Assessing the Harmony of Supply Chain Actors in Live Animal Export: The Case of Gurage Zone, Ethiopia

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Authors' contributions
Authors have contributed equally in conducting the study and preparing the revised article. All authors read and approved the final manuscript.

ABSTRACT
This article aims to study the harmony of supply chain actors in Live Animal Export at Gurage Zone, Ethiopia. This problem is relevant and researches in this sense can help policies that aim to improve the functioning of supply chains. Harmony of supply chain is the collaboration level of supply chain participants which is measured in terms of common planning and action guidelines they have, how they share information and generally the overall relations they have one another. Being descriptive in design, the study has targeted main live animals supply chain actors who are 719 producers, 6 traders and 2 exporters in Gurage zone from whom 257 producers were randomly chosen as a sample and all the traders and exporter have been used directly from whom questionnaires were collected from. The findings have proved that there is relatively consistent flow of information throughout the supply chain actors in live animals export in Gurage zone. Additionally there have been seen that there is a culture of planning jointly among the chain actors followed by having common updating means in case of plan fails to meet the expectations even though there exists problems of sitting for evaluation of actions made by the chain elements which is the key for future improvement of the export business. Finally it has been found that the overall harmony of the chain actors is attractive with some reservations.

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Keywords: Harmony of supply chain actors; joint planning; information flow.

1. INTRODUCTION

Aklilu and Catley [1] found that there have been significant investments from different international donors, aid institutions, and national government in livestock marketing infrastructure development and in enhancing livestock export trade systems in the pastoralist areas of Ethiopia, Kenya, and Sudan and in the Horn of Africa in general for more than thirty years. The authors further indicated that these investments did not come up with their intended results due to poverty reduction policy and strategy interventions that were selected based on non-pastoral socio-economic indicators that generalized incorrectly the Agro-pastoralist situations which are basically different from the non-pastoral societies.

Hence, in Gurage Zone whether there is tailored made policy or not, and information about efforts made to enhance management of live animal export supply chain and their results by GOs and NGOs in the past and the relationship among supply chain actors and service providers is not assessed before, as far as the researchers knowledge is concerned [2-4].

Additionally, the preliminary observations was conducted regard trends about the relationship, strength and level of coordination within the animal export supply chain participants (i.e. between/among producers, individual traders and exporter firms) seems in its traditional manner and whether there are established systems and working frameworks in the area is not studied yet. Thus, this shows that there is still a gap regarding empirical data about the level relation of live animal export supply chain of the Zone [5-7]. Even though, there are few live animal export firms but their performance, relationship with their chain actors and the current status on live animal export of the Zone is not known and needs a scientific investigation [8-10].

Moreover as the result of preliminary study was revealed that there are existing challenges in livestock export systems of the Zone that makes the live animal export supply chain uncompetitive in supplying quality live animals to both domestic and international markets based on demand changes in market which also needs to be identified [11-13]. Hence, this empirical gap is the primary focus of the research.

According to Dada J. P. Vaswani [14] there is a big benefit for everyone in having harmony in business relationships, and especially when it comes to supply chain management and logistics. With harmony, there isn’t a risk of lack of communication and therefore the needs of everyone in the supply chain are met, especially customer needs and wants. A win-win relationship is formed when all parties are willing and able to share respect and appreciation.

In order to assess the harmony of supply chain actors in Live Animal Export in the Case of Gurage Zone, the study has focused on the following specific objectives;

- To evaluate the practice of information sharing among the live animals export supply chain actors in Gurage zone
- To assess the common planning and monitoring practice of live animals export supply chain actors in Gurage zone
- To investigate the overall relationship among the live animals export supply chain actors in Gurage zone

2. RESEARCH METHODOLOGY

This study has adopted descriptive research design with an objective of evaluating and describing the harmony of the live animals export supply chain actors in Gurage zone. The study has targeted main live animals supply chain actors who are 719 producers, 6 traders and 2 exporters in Gurage zone from whom 257 producers were randomly chosen as a sample and all the traders and exporter have been used directly. The study has utilized primary data mainly questionnaires distributed to the producers, traders and exporters. The collected data have been analyzed through descriptive statistics with frequency of respondents and percentage emphasized.

