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EXPLORING ENTREPRENEURIAL COMPETENCIES OF SMALLHOLDER PRODUCERS: THE CASE OF EKSTEENSKUIL RAISIN PRODUCERS

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Abstract

The agricultural sector plays a key role on the rural development in South Africa. Open free trade market, creates a market where small-scale producers need to be able to compete against commercial producers. Therefore producers need to be more competitive to ensure that their farming enterprise is financially sustainable. Entrepreneurship may help producers exploit new opportunities so they can compete in an ever changing global market. There is not too little information regarding the ability of producers to be entrepreneurial in South Africa, therefore the aim is to measure the levels of entrepreneurship among these producers. The case-study of the Eksteenskuil raisin producers was used to determine the levels of entrepreneurship and if there is a difference between commercial and smallholder producers. Smallholder and commercial producers did exhibit different levels of individual entrepreneurial competencies scores. There was a wide spread of scores among the distribution of the competencies which leaves room for improvement through education and training. It is recommended that future research in exploring the entrepreneurial competencies of producers and the effect thereof on the farming resources need to be considered. These farming resources can include efficient use of input allocation, market identification and financial performance of the farm.

Keywords: entrepreneurial competencies, agricultural entrepreneurship, personal entrepreneurial competencies (PEC), smallholder producers, commercial producers

1. Introduction and background

The agricultural sector is expected to play a major role on the rural development in South Africa, as evident in the National Development Plan (NPC, 2011). In addition to creating employment along the agrifood-chain, it will also serve as an occupation for a large number of smallholder producers as producers of agricultural products. Smallholder producers in South Africa are individuals who were marginalised by the Apartheid regime. These producers consist mostly of previously disadvantaged producers on a small piece of land with a smaller productivity rate (Kirsten & van Zyl, 1998). Small-scale producers often have low levels of education, experience (Khaile, 2012; Jordaan, 2012) and are generally considered to be resource poor. Small-scale producers represent the evolving step in a linear growth path between subsistence farming (small-scale) to commercial farming (van Averbek & Mohamed, 2006).

Since the new political regime in 1994, small-scale producers have more opportunities in their business/farming due to the abolishment of sanctions. In South Africa, regulated markets were discarded and replaced by open free trade markets. The agricultural markets that were liberated in the mid 1990's have however created more pressure on the competitiveness of producers since there is global trading taking place. A free market creates the need for producers to change their strategies from productivity to a

more competitive approach (Jordaan, 2012). Producers need to be more competitive to ensure that their farming enterprise is financially sustainable. Changes in the agricultural food system, due to globalisation and liberalisation of the market, created opportunities for entrepreneurship by individual producers (Louw, Kirsten & Madevu, 2005). Thus entrepreneurship by producers is incredibly important, especially for producers who are considered resource poor.

Entrepreneurship is seen as a necessary condition to maintain sustainable agriculture (De Wolf, McElwee & Schoorlemmer, 2007). By making use of entrepreneurial competencies and characteristics, producers can manage risks in an ever changing market by using innovative combinations of resources to reduce risks associated with changes. These changes can lead to new opportunities and increase positive returns at the same time.

The identification of entrepreneurs, especially in developing countries can assist in accelerating the creation of jobs which in return stimulates economic growth (Kroppd & Lindsay, 2001). According to O'Connor and Fiol (2002) being entrepreneurial is a recognisable expression used to describe people who are innovative, creative and open to change, they also have the ability to identify opportunities and redistribute resources to achieve strategies and goals. Producers in Europe are considered to be entrepreneurial and producers as entrepreneurs have been a focus point in European agriculture for more than 10 years. According to Bergevoet (2005) the Dutch dairy producers exhibit entrepreneurial competencies and competencies which lead to more successful farming businesses.

While entrepreneurship in agriculture receives ample attention in Europe, in South Africa producers as entrepreneurs is a new way to look at producers. There is no to little research exploring the level of entrepreneurial skills of producers in South Africa, thus there is little to no information regarding the entrepreneurial ability of producers. Thus, exploring entrepreneurial competencies may help producers maximise their benefit from the resources available to them especially to resource poor producers. The aim is to explore the entrepreneurship of producers in South Africa in order to gain information regarding the level on entrepreneurship among producers. The aim will be achieved by measuring the entrepreneurial competencies of smallholder raisin producers in the Eksteenskuil region. Further investigation will be done to examine if there is a difference between the small-scale producers and the commercial producers of this area.

