THE ECONOMIC AND SOCIO-CULTURAL IMPACT OF COVID-19 ON OPERATIONS OF SMALL AND MEDIUM ENTERPRISES (SMES) ALONG THE MOYALE-NAIROBI LIVESTOCK SUPPLY CHAIN

Author: Ahmed Mohamoud
Supervisor: Professor Jeremiah Ole Koshal
Chandaria School of Business, United States International University Africa,
Nairobi, Kenya
Corresponding Author's Phone Number: +254710939333,
Email: mohamoud.a.ahmed@ gmail.com

Abstract

The study purposed to assess the economic and socio-cultural impact of COVID-19 on operations of SMEs along the Moyale-Nairobi livestock supply chain. Through the employment of stratified quota sampling technique and purposive sampling design, 768 questionnaires were physically distributed to livestock farmers, livestock markets, traders, abattoirs and transporters. Whereby the towns targeted along the Moyale-Nairobi livestock supply chain being Moyale, Marsabit North and South, Isiolo, Thika West, and Nairobi. The multiple linear regression model was used to establish the economic effects and socio-cultural effects of COVID-19 on operations of SMEs along Moyale-Nairobi livestock supply chain. The regression findings observed that the economic and social-cultural effects of COVID-19 adversely affected the operations of SMEs along the Moyale-Nairobi livestock supply chain. The study recommended that reduction of taxes to be paid by SMEs and uplifting the movement restrictions on the livestock industry, will help the livestock sector to grow.

Keywords: Global pandemic, economic effects, covid-19, social-cultural effects, strategies, small-to-medium enterprises (SMEs), livestock, impact

1. Introduction

The year 2020 witnessed one of the worst pandemics of our time - the, Coronavirus also known as COVID-19, an infectious disease which emerged in 2019 (WHO, 2020). World Health Organization (WHO) declared the COVID-19 epidemic a public health emergency worldwide which led to governments across the world putting measures in place aimed at stopping or reducing the spread of the virus (Aluga, 2020). Measures instituted include but not limited to closures of education and training institutions, public and private offices including hotels and restaurants, as well as strong encouragement by governments to request employers and organizations to ensure employees work from home. Lockdowns and curfews have also been put in place, as well as closures of borders and airspaces (Aluga, 2020). The first outbreak was traced to Wuhan City, China in December 2019, and symptoms of patients include common cold, fever, respiratory symptoms such as dry cough and Pneumonia (WHO, 2020). It was not until January 2020 when China publicly announced the spread of the disease. It was confirmed that the disease

could be transmitted from person to person as new cases were no longer related to the early cases linked to the sea food market in the city.

Wuhan City was put under total lockdown with restrictions of mobility enforced (WHO). This led to extraordinary economic impact on the country which inevitably affected the rest of the world as the export market drastically declined. This further added doubt to the countries slow economic growth rate and increase in unemployment. Nonetheless, the government adopted policies to support businesses and workers with most of the policies prioritizing employment (ILO, 2020).

According to Africa Centre for Disease Control (2020), Africa reported its first case in Algeria followed by Egypt towards the end of February 2020. Other African countries started to report outbreaks with South Africa, Nigeria, Ethiopia, Kenya and Tanzania being amongst them. China being Africa's major commercial partner with high volume air traffic and trade, the risk of spread of the virus in the African continent increased (Nkengasong & Mankoula, 2020). As this was happening, many countries stepped up their preparedness by introducing strict regulations to manage the spread, as well as increased surveillance and capacity building for the front-line workers to detect and manage transmissions (Nkengasong & Mankoula). The socio-economic impact for Africa was expected to be worse due to poor population, especially among marginalized communities and the elderly. The impact was also largely felt among refugees displaced by conflict, for instance, in South Sudan where there was an influx to neighboring countries like Kenya, Uganda and Ethiopia (Okoi & Bwawa, 2020).

In Kenya, the first case of COVID-19 was reported by the Ministry of Health on March 12, 2020, in Nairobi County (Aluga, 2020). Soon the numbers started to rise week by week as more people were tested across the country. (World Bank Group, 2020). Due to an increase in the number of positive cases, Kenya like many other nations across the world followed suite and put policy measures in place to stop the spread and flatten the curve by closing schools, universities, places of work, borders and airspaces (Mbogo, 2020). Inter-county movements were also banned; counties include Nairobi, Mombasa, Mandera, Kilifi and Kwale (Kiragu, 2020).

According to World Bank Group (2020), these measures changed the way business was conducted and has slowed down business operations in the country affecting all sectors including Agriculture. The livestock sub-sector directly contributes 42% to the agriculture GDP and between 12-14% to the national GDP (IGAD, 2011). The Kenya livestock sub-sector was consequently affected by the COVID-19 control measures designed to flatten the curve and to stop its spread (Omosa, 2020). This hugely affected the small and medium enterprises (SMEs) in the livestock and livestock products supply chain which resulted in a decline in the supply and demand of meat both locally and internationally (IGAD Centre for Pastoral Areas and Livestock Development, 2020). The Moyale-Nairobi corridor plays a vital role in the livestock supply chain since it is one of many busy routes for livestock trading in the country (Mahmoud, 2008; Roba, 2020).