3. RESULTS AND DISCUSSION

The data collected to evaluate the harmony of live animals export supply chain actors in Gurage Zone were designed to assess the detail elements of harmony in the perspectives of information flow among the chain, common planning and monitoring, and overall relationship. These perspectives have further been evaluated in their own dimensions which
have been shown in the descriptive statistics hereafter.

3.1 Information Flow among the Chain Actors

As information is a key factor in supply chain activities, here it has been evaluated in the live animals export among the chain actors. The information flow has been seen from the points of information reality, consistency, timing and use of suitable media as follows.

As it can be seen from Table 1 78% of the respondents have rated the reliability of information shared among the live animals supply chain actors in Gurage zone is high. This is a good indicator for the existence of trusted information flow in the chain supportive to sustainable and smooth flow of products from producers to the exporting point.

Majority, 76% of the respondents in the same Table 1 have proved that the flow of the information in the chain is highly consistent which is required to be scheduled in more perfect way for the chain actors. This good characteristic of the information flow in the live animals export supply chain helping the chain to have standard flow of information making participants be always aware.

With regard to the timeliness of information shared, more than average, 58% of the respondents have rated the timeliness of information shared is little more than moderate showing messages passed are considering the updates required in the chain even though some there is considerable reservation of some respondents. Here it has been alarmed that the chain participants need to work harder to secure the timeliness of the information shared further.

Even though the reliability, consistency and timeliness of the information shared have been rated positive the media used in the chain have been rated lower by more than average, 58% of the respondents indicating the lesser availability of suitable media for the flow of information in chain. This could have been from the poorly developed telecom infrastructures in the country and the technology adaptation problem of the chain actors.

Finally, the overall information flow in the live animals export supply chain has been summarized and found that the majority 65% of the respondents in the chain has rated it as being beyond moderate level showing that having some reservation of some respondents the information flow in this chain is appropriate to support better flow of live animals/product to desired destination.

3.2 Joint Planning and Monitoring

Efficient supply chain performances are highly influenced by joint planning and monitoring [1]. Here in this study the chain actors are evaluated if they cross check their plans regularly, update plans jointly, follow up implementations and evaluate their performances together as follows.

As it can clearly be observed in the Table 2 above, 81% of the respondents has confirmed that the live animals export supply chain actors used to cross check their activities one another regularly which is wise way of handling deviations in the supply capability of the respective chain actors. This is helpful to avoid risks of possible changes occurred after individual actors have planned their own acts to make plans suit one another.

<table>
<thead>
<tr>
<th>Information flow dimensions</th>
<th>Frequency and percentage of responses</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very high (% f)</td>
<td>High (% f)</td>
</tr>
<tr>
<td>1. Reality of The information shared</td>
<td>95</td>
<td>36</td>
</tr>
<tr>
<td>2. Consistency of information flow</td>
<td>103</td>
<td>39</td>
</tr>
<tr>
<td>3. Timeliness of information shared</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>4. Suitability of media used Information sharing mean response</td>
<td>12</td>
<td>5</td>
</tr>
</tbody>
</table>
More than average, 67% of the respondents in the animal export supply chain actors have rated this act to be higher even though the remaining have reservations showing that the chain actors still need to work hard here.

### 3.3 Overall Relationship

Supply chain collaboration or overall relationship has significant role in the development of a chain harmony and could lead to success if managed well [14]. And here the researchers has tried to evaluate the overall relationship among the live animals export supply chain actors in Gurage zone from the perspectives of means to support each other, guiding regulations, strive for common goals/joint development and evaluate and comment each other.

