Research area:
Electronic Commerce
and Governance

Robert Stegwee

In the vegetables sector, continuous replenishment still has a long way to go

Resa Nasution is working on a phase model that indicates the development process of systems of continuous replenishment and allows companies to computerise their stock replenishment. The Indonesian-born industrial engineer is performing his research in the CTIT area of professor Robert Stegwee.

"In 1992 many companies in the US initiated computerised continuous replenishment via information networks. Organisations installed electronic systems for their purchases and sales that automatically ensured the replenishment of stocks to the required level. In 1995, many European companies followed suit, with Asia making a start in 1999."

"This was also true for Indonesia. I am now conducting research to map out the factors that play a role in the development of these systems in and between organisations. What information do trading partners exchange, how much information, etcetera. I start from the premise of the contingency theory that an organisation and its activities are always influenced by all types of ambient variables that the organisation itself is unable to influence."

"Needless to say, the presence or absence of an operational network strongly determines the way in which an e-business aspect such as a continuous replenishment develops. In emerging economies such as Indonesia, the presence of such networks is not always a matter of course. Moreover, the presence of an EDI provider that ensures the interoperability between the parties or the quality of the dominant ERP technology are also factors that may influence the rise of continuous replenishment."

Examples of current projects:

- Knowledge Integration and Network Expertise (KINX; EU Fifth Framework Program)
- Design and implementation problems of enterprise wide systems and CSCW
- European Citizens Advice Service (ECAS; EU Fifth Framework Program)
- Strategies of Inclusion. Gender and the Information Society (SIGIS, EU Fifth Framework Program)

"I therefore observe the factors that may influence the way in which continuous replenishment is applied in practice. In doing so, I note the various arrangements, or the components of the system design that relate to the information exchange, the technology and the information management. As a producer, you can leave stock replenishment to your supplier. In such a case – we call this vendor-based replenishment – this party supplies the information about stock levels and, possibly, the actual sales. Dairy producer Campina, however, relies on Albert Heijn to inform it of the demand for the next 24 hours. In that case, the purchaser only issues the order details and does not report the actual stock situation."

"I am working towards a phase model as a final result of my doctoral research. This is, of course, intended for scientific objectives, but it can also be used for business purposes. It is not only meant to demonstrate to people in Indonesia the phases that a fully fledged continuous replenishment system have to pass through, but people in the Netherlands, too, can learn from such a model as this fully-fledged stage is still to be reached in various sectors. For instance, the dairy sector covered by Campina has made considerable headway, but in the fruit and vegetable sector, for example, there's still a long way to go. However, the rise of a single large company such as The Greenery may perhaps speed things up."

"My research is part of the E-commerce programme that focuses mainly on e-business at meso level, the individual organisation level. I am an industrial engineer and my colleagues here at the business information department are not just looking at the technical standards that are necessary, but concentrate, in particular, on organisational aspects, for instance legal matters."