

Meeting Development Challenges by Introducing Global ICT Standards to Agricultural Industry in Sri Lanka

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Agriculture is the main source of livelihood of the rural population, which accounts for 70% of the total population in Sri Lanka besides issues related to the agricultural value chain, more specifically supply chain deficiencies are serious demanding urgent remedies. Meanwhile, the World Summit on the Information Society (WSIS) includes e-agriculture as an area of application of Information and Communication Technologies (ICTs) to ensure the systematic dissemination of information in order to provide ready access to comprehensive, up-to-date and detailed knowledge and information, particularly in rural areas. Although the digital presence of majority of Sri Lankan industry is commendable, agricultural industry is not an adequate level. One promising solution for this situation could be development of an online trading portal.

With the objective of rectifying the issues briefed above, by adopting design science research methodology, proof-of-concept implementation of a trading portal for agriculture industry has been completed in this study. The information artifacts developed in the research being thoroughly evaluated in laboratory with interesting results and real world empirical evaluation is in the pipe-line of future work.

Therefore, it is possible to claim that the portal developed is capable of reducing the majority of supply chain deficiencies in agricultural trading while in compliance with Global Electronic Business Collaboration Standards. In this work we have selected recommendation from United Nation's Center for Trade Facilitations and Electronic Business (UN:CEFACT), *i.e.* UN:CEFACT's Modeling Methodology (UMM) and International Organization for Standardization (ISO) phases of a business process namely planning, identification, negotiation, actualization and post-actualization. Among the contributions from this work, not only the operational trading portal but also the documented eCommerce solution developed approaches based on the global standards are central. The systematic eCommerce solution development methodology documented here could readily be re-used in many other trading scenarios from different domains.

Key words: *UN/CEFACT Modeling Methodology, REA Ontology, Business Collaboration Standards*