As it can be seen from the Table 3 majority, 70% of the respondents have indicated that the live animals export supply chain actors in Gurage zone have better means of supporting each other on which the researchers have tried to interview about these stated means and have found that the chain actors have traditional supporting means like credit facilities they provide to the next chain actor, tolerate demand and supply deviations expected and others like advising each other. The interview results have proved that he chain actors means of support and other actions are not supported with guidelines, as indicated by 66%of the respondents and legal bases, even though found to be important.

### Table 2. Joint planning and monitoring (rating as very high (5), high (4), moderate (3), low (2) and very low (1))

<table>
<thead>
<tr>
<th>Joint planning and Monitoring dimensions</th>
<th>Frequency and percentage of responses</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very high</td>
<td>High</td>
</tr>
<tr>
<td>1. Always crossed checked plan one another</td>
<td>123</td>
<td>46</td>
</tr>
<tr>
<td>2. Regular update of plans together</td>
<td>96</td>
<td>36</td>
</tr>
<tr>
<td>3. Follow up of implementation together</td>
<td>89</td>
<td>34</td>
</tr>
<tr>
<td>4. Joint evaluation of performances</td>
<td>46</td>
<td>17</td>
</tr>
<tr>
<td>Joint planning and monitoring in general</td>
<td>89</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information flow dimensions</th>
<th>Frequency and percentage of responses</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very high</td>
<td>High</td>
</tr>
<tr>
<td>1. Means to support each other</td>
<td>105</td>
<td>40</td>
</tr>
<tr>
<td>2. Guiding regulations</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>3. Strive for common goals</td>
<td>123</td>
<td>46</td>
</tr>
<tr>
<td>4. Evaluate and comment each other</td>
<td>44</td>
<td>17</td>
</tr>
<tr>
<td>Overall Relationship</td>
<td>72</td>
<td>27</td>
</tr>
</tbody>
</table>
Along with having better means to support each other, 83% of the respondents have stated that the live animals supply chain actors in the zone strive to achieve common business goals/joint development goals in the export business along with having moderate level evaluation and commenting means each other as it has been proved by some considerable level of respondents on the last item of the table above.

Finally it can be concluded that the average, 51% of the respondents have proved that the overall relationship of the live animals export supply chain actors in Gurage zone is significant in supporting their overall integration in the export business they are in.

5. CONCLUSION AND RECOMMENDATION

In order to assess the harmony of supply chain actors in Live Animal Export the Gurage Zone the researchers have evaluated the exchange and flow of information among the chain actors, the joint planning and monitoring practice and generally form the relationship management practices that the chain actors having these days in the Gurage zone.

The harmony of the supply chain actors in relation to the information sharing have been found significant having reliable and consistently exchanged information in the live animals export chain the Gurage zone having some reservations in having lesser information timeliness and inappropriate media through which the information is exchanged through. Here, it is true that timeliness of information is key above all facts in that it may distort the functioning of the chain and the chain actors should try to manage their media of information exchange along with sharing up to date information of the business.

In relation to joint planning and monitoring among the chain members of the live animals export supply chain, which is critically explaining the harmony of chain actors it has been found that there is a culture of planning jointly among the chain actors followed by having common updating means in case of plan fails to meet the expectations. Even though there is joint planning on the whole ways of acting in the chain there has been problems of siting for evaluation of actions made by the chain elements which is the key for future improvement of the export business. The chain actors must have time to review their operations as it is the means of overcoming problems of the future looking in depth of the past.

The overall relation of the live animals export supply chain actors harmony, it has been proved that the chain actors have better, even though traditional, means of supporting each other and strive for joint development in common while having poor guiding regulations and culture of commenting each other which must be emphasized to support future and existing operations within the chain.

Generally, the live animals export supply chain participants are expected to collaborate and strongly integrate their trade flow as it is the key for their success. Beyond this there must be a guide line regulating their interaction as they only can grow together and no single participant can be independent of the other. It is also better if there exists a means of commenting one another on the overall experience the have had together as far as the trade.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/61316