Customer satisfaction is a term most widely used in the business and commerce industry. It is a business term explaining about a measurement of the kind of the products and services provided by company to meet its customer's expectation.

It is occupying central position in marketing thought and practice. Many companies today are aiming for total customer satisfaction (TCS). This is because customer satisfaction may be seen as the companies' key performance indicators (KPI) and competitive strategies. Customer satisfaction is being global issue that affects all organizations regardless of its size, whether profit or non-profit, local or multi- national. It is a major outcomes of marketing activity and serves to link processes culminating in purchase and consumption with post

purchase phenomena such as attitude change, repeat purchase intention and brand loyalty. Companies that have more satisfied customer's base also experience high economic returns. (Bolton, 1998)

Satisfaction is defined as a judgment that a product or service feature, or the product or service itself provided (or is providing) a pleasurable level of consumption related fulfillment, including levels of under-or- over – fulfillment. In less technical terms, satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations (Olive, 1980).

There are two general conceptualizations of satisfaction namely, the transaction specific satisfaction and cumulative satisfaction. Transaction specific transaction resulted from consumers' evaluation of particular service encounters. Most of the transaction specific satisfaction is experienced first time users. Meanwhile, cumulative satisfaction refers to the customers over all evaluation of the consumption experience to date. Cumulative satisfaction is most important approach to guide service quality (Anderson, 2004).

Services quality in the financial sector

Different sources show that quality management in financial services in getting places as a new phenomenon. 80% of financial institutions in UK had adopted quality initiative. This phenomenon is attributed to the competitive pressure in the sector emerged from deregulation act that blurred boundaries among firms in the financial industry, increased customer awareness and expectation about service quality, technological innovation, and recessionary pressures that intensified competition and industrial and corporate restructuring resulted in some large scale redundancies, leaving the remaining labor force shocked by the dramatic erosion of secure jobs and careers for life.

Customer satisfaction in the banking industry

Measuring service quality seems to pose difficulties to service providers because of the unique characteristics of the services which include; intangibility, heterogeneity, inseparability, and perishability. Because of these complexities, various measuring models have been developed for measuring perceptions of the services quality (Parasuraman et al., 1988).

Among the different model is the SERVQUAL developed by Parasuraman et al. (1988). SERVQUAL proposes a five dimensional construct of perceived service quality which includes: tangibles, reliability, responsiveness, assurance and empathy-with items reflecting both expectations and perceived performance. As it affects cost, profitability, customer satisfaction,

retention, and positive word of mouth service quality has become an important research topic. As mentioned earlier, there are many research instruments developed to measure the perceived service quality. Among such instruments, the most popular being the SERVQUAL model, well known scale developed by Parasuraman and his followers.

Though there are critics, SERVQUAL has been widely acknowledge and applied in various services setting for varieties of industries in the past decade. Examples include: healthcare settings, dental schools, patient clinic, business school placement center, tire store, actual care hospitals, large retails chains, banking, pest control, dry cleaning, and fast food restaurants (Teas, 1993).

Services features

Services features can be defined as the quality or the user requirements related to the matters such frequency, reliability, regularity, suitability, location, safety and convenience (Anderson, 1976). With banking, the convenience and competitiveness of the provider's offerings and location can be expected to affect customers overall satisfaction and ongoing patronage (Laroche and Taylor, 1988). Competing interest rate provided by banks is another determinant factor in this respect. However, Asiedu (2016) believes that "bank service offerings differ from one geographical location to the other".

Customer complaint handling

A major reason why customers switch service providers is unsatisfactory problem resolution. When customers face a problem, they may respond by existing (switching to a new supplier), voicing (attempting to remedy the problem by complaining) or loyalty (staying with the supplier anticipating that 'things will get better'). Given that customers of banks have relatively high switching costs, it is likely that dissatisfying experience will evoke a passive reaction (non-complaint) or a complaint. Given that the customer complaints, the banks response can lead to customer states ranging from dissatisfaction to satisfaction. In fact, anecdotal evidence suggests that when the service provider accepts responsibility and resolves the problem, the customer become 'bonded' to the organization (Hart, 1990).

