ACHIEVING ORGANISATIONAL EFFECTIVENESS WITH B2E E-BUSINESS MODEL

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DECLARATION

I certify that:

a) except where due acknowledgement has been made, the work is that of the candidate alone;
b) the work has not been submitted previously, in whole or in part, to qualify for any other academic award;
c) the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program;
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………………………………………….
Feeba Mootheril

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TABLE OF CONTENTS

LIST OF ABBREVIATIONS

ABS	Australian Bureau of Statistics
B2B	Business to business
B2C	Business to customer
B2E	Business to employee
CVF	Competing values framework
E-business	Electronic business
ESS	Employee self service
ERP	Enterprise resource planning
IT	Information technology
OE	Organisational effectiveness
RBV	Resource based view

LIST OF FIGURES AND TABLES

ABSTRACT

In the last decade e-business has evolved and developed into many models adopted by businesses all over the world. In this era, IS and business researchers are defining and evaluating various aspects of e-business whether it is B2B, B2C, or B2E (Business-to-Employee) e-business. Though many studies have been undertaken on explorations in B2B and B2C; B2E is still in an infancy stage. This research targets this niche by not only identifying the factors that lead to organisational effectiveness from B2E e-business model but also explore the subject in Australian context.

This research is about understanding effectiveness achieved from B2E e-business model. The existing literature conceptualise B2E e-business model from mainly three perspectives technological, managerial and business. Accordingly, it is deficient in having a theoretical understanding of the internal dynamics of this e-business model. To achieve this, this research employed Resourced Based Theory and Competing Values Framework to understand the impact of the model. The Resource Based Theory is utilised to set the foundation by viewing technology and it's affecting business process or functions and the employees as a resource for an organisation adopting the B2E e-business model. The Resource Based Theory guided in the classification of B2E benefits as its derived values. However, since a resource based view is usually adopted for understanding competitive advantages, this research seeks to explore effectiveness, competing values theory was also employed. The competing values theory is applied to formulate the research framework with derived values – factors leading organisations to achieve effectiveness. Therefore, this research proposes that B2E benefits lead organisations to achieve effectiveness. The framework is then verified with respect to Australian organisations.

Research methods adopted for this research are exploratory; so that the 'new' area can be investigated and emerging new concepts in the same phenomena can be examined. A research framework was developed on the basis of B2E technologies, business process and outcomes that lead to effectiveness. A semi-structured questionnaire was used as the data collection tool. Interviews were conducted with 13 participants from 3 different

organisations to collect data on B2E implementation. Data was collected from three organisations constituted for three case studies. The studied organisations were large in size and from different industry sectors including education, local government and insurance. Data analysis is from the three case studies. Moreover, competing values criteria is utilized as a basis for conducting phenomena-context matching to evaluate the organisational effectiveness achieved from the B2E e-business model.

The findings reveal that the three Australian organisations regard B2E e-business to be a dynamic and evolving model for internal management and service to employees. The findings also indicate that B2E model is adopted differently depending on the nature of business. However, the general pattern or theme that the data revealed is that the B2E applications tend to follow a stream of electronic applications (electronic news (e-news), electronic documents (e-documents), electronic information (e-information), electronic human resource (e-HR) applications, and electronic processes) for its internal and employee management.

The contribution this research makes to theory is that it extends the competing values theory by illustrating that B2E e-business model leads to internal effectiveness in organisations with electronic information and processes, as well as a cohesive and skilled workforce leading to organisational effectiveness of increased productivity.

ACHIEVING ORGANISATIONAL EFFECTIVENESS WITH B2E E-BUSINESS MODEL

Chapter 1

INTRODUCTION

1.1 Overview

E-business offers organisations opportunities to create new ways of doing business, improve connectivity across the globe and achieve transparency of business processes. If supported with an appropriate business strategy, organisations can use e-business to achieve a better integration and alignment of business processes, technology, and people (Yang, Yang & Wu 2005). E-business also promises several benefits to organisations such as reduced operation costs, labour, and time (Singh & Byrne 2005). There are several dimensions of e-business such as business-to-business (B2B), business-to-customer (B2C) and business-to-employee (B2E). While B2B and B2C have received a lot of practitioner, media and research attention, B2E is less researched (Singh 2005).