2. Method of Data

2.1. Method

2.1.1. Measuring Entrepreneurship

An entrepreneur is a person who is a risk-taker, provider of finances (own capital, but has the ability to gain necessary financial resources), an innovative person and an opportunity seeker to increase profit (Bergevoet, 2005). As an entrepreneur the producer is responsible for making strategic, innovative decisions to benefit the farming business. The reason for innovative entrepreneurial decision-making is due to changes in the world market that undermine the traditional decision-making of producers (Loevinsohn, Berdegue & Guijt, 2002).

According to Bergevoet (2005) psychological characteristics of entrepreneurship that is consistently mentioned in literature include locus of control, attitude towards risk-taking and innovativeness (Brockhaus, 1982; Chell, Haworth & Brearley, 1991; Brandstätter, 1997; Hérbet & Link, 1988; Wärneryd, 1998; Schiebel, 2002; Driessen & Zwart, 2007; Kroppd & Lindsay, 2001; Stevenson & Jarillo, 1990; Ketelaar-de Lauwere, Enting, Vermeulen & Verhaar, 2002; Vesla, Peura & McElwee, 2007; McElwee, 2005; Ahmad & Hoffman, 2007; Kahan, 2012).

Bergevoet (2005) explains that within these characteristics, there are entrepreneurial competencies. Competencies are observable and measurable in terms of the psychological process of an entrepreneur (Bird, 2005). The entrepreneurial competencies are opportunity competencies, opportunity seeking

(Knudson, Wysocki, Champagne & Peterson, 2004; Man, Lau & Chan, 2002) and information-seeking (Bergevoet, 2005; Brandstätter, 1997); strategic competencies, this is the evaluating and implementing of strategies (Man *et al.*, 2002; Ketelaar-de Lauwere *et al.*, 2002); conceptual competencies, this is decision-making and understanding (Brandstätter, 1997; Bergevoet, 2005); relationship competencies, persuasion and networking (Brandstätter, 1997, Man *et al.*, 2002). The psychological characteristics have an influence on the entrepreneurial competencies and all of these factors need to be taken into account when measuring entrepreneurship. An available method for measuring the entrepreneurial competencies is the Personal Entrepreneurial Competencies questionnaire (PEC) developed by the Management Systems International (MSI) and the McBer team; the PEC was tested and refined by Mansfield, McClelland, Spencer and Santiago in 1987. The PEC is a method that includes all of these characteristics and competencies for measuring entrepreneurship. The PEC instrument was used by Mansfield *et al.* in 1987, to investigate which core competencies distinguished average entrepreneurs from successful entrepreneurs. The competencies used in the PEC are considered synonyms to entrepreneurial skills that are turned into actions by the individual and not just traits (Diaz, Co, Macaspac & Vinuya, 1997).

The PEC is a self-rating questionnaire consisting of 55 statements that are used to determine an overall score for each of the 10 entrepreneurial competencies. Each statement is answered by using a liker scale of 1-5, where 5 is listed as always and 1 is never. To ensure that the scores are accurate, and that there is no overestimate of own abilities a correction factor is used in the questionnaire. Each characteristic has a mark out of 25 that determines the rating of that characteristic to the specific producer. According to Depositario, Aquino, & Feliciano (2011) the PEC scores can be interpreted as a score of 19 and above is strong, 16-18 is moderate and 15 and below is weak.

According to Mansfield *et al.* (1987) many of the competencies assessed through the PEC are more likely personality traits than skills (persistence, demand for quality and efficiency, self-confidence and commitment to work). The other six competencies measured in the questionnaire are considered skills or competencies that can be identified, developed or educated. The PEC was used to determine the entrepreneurial competencies of Eksteenskuil producers, Northern Cape, South Africa.

2.1.2. Comparing entrepreneurial skills of commercial and smallholder producers

The PEC for each commercial and small-scale producer was analysed using Microsoft Excel®, to calculate the score for each specific characteristic as well as the total PEC score taking the correction factor into consideration. The t-test was used to compare the means of the total PEC score of commercial producers and small scale producers. Each individual characteristic mean value was also compared using the t-test to determine whether there is any significant difference between the commercial producers and the small-scale producers. All tests were measured at a 95% level of confidence.