Complaints are utterances of grievances from customers. It is inevitable as there is no perfectly performing organization. Especially for service delivering organization, it is common phenomenon to encounter with complaining customers. Understanding service recovery is particularly important for managers as the unique nature of service (inseparability of production and consumption) makes it impossible to ensure 100 percent error-free service

(Fisk, 1993).

Therefore, it is advisable for service giving organization to establish effective system of dealing with customer complaints in addition to striving to avoid it. If complaints are to be handled wisely organizational culture must not be threatening Benefits should accrue to those who complain the organization and potential customers. This can be achieved by encouraging employees to resolve & analyze complaints at the spot. So problems associated with inadequate customer complaints handling system worsen the overall service quality of any service operator.

There are research evidence which shows the impact of resolving customers' problem in desirable manner on customer satisfaction, loyalty and bottom line performance. That is, customers who experience service failure but are ultimately satisfied based on recovery efforts by the firm will be more loyal than those whose problem are not resolved.

Firms can translate that loyalty into profitability. As Zeithaml and Bitner in their 2003 edition had articulated from the work of Technical Assistance Research Program (TARP) those customers who complain and have their problems resolved quickly are much more likely to repurchase than are those whose complaints are not resolved. Those who never complain are least likely to repurchase. Similar results were cited by McDougal and Levesque in 1994 from the research of Fornell and Wernerfelt (1987).

According to their findings, when customers complain, they give the firm a chance to rectify the problem and interestingly if the firm resolves successfully, it increases loyalty and profits. Thus customer complaint handlings can have an influence on customer satisfaction and retention. Asiedu (2016) opined that "customer retention ability is the ability of a bank to retain its customers based on the assessment of product or service quality".

Therefore, an effective service recovery strategy has a number of potential impacts. It can increase customer satisfaction and loyalty and generate positive word of mouth as noted earlier. It also provides information that can be used to improve services as a part of continues improvement effort. It increases companies likelihood of "doing things right the first time."

Effective service recovery improves financial performance of the organizations too. In the marketing literature it is well documented that customer acquisition cost is much greater than that of customers' retention cost (Clow and Kurtz 2003). Therefore, firms can save its customer acquisition cost by employing effective customer complaint handling system that retains them for longer period time with organization in turn.

As Aburoub et al. (2011) referenced from different work on "importance of effective customer complaint handling": a positive approach to dealing with customer complaints should help to maintain in customer relationships and generate positive communication about the company. Importantly repeat purchases by established customers

usually require up to 90 percent less marketing expenditure than do purchases by first time buyers.

While complaining customer show different behavior, their complaining behavior encompasses one of the following; passive, voicers, irate, and activist. Passive complainers take little action as they doubt the effects of complaining. Voicers express their complaint to the organization but less likely to third parties. So they are considered as best friends to the organization. Irate express their complaint aggressively and engage negative word of mouth. Activist complainers express their complaint on all possible dimensions and sometimes they can be terrorists against organizational performances (Klow and Kurtz, 2003).

In addition to its importance to organizational performance, customer complaint handling demands moral obligation of the service providers. This is because customers expect justice and fair treatment in handling their complaints. As referenced by Zeithaml and Bitner (2003) from the work of service recovery experts named, Steven Brown and Steven tax, customers are looking for three types of justice for their complaints: outcome fairness that shows customers expectation with regard to outcome of their complaints which may include actual monetary compensation, an apology, future free services, reduced charges, repairs and/or replacements. Procedural fairness is about customer expectation regarding fairness policies, rules and timeliness of the complaint process. Finally, interaction fairness which is concerned with customers' expectation is to be treated politely with care and honesty.

Similarly, McCullough, (2000) examined recovery evaluation from the perspective of justice. They examined a number of previous works like (Good win and Ross, 1992; Hocutt et al., 1997: Brown and chandrashekaran, 1998). They tried to add to their work by exploring the role played by distributive and interactive justice. Distributive justice shows customers comparison of costs incurred with their benefits gained whereas interactive justice concerns the fairness of the recovery process itself or the interactional aspects of the encounter.

