Research Article

An Analysis of Collective Entrepreneurship of Smallholder Farmers In Zimbabwe In Realizing Market Opportunities: A Case of Chipinge District

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Abstract

The study investigated how collective entrepreneurship by smallholder beef farmers in Chipinge district in Zimbabwe unlocks market opportunities. The sample size consisted of 62 beef smallholder farmers, 31 members from farmer groups and 31 individuals. Thirty-one members were purposively sampled from a census of five beef farmer groups in lower Chipinge while the other half were randomly selected from the same area. All the 62 smallholder farmers were interviewed using a household questionnaire. GET2 Test was used to assess farmers’ entrepreneurial behavior. Results showed a higher (p = 0.01) overall entrepreneurial behavior in smallholder farmers in groups than in individual farmers. However, the majority of smallholder farmers (74 percent) operating in groups exhibited medium level of overall entrepreneurial behavior; while most of the farmers operating outside groups (77 percent) demonstrated low level of overall entrepreneurial behavior. Collective action coupled with components of entrepreneurial behavior such as creative tendency and calculated risk helped beef farmers from groups to access formal beef markets in urban areas where transparent grading and pricing systems were guaranteed. By eliminating exploitative middlemen from the supply chain, farmer groups received almost double the prices offered to individual farmers, and paid lower transaction costs as unit costs decrease with increasing volumes. Smallholder farmers who operated outside groups, operated as individuals and could not penetrate formal markets; as a consequence, they ended up selling to local informal markets within their local periphery. It is concluded that collective entrepreneurship helps reduce transaction costs, increase farmers’ bargaining power and improve formal market access.

Introduction

The Government of Zimbabwe redistributed land from the hands of the white minority into the hands of the black majority in the periods; 1980-1990, 1992-1997, 1998-1999, and 2000-2009 (Moyo, 2006; Wiley, 2011; Rukuni, 2013). As a result, 92 percent of farmers are smallholders engaged in different crops and livestock enterprises in various parts of the country. Large-scale farmers account for the remaining 8 percent (Mutambara, Jiri O, Jiri Z, and Makiwa, 2013).

Formal buyers, usually located in towns and cities, require that scattered produce be collected and assembled, graded, and transported to them (Barham and Chitemi, 2009). Failure by smallholder farmers to meet...
quantity and quality requirements of formal markets translates to lower prices from traders as opposed to higher prices which are normally fetched for larger quantities (Nyikahodzoi, Siziba, Mango, Zamasiya and Adekunhle, 2013). Thus most individual smallholder farmers in Africa, including those in Zimbabwe have failed to access profitable markets, and hence have remained poor. For example, it has been reported that existing goat markets in Zimbabwe are informal, with poorly developed inputs and services (van Rooyen and Homann-KeeTui, 2009; Chisango, Moyo, Gasva and Muleya, 2015). Zhou, Minde, and Mtigwe (2013) posit that more than 75 percent of smallholder farmers in Southern Africa are poor.

In an attempt to redress market access challenges, some smallholder farmers prefer to work collectively in groups. This has placed renewed attention on institutions of collective action as an option for enhancing marketing performance (Kariuki and Place, 2005). However, for smallholder farmers to aggregate and move the produce, negotiate with buyers and cope with the changing operating environment, it entails more than collective action. It requires an interplay between collective action and entrepreneurial culture.

In literature, theories of entrepreneurship such as the classical theories, neo-classical theories, and the neo-Austrian and Schumpeterian approaches have attempted to explain how people engage in markets but could not sufficiently explain how smallholder farmers in Africa engage in product markets (Mudiwa, 2017). However, this does not mean that the aforementioned theories are not of fundamental importance, they are relevant in other contexts and circumstances. The role played by farmer groups in linking farmers to input, credit and output markets, income generation, economic growth and development is not fully explained by existing theories.

This paper presents collective entrepreneurship as a framework to improve understanding of these current dynamics. Although group formation is not a new concept, its interplay with farmers’ entrepreneurial behavior has escaped formal academic inquiry. The purpose of this research is therefore to investigate how collective entrepreneurship enables smallholder farmers in Zimbabwe to realize market opportunities.

