Entrepreneurial orientation and farm business performance: the moderating role of farm diversification and farm and farmer characteristics of cinnamon farmers in Galle district

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1. Introduction

Cinnamon is the most important and valuable spice among all the other spices in Sri Lanka. Ceylon cinnamon plant called "*Cinnamomum zeylanicum Blume*" is indigenous to Sri Lanka which generates 85% of the world production. Sri Lankan Cinnamon accounts for 60% of the total spice export earnings in 2018 (Tridge, 2020). As a primary spice of Sri Lanka, cinnamon creates unexploited opportunities for all the value chain actors including cinnamon farmers. Due to the high demand for Ceylon cinnamon, there is a high tendency to enter the cinnamon industry. Value-added Ceylon cinnamon products hold a competitive advantage due to the quality of local cinnamon. However, there is limited upgrading in the cinnamon value chains especially upstream value chain actors such as farmers have failed to capitalize on this opportunity. Most likely due to lack of entrepreneurial spirit and inability to mobilize their entrepreneurial capabilities to develop the farm business performance.

In this context, it is worthwhile to examine the entrepreneurial orientation of cinnamon farmers by investigating key entrepreneurial dimensions such as innovativeness, risk-taking, and proactiveness (Grande et al., 2011). Entrepreneurially oriented farmers have a high potential to achieve better performance both financially and non-financially (Veidal & Flaten, 2014). Therefore, this study aims to undertake a detailed analysis of the EO-performance relationship from a cinnamon farmer's perspective as well as to understand the moderating effect of on-farm & off-farm diversification and farm and farmer characteristics on the EO-performance relationship.

2. Materials and Methods

A survey was carried out in the Galle district covering 100 cinnamon farmers selected by using a stratified random sampling technique. The four strata came from four GN divisions of Gonapinuwala, Karandeniya, Ambalangoda, and Welivitiya- Divithura. 25 each cinnamon farmers were randomly selected from the strata based on a list of farmers provided by the divisional Agrarian Service Center.

Primary data were collected by using interviewer-administered questionnaires. The dependent variable was farm business performance that encompassed both financial and non-financial performance indicators. Farm diversification, farm and farmer characteristics were considered as moderator variables to the EO-Performance relationship. EO dimensions considered included innovativeness, risk-taking, and proactiveness. Socio-demographic factors, farm size, access to financial resources and other resources, and external networks were used as dimensions of farm and farmer characteristics. On-farm & off-farm diversification dimensions were crop diversification, agro-tourism, and other business activities.

Descriptive analysis was used to profile the characteristics of the farmers and farms. Structural Equation Modeling (SEM) was employed to test the relationships among the variables used in the study. SEM is useful for establishing inter-relationships among multiple variables through a series of single and multiple regressions. The effects of moderator variables were analyzed by specifying the interaction effects of the SEM. AMOS 23 version (statistical software for SEM), and SPSS 22 version was used for the analysis.

3. Results and Discussion

The internal consistency of measures used was evaluated using Cronbach's alpha coefficients. EO and the non-financial performance had Cronbach's alpha coefficients of 0.935 and 0.739. Therefore, EO had an excellent level of reliability, and the non-financial performance had an acceptable level of reliability. Figure 01 depicts the SEM path diagram that includes estimate regression weights.
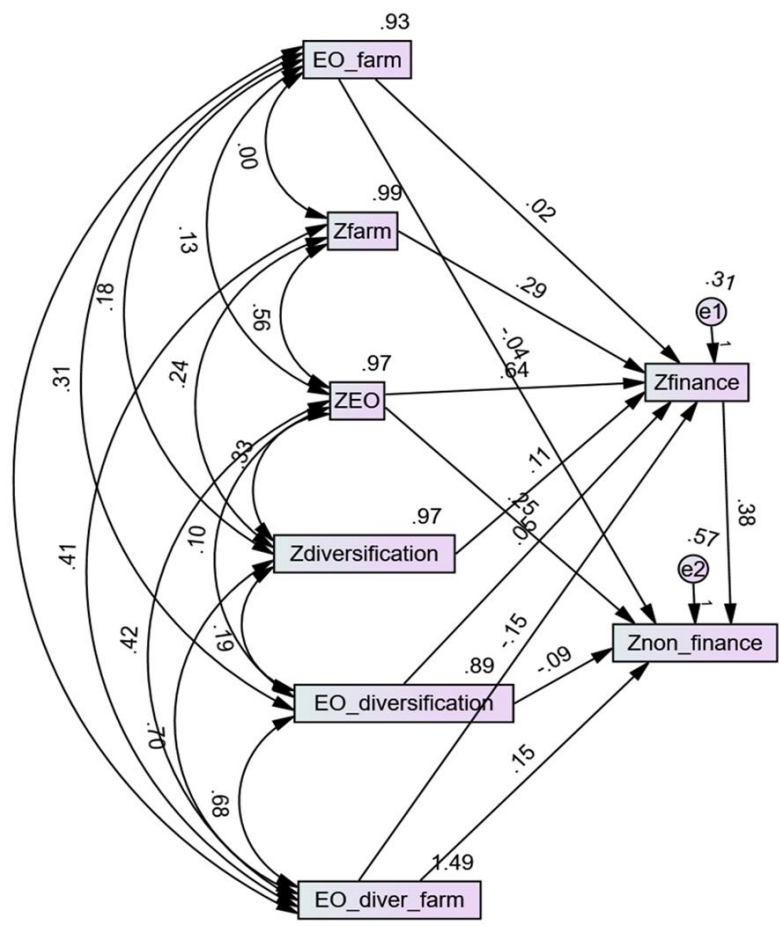
Figure 1. SEM path diagram