2.2. Data

2.2.1. Research Area

In the Northern Cape Province of South Africa, the research was conducted among a group of smallholder raisin producers from Eksteenskuil and some commercial producers in the surrounding area. Eksteenskuil is situated 50 kilometres west of Upington and the nearest town is Keimoes which is about 10 kilometres away (Jordaan, 2012). A map of the Northern Cape Province is shown in Figure 1 to show the proximity of the research area.

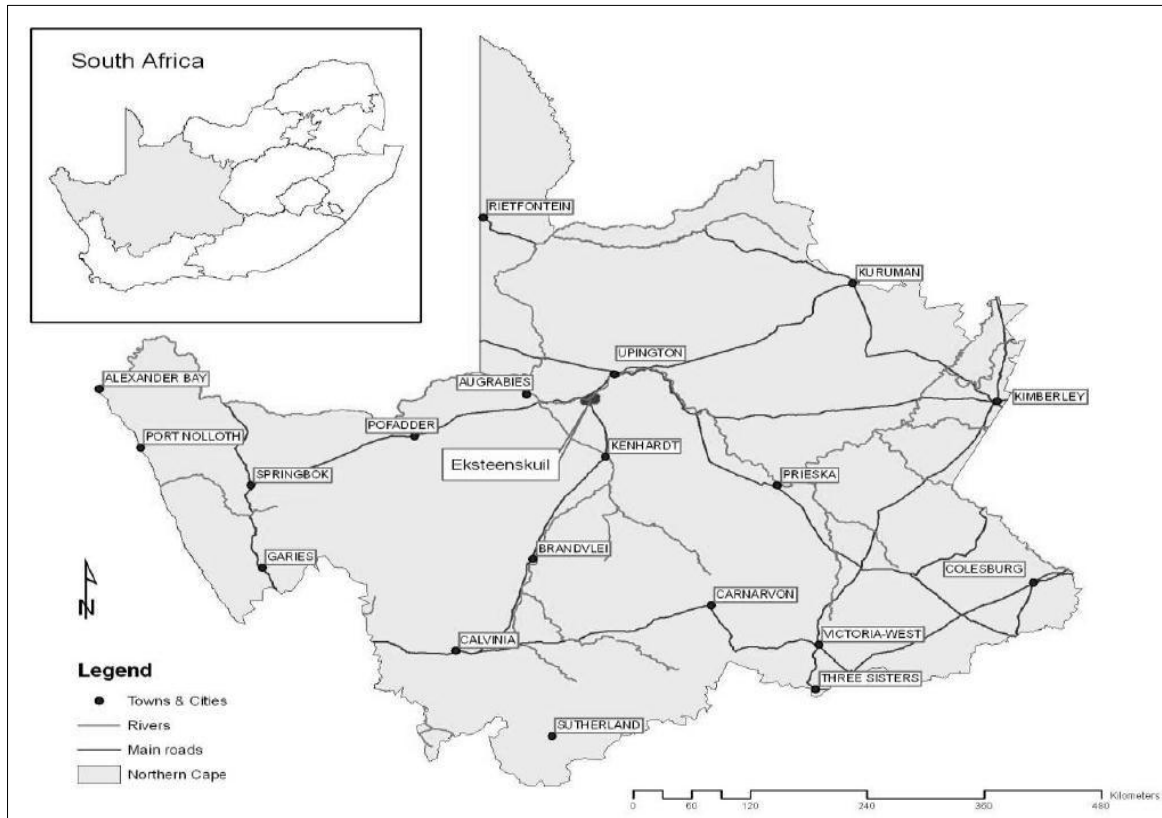


Figure 1: Map of the Northern Cape Province of South Africa to show the Eksteenskuil region in South Africa

Source: Jordaan (2012)

Eksteenskuil is a community of coloured producers who produce raisins on the banks of the Orange River. The production of raisins is the main source of livelihood to these producers. Eksteenskuil consists of around about 100 farms which range in farm size from 2-5 hectares, therefore small-scale production areas (Jordaan, 2012). Each farmer that produces raisins delivers it to South African Dried Fruit (SAD) under the name of the Eksteenskuil Agricultural Cooperative (EAC).