The cross-border markets between Kenya, Ethiopia and Somalia are connected to secondary and tertiary markets within the Moyale-Nairobi corridor, and they facilitate the movement of livestock from the pastoral and agro-pastoral areas of Somalia, Ethiopia, north and north-eastern regions of Kenya to Nairobi (IGAD Center for Pastoral Area & Livestock Development, 2013). The lockdown affected movement of livestock which is usually made by trekking or by road

transport (Food and Agriculture Organization of the United Nations, 2020). The restrictions negatively impacted the key actors in the supply chain (PASTRES, 2020). Due to the risky environment of a livestock market, where social distancing was difficult to observe partly due to close interaction and informal trading taking place (Kenya Markets Trust, 2020), maintaining the recommended sanitation standards was challenging due to the nature of the market. The price of animals slightly increased, and the supply and demand has dropped (Famine Early Warning Systems Network, 2020).

The local consumption of meat products dropped due to closure of restaurants, shops, butcheries, supermarkets and schools. Loss of jobs and wage reduction made affordability of essential food difficult. Abattoirs were operating at 50% due to lack of production caused by decreasing number in supply and demand, as well as government requirements of social distancing (Mercy Corps, 2020). Business disruptions lowered production, creating shocks to supply, while consumers' and businesses' reluctance to spend has lowered demand (Gopinathan, 2020). The disease created mental health concerns on the children since their normal routine was disrupted by the indefinite closure of schools as a measure to contain the COVID-19 pandemic (University of Nairobi, 2020). Additionally, when COVID-19 cases started rising in Nairobi before the inter-county lockdowns were imposed, many people out of fear migrated to rural areas, which complicated the pandemic problem since the virus was spread to other parts of the country (Musyimi, Mutunga & Ndetei, 2020).

Besides that, there was an escalation of socio-economic crimes including livestock theft due to enhanced economic stress stigmatization of family members bereaved or infected by COVID-19 or forceful quarantine of members of the community in their own homes for 14 days (Odera, 2020).

Currently, based on the reviewed literature (Africa Centre for Disease Control, 2020; WFP, 2020; Institute for Security Studies, 2020; Mercy Corps, 2020; UNDP, 2020; Kenya Markets Trust, 2020; FT, 2020) concerning the impact of COVID-19 in Kenya. There is a knowledge gap based on the provision of empirical evidence concerning the economic and socio-cultural impacts of COVID-19 on SMEs along the Moyale-Nairobi livestock supply chain. Therefore, the primary purpose of this study was to assess the economic and socio-cultural impact of COVID-19 on the operations of SMEs along the Moyale-Nairobi livestock supply chain. The specific objectives were; (i) to examine the economic effects of COVID-19 on operations of SMEs along Moyale-Nairobi livestock supply chain, and, (ii) to determine the social-cultural effects of COVID-19 on operations of SMEs along the Moyale-Nairobi livestock supply chain.

2. Literature Review
2.1 Global Economic Impact of COVID-19 on the Global Supply Chain
The novel corona virus 19 (COVID-19) has clearly disrupted the economy worldwide causing interruption within the global supply chain (World Economic Forum, 2020). The pandemic started off in Wuhan area of China and eventually begun to negatively impact China's exports that inevitably reduced supply y in the global market (Heisbourg, 2020; Lugo-Morin, 2020). Disruption on the supply chain during a disaster usually results in substantial decline in production and demand. This eventually results in a delay of business recovery post the disaster. Beraha and Đuričin (2020) carried out an empirical study to determine the impact of the effects of the COVID-19 pandemic on the medium-sized firms operating in Serbia. The study was based on an online survey which was steered between March and April 2020where 50 medium-

sized firms were sampled for the study. Structured questionnaires with items on a 7-point Likert scale were employed to collect the data. Percentages as a descriptive statistical tool were employed for the data analysis. The findings observed that the SMEs in Serbia experienced loss of market share and decreased demand. Moreover, their supply chain had been disrupted and their business capacity utilization had declined.

On the other hand, a study conducted by Bartik, Bertrand, Cullen, Glaeser, Luca and Stanton (2020) on 5,800 SMEs in USA, observed that most of the employees were laid off with 43% of the businesses temporarily shutting down. Complementary to that, OECD (2020) observed that 31 SMEs worldwide have experienced considerable financial losses with some fearing to be knocked out of their businesses if they are not supported within 3 months' time. Aside from that, Bouey (2020) who conducted a survey on 995 SMEs in China established that 30% of the firms experienced a revenue downfall of 50% while another 28% reported 20% to 50% revenue decrease.

