Evaluating the Effects of Digital Weighing System on Upcountry Tea Plantation Sector

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By

Pattiyawatte Gedara Ishara Madushanka Keerthirathna

Bachelor of Science in Tea Technology and Value Addition

Faculty of Animal Science and Export Agriculture

Uva Wellassa University of Sri Lanka

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ABSTRACT

Kelani Valley Plantations PLC introduced a new weighing scale for three critical steps; Check-Roll Weight, Field Weight and Factory Weight instead of traditional tea weighing scales of spring balance and circular scale. The digital weighing scales in all estates of the company are linked via an online performance management system so that all the current data and past data can be accessed online. Accordingly, the system is expected to identify malpractices during leaf weighing on-field and leaf weighing on the factory. To evaluate the usefulness of the system, this study was designed in which how to effect the digital weighing system on management decisions and for the field to factory difference (f2f) was studied. A field survey was used to evaluate the effect of the digital weighing system on management decisions where how the system quality and information quality affected the management decision was assessed. A structured questionnaire was used for the data collection where 50 plantation executives, working in different capacities were interviewed. Descriptive analysis and correlation coefficient analysis was used in the data analysis. According to the descriptive analysis, the digital weighing system showed a positive impact on all twelve management decision criteria considered. Then, the correlation analysis revealed week positive relationships between system quality and management decisions; information quality and management decisions, and system quality and information quality. The effect of the digital weighing system on the tea plantations was further evaluated based on the field to factory difference (f2f). Data were collected from two estates by using estate leaf record books and through the digital weighing system. According to analysis, the digital weighing system has contributed to reducing the field to factory difference in Annfield estate by 0.68% and in Tillery estate by 0.72%. However, statistical T-test certified that there was no significant difference in f2f data before and after introducing the system.

Keywords: Digital weighing system, field to factory weight difference, tea estates