1.2 Background and rationale for research

B2E e-business has been adopted by large organisations for carrying out internal functions and management of the employees (Singh & Waddell 2007). B2E e-business model has the potential to offer freedom for employees by granting them access to manage their personal and career related information (Payton 2003). Rao (2005) advocates that managing relationships between organisation and employees is vital to achieve organisational objectives. Therefore, B2E benefits both the employees and the organisations. To realize these potential benefits, many organisations are implementing the B2E e-business model. For instance, Stellin (2001) noted that 90% of large organisations in United States are equipped with Intranet for facilitating B2E. In a

recent survey of 646 companies in Europe regarding the presence of e-business types, 64% accounted for B2E e-business (Lesjak & Vehovar 2005). Australian organisations also have similar global trends. According to Hawking, Foster & Stein (2004), 24% Australian companies adopted B2E module from SAP with employee self service (ESS) and electronic workplace (e-workplace) management. However, so far, there is a lack of rigorous empirical research regarding the post-implementation B2E values and benefits in general and in Australian organisations in particular.

Benefits of B2E e-business model according to Rahim, Sugianto & Shameem (2005) and Singh (2005) are reduction in costs of labour and paper, reduced duplication of work, improved time efficiency, increased alignment of product and business services, and employee empowerment. Other studies on employee satisfaction with B2E systems (Huang, Jin & Yang 2004; Mackie & Downing 2004) suggest that the organisation benefits from employee loyalty and organisational citizenship behaviour improving their employee relations. Other publications on B2E model focus on Intranets, portals and ERP (Boutaba, Guemhioui & Dini 1997; Hawking, Foster & Stein 2004; White 2000), which are the technologies that support this model. From the above it is evident that B2E is an important e-business model. It has been addressed in terms of benefits, employee satisfaction and technologies supporting it have been identified. However, detailed studies on the impact of the B2E model in organisations are missing.

Empirical studies to date have explored information intensive organisations such as universities (Rahim, Sugianto & Shameem 2005; Singh & Waddell 2007; Tojib, Sugianto & Rahim 2005). Other studies have focused on technologies supporting this model (Ash 2001; Hawking, Stein & Foster 2004). Moreover, Hawking, Foster & Stein (2004) advocate that there is lack of detailed studies on B2E model compared to other e-business models. This creates a void in research in understanding about the organisation-employee relationships as well as the opportunities of web technology in these relationships. While organisations can generate B2E related values (such as improving employee productivity), it is important to assess the contribution of these values to overall organisational performance. This is of particular importance in the current IT debate that shifted from IT productivity to IT value (Das & Teng 2000). Thus this research investigates the organisational effectiveness achieved from B2E e-business in different industry sectors.'

1.3 Research objectives

The objective of this research is to:

Investigate the impact of B2E e-business model in organisations and understand the organisational effectiveness achieved from this model.

1.4 Research questions

1. Explore the application of B2E e-business model in organisations:

> *How are the B2E components (such as technologies, business functions or services, and outcomes) enabling B2E model in Australian organisations?*

2. Explore B2E outcomes leading to organisational effectiveness:

> *How does the value (outcomes) generated from B2E model impact organisational effectiveness?*

1.5 Scope of the research

The research framework developed and followed is based on the sparse literature on B2E e-business model. This research investigates the B2E e-business model and its impact on organisational effectiveness by investigating B2E in three organisations. It is an exploratory study and all three organisations are Australian based.

1.6 Research methodology

The research utilised interpretive case study approach. This research is an exploratory study undertaken to establish B2E e-business in the Australian context and to establish if organisational effectiveness is achieved from B2E. Cavana, Delahaye & Sekaran (2001) confirm that exploratory studies are important for obtaining a good grasp of the phenomena. An important component of the B2E e-business model is employees, and employees are an important resource in organisations. Therefore to explore organisational effectiveness from B2E e-business model this research is guided by resource based theory and to understand internal and external improvements achieved from B2E, it is guided by the competing values theory. It is accomplished via three case studies which are qualitatively analysed.

1.7 Outline of thesis

The rest of the thesis is organised as follows. Chapter 2 includes a review of literature on B2E e-business model and a research framework based on resource based theory and competing values theory. It is then related to B2E outcomes to develop the research framework used as a foundation for this research.

Chapter 3 describes the research methodology discussing the approach, methods and analysis strategy used in this research.

Chapter 4 describes each case study corresponding to the issues in the research framework.

Chapter 5 is an analysis of the three case studies.

Chapter 6 is a discussion of the findings, their implications, conclusion and issues for further research.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

B2E e-business is categorised as intra-business including all internal organisational activities that involve the exchange of goods, services, or information among various units and individuals in an organisation (Turban et al. 2006b). It includes online business process, online people management, and online services to the workplace community (Hansen & Deimler 2001; Singh 2005).