Customer loyalty

Services rendered by the company create a sort of behavioral related intention to wards service or the company. These intentions are known as customer loyalty. From the print view of Asiedu (2016) "banks' ability to retain its customer's shows how satisfied their customers and brand loyalties are". In other words, customer loyalty expresses an intended behavior related to the service or the company.

Researchers have identified different variables that measures real customer loyalty. The most commonly used variable to measure customer loyalty has been their intention to repurchase. But as it is mentioned earlier customers may show repurchase intention not because

of their real loyalty but lack of another alternative may force them to do so. Many researchers have used service recommendation to other customer as a proxy for customer loyalty.

Besides recommendation other items which have been used extensively for customer loyalty measurements are consideration of the company as the first choice service provider and continuing to do business with the same company (Zeithaml et al., 1996).

Research hypotheses

Improving customer satisfaction, and retention rates, can come from a variety of activities available to the firm. The existing evidence suggests that major gains in customer satisfaction are likely to come from improvements in:

(1) Service quality
(2) Service features; and
(3) Handling customer complaints effectively.

Therefore, hypotheses to this study were articulated based on aforementioned three dimensions. In line with the reviewed literature, the following hypotheses developed to this study.

H1: There is positive relationship between services quality and customer satisfaction.
H2: By enhancing the service features, customer satisfaction will be improved.
H3: Effective customer complaint handling will enhance customer satisfaction.
H4: Customer satisfaction and behavioral intension are positively related (Figures 1 and 2).

METHODOLOGY

The type of research employed here was descriptive in nature. This is because the intention of this study is to describe the present satisfaction level of the customers with regard to factors like services quality, services features, and complaints handling system of commercial bank of Ethiopia (CBE) by giving special emphases in Addis Ababa. The target population that involved in this study were general public who are at the legal age to hold a savings, and or current account and use any banking services in commercial bank of the Ethiopia in Addis Ababa.

Research instruments

Both self-administered and schedule types of questionnaire were used as a data collection instrument from customers. Questionnaires were taken from two previous researches by Olorunniwo and Hsu in 2006 and Hossain and Leo in 2009.

In this research, those two questionnaires were combined and its applicability to commercial bank of the Ethiopia was checked by preliminary survey. Generally, questionnaires were divided in to five parts. The first part of the questionnaire deals with the demographic characteristics of the respondents (age, gender, educational
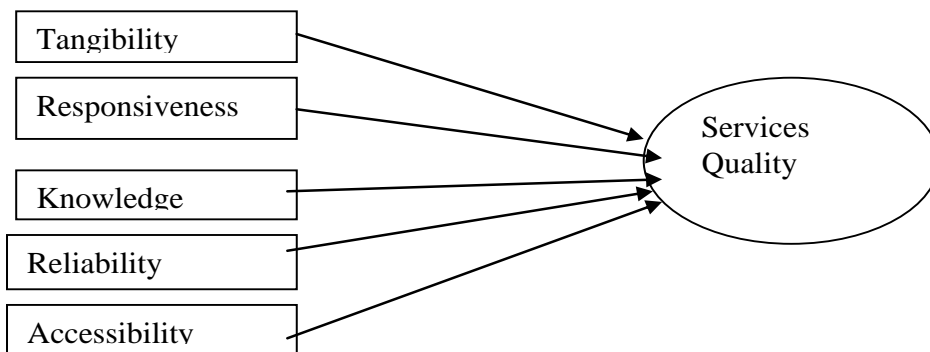
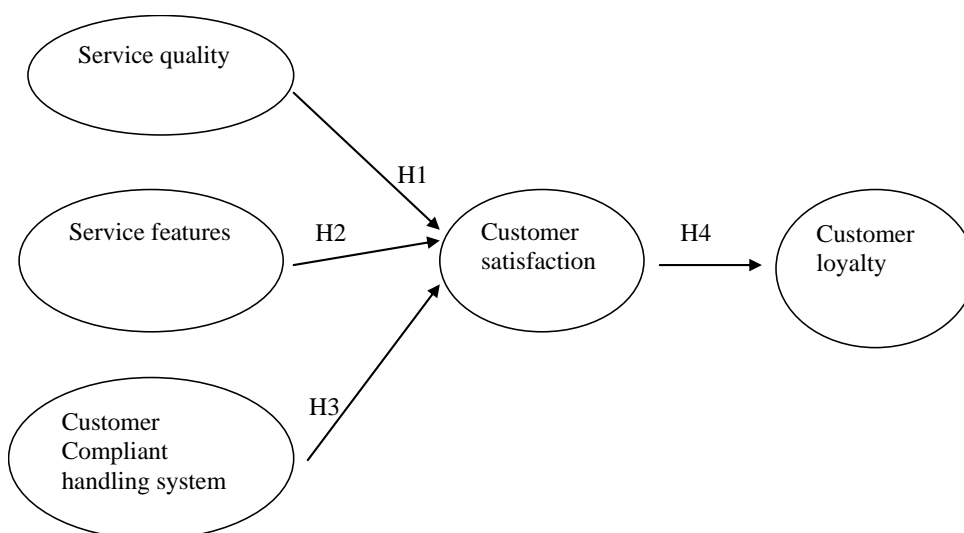**Figure 1.** Research model (Source: Literature).

