Investments in Technological Innovation and Financial Performance of Small Scale-Tea Industries in Kenya

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Abstract

The agricultural sector in Kenya has been facing the challenge of increased cost of operations as a result of outdated technology. In an attempt to reduce its operation, cost tea sector has invested heavily in technology. Thus the purpose of this study was to establish the effect of technological innovation investment on financial performance of small-scale tea industry in Kenya. The study variables were investments on fermentation innovations, pruning innovations, weighing innovations and information systems innovations on the financial performance of small-scale tea firms in Kenya. This study was anchored on four theories, namely Schumpeterian Theory on Innovations, Efficiency Theory, Technology Acceptance Model and Theory of Innovation Diffusion. The targeted population was 66 small scale tea factories in Kenya. Secondary data for a period of 5yrs (2014-2018) was used for analysis using a panel regression model. Person Correlation results indicated that investment on fermentation technological innovation**,** investment on pruning technological innovation, investment on weighing technological innovation and investment on information systems technological innovation are positively and significantly associated with financial performance of small-scale tea industries. Before introducing technological innovations in the tea sector, cost of tea production in Kenya was high compared to other producing countries that earlier incorporated tea production technological innovations in the tea sector. In 2013 the cost of tea production in Kenya was USD 1.33 per kg, while in Vietnam it was USD 0.81 per kg. In India, the cost of tea production was USD 0.96 per kg, while in China it was USD 0.72 per kg. In Kenya, technological innovations in the tea sector were introduced in the year 2015. However, it is not empirically clear if technological innovations in the tea sector brought more benefits in terms of increased tea production or costs surpassed the benefits. Panel results revealed that there was a positive and significant relationship between investment on fermentation technological innovation and financial performance of small-scale tea industry in Kenya, positive and significant relationship between investment on pruning technological innovations and financial performance of small-scale tea industry, positive and significant relationship between investment on weighing technological innovations and financial performance of small-scale tea industry and positive and significant relationship between investment on information systems technological innovations and financial performance of small-scale tea industry in. It was also revealed that firm size is a significant moderator on the relationship between technological innovation investment and financial performance of small-scale tea firms was satisfactory. The study concluded that investment on fermentation technological innovation, investment on pruning technological innovation, investment on weighing technological innovation and investment on information systems technological innovation positively affects financial performance of small-scale tea firms. The study recommends that management can consider acquiring more continuous fermentation units as to allow efficient fermentation of tea while preserving quality. The study

recommends that management of tea firms can consider investing on pruning machines to fasten tea pruning so as to give the plant a low, wide framework of branches that will produce many leaves each year. Pruning is essential to direct the tea plant's energy into leaf production. Tea firms can consider acquiring electronic weighing machines that are accurate and efficient. Modern machinery which can handle big volumes of input can be cost effective. Tea processing firms may consider investing on data information processing systems to aid in the generation, storage and relaying of data on tea prices, quantity and costs

Key words: tea sector, technological innovation, investments