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# The Role of Handheld Information Technologies in Controlling Inter-organisational Data Transactions: Electronic Cash Registers for Value-added Tax Administration in Ghana

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# The Role of Handheld Information Technologies in Controlling Inter-organisational Data Transactions: Electronic Cash Registers for Value-added Tax (VAT) Administration in Ghana

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## Abstract

Currently, there is inadequate understanding of the use of handheld technologies to control electronic data transactions between public and private sector organisations. This problem has come about because the following circumstances have not been taken into account in current research on the exercise of technology control by public sector organisations: the same use of the handheld computers satisfies the different motives of the focal and remote organisations, which motives may even be contradictory; the focal organisation is seeking to monitor and control its remote activities which are performed by organisations whose employees are not its own; the remote activities are only small parts of the entire activities of the remote organisations; and these remote organisations are interested in and preoccupied by their own activities which are largely not subject to the control of the focal organisation. Therefore, this research seeks predominantly to explore these circumstances to proffer insights that will improve our understanding of public sector use of information technology for control. This exploration will be conducted in an empirical study of a pilot implementation of handheld card-reading payment technologies (called electronic cash registers) for value-added tax (VAT) administration in Ghana. To this end, the objectives of this research are: to investigate the use of handheld computers for controlling inter-organisational data transactions; to analyse the dynamics of technology control in the face of an interplay between different and, possibly, contradictory organisational motives. This research seeks to contribute a theoretical model of the appropriate socio-technical systems of control that ensure smooth implementation of inter-organisational information systems.

**Keywords:** inter-organizational control, inter-organizational information systems, handheld computers, electronic data interchange.

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# The Role of Handheld Information Technologies in Controlling Inter-organisational Data Transactions: Electronic Cash Registers for Value-added Tax (VAT) Administration in Ghana

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Currently, there is inadequate understanding of the use of handheld technologies to control electronic data transactions between public and private sector organisations. This *problem* has come about because the following circumstances have not been taken into account in current research on the exercise of technology control by public sector organisations:

- the same use of the handheld computers satisfies the different motives of the focal and remote organisations, which motives may even be contradictory;
- the focal organisation is seeking to monitor and control its remote activities which are performed by organisations whose employees are not its own;
- the remote activities are only small parts of the entire activities of the remote organisations; and
- these remote organisations are interested in and preoccupied by their own activities which are largely not subject to the control of the focal organisation.

Therefore, this research seeks predominantly to explore these circumstances to proffer insights that will improve our understanding of public sector use of information technology for control. This exploration will be conducted in an empirical study of a pilot implementation of handheld card-reading payment technologies (called electronic cash registers) for value-added tax (VAT) administration in Ghana. The VAT Service will deploy these technologies to selected enterprises across the country to monitor and control data transactions and VAT payments. This deployment is a typical instantiation of the research problem that is replete with these circumstances.

To this end, the *objectives* of this research are:

- to investigate the use of handheld computers for controlling inter-organisational data transactions by
  - examining how the socio-political dynamics in public sector organisations shape the use of handheld information technology
  - examining the role handheld information technologies play when an organisation seeks to control transactions conducted by remote organisations which are not subject to their control.
- to analyse the dynamics of technology control in the face of
  - an interplay between different and, possibly, contradictory organisational motives
  - institutional forces such as culture and politics

By the end of this research, I want to *contribute*

- a theoretical model of the dynamic roles that handheld information technologies play in the control of inter-organisational data transactions
- a theoretical model of the appropriate socio-technical systems of control that ensure smooth implementation of inter-organisational information systems
- practical guidelines on how to effectively arrange the organizational and technological factors of inter-organisational relationships into efficient information systems that will enhance VAT administration

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