Figure 2. Services quality dimensions

qualification, marital status, and monthly income etc).

Through this questionnaire, information that reveals the effect of demographic factors on factors like: service quality, and service features, customer complaint handling and loyalty were examined. Second part of the questionnaire was designed to rate customers' perception of the service quality based on SERVIQUAL dimensions modified for banking sector (Schemenner, 2004).

Third part of the questionnaires was developed to collect data that reveals customers' satisfaction level towards service quality of the organization. Fourth part of the questionnaires were designed to collect information from customers that reveal their satisfaction level with regard to services features of commercial bank of Ethiopia. With the final part of the questionnaire information that shows customers perception of complaint handling system of the organization and their behavioral intension with regard to aforementioned factors were examined. Except the first part, the remaining four parts of the questionnaire were five point likert scale type ranging from 1 strongly disagree to 5 strongly agree.

Sampling design and techniques

There are 70 branches of commercial bank of Ethiopia in Addis

Ababa. As services quality and other features differ from branch to branch depending on managerial efficiency and other factors, sample branches were taken for this study. To do so, seven branches were selected through simple random probability sampling techniques for this study. These branches are: Addis Ababa, Finfine, Teklehymanot, Sengaterra, Megenagna, Kotebe and Arati Kilo Selassie branches. 30 customers were selected from each branch to fill questionnaires on the bases of convenience sampling techniques. Generally questionnaires were distributed to 210 sample customers on convince none probability sampling technique bases. These amounts of sample were selected based on affordability approach by taking time shortage and the cost of data collection into consideration.

RESULTS AND DISCUSSION

As it is depicted in the Table 1, among 178 (100%) respondents, 76 (42.6%) are females and 102 (57.4%) are males. Among female respondents, 15 (19.7%) lies in the age range of 18 to 25, 31 (40.7%) of them lies in the age interval of 26 to 30, 19(25%) of them lies in the age

Table 1. Demographic characteristics of respondents.

Variable		Age of respondents				Total
		18-25	26-30	31-36	>36	
gender of respondents	Female	15	31	19	11	76
	Male	25	38	32	7	102
Total		40	69	51	18	178

(Source: Survey, 2015).

Table 2. Educational level.

