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Farmers Market Integration: the Importance of Trust Perception and Competence Signals

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Abstract

Agriculture development and exports of agricultural products would benefit by increased competitiveness by means of improved product quality and reduced uncertainty along the value chain. The dairy sector in Tunisia is characterized by informal distribution channels with failure in delivering quality milk. Formal marketing channels are means to create value and to contribute to the development of the agricultural sector. The objective of this paper is to investigate the factors affecting dairy farmers' market decisions regarding the selection of milk marketing channels. It considers trust perception as key to shaping breeders' decision and behavior. The empirical results indicated trust perception, enterprise size, price setting and regular communication as major predictors of producers' decision to choose formal channels. Farmers appreciating the signals of competence are in a position to judge and trust their partners, and therefore to choose formal channels rather than the informal ones. The implications of these results are the following: collection centers shall develop trust, competence, and credibility signals to create an enabling environment to integrate farmers in the value chain.

Keywords: Competence and credibility signals, farmers market integration, formal marketing channel choice, appreciation, trust perception

Introduction

The sustainability of the Tunisian dairy value chain face several challenges; the persisting informal market and the instability of the supply network have negative effects on delivering product quality and integrating upstream-downstream actors (Ayari and Zaibet, 2019). The access to the formal market is a real challenge for small breeders due to the perishable nature of the product, the seasonality of the production, the problem of transportation in rural areas, and overall information constrains. Many farmers started doing business in the formal sector, but shifted into the informal sector. The collection centers play a key role in facilitating farmers' integration. However, during the high season, it is argued that these centers are demanding higher quality standards and therefore, the quantity of milk refused increase considerably which imply important losses to breeders. Such behavior, prevents the stability of their supply chain and network. Farmers, anticipating these rejection risks, react by delivering a part of their milk production to the paddlers. This results in breeders leaving away the collection centers and moving into the informal channels. Ayari et al. (2020) indicated that trust perception could

improve the situation through the provision of reliable information. Other authors argue that signaling is a useful device for resolving information asymmetry between parties (Spence, 1973; 2002; Connelly et al., 2011). Reliable signals could motivate actors to revise their decisions and alter their behavior toward collection centers. These signals convey useful information which will be identified and interpreted by the receiver, and hence enhance the image of trustworthiness to integrate formal markets. Mavlanova et al. (2015) show that signal appreciation affect the receiver's decision process. This study investigates the decision-making mechanisms underlying dairy farmers' choice regarding the selection of milk marketing channels. Specifically, we test the hypothesis that trust perception is a key to shaping breeders' decision.

Methodology

The data used in this paper were collected using a sample of 45 breeders in 3 locations in Tunisia; the mode of sampling is random in two degrees; the collection center represents the first degree while the breeder represents the second degree. The data were collected through a questionnaire, and were analyzed using SPSS version 20. We used multinomial logistic models to test the significance of the variables.

Results

A joint frequency distribution is used to examine the association between trust perception, appreciation competence signals and the choice of formal channels.

Table 1: Evaluation of signal appreciation and trust perception on breeders' market choice

| Appreciation of competence signal | | | Type of market channels | | | | | Total |
|-----------------------------------|------------------|-------------------|-------------------------|--------------------------------|-------------|--------------------------|---------------|-------|
| | | | Collection center | Collection center and carriers | Coopérative | Coopérative and carriers | Milk carriers | |
| Complete | Trust perception | Complete trust | 2 | 1 | 4 | 0 | 7 | |
| | | Rather than trust | 0 | 0 | 1 | 1 | 2 | |
| | Sub-total | | 2 | 1 | 5 | 1 | 9 | |
| Rather than yes | Trust perception | Complete trust | 1 | 1 | 7 | 2 | 0 | 11 |
| | | Rather than trust | 2 | 0 | 3 | 2 | 2 | 9 |
| | | Neutral | 0 | 0 | 1 | 0 | 0 | 1 |
| | Rather than no | 1 | 0 | 0 | 0 | 0 | 1 | |
| Sub-total | | 4 | 1 | 11 | 4 | 2 | 22 | |
| Neutral | Trust perception | Complete trust | | | 1 | 1 | 0 | 2 |
| | | Rather than trust | | | 1 | 0 | 2 | 3 |
| | | Rather than no | | | 1 | 3 | 0 | 4 |
| Sub-total | | | | 3 | 4 | 2 | 9 | |
| Rather than no | Trust perception | Neutral | | | 1 | 1 | 0 | 2 |
| | | Rather than no | | | 0 | 1 | 2 | 3 |
| | Sub-total | | | | 1 | 2 | 2 | 5 |
| Total | | | 6 | 2 | 20 | 11 | 6 | 45 |

Source: Survey data

The data shows that formal marketing channels represent half of the sample respondents; 57.77% of milk produce is sold via formal marketing channel. Only 13.33% sell to milk traders, and 28.9% of breeders sell part of their fresh milk to local outlets due to demand fluctuation, rising uncertainty over demand, and information constraints. Another 5 % of the respondents reported collection centers as the only marketing channels. This distribution, according to milk marketing channels, show that both formal and informal channels exist and are part of the market structure. It is interesting to note that the milk marketing cooperatives represent the main marketing channel in the area.