The EAC is an initiative taken by the smallholder producers to better their position in the market and is a sign of entrepreneurial activity among these producers and is substantiated by the findings of Jordaan (2012). In 2006 the EAC was registered, since then the producers from Eksteenskuil export their choice grade raisins through the fair trade initiative under this agricultural co-operative (Jordaan, 2012). 43 of the EAC members completed questionnaires and 40 usable questionnaires for the smallholder producers were received and 30 from the commercial producers.

3. Results

3.1. Entrepreneurial skills of smallholder raisin producers

Smallholder raisin producers are considered to be entrepreneurial, because they exhibited each of the entrepreneurial competencies. The mean PEC score for small-scale producers are 156.95. This score is the sum of the ten competencies which is totalled to 250. The spread for the small-scale producers were between 197 and 118. To have a better understanding of the scores the individual competencies have to be explored.

Figure 2 indicates the distribution of the entrepreneurial competencies between the lowest, mean and highest values. The results indicate that most of the mean values of competencies that were measured fall under the weak category. Opportunity seeking (15.40), commitment to work contract (15.93), persuasion and networking (13.53) all fall in the weak category and their distribution is more towards the lowest value indicating more room for improvement. Risk-taking (16.10) and systematic planning and monitoring (16.83) are considered to be in the moderate category, but their distribution is again more towards the lowest value leaving room for improvement.

Demand for quality and efficiency (16.58) is part of the moderate category, with a concentration more towards the highest value, less improvement is needed when the concentration is towards the highest value. Goal setting has a distribution of ten (lowest distribution of all the competencies), between the highest and lowest values given and a mean value of 15.58 (weak score). The distribution of goal setting is however more concentrated towards the highest value, therefore there is still room for improvement even though it is the strongest concentration towards the highest value.

Persistence (16.88) considered to have a mean value that is moderate and evenly spread between the highest and lowest values. Information-seeking (15.20) and self-confidence (14.68) are considered to be weak competencies even though their distribution is evenly spread. The distribution of these competencies being spread evenly still leaves room for improvement, because all three of these competencies have a lowest value of less than ten.

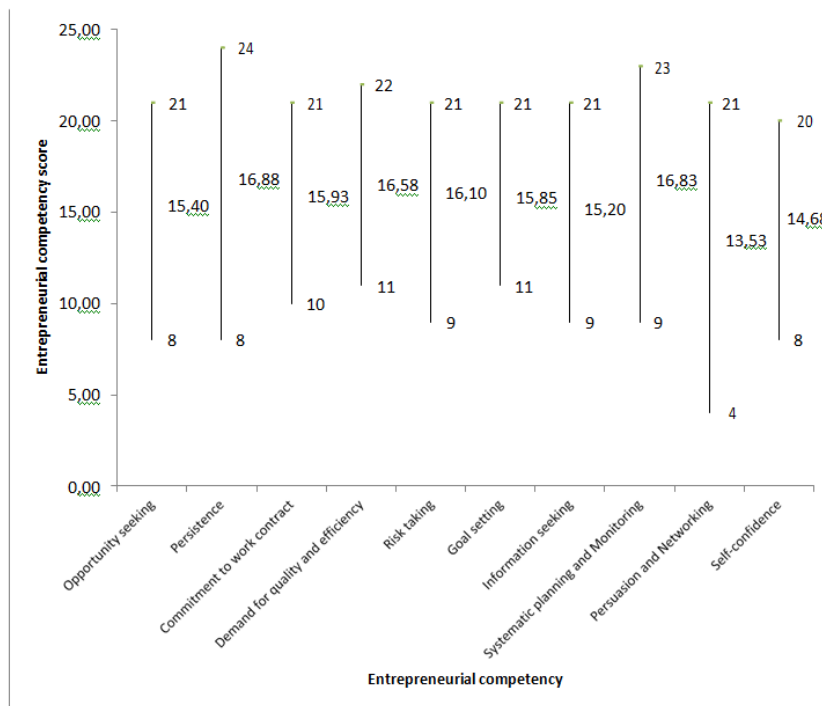


Figure 2: Smallholder raisin producer's distribution of the PEC competencies scores.

Although the majority of the competencies mean values are considered too be weak and un-concentrated the small-holder raisin producer do display an entrepreneurial attitude. The smallholder raisin producers were also compared to the commercial producers in the surrounding area to create an overall picture of the level of entrepreneurial competencies among producers.