Measures	Items	Frequency	Percentage
Educational level	Below high school	21	11.8
	High school completed	28	15.8
	College diploma	61	34.3
	Bachelors	57	32
	Masters	7	3.9
	PhD	4	2.2
Monthly income	< 500	24	13.5
	501-1000	73	41
	1001-1500	16	9
	1501-2000	29	27.5
	2001-2500	12	6.7
	2501-3000	3	1.7
	> 3000	1	0.6
Service type	Checking account	65	36.5
	Saving account	75	42.1
	Loan	27	15.1
	Mortgage	2	1.12
	Others	9	5.05
Duration with the bank	Less than 6 month	30	16.8
	Between 6 and 12 month	45	25.2
	More than one up to 3 yrs	60	33.7
	More than three years	43	24.1
Frequency of the monthly visit	Up to s times	72	40.4
	More than 5 up to 10 times	69	38.8
	More than 10 up to 20 time	28	15.7
	More than 2o times	9	5.1

(Source: Survey.2015).

range of 31 to 36 and the remaining 11 (14.5%) lies in the age range of greater than 36. Among male respondents 25 (24.5%) found in the age interval of 18 to 25, 38 (37.2%) of them lies in the age range of 26 to 31, 32 (31.3%) of them fall in the age range of 31 to 36 and the remaining of (7%) are found in the age range of greater than 36.

As depicted in Table 2, educational level really gave a picture of varied results. Largest number of 61 (34.3%) of the respondents were college diploma holders followed by 57 (32%) bachelors and only 4 (2.2%) were PhD holders. Income level of 73 (41%) of the respondents fall in the income range of 501 to 1000 Ethiopian birr followed by 49 (27.5%) in the income range of 1501 to 2000, and unfortunately 1 (0.6%) of the respondents got more than 3000 birr. Most of the respondents 75 (42.1%)

Table 3. Summary of descriptive statistics for variables.

Constructs	Mean	Std. Deviation
Services quality	2.895	1.3134
Services features	3.465	1.6485
Complaint handling	3.465	1.0983
Customer satisfaction	2.585	1.2732
Future intension	2.760	1.3233

(Source: Survey, 2015).

Table 4. Statistical test.

Constructs	Corrected item-total correlation	Squared multiple correlation	Cranach's Alpha value
Tangibility	0.982	0.983	0.979
Responsiveness	0.980	0.978	0.977
Knowledge	0.960	0.968	0.979
Reliability	0.973	0.966	0.978
Accessibility	0.935	0.881	0.978
Satisfaction	0.962	0.972	0.977
Service features	0.796	0.652	0.984
Complaint	0.959	0.938	0.981
Loyalty	0.965	0.959	0.978

(Source: Survey, 2015).

are using saving accounts followed by 65 (36.5%) who are using checking accounts and only 2 (1.12%) of the respondents are using mortgage service from commercial bank of the Ethiopia.

Duration of respondents as customer of the bank is concerned, largest number of the respondents 60(33.7%) has been using services of the bank from more than one up to three years followed by 45 (25.2%) of the respondents who has been using banking service over three years and only 30 (16.8%) of the respondents has been counted less than six as a customer of the commercial bank of the Ethiopia. Frequency of the visits of 72 (40.4%) of the respondents was up to 5 times per month followed by 69(38.8%) who have visit mare than five up to 10 times per month and only 9(5.1%) of the respondents visit more than 20 times per month (Table 3).

The mean values of the services quality is 2.895. It was calculated from mean values of SERVQUAL dimensions. It clearly portrays that almost half of the respondents disagreed by the questions relating to the services quality. Some observations is found for service features with mean value 3.465 showing that more than half of the respondents agreed with questions relating to the service features. The mean value of 3.233 has been observed for complaint handling systems of the organization revealing that most number of the customer agreed with the questions relating with complaint handling system of the

organization. The mean value observed for questions relating to the future intension is different (2.760) portraying that almost half of the respondents disagreed with questions relating to the customers feature intension with the organization. The result of this study show medium satisfaction (mean=2.760). From this it is possible to conclude that customers are moderately satisfied with performance of commercial bank of Ethiopia.

Hypothesis test

To test the hypothesis, correlation and regression analysis were applied. Before applying statistical test, reliability of the data was checked. It was done by calculating Cranach's alpha value for all corresponding variables. The result was depicted on Table 4. As it shown in the Table 4, Cranach's alpha value was calculated for all the variables involved. All values are greater than 0.7. Given the statistical rule that Cranach's alpha value greater than 70% portrays reliable data, all the above results are acceptable (Schmenner et al., 2004)

Correlation analysis

As it is explained in the objective part of this study, the

Table 5. Correlation between the aforementioned factors and customer satisfaction.