Throughout the literature, B2E has been defined mainly from the technical, managerial, and business perspectives (Ash & Burn 2002; Hawking, Foster & Stein 2004; Singh 2005; Turban et al. 2006b). *Technically*, B2E is about moving corporate information resources to web-based applications by making it available through company Intranets and browser technologies (Hawking, Foster & Stein 2004). B2E e-business model is perceived to use Intranet resources for sharing of information in order to facilitate employee networking for conducting e-business (Ash & Burn 2002). It may also include ERP data or business processes by making it available to employees through web-based technology such as Intranets (Ash & Burn 2003). *Managerially*, B2E e-business is considered as a type of electronic organisational management (e-management) (Singh 2005). It allows management of departmental units, people and facilitates transfer and sharing of data and knowledge within the organisation (Chandra, Kumar & Smirnov

2002). Finally from a *business* perspective, B2E is an electronic business (e-business) model with internal activities, managerial and technical offerings as well as cost reduction and revenue generation implications to improve business between organisation and its employees (Singh 2005; Turban et al. 2006b). Therefore, similar to other e-business models; organisations that have B2E model are expected to reduce their operating costs (Hawking, Foster & Stein 2004), and improve knowledge sharing among employees (Ferguson 2000; Singh 2005).

2.2   Business-to-Employee (B2E) e-business model

B2E e-business is conducted through the electronic delivery of a variety of services (Tojib, Sugianto & Rahim 2005), information and products to its users, the employees, by an organisation (Turban et al. 2006b). It facilitates various business activities through online services such as collaborative tools (Turban et al. 2006a), benefit systems (Huang, Jin & Yang 2004; Kalakota & Robinson 2004), organisational documents and instruction booklet delivery (Ash & Burn 2003), and staff training (Baldwin-Evans 2006; Singh 2005; Turban et al. 2006b; Tynjala & Hakkinen 2005). Online management of human resource (HR) function is another aspect of B2E e-business model. Ash & Burn (2002) also refer to B2E as an office management solution. Similarly, B2E also includes managing HR functions such as pay details and personal information (Ash & Burn 2002; Hawking, Foster & Stein 2004). McDowall (2002) emphasises that B2E systems are customised delivery of services offering both employee and organisational benefits provided that it addresses issues of confidentiality, personalisation and security. Thus, it is evident that B2E model electronically manages organisational functions and processes related to managing employee benefits, HR functions, communication and teamwork through online technology.

As a result many of these applications derive benefits to organisations. For example, Ash & Burn (2002) identified reduced costs, efficiency from bringing together employee groups, savings of time and paper from traditional information dissemination and transparency across departmental policies and procedures with B2E e-business model. In relation to several associated benefits, it occurs that business-to-employee (B2E) model is capable of delivering faster gains with minimal risk (Hawking, Foster & Stein 2004). From the above literature discussion it is evident that B2E e-business model has three important aspects; namely technological, managerial and business.

Therefore to further explore B2E e-business model in depth, the following literature rigorously reviews: technologies and applications used in B2E systems in organisations; B2E application services addressing numerous organisational functions and processes; and benefits and efficiencies achieved from B2E.

2.3 B2E Technologies and applications

The important technologies supporting B2E e-business include Intranets (Hopkins & Makham 2003; Singh 2005; Stenmark 2003), employee portals (Benbya, Passiante & Belbaly 2004; Rahim, Sugianto & Shameem 2005; Tojib, Sugianto & Rahim 2005) and enterprise resource planning (ERP) modules (Hawking, Foster & Stein 2004; Rao 2005).

2.3.1 B2E via Intranet technology

Intranet is the main technology infrastructure that is needed to deliver B2E applications and services (Hopkins & Makham 2003). They are private networks accessible to targeted users inside a company's firewall (Boutaba, Guemhioui & Dini 1997; McNay 2002; Singh 2005; Stenmark 2003). According to Boutaba, Guemhioui & Dini (1997), the Intranet

> "..is a network connecting a set of affiliated computers and devices using Internet protocols, such as Transmission Control Protocol/Internet Protocol (TCP/IP) and Hypertext Transport Protocol (HTTP), and technology (e.g., the web, newsgroups, e-mail)" Pg.92.

Functionally, according to Newell, Scarbrough & Swan (2001) Intranet typically feature handling of multiple business functions with richness in context and accessible throughout a distributive organisational environment. Alternatively, White (2000) is of the opinion that the Intranet implementation varies in its content nature and functional use from organisation to organisation. However literature survey indicates that the most common applications that are delivered via Intranets are web-based discussion forum (Ruppel & Harrington 2001), online polls or survey (Curry & Stancich 2000), company documents (Hawking, Foster & Stein 2004; Singh 2005), policy and procedure manuals (Lai 2001), employee phone directory and organisational charts (Singh 2005). In addition, some organisations have resourceful ways of delivering a variety of other Intranet application services such as online bookstore, departmental store products, discounted coupons and travel opportunities (Huang, Jin & Yang 2004). These B2E

services are part of employee benefit system delivered through Intranets to employees which is available remotely as well to avoid any distractions involved in employee work time (Huang, Jin & Yang 2004).