Methodology

Respondents for this study were smallholder beef farmers from natural region V of Chipinge district (lower Chipinge) in Zimbabwe. Lower Chipinge is a drought prone area and cattle production and marketing is the main source of livelihoods. There were five cattle marketing groups in the study site, Pepukai-Kondo, Matikwa, Kumboedza, Dzidzai and Musapingura. The aforementioned cattle marketing groups were interviewed using a structured questionnaire. Six or seven farmers within each farmer group were interviewed, to make a total of 31 farmers from the groups. These included three committee members (chairperson, secretary, and one or two committee members) and three non-committee members who were part of the group.

The chairperson and secretary were included as they normally have more information about the group. The committee member and non-committee members were randomly selected from individual groups. In addition to the 31 smallholder (beef cattle) farmers selected from farmer groups, an additional 31 smallholder (beef cattle) farmers, not linked to any farmer group, were randomly selected from the same wards from which groups were drawn. In total, the sample size was 62 respondents.

The General Enterprising Tendency 2 (GET2) Test was used to measure smallholder farmers’ entrepreneurial behavior. The GET test is recommended as an effective instrument of assessing the entrepreneurial behavior of the respondents (Cromie and O’Donaghue, 1992; Cromie, 2000; Kirby, 2002; Katundu and Gabagambi, 2014; Nyello, Kalufya, Rengua, Nsolezi and Ngitwa, 2015).

Data was entered and analyzed using the Statistical Package for Social Science (SPSS) version 21. Descriptive statistics (means, standard deviation from the mean, minimum and maximum values), correlations, t-test and multiple regression analysis were used. Multiple regression analysis was used to ascertain which components of entrepreneurial behavior influence market access. The dependent variable was market access and independent variables creative tendency (innovativeness), need for achievement, locus of control, calculated risk taking and need for autonomy.
Results and Discussion

Components of smallholder beef farmers’ entrepreneurial behavior

Table 1 presents results on five components of entrepreneurial behavior of smallholder beef farmers who were in groups and those who were operating as individuals.

Table 1. Distribution of beef farmers based on components of entrepreneurial behavior

|                             | Farmer Group |               | Individual Farmers |               |
|-----------------------------|--------------|---------------|--------------------|---------------|
|                             | (n=31)       | Percentage    | (n=31)             | Percentage    |
| Need for Achievement        |              |               |                    |               |
| Low                         | 4            | 14            | 23                 | 74            |
| Medium                      | 21           | 72            | 7                  | 23            |
| High                        | 4            | 14            | 1                  | 3             |
| Mean                        | 2.00         |               | 1.29               |               |
| S.D                         | 0.516        |               | 0.529              |               |
| Calculated Risk Taking      |              |               |                    |               |
| Low                         | 9            | 29            | 25                 | 81            |
| Medium                      | 12           | 39            | 5                  | 16            |
| High                        | 10           | 32            | 1                  | 3             |
| Mean                        | 2.03         |               | 1.23               |               |
| S.D                         | 0.795        |               | 0.497              |               |
| Need for Autonomy           |              |               |                    |               |
| Low                         | 27           | 87            | 6                  | 19            |
| Medium                      | 4            | 13            | 14                 | 45            |
| High                        | 0            | 0             | 11                 | 35            |
| Mean                        | 1.13         |               | 2.16               |               |
| S.D                         | 0.341        |               | 0.735              |               |
| Locus of Control            |              |               |                    |               |
| Low                         | 6            | 19            | 25                 | 81            |
| Medium                      | 21           | 68            | 5                  | 16            |
| High                        | 4            | 13            | 1                  | 3             |
| Mean                        | 1.94         |               | 1.23               |               |
| S.D                         | 0.574        |               | 0.497              |               |
| Creative Tendency           |              |               |                    |               |
| Low                         | 5            | 16            | 27                 | 87            |
| Medium                      | 19           | 61            | 4                  | 13            |
| High                        | 7            | 23            | 0                  | 0             |
| Mean                        | 2.06         |               | 1.13               |               |
| S.D                         | 0.629        |               | 0.341              |               |