3.2. Comparing entrepreneurial skills of commercial and smallholder producers

The commercial farmers overall PEC scores ranged between 96 and 196, which is wider spread than that of the smallholder producers. The mean value for the commercial producers was 152.10, which is lower than the mean value of the smallholder producers. The individual PEC competencies scores of the commercial producers are more concentrated towards the highest value than that of the smallholder producers. Although the commercial producers had lower scores than the smallholder producers it would be expected that their distribution would be more towards the lowest value, unexpectedly the commercial producers displayed the opposite.

In Figure 3 the distribution between the lowest and highest values around the mean values of each entrepreneurial competency measured is illustrated. The commercial producers had a more concentrated distribution (of ten points difference) in the following competencies persistence, risk taking, information seeking and self-confidence. This was in contrast to the smallholder producers who had only one competency that was concentrated within a ten points difference namely goal setting.

The biggest score difference in an entrepreneurial competency, between the commercial and smallholder producers, is the Goal setting competency. The mean value for smallholder producers was 15.58 and for commercial producers 14.43. This is the only statistically significant ($p = 0.045$) difference measured between these two groups of producers. This is justified due to the smallholder producers in the Eksteenskuil case-study.

In contrast to the smallholder producers the commercial producers did not have a competency that has a distribution concentrated towards the lowest value. Opportunity seeking (15.87), demand for quality and efficiency (15.77), risk taking (15.10), persuasion and networking (13.07), goal setting (14.43) and self-confidence (14.13) are all considered to be weak competencies. They are however all concentrated towards the highest value, which leaves room for improvement. Persistence (17.60) is the only competency that is in the moderate category and concentrated towards the highest value. The average value for persistence for the commercial producers is higher than the small-scale producers. Even though the smallholders have higher values, the commercial producers are more concentrated towards the highest value and the smallholders are evenly distributed. The commercial producers are considered strongly concentrated to higher levels of competency score than the smallholder farmers.

Three of the entrepreneurial competencies measured from the commercial farmers had a distribution that was evenly concentrated around the mean value. Commitment to work contract (16.17) is the only other competency of the commercial producers to fall in the moderate category. Information seeking (15.17) and systematic planning and monitoring (15.80) are part of the weak category. These competencies are evenly distributed, but there is still need for improvement. In contrast to the commercial producers, the smallholder producers had concentration towards the lowest value for systematic planning and monitoring as well as commitment to work.

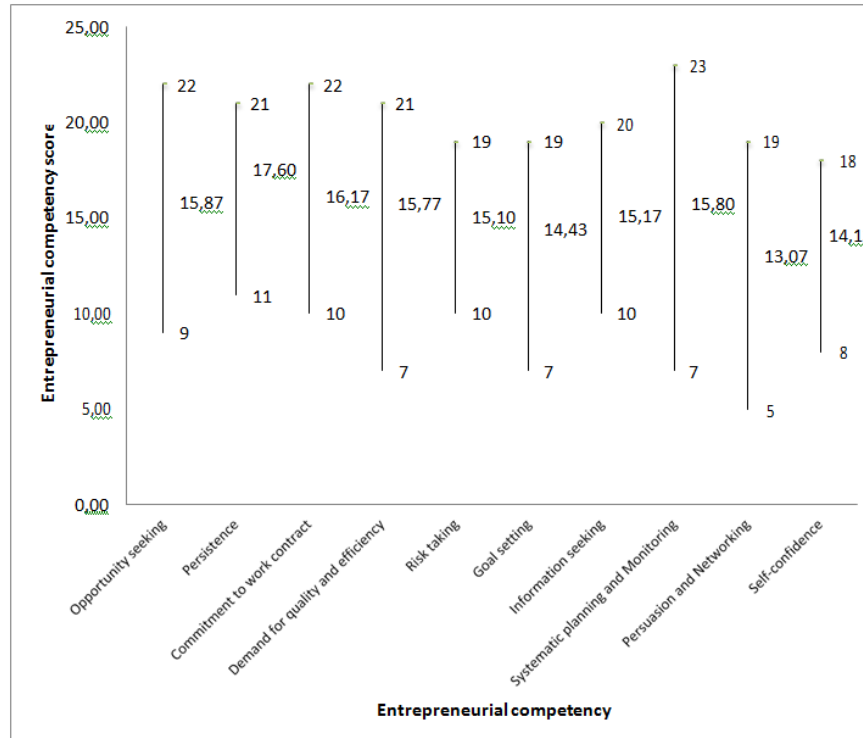


Figure 3: Commercial raisin producer's distribution of the PEC competencies scores.