In B2E, browser technologies such as Intranet and Internet are used to place company information online. As a result it shifts organisation's information resource to applications that are web-based and are developing to more complex organisational transactions (Hawking, Foster & Stein 2004). Conversely, Ash & Burn (2002) perceive B2E model to make use of Intranet resources to allow sharing of information to facilitate employee networking for e-business.

In such milieu, White (2000) highlights trends in Intranet implementations to include:

- Understanding of the technology maintenance requirements and allocation of resources or employees to fulfil this organisational need;
- Issues in regards to content management, eg: pull-push effect in fulfilling requisites for content adding to internal web pages;
- Technology flexibility for its upgrading readiness;
- Data and information incompatibility with browser technologies;
- Data and system integration across unit level and global level; and
- With the rise of newer applications to support and manage employee benefits, projects and collaborations.

It is thus noted that the Intranet is an important technology supporting B2E functions. In B2E e-business model Intranets support workflow and intra-organisational communication (Clarke & Preece 2005; Newell, Scarbrough & Swan 2001), knowledge management practices (Newell, Scarbrough & Swan 2001), document management process, data management and distributed processing, business and communication process (Lai 2001). Thus, Intranet as a medium for B2E to support many organisational functions or process in organisations leading to benefits in information sharing (Newell, Scarbrough & Swan 2001), cost effectiveness from its distributed computing strategy (Lai 2001), and empowering employees (Lai 2001) which are important functions of B2E. However, delivery of B2E applications by organisations does not cease with Intranets, it is combined with other technologies for the delivery of employee services and organisational management.

2.3.2 B2E via Portal technology

Organisations are also adopting portal type technology to deliver B2E services to their employees (Baldwin-Evans 2006; Tojib, Sugianto & Rahim 2005; White 2000). According to Singh (2005), Intranets are combined with portals for B2E communication, interaction, and access to internal information. White (2000) views corporate portals as the 'next generation Intranet technology' used by organisations to deliver electronic services to their employees.

Portals provide a single point of access to information (Benbya, Passiante & Belbaly 2004; Singh 2005), and lead users to a variety of services. Portals are doorways through which one can access news and information, and exchange information in the vast digital world (Chiou & Shen 2006). It is also a tool used to navigate the web. Chiou & Shen (2006) argue that portal services are important for achieving efficiencies from e-business. It integrates applications and technologies used in an organisation to bring together business processes within an organisation (Benbya, Passiante & Belbaly 2004). Due to its complex nature, some refer to it as intelligent business systems or corporate business systems (Ferguson 2000). Portals can be of many types serving different purposes. For example medical and health related portals (Gibson-MacDonald 2005), library portals (Johnson 2001), science portals (McKiernan 2005), hospitality e-learning portals (Baldwin-Evans 2006), and corporate portals. However, the scope of this study is on portals associated with B2E e-business in its entirety or partially.

The services incorporated into B2E e-business related portals include collaboration (Rahim, Sugianto & Shameem 2005; Weekes & Beagrie 2002), communication (Lissak & Bailey 2002), business intelligence applications (White 2000), shared knowledge base (Benbya, Passiante & Belbaly 2004; Malhotra 2000; Stenmark 2003; Trethewey & Corman 2001), electronic access to policies and organisational directories (Singh 2005), online training for employees (Baldwin-Evans 2006) and online internal news delivery (Kotorov & Hsu 2001).

Rahim, Sugianto & Shameem (2005) view B2E portal as internal process modifier which can act as a centralised communication channel for staff information and messages.

"B2E portals represent customised, personalised, ever changing mix of news, resources, applications, and e-commerce options that become desktop destination for everyone in the organisation and a primary vehicle by which people do their work." (Ransdell, E as cited in (Tojib, Sugianto & Rahim 2005)) pg 711.