Source: Survey Data

Need for achievement

Table 1 revealed that the majority of grouped beef farmers belonged to medium need for achievement category, followed by high (14%) and low (14%) levels of need for achievement, respectively. The findings are in line with the findings by Patel P, Patel M.M, Babodia, and Sharma (2014), Kulkarni and Jahagirdar (2015), Gamit, Rani, Bhabhor, Tyagi and Rathod (2015), who pointed out that the majority of the respondents had medium level of achievement motivation. Most beef farmers outside groups had low level of need for achievement, followed by those in medium and high levels of need for achievement. A high proportion of beef farmers outside groups with low level of achievement implies that achievement
is not one of their high priorities (Sally, 2013). During data collection, some individual farmers indicated that setting up cattle production as a business, adhering to best business practices, and exploring new marketing opportunities would be too demanding and time consuming for them.

**Calculated risk taking**

It was observed that most grouped beef farmers (39%) had medium level of calculated risk taking, followed by 32 percent and 29 percent of farmers with high and low levels of calculated risk taking, respectively. Similar results were reported by Bhagyalaxmi, Gopalakrishn and Sudarshanreddy, 2003; Rathod, Nikam, Landge and Hatey, 2012; Boruah, Borua, Deka and Borah (2015). Wankhade, Segane and Mankar (2013) reveals that entrepreneurs are calculative and moderate risk takers and not high risk takers. The majority of farmers operating outside groups (81%) had low level of calculated risk, followed by 16 percent had medium level and only 3 percent of individual beef farmers had high level of calculated risk taking. This finding is in conformity with that of Nyello et al. (2015) who observed that the majority of respondents who didn’t participate in entrepreneurial courses had low level of creative tendency. These results and differences are consistent with the present findings on creative tendency (Table 1). A significant and positive correlation was found between calculated risk and creative tendency. Most farmers preferred to adopt good business practices and to engage in groups after monitoring other farmers’ successes.

**Need for autonomy**

The result revealed that the majority of grouped beef farmers (87%) possessed low level of need for autonomy while 13 percent had medium level of need for autonomy. There were no grouped beef farmers with high level of need for autonomy. Nearly half of the individual beef farmers’ respondents had medium level of need for autonomy, followed by 35 percent with high level of need for autonomy and 19 percent with low level of need for autonomy. Individual beef farmers revealed that they preferred to work independently and were unresponsive to group pressure; disliked to take orders; were strong willed and protective of their interests. This explanation is consistent with findings by Sally (2013).

**Locus of control**

Most of the beef farmers in groups (68%) had medium level of locus of control, followed by 19 percent of respondents with low level of locus of control and 13 percent with high level of locus of control. The majority of grouped beef farmers’ behavior indicated that they were opportunist, seeking and taking advantage of opportunities, and believed they had control over their own destiny. Low level of locus of control was found among the majority of individual beef farmers (81%), followed by medium (16%) and high levels (3%) of locus of control.

**Creative Tendency**

About three fifths of smallholder beef farmers in groups were in the medium category of creative tendency followed by 23 percent in high category of creative tendency and 16 percent in low category of creative tendency. Similar results were reported by Ahmed, Hasan and Haneef (2011). The majority of individual smallholder beef farmers (87%) had low creative tendency and 13 percent had medium level of creative tendency. The result is in accord with findings by Nyello et al. (2015) who observed that majority of respondents who didn’t participate in entrepreneurial courses had low level of creative tendency.