This is considering the fact that 10% of the SMEs can survive for only more than 6 months while experiencing financial pressure such as catering for salary payments, loan, rent and employee insurance costs. SMEs in general are more vulnerable to crisis and are usually greatly affected when compared to large firms due to the nature and size of the businesses (Bourletidis & Triantafyllopoulos, 2014). Besides that, Chowdhury (2011) contended that SMEs are usually at risk during any form of crisis because of decline in sales, credit crunch and demand shock. Moreover, due to the fact that most SMEs are usually risk takers in terms of being highly leveraged, they stand to close shop when a recession or a pandemic hit which usually comes forth with decreased sales and interest rates (Soininen, Puumalainen, Sjögrén & Syrja, 2012). According to the study steered by Larsson and Gustavsson (2020) in Norrbotten County, Sweden, 1 out of 3 firms experienced a decline of production due to supply chain disruptions. Besides that, 2 out of 3 firms had to reduce their employees in order to remain sustainable.

In conjunction to that, the adverse economic consequences of COVID-19 have forced the SMEs to enhance their marketing mix such as reducing their prices and changing their distribution chain towards their customers owing to the COVID-19 restrictions. A study conducted in Russia by Razumovskaia, Yuzvovich, Kniazeva, Klimenko and Shelyakin (2020) portrayed how government initiatives were set up to help SMEs perform better during the COVID-19 pandemic period. The study revealed that the government's initiative to decrease insurance premium, interest on loans by 1% each would subsequently increase the economic/financial performance of the SMEs by 0.824% and 0.753% respectively. Additionally, an increase of subsidies, volume of investments at the expense of budget funds and an increase in investments in equity capital of SMEs at the expense of the government by 1% would subsequently increase the performance of the SMEs by 0.827%, 0.844% and 0.767% respectively.

On the other hand, 22-On-Sloane (2020) conducted a study to establish the economic impact of COVID-19 on SMEs operating in South Africa. The study observed that travel restrictions, not being able to interact with clients face-to-face and the cancellations of projects/training sessions/meetings negatively impacted the financial performance of the small and medium sized enterprises in Africa. The study also established that 16% of the SMEs could retrench more than 10 employees in order for them to continue surviving. In addition to that, the study was also able to ascertain that the SMEs lacked adequate funds to operate within the next 3 months. While 11% indicated that their businesses will not be able to survive throughout the pandemic period.

Finally, virtual working has been viewed as the only smart business strategy that will help the SMEs survive during the pandemic.

Hamiza (2020) sought to determine the effect of Coronavirus lockdown on small scale businesses in Uganda. The study conducted face to face in-depth interviews on 10 SMEs that had been registered by the Uganda Registration Services Bureau. Thematic analysis was employed to analyze the qualitative data obtained. The findings observed that the lockdowns resulted to revenue losses, inflated transactional costs and deterioration of perishable goods. The study recommended for the government to conceive strategies including the waiving of taxes, offering financial support, re-assessing trading licenses or completely uplifting the lockdown as a way of resuscitating the businesses. Tax relief has been acknowledged as the most effective way of enhancing business recovery since it provides SMEs access to liquidity that will help them in catering for their business obligations/expenses following the decreased cash flow (Dahab, Zandvoort & Flasche, 2020).

Currently, based on the reviewed studies (Beraha & Ðuričin, 2020; Bouey, 2020; OECD, 2020, Larsson & Gustavsson, 2020; Razumovskaia et al., 2020; 22-On-Sloane, 2020; Hamiza, 2020), limited research been conducted to examine the economic effects of COVID-19 on operations of SMEs along Moyale-Nairobi livestock supply chain. Consequently, this study sought to bridge the existing knowledge gap.

2.2 Economic Impact of COVID-19 on SMEs in Kenyan Livestock Sector
In Kenya, the closure of livestock markets has hindered many farmers who rely on the sale of their livestock to fulfill their welfare needs. The sale of livestock is supposed to supplement household families to stock on food ration and cater for other welfare needs. Additionally, the closure of markets and drop in local and export demand resulted in an increase in level of poverty for the livestock farmers; this will certainly hinder the continents and developing partner's efforts to reduce and eradicate extreme poverty based on the United Nations Sustainable Development Goal (Africa Centre for Disease Control, 2020). Furthermore, this led to rise in overstocking of animals and depletion of natural resources such as water and degradation of rangeland. Closure of markets also affected both formal and informal traders who broker and source animals from the markets to supply to slaughterhouses. The ripple effect of this also reached the casual workers who depend on the livestock market and the opportunities it brings to earn an income (Food & Agriculture Organization, 2020).

Transporters were heavily constrained due to the decreased demand of livestock and livestock products both locally and internationally. Banning of inter-county movement further contributed to lack of supply as entry into Nairobi is restricted, limiting local consumption, as well as access to the export market. Kenya supplies live animals, as well as chilled meat to the Middle East and North Africa Region (MENA), and due to drop in demand from these countries, as well as limited aviation operations for international flights in and out of Kenya, the livestock export market experienced significant disruption (Kenya Markets Trust, 2020). Furthermore, the result of movement restrictions not only delayed the logistics of livestock and livestock products in Kenya but also worldwide, as delays in delivery of materials necessary in processing milk has led to milk dumping in some cases in the UK (FT, 2020).