In only three (opportunity seeking, persistence and commitment to work contract) out of the ten competencies measured did the commercial producers have a higher average score than the smallholder producers. The t-test determined that there was no statistical significant difference between opportunity seeking ($p = 0.580$), persistence ($p = 0.526$) and commitment to work contract ($p = 0.742$) of the commercial and small-scale producers.

Against expectations the commercial producers did not have higher entrepreneurial scores than that of the smallholder producers. The smallholder producers displayed higher distributions in the other entrepreneurial competencies measured in the PEC except for information seeking.

As mentioned in the discussion of the smallholder producers their mean PEC score was 156.95 and the commercial producers mean PEC score is 152.10. There is a 4.85 difference in the averages of the total PEC score, however with the t-test it was determined that there was no statistical significant difference. The p-value of 0.543 is insignificant at a 95% level of confidence. This indicates that in this case study the commercial and smallholder raisin producers of Eksteenskuil do display levels of entrepreneurial competencies and an overall level of entrepreneurship even though there was no statistical significant difference in the case-study.

4. Conclusion and recommendations

In determining the level of entrepreneurship of producers in South Africa, there was positive identification of the presence of entrepreneurship. Among the producers in the case-study of the Eksteenskuil raisin producers there were different levels of entrepreneurship. Jordaan (2012) already determined that there was a positive correlation between the entrepreneurial activity and the level of technical efficiency, which created an opportunity to further study entrepreneurship among these producers. The exploring and further research of producers as entrepreneurs, may lead to producers being able to compete more successfully in a global market. The identification of the existing entrepreneurial

competencies of producers may also help the producers improve their entrepreneurial abilities through educating and training them. These educational efforts in training producers on their entrepreneurial competencies may help producers maximise the benefits of the resources available to them.

The comparison between the small-scale and commercial raisin producers from the case study resulted in a statistically non-significant difference, but did provide an indication of entrepreneurship. A contributing factor to the non-statistical difference is that the Eksteenskuil smallholder producers established a co-operative (EAC) which is a form of innovativeness and an important aspect of entrepreneurship. This case-study is unique in regards to the small-scale producers already taking innovative measures to be competitive. The results regarding no statistical difference between commercial and smallholder producers of this case-study analysis are applicable to the specific case of smallholders forming a co-operative. The case-study was evidence that due to smallholder producers having higher entrepreneurial levels than that of commercial producers, it led them to being able to compete in international markets as in the case-study.

Due to producers displaying different levels of entrepreneurial competencies it may assist them to benefit from the resources at their disposal. Further studies into the implications of entrepreneurial characteristics and competencies on the success of South African producers need to be considered. Future research could include exploring the entrepreneurial competencies of producers and the effect thereof on farming resources. These farming resources can include efficient use of input allocation, market identification and financial performance of the farm to mention a few. The future research on the efficient use of resource in regards to entrepreneurial competencies of farmers may substantiate the education and training of entrepreneurial competencies among smallholder producers to assist them in sustainability and rural development.

5. References

- Bergevoet, R.H.M. (2005) Entrepreneurship of Dutch Dairy Producers. (Doctoral Dissertation, Business Economics, Social Sciences group, Wageningen University).
- Bird, B. (1995). Towards a theory of entrepreneurial competency. *Advances in entrepreneurship, firm emergence and growth*, 2(1): 51-72.
- Brandstätter, H. 1997. Becoming an entrepreneur—a question of personality structure? *Journal of economic psychology* 18(2): 157-177.
- Brockhaus, R. H. 1982. The psychology of the entrepreneur. *Encyclopedia of entrepreneurship*, 39-57.
- Chell, E., Haworth, J. M., & Brearley, S. 1991. *The entrepreneurial personality: Concepts, cases and categories*. London: Routledge.
- Depositario, D. P. T., Aquino, N. A., & Feliciano, K. C. 2011. Entrepreneurial skill development needs of potential agri-based technopreneurs. *Journal of ISSAAS [International Society for Southeast Asian Agricultural Sciences]. (Philippines)*.
- De Wolf, P., McElwee, G., & Schoorlemmer, H. 2007. The European farm entrepreneur: a comparative perspective. *International Journal of Entrepreneurship and small business*, 4(6): 679-692.
- Diaz, P.H., Co, M.R., Macaspac, Z.S. and Vinuya, T.T. 1997. Personal Entrepreneurial Development Course. Volume 1: Units 1 and 2. Office of Academic Support and Instructional Services.
- Driessen, M. P., & Zwart, P. S. 2007. The entrepreneur scan measuring characteristics and traits of entrepreneurs. Available from Internet: <http://www.necarbo.eu/files/E-scan%20MAB%20Article.pdf>.
- Hébert, R. F., & Link, A. N. 1988. *The entrepreneur: Mainstream views & radical critiques*. Praeger Publishers.
- Jordaan, H. 2012. New institutional economic analysis of emerging irrigation producers' food value chains. (Doctoral dissertation, University of the Free State, Bloemfontein).