The information signaling used by cooperative has a positive impact; polishing the trustworthiness image and affecting breeders' judgment vis-à-vis cooperatives, as a formal marketing choice. Signaling practices provided by cooperatives include dividend payment and increments to adherents' share. Cooperatives confirm that there exist a potential to extend the dairy formal market through developing and promoting local coordination mechanisms among value chain actors such as marketing groups. An opportunity currently exists to enhance trust, create marketing links, and facilitate market integration.

Results in Table 1 show that respondent's appreciation of skills signal is the key determinant that most affect their choice to deliver their product to collection centers. The entire sample of breeders which do not appreciate skills signal said they perceive their partner as being less trustworthy (Table1). Breeders focus only on the negative aspect of the transaction, such as the risk and the potential greater loss, and as a result decide to deliver their produce directly to informal outlets.

The multinomial logit model (Table 2) shows the estimates of breeders' market channel decision, on the basis of six explanatory variables: trust perception, regular communication(signaling), distance to collection centers, concern of payment, herd/farm size. The dependent variable, breeders' market decision, in the non-ordered-logit model is coded as 1 if the breeder's choice is selling product to collection center, 2 if the breeder's choice is sharing product between collection center and milk carrier or trader, 3 if the breeder's choice is selling product to cooperative, 4 if the breeder's choice is sharing product between cooperative and milk carrier, and 5 if the breeder's choice is selling product to outlets. The logit model sufficiently fitted the data at the 5% significance level.

Table 2 Multinomial logit models: Factors affecting milk producers to choose formal channel

| Determining Factors | p-value | Coefficient B | | |
|-------------------------------|---------|--------------------|-------------|-------------------------|
| | | Collection centers | Cooperative | Cooperative and outlets |
| Constant | | -56.898 | -101.812 | 154.126 |
| Dependency : farm size | 0.337 | 104.86 | 134.564 | -86.487 |
| herd size | 0.046 | -14.739 | 3.454 | 45.264 |
| Trust perception | 0.008 | 52.519 | 42.012 | -9.37 |
| Price setting differences : 1 | 0.00 | -14.853 | 23.5 | -99.845 |
| : 2 | | 78.395 | 27.924 | -80.458 |
| Regular communication | 0.032 | -83.589 | -124.513 | -9.093 |
| Distance to collection center | 0.236 | .10.409 | .12.232 | -18.2 |

Pseudo R2 (Nagelkerke) = 0.996, log likelihood=1.386, df = 3 p<0,05, Number of Obs=45; sell to carriers is set as a reference

Results of the model estimation shows that trust perception, herd size, price setting and regular communication, are the significant variables that influence breeders' decision to selling product via formal market; they are statistically significant at the 5% significance level.

As expected, trust perception significantly determines the probability of breeders' participation to formal market. The result confirms that judgments of trustworthiness defines basic approach responses; determines approach behavior, and guides market participation decision.

Regular communication is a key predictor; it has a negative effect on the probability of breeder's choice in all cases. Breeders believe that the collection centers look only after their benefits and ignoring breeders' interests.

Breeders are not satisfied with the way the communication mechanism is working and signaling. No effortful communication embodying care and concern has been made by the collection centers; the condition of the communication efficiency is not met. We note that breeders' satisfaction will be highest if the communication is with stable interpersonal relationships and characterized by the necessary positive care and concern.

Conclusions

Marketing infrastructure is quite developed in the Tunisian dairy value chain, especially in the northern region, where collection centers play a potent role. However, sale of part of the product to informal outlets is very common in Utique, Raas Jbel and Alia. Dairy market integration in Tunisia was constrained by lack of marketing linkages, low level of trust between agents of the dairy value chain, information barriers, high uncertainty, and high transaction costs. An efficient mechanism communicating trustworthiness would facilitate market participation of small scale farmers by improving trust perception. Farmers' integration is closely related to information availability and signaling as way to communicate trustworthiness, appreciation as mean to enhance trust perception and build social links. As a conclusion, collection centers would benefit by providing high levels of trust as well as appropriate and emotionally relevant signals to ensure the stability of their network.

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