Reduced slaughtering capacity due to demand has limited the meat output as slaughter houses in the country are operating at 50% due to lack of production and social distancing guidelines. The

new guidelines will certainly increase operational cost due to incurred expenses in instilling protective response plans such as purchase of protective equipment like masks and sanitizers which were not budgeted for initially (Mercy Corps, 2020). The price of vaccines in local agro-vet shops has risen due to high transport cost, as well as suppliers keeping products for fear of potential stock out. The vaccine suppliers in the country are unable to complete purchase and procurement of new stock due to air travel restrictions. This could also have a severe impact on animal health (World Food Programme, 2020).

Presently, based on the reviewed studies (Mercy Corps, 2020; World Food Programme, 2020; Africa Centre for Disease Control, 2020; Food & Agriculture Organization, 2020; Kenya Market Trust, 2020; FT, 2020), limited research been conducted to examine the economic effects of COVID-19 on operations of SMEs along Moyale-Nairobi livestock supply chain. Consequently, this study sought to bridge the existing knowledge gap.

2.3 Social Cultural Effects of COVID-19 on Livestock Supply Chain

The socio-cultural conditions refer to the cultural or social factors that influences people's attitudes and beliefs, attitudes towards change or jobs, religious beliefs, customer needs and preferences or the attitude of the community towards institutions. It also entails the business norms of communicating and associating with the business partners, connecting with the customers and distributors/suppliers (Masovic, 2018). The migration of animals, what is known as transhumance is of huge importance to the farmers. However, the COVID-19 restrictions hindered this practice, resulting in stiff competition for resources (Kenya Market Trust, 2020). Thus, resulting into conflicts as competition for resources becomes rigid, as was witnessed in the clashes between the Degodia and Borana communities along the Moyale-Nairobi corridor; rustling of animals, Internally Displaced People (IDP) and deaths were the result of the conflict (Daily Nation, 2020).

The Degodia community saw over 70 heads of camels stolen by the Borana community, however peace agreement between the two communities was brokered by members of parliament (MPs) and regional security commissioners (The Star, 2020). A study conducted by Chung, Chan, Lanier and Ju (2020) in Singapore revealed that working at home increased parental stress and frequent marital conflicts due to improper work-family balance. Globally, COVID-19 pandemic halted the children's educational process by school closures as a strategy aimed to curtail the spread of the virus. The children were limited to continue with their education programmes online at home. These developments have caused psychological disorders on the children such as loneliness, distress, depression, anger, fear and stress. Moreover, it has adversely affected the social lives of the children (Akat & Karata, 2020).

The aforementioned psychological disorders linked to stress, loneliness and anxiety are more likely to make the children and the adults in general to commit suicide (Sher, 2020). Besides that, the school closures have resulted to an escalation of the girl's household chores when compared to the boys, resulting to the girls prioritizing more on chores than studying. Such outcomes would dampen the progress made on girl empowerment (Burzynska & Contreras, 2020). Currently, based on the reviewed studies (Kenya Market Trust, 2020; Chung et al., 2020; Akat & Karata, 2020; Burzynska & Contreras, 2020), limited research been conducted to determine the social-cultural effects of COVID-19 on operations of SMEs along Moyale-Nairobi livestock supply chain. Consequently, this study sought to bridge the existing knowledge gap.

3. Research Methodology

This research investigation applied the descriptive cross-sectional survey design as the most suitable research design to address its objectives. The descriptive design was cross-sectional since the researcher intended to collect data from the respondents at only one point in time (Aggarwal & Ranganathan, 2019). The target population for this study deemed to have the appropriate information for the unit of analysis comprised of the livestock farmers, livestock markets, traders, abattoirs and transporters drawn from Marsabit North, Marsabit South, Isiolo, Moyale, Thika West and Nairobi. At the time this study was being conducted, there existed no sampling frame or data containing the list of all the aforementioned respondents in each targeted town. Therefore, the study used Anecdotal data retrieved from the KNBS comprising of the total population of people in each respective targeted town. The total population of people residing in Marsabit North is 54,297, while in Marsabit South they are 65,376, in Isiolo the total number of people are 121,066, with reference to Moyale there are 108,949 people, while in Thika West there are 240,856 people and finally Nairobi has a total of 4,397,073 people (Kenya National Bureau of Statistics, 2019).

Therefore, a total population of 4,987,617 was targeted. Since the finite population of the study was known and accessible, the study used the Krejcie and Morgan (1970) sample size estimator to calculate the sample size of the study. The estimated sample size was 768 respondents.