Default model fit values are GFI = 0.980, CFI= 0.984, NFI= 0.977, and CMIN/DF= 2.808. Both GFI, CFI, NFI values are higher than 0.9. If CFI and NFI values are higher than 0.9 it implies satisfactory fit (Forza & Filippini, 1998). CMIN/DF value is between 1 to 5 which means an acceptable fit.

Table 01. Structural equation model (SEM) path coefficients and significance levels

Path	Estimate	S.E.	C.R.	p-value
Finance performance <·········· EO	0.644	0.073	8.841	0.000***
Non-financial performance <··········EO	0.247	0.131	1.888	0.059
Finance performance <·········· EO-farm diversification interaction effect	0.049	0.079	0.624	0.532
Non-financial performance <······· EO-farm diversification interaction effect	-0.092	0.103	-0.901	0.367
Finance performance <········· EO-farm and farmer characteristics interaction effect	0.017	0.063	0.276	0.783
Non-financial performance <······· EO-farm and farmer characteristics interaction effect	-0.037	0.085	-0.436	0.663
Finance performance <········· EO-farm diversification- farm and farmer characteristics 3- way interaction effect	-0.148	0.075	-1.968	0.049**
Non-financial performance <·····EO-farm diversification- farm and farmer characteristics 3- way interaction effect	0.147	0.083	1.758	0.079

The relationship between EO and financial performance estimate value was 0.644 and it was significant at the 5% level implying that EO has a positive effect on financial performance. The EO and non-financial performance relationship was not significant at the 0.05 level implying that EO has no strong influence on non-financial performance. This could be attributed to high expectations of entrepreneurial farmers as the non-financial performance was measured in terms of farmer satisfaction with achievements related to their farming enterprise.

EO-farm diversification interaction effect on financial performance and non-financial performance was not significant. This is because farmers were likely to engage in entrepreneurial activities if there was a good demand and high price for their cinnamon products. Therefore, farm diversification does not moderate EO- performance relationship.

EO- farm and farmer characteristics interaction effect on both financial performance and non-financial performance was not significant at the 5% level. This implies that the interaction effect does not influence financial and non-financial performance. This is because most of the conventual farmers who engaged in traditional cinnamon farming do not have the mindset and the right attitudes to engage in entrepreneurial activities.

The result of the 3-way interaction effect on financial performance is negatively significant at the 5% level (Table 1). However, the 3-way interaction effect on non-financial performance is not significant. When farmers have good farm & farmer characteristics (e.g., good education, good network, and access to resources) they are inclined to involve in on-farm & off-farm diversification activities (e.g., other business, doing a job). They give less priority to cinnamon

cultivation due to lack of time. This was confirmed by the positive covariance between farm diversification and farm & farmer characteristics and thus explains the negative 3-way interaction effect on financial performance.

4. Conclusions

This study concluded that EO influences financial performance thus entrepreneurially inclined farmers perform well. However, they fail to achieve non-financial performance due to their higher level of expectations. Farm diversification does not moderate the EO-performance relationship because when they engaged in diversification activities, they pay less attention to cinnamon cultivation due to time constraints. The 3-way interaction effect of EO, farm diversification, farm and farmer characteristics weaken the EO-financial performance relationship. Given the poor entrepreneurial ecosystem in the study area to support cinnamon farming and value addition activities those farmers with good entrepreneurial traits and good farm characteristics move out of cinnamon cultivation and engage in other farm diversification and off-farm activities. The findings suggest the need to create a conducive entrepreneurial ecosystem to keep entrepreneurial oriented farmers in the cinnamon enterprise as well as to attract young entrepreneurially oriented youth to the cinnamon industry.

5. References

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