Constructs	Service quality	Service feature	Complaint handling	Customer satisfaction	Future intension	Sig
Service quality	-	-	-	-	-	0.000
Service feature	-	0.797**	0.788**	-	-	0.000
Complaint handling	-	-	-	-	-	0.000
Customer satisfaction	0.955**	0.766**	0.959**	-	-	0.000
Future intension	-	-	-	0.967**	1	-

**Correlation is significant at the 0.01 level (2-tailed).

Table 6. Pearson correlation index test results.

Hypothesis	Correlation index	P -value	Test result
H1: There is positive relationship between services and customer satisfaction	0.955**	0.000	Supported
H2: By enhancing the service features, customer satisfaction will be improved	0.766**	0.000	Supported
H3: Effective customer complaint handling will enhance customer satisfaction	0.959**	0.000	Supported
H4: Customer satisfaction and behavioral intension is positively related	0.967**	0.000	Supported

aim of the study is to examine major determinants of customer satisfaction and relationship between customer satisfaction and loyalty. Services quality, services features and customer complaint handling system is found as major determinants of the customer satisfaction.

Table 5 shows correlation between the aforementioned factors and customer satisfaction. As it is explained earlier, correlation analysis determines the strength of the relationship as well as the extent of association between variables. As shown in Table 5 statistically significant relationship has been found among variables at 0.01 levels. Results of correlation analysis show that future intension is found significantly correlated with customer satisfaction (0.967) portraying that customers satisfaction brings about long lasting bond with the organization. Correlation value between customer satisfaction and customer complaint handling is 0.959 which depicts that if customer complaints are handled effectively, customer satisfaction can be enhanced.

Previous work has shown that customer who encounter with service failure and recovered effectively will be more loyal than someone who did not encounter with such mistakes (recovery paradox). Statistically, high significance detected by this study supports the above view.

Correlation value between service quality and customer satisfaction is found to be 0.955 portraying that organization can enhance customer satisfaction through quality service delivery. Correlation value between services features and customer satisfaction shows less value relatively but is statistically significant (0.766). The implication is that if customers are provided lofty and be valuable service feature then customer satisfaction can enhanced.

The relationship between customer satisfaction and customer loyalty

The results of the correlation analysis supported the hypothesis H1.H2, H3, and H4 proved that there is a positive relationship between "Service quality and customer satisfaction", Service features and customer satisfaction", "Complaint handling system and customer satisfaction", and "Customer satisfaction and feature intension". Pearson correlation index test results between services quality, services features, dealing with customer complaints and customer satisfaction and as well as customer satisfaction and future intention (Table 6, 7 and Figure 3).

Regression analysis model summary

For the second model $R^2 = 0.942$ was obtained, and it can be said that 94 percent of the dependent variable

Table 7. Regression analysis model summary.

Dependent variable	Independent variable	R^2	F	VIF	Beta	t-stat	Sign
	Services quality			1:00	0.995	8.042	0.000
Customer satisfaction	Services feature	0.942	934.650	1:00	0.766	15.718	0.000
	Customer complaint handling system			1:00	0.959	8.555	0.000

(Source: Survey, 2015).
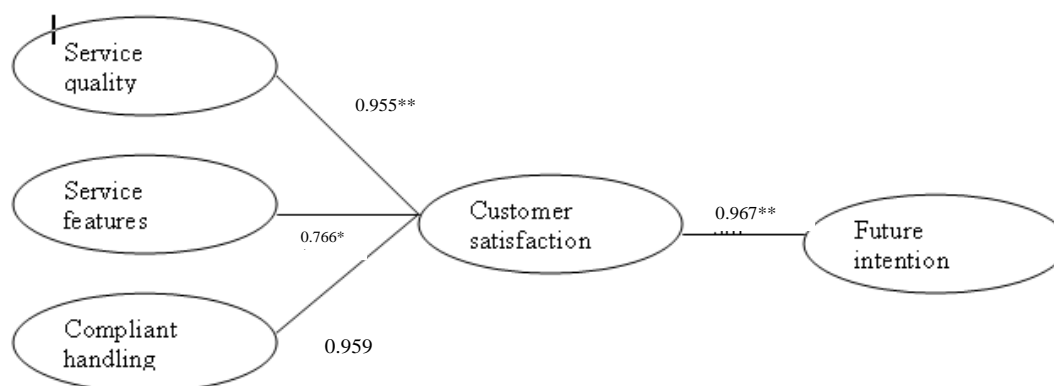
Figure 3. Relationship between customer satisfaction and customer loyalty (**Correlation is significant at the 0.01 level (2-tailed).