The study collected primary data for statistical analysis that was quantitative in nature. Structured questionnaires with predetermined questions on Likert scales were used to collect quantitative data that was statistically analyzed and employed to address its objectives (Zikmund, Babin, Carr & Griffin, 2010). Data collected was cleaned, coded and analyzed using SPSS and Excel Sheet. This was analyzed to obtain both descriptive and inferential statistics. Descriptive statistics that included frequencies and percentages were employed to describe the demographic aspects of the respondents. Additionally, descriptive statistics involving mean was used to show the level of economic effects of COVID-19, the level of socio-cultural effects of COVID-19 and the level of financial performance of the livestock SMEs in 2020. The findings were presented in tables. Inferential statistics involving multiple linear regression analysis was used to establish if economic and social-cultural effects of COVID-19 significantly decreased or increased the level of financial performance of the SMEs in the livestock supply chain business. The multiple linear regression model used is presented below;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Whereby; α = A constant figure that illustrated the level of financial performance in the absence of the economic and socio-cultural effects of COVID-19

Y = Dependent variable that represented the level of financial performance of the SMEs in the livestock supply chain

X_1 = independent variable that denoted the economic effects of COVID-19

X_2 = independent variable that denoted the social-cultural effects of COVID-19

$\beta_1, \beta_2,$ = The Beta coefficients that forecasted the figure of Y

ε = error term.

5. Presentation of Findings and Discussions

5.1 Response Rate and Demographic Findings
However, the research actually managed to study 600 respondents in the field. This denoted a response rate of 78.13%, meaning that the study only suffered a non-response rate of 21.87%, which was not consequential. Gordon (2002) postulated that research studies posting a response rate of 60% are acceptable for inference and a response rate of 70% is more preferable. This study managed to surpass the rule of thumb by achieving a response rate of more than 70%%, meaning that the findings of this study were adequate for inferences to be made. The findings showed that most of the respondents were male standing at 78.5% (471) when equated to female who were only 21.5% (129). The results noted that the majority of the respondents, 33.3% (200), 20% (120) and 16.7% (100) were from Nairobi, Isiolo and Thika East respectively. This is because the towns are major hubs of livestock businesses. Complementary to that, 10% (60) indicated that they were from Moyale, 10% (60) from Marsabit South and finally 10% (60) from Marsabit North. In regard to the type of business or work the respondents were engaged in showed that the majority of the respondents were livestock farmers at 33.3% (200). This was succeeded by 22.5% (135) who worked in slaughterhouses/abattoirs. Besides that, 21.7% (130) indicated that they were livestock traders, and 21.7% (130) were livestock transporters. Finally, only 0.8% (5) of the respondents worked at the livestock markets, which denoted all the 5 livestock markets studied in Moyale, Marsabit South, Marsabit North and Isiolo respectively.

5.2 Descriptive Findings
Descriptive statistics was used to show the economic effects of COVID-19 on operations of SMEs along the Moyale-Nairobi livestock supply chain. A 5-point Likert scale of the level of highness (1-None, 2-Low, 3- Moderate, 4-High and 5-Highest) seeking to establish the perceived level of economic effects of COVID-19 on the livestock supply chain was used. The findings were presented in Table 1 in the next page. The findings of the descriptive analysis established that COVID-19 pandemic disrupted the livestock supply chain business in Kenya. This was justified by a mean of 4.380. Moreover, the findings of the study observed that COVID-19 restrictions have played an adverse role in making the livestock SMEs to find it difficult to access credit/loans for effective and efficient operations of the livestock business. This was justified by a mean of 4.338. Furthermore, it was also ascertained that COVID-19 restrictions escalated the price of live animals as justified by a mean of 4.268. The findings of the research also observed that the disruption of the supply chain led to the decline of the meat production and demand justified by a mean of 4.171. The findings of the study were consistent with those by Larsson and Gustavsson (2020) who noted a decline of production of goods due to supply chain disruptions as a result of COVID-19 in Sweden.

The decline of demand due to COVID-19 restrictions has led to the reduction of slaughter capacity and the supply of livestock products (Kenya Markets Trust 2020; Mercy Corps 2020). Besides that, descriptive findings showed that the price of the live animals drastically increased in the middle of the COVID-19 pandemic. This was justified by a mean of 4.168. Complementary to that, there was a general consensus among the respondents that COVI9-19 had led to an upsurge in operational costs for traders and increased prices for retailers and processors as a result of delay of movement of animal health inputs, animal feed and livestock. This was justified by a mean score of 4.148. The findings of the study were congruent with the research outcomes observed by Hamiza (2020) and Mercy Corps (2020) who observed that COVID-19 restrictions involving lockdowns resulted to inflated transaction costs on small scale

businesses in Uganda. The results also noted that COVID-19 has decreased the supply of livestock, which has inflated the meat prices to the end customers, thus discouraging many of them from buying meat and meat products.