B2E related portals are viewed differently by different scholars throughout the literature (Baldwin-Evans 2006; Kotorov & Hsu 2001; White 2000). According to White (2000) a corporate portal enables collaboration, business intelligence applications, enterprise information and enterprise resource planning (ERP). It is also sometimes referred to as Enterprise Information portal (EIP) (White 2000). Baldwin-Evans (2006) suggests that portals enhance organisational learning with a centralised resource service for employees in multiple functional areas such as HR, finance, operations and business development. Kotorov & Hsu (2001) discuss enterprise portal as 'newsstand' where it delivers related news to employees about the industry, competitors and financial reports that are relevant and 'tailored' to employee's work. In addition, Kotorov & Hsu (2001) discuss enterprise portal management as a newspaper where employees are the information collectors, processes and presenters.

Corporate portals in relation to employees according to White (2000) are:

- communication via email, communication of information and knowledge, and remote communications between employees enabling mobility;
- collaboration and virtual management of projects and allowing sharing of expertise among internal staff for external business operations;
- customisation of internal website for incorporating timely updates;
- content that addresses departmental issues made available through one medium; and
- support information richness and search speed for relevant information.

Similarly, Kotorov & Hsu (2001) emphasise that B2E related portal technologies make use of artificial agents to search and filter information that is organisational specific to also deliver through enterprise portal. As a result, Kotorov & Hsu (2001) argue that information on enterprise portal is vital for organisations.

From the above discussion it is evident that portals are important technologies in B2E as they are combined with Intranets to provide access to services and information to

employees. However, as mentioned earlier that B2E also entails organisational process, another important technology for B2E is ERP.

2.3.3 B2E via enterprise resource planning (ERP)

An enterprise resource planning (ERP) is an integrated technology that brings together many functions of an organisation together (Ash & Burn 2003). Recently many technology vendors such as Oracle, SAP, Seibel and others deliver ERP systems that include modules to support and manage organisational functions involved in manufacturing, supply chain, financials, CRM, HR, warehouse management and DSS (Hazra 2002).

Hawking, Foster & Stein (2004) suggested that companies are slowly shifting into using ERP components to deliver B2E e-business model for their employees. According to Clemmons & Simon (2001); Hawking, Stein & Foster (2004); and Shang & Seddon (2000) ERP module like SAP employee self service (ESS) carry out business processes involving extensive reporting, payroll related activities, collaborative applications and mainly human resource (HR) management. Employee Self Service (ESS) is a technology solution that facilitates access of HR data and corresponding transactions. According to Hawking, Stein & Foster (2004) ESS carry out employee services such as online payslips and leave applications; hence ESS is an important part of B2E e-business model. ESS is either part of or an adjunct to ERP systems and according to Hawking, Foster & Stein (2004), it has developed into portals which consist of several areas that handle an organisation's business transactions, information, and functions for employee agenda and email. These are important B2E services.

Portal approach for B2E allows 'one administrative framework' where by combining existing data and processes from enterprise systems new shared services facilitates self-service internal management (Turban et al. 2006b). Hence it allows organisations to implement a more streamlined and centralised back office. In this manner, Rao (2005) also advocates that B2E relationships between organisation and its employees are important for effective management of customers.

As a result of the importance of ERP employee modules, one of the main notions that have arisen with an emphasis on managing employees is Employee Relationship

Management (ERM). Hawking & Stein (2004) observe the overlap of Employee Relationship Management (ERM) and B2E whereby Employee Relationship Management (ERM) entails information delivery, process execution and collaborations in organisation. According to Hammerman (2002), ERM aim to provides "multiple value propositions, consistent portal GUIs, all employees 24/7, real-time dynamic information delivery and a collaborative work environment" which is believed to empower the employees. ERM is a concept and not a technology; it is discussed to show that the author reviewed ERM in its authenticity because it addresses employee-organisational matter. However, since ERM is not studied in relation to e-business and the focus of this research is B2E e-business model, the focus of this research will only be within the scope of e-business.

The above discussion of technologies associated with B2E e-business model highlights many business functions that are aimed at delivering online services for employees. Thus it becomes evident that the organisations are delivering B2E through a mixture of these technologies or independently using a single technology. Therefore, with the aid of many technologies (i.e. Intranets, Portals and ERP employee module) several internal business functions are achieved and services are delivered electronically by organisations to their employees. Hence, the following sections explore literature further to understand these internal business functions and online services as a result of the B2E technologies and in relevance to B2E e-business model.

2.4   B2E related Business Functions or Process and Online Services

The current studies on B2E e-business model and related technologies highlight many business processes or functions and online services as a result of B2E technologies and associated applications. These areas includes information dissemination and management (Boutaba, Guemhioui & Dini 1997; Kotorov & Hsu 2001; Singh 2005), web-collaboration (Ruppel & Harrington 2001), online learning (Baldwin-Evans 2006; Ruppel & Harrington 2001), performance management (Rao 2005), workforce analytics (Kalakota & Robinson 2004), incentive and employee benefits management (Huang, Jin & Yang 2004; Kalakota & Robinson 2004), knowledge management (Singh 2005; Weekes & Beagrie 2002), and employee self-service (Clemmons & Simon 2001; Hawking, Stein & Foster 2004; Rahim 2006; Shang & Seddon 2000).