Table 2 shows a significant difference (p<0.01) between the two groups across all the components of entrepreneurial behavior.

| Table 2. t- test for equality of means between grouped farmers and individual farmers | t value | df | Sig. (2-tailed) |
|----------------------------------|---------|----|----------------|
| Need for Achievement             | 5.346   | 60 | 0.000          |
| Calculated Risk Taking           | 4.788   | 60 | 0.000          |
| Need for Autonomy                | -7.097  | 60 | 0.000          |
| Locus of Control                 | 5.205   | 60 | 0.000          |
| Creativity Tendency              | 7.280   | 60 | 0.000          |

*Source: Survey Data*
Overall entrepreneurial behavior of smallholder beef farmers

The majority (74 percent) of the smallholder beef farmers organized in groups possessed medium level of overall entrepreneurial behavior (Table 3). The proportion of grouped smallholder farmers who attained high and low levels of overall entrepreneurial behavior were at par at 13 percent. Most individual smallholder (beef cattle) farmers (77 percent) who operated outside groups, had low level of overall entrepreneurial behavior, while 23 percent possessed medium level of overall entrepreneurial behavior. There were no farmers with high level of overall entrepreneurial behavior. Results from the smallholder beef cattle farmers in groups are in agreement with findings from several researchers in India (Tekale, Bhalekar and Shaikh, 2013; Gamit, et al. 2015; Porchezhiyan, Sudharshan and Umamgesweri, 2016) who found that the majority of dairy cattle farmers in India had medium level of entrepreneurial behavior. Although findings by these researchers agree with the results from grouped beef farmers in Zimbabwe, they however present a different overall entrepreneurial behavior trend from that of beef farmers operating outside groups. Mean entrepreneurial behavior scores of smallholder beef farmers in groups and outside groups were different (p= 0.01). Results indicate that smallholder farmers organized in groups were more entrepreneurial compared to their counterparts who operated as individuals. Despite having a marketable surplus, farmers who had low overall entrepreneurial behavior or refused to participate in group activities cited the following barriers:

- Sense of ownership – farmers who had owned cattle for prolonged periods disregarded the need for any group support; and
- Aversion to risk – to avoid perceived risks associated with selling cattle to unfamiliar buyers who were in distant locations farmers were more at ease with low prices offered by middlemen and local butchers.

### Table 3. Distribution of respondents according to their overall entrepreneurial behavior

| Categories       | Grouped Farmers | Individual Farmers |
|------------------|-----------------|--------------------|
|                  | Frequency (n=31) | Percentage | Frequency (n=31) | Percentage |
| Low (0-26)       | 4               | 13         | 24               | 74         |
| Medium (27-43)   | 23              | 74         | 7                | 23         |
| High (44-54)     | 4               | 13         | 0                | 0          |
| Mean             | 2.00            | 13         | 1.23             | 0.425      |
| S.D              | 0.516           |            |                  |            |

Source: Survey data

### Market Access

Both smallholder beef farmers operating in groups and outside groups were staying in the same locality (wards). However, smallholder farmers, outside groups had low levels of entrepreneurial behavior and sold their beef cattle to informal buyers within a distance of 5 kilometers. These informal buyers were middlemen or consolidators, other farmers, local shops, teachers and nurses. Cattle were sold off the rangeland, without any value addition such as pen fattening and fetched lower prices than those sold by grouped farmers to formal markets (Table 4). These prices were based on visual assessments and negotiation between the buyer and the seller.

### Table 4: Beef Cattle Prices

|                  | Minimum  | Maximum  | Mean    | St. Deviation |
|------------------|----------|----------|---------|---------------|
| Grouped Farmers  | $234.00  | $1,078.00| $613.63 | $197.75       |
| Individual Farmers | $150.00  | $600.00  | $334.52 | $119.91       |