Table 8. Regression model for customer satisfaction and loyalty

Dependent variable	Independent variable	R^2	F	VIF	Beta	t-stat	Sign
Future intension	Customer satisfaction	0.935	2.549E3	1.237	0.967	50.487	0.000

changes is explained by the model. In other words, very high percentage of the dependent variable changes is identified by the model.

To understand the linearity of the relationships between the variables pair, singe factor variance analysis (ANOVA) is used. The test statistics F=934.650 and also zero meaningfulness level. Since the meaningfulness level is less than error level, there is a meaning full linear relationship between dependent variables and in-dependent variable. VIF value is calculated to investigate multi-co linearity problems in the model due to variance inflating factors and it is in the acceptable standards given statistical rule that VIF value between zero and four is acceptable.

Beta values are calculated to examine the individual contributions of the independent variable towards dependent variable. It was calculated by relating independent variable jointly with dependent variable. The Beta value between services quality and customer satisfaction is 0.995, followed by the dealing with customer complaints (0.959) and services feature (0.766). From the model one can conclude that services quality has highest contribution towards customer satisfaction.

T-statistics is calculated to know the significance level of the independent variables to be explained individually. T-value in this model was calculated by taking each independent variable separately with dependent variable. As model clearly shows, services features can be explained more significantly than the others. T-values in all cases support the hypotheses of this study according to statistical rule which says, if t-value is greater than two then hypothesis can be accepted.

Regression model for customer satisfaction and loyalty

As shown In Table 8 R^2 = 0.935 was obtained, in the third model and it can considered that 93 percent of the dependent variable changes are identified by the model. As a result customer satisfaction mediates the relationship between factors that affect customer satisfaction and loyalty. The test statistic F = 2.549E3 was obtained through single factor variance analysis (ANOVA). The result show meaningful linear relationship between

customer satisfaction and loyalty. The highest value of F-static in the model indicates strong relationship between satisfaction and loyalty. Beta figure in the model indicate statistically significant contributions of the customer satisfaction and customer loyalty. The highest t-value (50.487) in the model indicates that customer satisfaction is significant to be explained lonely.

Conclusion

Services quality is one of the determinant factors of customer satisfaction. Delivering outstanding services to the customer determines long run performance of the organization. Customer service can be enhanced through lofty and valuable service features. There is positive and significant relationship between services features and customer satisfaction.

However, the finding of this study show medium satisfaction trend of the customers with regard to services features of commercial bank of Ethiopia. Satisfactory customer service delivery can be achieved if customer complaints are handled appropriately. Previous work has shown positive relationship between customer complaint handling and customer satisfaction. Customer complaint dealing system of the commercial bank of the Ethiopia is contributing moderately towards customer satisfaction. Well defined system is not in a place to process customer complaints efficiently and effectively.

The bank is highly recommended to examine deter-minants of customer satisfaction and inculcates them within its every day services delivery. In this regard Organization must ensure the possession of all the banking services expected from world class commercial bank. Managers must ensure that customer complaints are addressed with top most priority and Create organizational attitude that recognizes complaints as opportunities to encourage customer complaints and deal accordingly.

LIMITATIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The following limitations affected the finding of this study. Since sample size was very limited, it was not large enough to represent entire users of the service. In addition to this, this study did not examine users' satisfaction with regard to the automatic teller machine (ATM) service of commercial bank in the Ethiopia as it involves technology related dimension of measurements it requires separate treatment.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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