Information management in relation to B2E entails handling real-time data, timely dissemination of internal information and content services (Singh 2005). Boutaba, Guemhioui & Dini (1997) draw attention to information dissemination in an organisation through a variety of Intranet applications; which nurture innovative ways for employee interaction, eliminate manual time and cost consuming activities and disseminate information throughout the organisation. It further advocates that these qualities make Intranet as an important enterprise resource that is vital to business by acting as a strong internal infrastructure (Becker & Gerhart 1996; Boutaba, Guemhioui & Dini 1997). According to Kotorov & Hsu (2001), enterprise portal technology also adds value to an organisation by enabling mobility of internal information and knowledge within an organisation. Moreover, employee personalised pages are integrated with corporate portals for delivering electronic news services (White 2000) enhancing internal information management.

Web-collaboration allows employees to work in teams with web-enabled collaborative tools and process. It deals with a common view of information to all employees (Singh 2005). Ruppel & Harrington (2001) advocate that discussion groups, workflow and document management are collaborative applications supported by the Intranet, that facilitates interdepartmental collaborations.

Baldwin-Evans (2006) acknowledges that, in order to achieve constant employee learning organisations use of online learning portal directs the employees towards work-related learning. As such B2E related e-learning application on the Intranet is identified as cost-effective for flexible learning that complements and reinforces classroom-type learning. It is viewed as an important part of learning and development within an organisation (Baldwin-Evans 2006). Similarly, Turban et al (2006b) is of the opinion that e-learning applications to not only train employees but also help organisations to retain their skilled employees. From knowledge sharing and learning perspective of an organisation, Ruppel & Harrington (2001) acknowledge the value adding and competitive advantages capabilities through employee learning and development facilitation of the Intranet. They highlight that Intranet develops tacit knowledge which is key for employee learning within an organisation as well as responsible for building organisation's intellectual capital. Thus inputting organisation efforts into Intranet investments can increase shared knowledge of the employees and effectiveness from

Intranet technology (Ruppel & Harrington 2001). Further, it is also highlighted that knowledge management application allows capturing of employee knowledge and expertise to share within the organisation (Weekes & Beagrie 2002). Moreover, tacit or explicit knowledge sharing in an organisation is considered to be an effective usage of the Intranet (Ruppel & Harrington 2001). Ruppel & Harrington (2001) view intranet as an enabler of organisational knowledge for employees. They suggest that less knowledge sharing in an organisation can have negative effect on their employees' development and empowerment which in turn can cost organisations to lose out on their 'intellectual capital'.

B2E e-business model is also capable of carrying out performance management which may allow employees to align more towards their tasks and goals helping them to improve work performance (Rao 2005). According to Kalakota & Robinson (2004), workforce analytics is facilitated through online HR applications in the B2E model. Workforce analytic application deals with organisational trends in workforce which are analysed by putting more emphasis on employees performance (Kalakota & Robinson 2004).

Employee incentive and benefits are managed via Intranet application services with online bookstore, departmental store products, discounted coupons and travel opportunities (Huang, Jin & Yang 2004). According to Huang, Jin & Yang (2004), fulfilling various interests among employees in one organisation causes employee benefits programs to be a time consuming process. However, with B2E multiple employee interests are gathered and delivered through a variety of services via the Intranet for the employees.

Employee self-service is an internet-based solution that provides employees with a browser interface for relevant HR data and transactions (Hawking, Foster & Stein 2004). It help organisations with the management of employee HR functions with real-time access to their data, updating of personal details, applying for leave, viewing their pay details, associated benefits, internal job vacancies, training and travel (Rahim, Sugianto & Shameem 2005; Singh 2005). Some of these functions also support dispersed workforce in different geographic locations. Additionally Ash & Burn (2002) also indicate that HR functions are achieved via Intranet or ESS by enabling employees

to access and update their personal data. Moreover, (Hawking, Foster & Stein 2004; Tojib, Sugianto & Rahim 2005) emphasise that B2E streamline HR administrative and business processes through ESS. Hawking, Foster & Stein (2004) also indicate that streamlining business functions can empower employees and improves data integrity.