Table 1: Descriptive results of the Perceived Level of Economic Effects of COVID-19 on Operations of SMEs along Moyale-Nairobi Livestock Supply Chain

No.	Statement	Mean	Standard Deviation
1.	COVID-19 pandemic disrupted the livestock supply chain business.	4.380	1.161
2.	The abrupt shut down of transportation adversely affected the cash-flow of the livestock/meat business.	4.120	1.236
3.	The disruption of the supply chain led to the decline of the meat production and demand.	4.171	1.250
4.	COVID-19 has led to upsurge of operational costs for traders and increased prices for retailers and processors as a result of delay of movement of animal health inputs, animal food and livestock.	4.148	1.156
5.	COVID-19 restrictions have played an adverse role in making the livestock SMEs to find it difficult to access credit/loans for effective and efficient operations of the livestock business.	4.338	0.991
6.	COVID-19 has decreased the supply of livestock which has inflated the meat prices to the end customers thus discouraging many of them from buying meat.	4.142	1.036
7.	The price of the live animals before the COVID-19 pandemic.	3.148	1.128
8.	The price of the live animals in the middle of the COVID-19 pandemic.	4.168	1.229
9.	The present price of the live animals.	4.268	1.059
10.	The price of the slaughtered animal before the COVID-19 pandemic.	3.195	1.206
11.	The price of the slaughtered animal during the COVID-19 pandemic.	3.793	1.445
	Overall Mean score	4.161	1.173

Source: Researcher (2022)

This was justified by a mean of 4.142. The findings of the study were in agreement with Mercy Corps (2020) who also observed that the consumption of animal products in the Horn of Africa had decreased due to the escalation in prices as a result of COVID-19 restrictions which was aggravated by a decline of household incomes due to pay-cuts and job losses. Besides that, most of the respondents indicated that the abrupt shut down of transportation adversely affected the cash flow of the livestock/meat businesses. This was justified by a mean of 4.120. The findings agreed with by Desbureaux et al. (2020) who noted that the closure of most SMEs adversely affected their cash flow. It was also established that the price of the slaughtered animals during the COVID-19 pandemic was high. This was justified by a mean of 3.793. Most respondents contended that the price of live animals before the COVID-19 pandemic was moderately favorable justified by a mean of 3.148. While most respondents indicated that the price of slaughtered animals before the COVID-19 pandemic was moderate. This was justified by a mean of 3.195.

Descriptive statistics was used to show the social cultural of COVID-19 on operations of SMEs along the Moyale-Nairobi livestock supply chain. A 5-point Likert scale of the level of highness (1-None, 2-Low, 3- Moderate, 4-High and 5-Highest) seeking to establish the perceived level of

social cultural effects of COVID-19 on the livestock supply chain was used. The findings were presented in Table 2 below.

Table 2. Descriptive results of the Perceived Level of Social Cultural Effects of COVID-19 on Operations of SMEs along Moyale-Nairobi Livestock Supply Chain

Statement	Mean	Standard Deviation
I and my family have been negatively affected by COVID-19 to a point whereby we had to desperately sell our livestock to sustain our livelihoods.	4.230	1.197
The COVID-19 pandemic has restricted people from going to the market to buy livestock/meat products.	4.225	0.936
The COVID-19 has led to the loss of jobs and income of people thus reducing their purchasing capability.	3.970	1.252
The migration of livestock from one location to another has been curtailed by COVID-19.	4.010	1.190
The closure of restaurants, bars, street-food vendors and institutions has considerably decreased the demand of the meat products.	4.133	1.077
Social distancing due to COVID-19 has limited the number of customers going to buy livestock products in the market.	4.117	1.058
Due to the fact that some livestock traders were diagnosed with COVID-19, it created stigma against them together with the transporters along the major trade routes thus affecting the meat/livestock sales and supplies.	4.073	1.082
COVID-19 has negatively impacted education since the closure of schools has made it difficult for students to undertake their studies at home due to distractions and competing priorities.	4.243	0.952
COVID-19 restrictions have led to increased gender-based violence against women and an escalation of teenage pregnancies.	4.350	0.981
The COVID-19 restrictions such as cessation of movement and lockdowns has led to livestock theft due to the demand of the livestock coupled with lack of finances.	4.267	0.937
The COVID-19 restrictions has restricted the movement of livestock from one grazing region to another grazing region leading to conflicts over the scarce grazing lands.	4.188	0.904
The COVID-19 restrictions has led to overgrazing and scarcity of greener pastures that has adversely affected the health of the livestock.	4.568	0.655
The COVID-19 restrictions has limited the transportation and sale of livestock has forcing pastoralists to engage in unethical businesses such as selling illegal charcoal in order to make a living.	4.567	0.707

Source: Researcher (2022)

From the findings presented in Table 2 above, it was established that the COVID-19 restrictions led to overgrazing and scarcity of pastures that have adversely affected the health of the livestock. This was justified by a mean of 4.568. The findings of the study concurred with those by Kenya Market Trust (2020) which showed that the free movement of livestock from one area to another was curtailed creating scarcity of the food resources (IGAD, 2018). The findings also agreed with those by IGAD Centre for Pastoral Areas and Livestock Development (ICPALD) (2020) and Kitimo (2020) which showed that COVID-19 restrictions restricted the movement of livestock,

transportation and sale of livestock thus forcing pastoralists to engage in unethical businesses such as burning and selling illegal charcoal in order to make a living. This was justified by a mean of 4.567.