- Kahan, D. 2012. *Entrepreneurship in farming*. Food and Agriculture Organization of the United Nations.
- Ketelaar-de Lauwere, C., Enting, I., Vermeulen, P. & Verhaar, K. 2002. Modern Agricultural Entrepreneurship. In 13th *International Farm Management Congress*. Wageningen, Netherlands, pp. 1-17.
- Khaile, P.M.E. 2012. Factors affecting technical efficiency of Small-scale Raisin producers in Eksteenskuil. M.Sc. (Agricultural Economics) thesis. Department of Agricultural Economics. University of the Free State. Bloemfontein.
- Kirsten, J. F. & Van Zyl, J. 1998. Defining small-scale producers in the South African context. *Agrekon* 37(4): 551-562.
- Knudson, W.I., Wysocki, A., Champagne, J. & Peterson, H.C. 2004. Entrepreneurship and Innovation in the agri-food system. *American Journal of Agricultural Economics* 86(5): 1330-1336.
- Kropf, F., & Lindsay, N. J. 2001. South African business dynamics: Measuring entrepreneurship. *Journal of African business*, 2(1): 23-45.
- Loevinsohn, M. E., Berdegue, J. A., & Guijt, I. 2002. Deepening the basis of rural resource management: learning processes and decision support. *Agricultural Systems* 73(1): 3-22.
- Louw, A., Kirsten, J. and Madevu, H. 2005. Securing small producer participation in restructured agri-food systems in South Africa. Paper presented at the 15th Annual World Food and Agribusiness Forum, Symposium and Case Conference of the International Food and Agribusiness Management Association, Illinois, USA.
- Man, T. W., Lau, T., & Chan, K. F. 2002. The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies. *Journal of Business Venturing* 17(2): 123-142.
- Mansfield, R. S., McClelland, D. C., Spencer, L. M., & Santiago, J. 1987. The identification and assessment of competencies and other personal characteristics of entrepreneurs in developing countries. *Final Report: Project*, (936-5314).
- McElwee, G. 2005. Developing entrepreneurial skills of producers: a literature review of entrepreneurship in agriculture. In Rudmann, C. (2008). *Entrepreneurial skills and their role in enhancing the relative independence of producers*. Forschungsinstitut für biologischen Landbau (FiBL).
- National Planning Commission (NPC). 2011. *National Development Plan: Vision for 2030*. Available online at <http://www.npconline.co.za/medialib/downloads/home/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf> [Accessed on 15 February 2015]
- O' Connor, E.J and Fiol, C.M. 2002. Mindful over mindless: Learning to think like an entrepreneur. *The Physician Executive* 28 (4): 18-23.
- Stevenson, H. H., & Jarillo, J. C. 1990. A paradigm of entrepreneurship: Entrepreneurial management. *Strategic management journal* 11(5), 17-27.
- Van Averbek, W., & Mohamed, S.S. (2006). Smallholder farming styles and development policy in South Africa: The case of Dzindi Irrigation Scheme. *Agrekon*, 45(2): 136-157
- Vesla, K.M., Peura, J. & McElwee, G. 2007. The split entrepreneurial identity of the farmer. *Journal of Small Business and Enterprise Development* 14(1): 48-63.
- Wärneryd, K. E. 1988. *The psychology of innovative entrepreneurship* (pp. 404-447). Springer Netherlands.