Accordingly, with B2E, organisations are adding value to employee benefits (Huang, Jin & Yang 2004) by improving their work performance by saving employee work time searching for work related procurement materials. Moreover employee perception of organisation ensuring their well-being is also argued to improve their commitment to organisation which can promote company performance (Bharadwaj 2000). Hence B2E is seen to improve organisational performance and to add value to the organisation.

The above discussion of organisational functions and online services indicate that the organisations as well as their employees are achieving benefits from B2E e-business model. Hence the following section will survey the outcomes, including the benefits of this e-business model.

2.5   Outcomes of B2E model and related organisational functions

The above discussions indicate anecdotal evidences highlighting that B2E e-business model is benefiting the organisation by addressing many business process or functions. The studies highlight some of the benefits of B2E technology implementations in organisations (Boutaba, Guemhioui & Dini 1997; Lai 2001; Ruppel & Harrington 2001).

Employee benefits
Better information access: White (2000) advocates that corporate portals are capable of 'total information management for an organisation'. Weekes & Beagrie (2002) and Kotorov & Hsu (2001) highlighted facilitation of information and knowledge leads to greater organisational knowledge transfer and creation of new knowledge in organisations via the B2E e-business model. Thus it can be noted that B2E provides better access to information for employees.
Enhanced learning: e-learning applications enhance employee learning for professional development and provide learning flexibility (24/7 real-time) for employees; while creating a learning culture as an integral part of employee work lifestyle (Baldwin-

Evans 2006). Huang, Jin & Yang (2004) and Baldwin-Evans (2006) acknowledge that B2E lead organisations retain its workforce and aided in maintaining employee loyalty due to professional development benefits the employment. As a result, it is noted that B2E impacted not only organisations but also its employees.

Employee empowerment: According to McDowall (2002), organisations addressing the B2E niche are providing innovative services to employees and hence constructing a workforce which can eventually benefit the organisation itself. Furthermore, employees are empowered due to improved accessibility of organisational procedures and greater knowledge availability for performing their daily tasks (Hawking, Foster & Stein 2004).

Collaboration: delivering collaborative work tools and information enables employee networking and at the same time bring about innovative ideas among employees (McDowall 2002). It can also lead to improved team work among business units.

Thus it is evident that B2E model benefits employees with better access to work and organisation related information, enhanced learning opportunities, empowerment, teamwork and collaboration.

Organisational benefits

Process efficiency: achieved for organisation from data integrity. McDowall (2002) is of the opinion that some of the B2E benefits provide favourable convenience for organisation with data integrity and measurable testing with employee feedback for improved services. It is further emphasised by (Hawking, Foster & Stein 2004; Tojib, Sugianto & Rahim 2005) that organisations improved data integrity by allowing employees keeping their own information updated. As a result organisations are able to reduce processing efforts and cost involved with the payroll function, online leave processing and training approvals (Hawking, Foster & Stein 2004) in less time (Tojib, Sugianto & Rahim 2005) all due to the B2E model. This is described by Hawking, Foster & Stein (2004) as 'simplifying of HR processes' which include administrative tasks, payroll based transactions, training and recruitment activities as well as management, leading to efficiencies in business processes. Hence, Hawking, Foster & Stein (2004) argue that organisational benefits from B2E model are cost savings with information dissemination, and reduction in HR administrative costs. Moreover, according to Huang, Jin & Yang (2004) B2E model allows organisations in expansion of sales to a newer channel such as sales conducted with their business partner's

employees with major discounts on products and services than outside purchases. As a result organisations can acquire a large number of professional customers. McDowall (2002) explains further, that B2E systems can make use of the individual employee contribution to the organisation leading to over all enhancements in organisational productivity.

Increased employee morale and commitment: Ruppel & Harrington (2001) elaborate on the seamless and transparent manner in which Intranets provide employees with exposure to information and channels for communication within an organisation lead to enhanced employee participation in decision making, and raise employee commitment to the organisation. Moreover, Ash and Burn (2002) also note that employee appreciation is an important factor for B2E success or 'maximising the benefits'. In addition, Huang, Jin & Yang (2004) emphasise that organisations which can manage employee benefits also derive favourable outcomes which in turn retain employee commitment encouraging citizenship behaviour within the employees towards its organisation. In addition, employee appreciation of greater learning opportunities at work can perhaps increase their commitment to the organisation (Baldwin-Evans 2006; Huang, Jin & Yang 2004). The B2E model becomes important in meeting particular employees learning needs while addressing a variety of organisational needs (Baldwin-Evans 2006). In a similar context, this is also supported by Huang, Jin & Yang (2004) where B2E benefit system meet specialised needs of employees, for example, procuring a work-related expert book for use in relation to their work role. Thus it is evident that B2E e-business model enhances company-employee relations (Baldwin-Evans 2006) as it improves the level of organisational service to employees (Hawking, Foster & Stein 2004).