To compound the already complicated social problems, the COVID-19 restrictions led to increased gender-based violence against women and an escalation of teenage pregnancies. Gender-based violence is due to COVID-19 restrictions such as lockdowns, curfews, job loss or being forced to work at home that has restricted people to stay at home (Chung et al., 2020). This was justified by a mean of 4.350. The findings concurred with Drachman (2020) who observed that one in three women experienced gender violence globally as a result of COVID-19 pandemic. The findings of the study also agreed with World Vision (2020) who observed that more than one million girls in Sub-Saharan Africa might not be able to go back to school to continue their education since they were impregnated during the COVID-19 school closures. Interestingly, it was established that the COVID-19 restrictions such as cessation of movement and lockdowns have led to livestock theft due to depressed economic activities and the associated decline in liquidity in communities. This was justified by a mean of 4.267. Additionally, COVID-19 has negatively impacted education since the closure of schools has made it difficult for students to undertake their studies at home due to limited access to internet, high costs of connectivity, distractions and competing priorities.

The distractions observed was attributed to loneliness, depression, distress, anger, stress and fear as a result of missing the social life experienced in school and being restricted at home (Akat & Karata, 2020). While with reference to competing priorities, Buzynska and Contreras (2020) observed that girls were forced to prioritize household chores over their school studies. It was also established that the respondents and their families were negatively affected to a point where some compelled to sell their livestock for sustenance. This was justified by a mean of 4.230. Further, the COVID-19 pandemic restricted people from going to the market to buy livestock/meat products, as justified by a mean of 4.225. The descriptive findings also noted that the COVID-19 restrictions also restricted the movement of livestock from one grazing region to another leading to conflicts over the scarce grazing lands. This was justified by a mean of 4.188. Besides that, the COVID-19 pandemic led to the closure of restaurants, bars, street-food vendors and institutions, which considerably decreased the demand for meat and meat products. This was justified by a mean of 4.133.

Moreover, it was also established that most of the respondents contended that social distancing due to COVID-19 has limited the number of customers going to buy livestock products in the market. This was justified by a mean of 4.117. Complementary to that, due to the fact that some livestock traders were diagnosed with COVID-19, it created stigma against them together with the transporters along the major trade routes, thus affecting the meat/livestock sales and supplies. This was justified by a mean of 4.073. Finally, it was observed that the COVID-19 resulted to job losses, deteriorating the purchasing power of the customers. This was justified by means of 4.010 and 3.970 respectively.

5.3 Regression Analysis Findings
In order to precisely establish the economic and socio-cultural effects of COVID-19 on the operations of SMEs along the Moyale-Nairobi livestock supply chain, multiple linear regression analysis was conducted. The independent variables comprised of economic and social-cultural effects of COVID-19 while the dependent variable was the financial performance of the livestock SMEs as a measure of operations of SMEs along the Moyale-Nairobi livestock supply chain

during the COVID-19 pandemic period in 2020. The data obtained from the field was run in SPSS that included the linear regression model for analysis. The outcomes of the regression analysis are presented in tables 3, 4 and 5 respectively. Table 3 below presented the model summary outcomes.

Table 3: Model Summary Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777[a]	.604	.603	.4862

a. Predictors: (Constant), Economic Effects of COVID-19, Social-Cultural Effects of COVID-19

b. Dependent Variable: Financial Performance

Source: Researcher (2022)

The R-Value of 0.777 meant that the study's regression model had a commendable predictive power since 77.7% of the dataset analyzed was statistically explained by the regression model. The model summary results also noted that 60.4% of the change that occurred in the financial performance of the livestock SMEs along the Moyale-Nairobi supply chain was explained by both economic and social-cultural effects of COVID-19. Since the R-Square value was 0.604 which is interpreted in percentage for whereby 0.604 is understood as 60.4. The R-Square value actually explains the changes caused in the dependent variable by all the independent variables in percentage form. The predictive power can also be justified by the value of the standard error of the estimate which was 0.48612 that was considerably low, meaning that the data was close to the regression line. The Analysis of Variance (ANOVA) results were presented in table 4 below.

Table 4. Analysis of Variance (ANOVA) Findings

Model		Sum of Squares	df	Mean Square	F	Sig.
	ANOVA[a]					
1	Regression	99.289	2	49.645	48.394	.000[b]
	Residual	65.134	597	.109		
	Total	164.423	599			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Economic Effects of COVID-19, Social-Cultural Effects of COVID-19

Source: Researcher (2022)

The ANOVA results clearly confirmed that the changes that occurred in the financial performance of the livestock SMEs was significantly explained by the economic and the social-cultural effects of COVID-19. This is because the *p*-value of the ANOVA was less than the benchmark value of 0.05. The regression coefficient analysis was used to establish how economic and social-cultural effects of COVID-19 individually influenced the financial performance of the livestock SMEs and if the impact was positive or negative. The regression coefficient results are presented in table 5 in the next page. The regression coefficients presented in Table 5 in the next page led to the development of the following regression equation;

$$Y = 6.781 - 0.679X_1 - 0.323X_2$$

Y denoted the financial performance of SMEs along the Moyale-Nairobi livestock supply chain.