Source: Survey Data
Smallholder farmers, organized in groups had medium levels of entrepreneurial behavior and sold their beef cattle to formal buyers which were 230 to 260 kilometers away. These formal buyers were abattoirs, namely; Koala Park, Sabie Meats and Montana Caswell Meats located in Chiredzi and Masvingo towns in Masvingo province. Like farmers outside groups, smallholder beef farmers operating in groups also sold cattle off the rangeland without any value addition or pen fattening. They sold cattle at an average price of $614 per animal (Table 1). In comparison, farmers in groups realized an average price that is 83 percent higher than that of individual farmers selling to informal buyers. Similarly, Shiferaw et al., (2009) reported that formal buyers pay higher prices (20 to 25% higher) than informal buyers and small traders and farmers with a larger marketed surplus obtain higher benefits. Farmers received price compensation for the weight and quality of beef. After mobilizing at least 20 cattle for sale, smallholder farmers in groups negotiated transport discounts with all the three abattoirs. On all occasions, abattoirs sent a truck to ferry cattle free of charge. This result confirms findings by Shiferaw et al. (2009) and Nyikahodzoi et al. (2013) that collective action helps smallholder farmers reduce barriers to enter lucrative markets by lowering transaction costs to access input and produce markets. However, results have revealed that a combination of collective action and smallholder farmers’ entrepreneurial behavior (collective entrepreneurship) improves access to formal beef markets.

**Relationship between entrepreneurial behavior and socio-economic and psychological characteristics of smallholder beef farmers** (grouped and individual farmers, combined)

Table 5 indicates that marital status, household size, and age had no significant association with the overall entrepreneurial behavior of smallholder beef farmers. However, sex, farmer group, cattle herd size, land holding, number of extension visits, type of markets and gross revenue were significantly related (at 1% and 5% LOS) to the overall entrepreneurial behavior of beef farmers.

Table 5. Relationship between entrepreneurial behavior and characteristics of beef farmers (n=62)

| Characteristics               | Entrepreneurial behavior of beef farmers | Coefficient of correlation ‘r’ value |
|-------------------------------|-----------------------------------------|-------------------------------------|
| 1 Sex                         | 0.359**                                 |                                     |
| 2 Marital Status              | 0.003NS                                 |                                     |
| 3 Household Size              | 0.137NS                                 |                                     |
| 4 Farmer Group                | -0.736**                                |                                     |
| 5 Cattle Herd Size            | 0.310*                                  |                                     |
| 6 Land Holding                | 0.317*                                  |                                     |
| 7 Number of Extension Visits  | 0.401**                                 |                                     |
| 8 Age                         | 0.191NS                                 |                                     |
| 9 Type of Market              | 0.472**                                 |                                     |
| 10 Gross Revenue/ Animal      | 0.497**                                 |                                     |

Source: Survey Data

NS-Not Significant; **Significant at 1% LOS; * Significant at 5% LOS

Sex had a positive and significant correlation with the overall entrepreneurial behavior of beef farmers. Male beef farmers were more entrepreneurial than their female counterparts. However, focus group discussions conducted with both male and female farmers revealed that though female farmers might own cattle, they have to consult their husbands (if married) or their male relatives (if widowed) on when, where, and which animal to sell. This means that decisions to sell ultimately fall under the purview of men.

Farmer group showed a negative but significant correlation with the overall entrepreneurial behavior of beef farmers. Smallholder beef farmers operating in groups were more entrepreneurial than smallholder individual beef farmers, outside groups.

Land holding had a positive and significant correlation with the overall entrepreneurial behavior of beef farmers. More entrepreneurial farmers had bigger land. This result is in congruence with findings of other researchers (Subrahmanyeswari, Reddy, and Rao 2007; Lawrence and Ganguli 2012; Senthil, Ramkumar, Babu and Jaishaidhar 2012; Gamit et al. 2015). Gamit et al. (2015) asserts that farmers with more land holding have more opportunities and potentialities to try and adopt a variety of technological innovations. Consistent with this findings, smallholder beef farmers with larger land holding in lower Chipinge retained crop residues to feed cattle before selling them off.
Extension visits had strong and positive correlation with the overall entrepreneurial behavior. Entrepreneurial behavior increased with the increase in the number of extension visits. Smallholder beef farmers in groups had more interaction with extension agents from government departments and non-governmental organizations (NGOs) and thus were more entrepreneurial than individual beef farmers. Extension officers indicated their preference to work with farmers in groups as they are easy to mobilize and manage. Individual beef farmers alluded to the same reason based on their observations but were still reluctant to join farmer groups.