X1 represented the economic effects of COVID-19 and X2 denoted the social-cultural effects of COVID-19. The constant value of 6.781 meant that in the absence of economic and social-cultural effects, when all other things are held constant then the level of financial performance of the livestock SMEs would be 678.1%. Indicating how adverse economic and social-cultural effects have adversely impacted the operations of the livestock supply chain in regard to financial performance. With reference to addressing the first specific objective of the study that sought to examine the economic effects of COVID-19 on operations of SMEs along the Moyale-Nairobi Livestock Supply Chain. The regression coefficient of economic effects of COVID-19 denoting the unstandardized beta of -0.679 meant that a unit increase of the adverse economic effects of COVID-19 consequently decreased the financial performance of the SMEs along the Moyale-Nairobi livestock supply chain by 67.9%. Which was statistically significant (p-value = 0.000<0.05). Considering that in our case, financial performance was a measure of the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain.

The regression analysis in general meant that economic effects of COVID-19 ranging from high prices, decline of supply and demand of livestock products, high operation costs, inaccessibility to credit financing among others negatively affected the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain in terms of financial performance.

Table 3. Regression Coefficients showing how Economic and Social-Cultural Effects of COVID-19 affected the Financial Performance of livestock SMEs along the Moyale-Nairobi Supply Chain

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.781	.245		26.571	.000
Economic Effects of COVID-19	-.679	.066	-.567	-7.998	.000
Social-Cultural Effects of COVID-19	-.323	.092	-.240	-3.565	.001
a. Dependent Variable: Financial Performance					

Source: Researcher (2022)

The second specific objective of the study sought to determine the social cultural effects of COVID-19 on operations of SMEs along the Moyale-Nairobi Livestock Supply Chain. The regression coefficient of social cultural effects of COVID-19 denoting the unstandardized beta of -0.323 meant that a unit increase of the adverse social cultural effects of COVID-19 consequently decreased the financial performance of the SMEs along the Moyale-Nairobi livestock supply chain by 32.3%, which was statistically significant (p-value = 0.001<0.05). Considering that in this case, financial performance was a measure of the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain, the findings meant that the social-cultural effects of COVID-19 adversely affected the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain. The regression analysis in general meant that social cultural effects of COVID-19 ranging from restriction of human and livestock movement in certain areas, closure of businesses, social distancing, livestock theft, job losses, stigma, and gender violence among others negatively affected the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain in terms of financial performance.

6. Conclusions

In line with the first objective, it can be established that the economic effects of COVID-19 adversely affected the operations of SMEs along Moyale-Nairobi livestock supply chain in terms of reduction of financial performance in the year 2020. This meant that economic effects of COVID-19 ranging from high prices, decline of supply and demand of livestock products, high operation costs, inaccessibility to credit financing among others negatively affected the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain in terms of financial performance. In line with the second objective, it can be concluded that the social-cultural effects of COVID-19 adversely affected the operations of SMEs along Moyale-Nairobi livestock supply chain in terms of reduction of financial performance in the year 2020. This meant that social cultural effects of COVID-19 ranging from restriction of human and livestock movement in certain areas, closure of businesses, social distancing, livestock theft, job losses, stigma, and gender violence among others negatively affected the operations of SMEs along the Moyale-Nairobi Livestock Supply Chain in terms of financial performance.

7. Recommendations

The study recommends for the government to unconditionally uplift the lockdowns and curfew restrictions once and for all. The uplifting of the restrictions would give room for the free movement of livestock and its products in various marketplaces.   Therefore, the demand and supply of livestock will increase and the business will once more thrive. Besides that, livestock theft will subsequently subside. Moreover, allowing the livestock businesses to operate twenty-four hours, seven days a week, will provide the business people adequate revenue to sustain their livelihoods, thus preventing them from engaging in unethical activities and theft. Additionally, the government should formulate initiatives that discourage gender-based violence, teenage pregnancies and stigma against COVID-19 victims. The policy formulators should formulate policies, which ensure that the changes in the market prices and volumes have to be equated against seasonal norms since livestock trade is very seasonal. Moreover, the government should assist the livestock business in establishing an e-commerce selling platform for the livestock industry for smooth operation and be exposed to the global audience, thus curtailing the effects of COVID-19. This study was purely anchored on a quantitative methodology, a qualitative design involving the usage of interviews and focused group discussions should be employed by future researchers in order to get an in-depth view of the economic and socio-cultural effects of COVID-19 on the livestock industry in Kenya.

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