The type of market had strong and positive correlation with the overall entrepreneurial behavior. More entrepreneurial beef farmers sold their cattle to formal markets while less entrepreneurial beef farmers sold to informal beef markets. Formal markets were characterized by long distances (at least 230 km); beef grading system; higher prices and required collective action to achieve the required volumes. Informal markets were within the village or ward and were characterized by lower prices based on visual appraisal of cattle frame and negotiations between the farmer and the buyer.

Gross Revenue had strong and positive correlation with the overall entrepreneurial behavior. Farmers who had stronger entrepreneurial behavior sold cattle for better prices. The majority of these farmers were organized in groups. They penetrated formal and distant markets which had a transparent beef grading system and offered higher prices than informal markets. Better market orientation was the influencing factor for entrepreneurial behavior. Gamit et al. (2015) had similar findings.

### Multiple regression analysis of market access and farmer entrepreneurial behaviors

Eighty-three percent of market penetration was influenced by the three components of entrepreneurial behaviors, need for autonomy (p<0.001), calculated risk taking (p<0.05) and creative tendency (p<0.05) of smallholder beef farmers (Table 6).

### Table 6. Multiple regression of market access and farmer entrepreneurial behaviors

|                  | Unstandardized Coefficients | Standardized Coefficients |
|------------------|-----------------------------|---------------------------|
|                  | B                            | Std. Error                | Beta | t value | Sig.   |
| Constant         | 131.366                     | 42.646                    | 3.080 | .005    |
| Need for Achievement | 7.166                      | 15.191                    | .052  | .472    | .642   |
| Calculated Risk Taking | 32.508                     | 15.089                    | .245  | 2.154   | .042   |
| Need for Autonomy | -89.167                    | 15.309                    | -.549 | -5.825  | .000   |
| Locus of Control  | -13.105                     | 19.280                    | -.077 | -.680   | .503   |
| Creative Tendency | 61.683                     | 22.553                    | .415  | 2.735   | .012   |

The data presented in Table 6 revealed that the following components of entrepreneurial behavior: calculated risk taking, need for autonomy, and creative tendency had significant relationship with market access. Need for achievement and locus of control did not show any significant relationship with market access. The results suggest that not all components of entrepreneurial behavior enable smallholder beef farmers to realize market opportunities.

Need for autonomy had a negative and significant relationship (p<0.01) with market access. A unitary increase, from low to medium or medium to high levels of need for autonomy results in the decrease in the distance farmers sell off their cattle by 89 km. This means that grouped beef farmers penetrate markets better than beef farmers operating outside groups. This result is consistent with findings in Tables 1-4 and 6 above.

Creative tendency or innovativeness had a positive and significant relationship (p<0.05) with market access. A unitary increase in creative tendency from low to medium or medium to high category results in an increase in the distance from markets by 61.7 km.

Calculated risk taking had a positive and significant relationship (p<0.05) with market access. A unitary increase, from low to medium or medium to high levels of calculated risk taking results in an increase in the distance from market by 32.5 km.
Results have revealed that entrepreneurial farmers organize in groups to reduce transaction costs, achieve scale and learn from each other. Other components of smallholder farmers’ entrepreneurial behavior such as creative tendency and calculated risk helped farmers access formal markets located in towns and cities. This proves that collective entrepreneurship helps smallholder beef farmers to unlock market opportunities.

**Conclusion**

The majority of smallholder farmers operating in groups had medium level of overall entrepreneurial behavior while most farmers outside groups had low level of entrepreneurship. Albeit farmers operating outside groups were less entrepreneurial, however, 23 percent possessed medium level of overall entrepreneurial behavior. While some individual farmers are also entrepreneurial, entrepreneurship alone without collective action and other components of entrepreneurial behavior such as creative tendency and calculated risk cannot unlock market opportunities. Agripreneurs operating in groups penetrated formal and distant beef markets better than individual beef farmers and enjoyed a transparent grading and pricing system in this type of market. Through collective entrepreneurship, these farmers were also able to negotiate for lower transaction costs. This proves that collective entrepreneurship helps smallholder beef farmers to unlock market opportunities.

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