Organisational performance: Ruppel & Harrington (2001) posit that many of the Intranet applications are benefiting organisational performance because they create a developmental work culture enabling employee motivation and organisational awareness which provides room for teamwork in an organisation. Baldwin-Evans (2006) argues that a cost-effective way to generate a broad level of skill set within employees can also be achieved from online training. Hence, B2E technology such as the Intranet is aiding organisations to be cost-effective and empowering because it

changes the way employees work, enhances organisational learning and information processing (Boutaba, Guemhioui & Dini 1997).

Hawking, Stein & Foster (2004) note benefits with employee support services (ESS) to be real-time access to employee data which allows updating of personal information, applying for leave and viewing pay details. Similarly, (Rahim, Sugianto & Shameem 2005; Singh 2005) identify employees managing online arrangements of work related training and travel. Tojib, Sugianto & Rahim (2005) perceive information contained in B2E to be beneficial due to its accuracy and timeliness. This literature review also highlights benefits such as reduction of processing time, organisational bureaucracies and productivity and morale enhancement in employees.

Hence, organisations are achieving benefits with B2E model such as improved efficiency in business functions or processes, cost savings, improved employee teamwork and productivity, improved employee morale and commitment and improved overall organisational performance.

Therefore from the review of literature discussed above it is evident that B2E is based on a number of specific technologies, impacting organisational processes and achieving favourable outcomes as illustrated in figure 1.

B2E Technologies
- Intranet and its (online) applications
- Portal
- ERP (ESS)
- Collaboration tools (discussion forums)
- Knowledge management (knowledge base)
- Other intelligent technologies

B2E Processes & Services
- Information dissemination & management
- Web collaboration
- Online training
- Workforce analytics or performance management
- Incentive & employee benefits management
- Knowledge sharing & management
- Employee self-service

B2E Outcomes
- Better information access
- Enhanced learning
- Employee empowerment
- Satisfaction
- Collaboration
- Teamwork
- Cost saving
- Process efficiency
- Increased productivity
- Increased employee morale & commitment
- Organisational performance

Figure 1: Preliminary framework developed from literature survey

2.5.1 Problems with B2E model

The B2E outcomes noted in the earlier presented literature are based on B2E related technologies and corresponding functions collectively.

Similar to other new technologies and models, the B2E e-business model implementation is faced with a number of problems and barriers discussed in this section. Other issues highlighted by the literature are aspects of B2E technology such as evaluation of B2E implementation in terms of Return on Investment (ROI), security and more importantly managing content on the Intranet (Lai 2001; Ruppel & Harrington 2001). White (2000) points out that there is a lack of proper measurement techniques available for portal (enterprise information portal - EIP) implementations. Boutaba, Guemhioui & Dini (1997) raise some of the challenges abiding Intranet management from a technical networking point of view. Accordingly, Boutaba, Guemhioui & Dini (1997), Curry & Stancich (2000), and Ruppel & Harrington (2001) highlight the need for important management elements required for Intranet management. They include management of content, security and organisational policies and procedures.

McDowall (2002) identifies three major issues with B2E systems: 'confidentiality, change in personal environment and security and innovations issues. With confidentiality in regards to employees, the study raises concerns on employees fear of their confidentiality concerning their feelings about the organisation. In addition, employees also are concerned for their personal competencies (for example from web analytics application) to be brought out via B2E systems as part of its researching and online recording capabilities. Moreover, employees can easily feel that the system is a threat for job losses. Likewise Kotorov & Hsu (2001) raise an information problem due to the availability of private information as public information through enterprise portals.

In addition, gaining employee confidence at the initial introduction of B2E systems is a vital issue for organisations to consider. McDowall (2002) suggests that employees should be able to relate to B2E as an enabler to be creative at work and not a challenge of their abilities. Thus, the scholar believes this to be an issue in relation to security and innovation of B2E systems. According to Ruppel & Harrington (2001) resistance from

employees in addition to technology acceptance of the Intranet can reflect in the organisation's 'knowledge-sharing' settings. McDowall (2002) also argues that there is also an issue of changes in work environments such as self personalisation of services which can result in reduced personal interactions between employees negatively impacting the organisation. Similarly, there were issues highlighted changes in organisational culture for effective Intranet usage to be part of daily work (White 2000) as well as paperless information (Hawking, Foster & Stein 2004) indicates issues with paperless pay information.

Support cost and expansion cost for the technology are important issues with B2E technology implementation. Kotorov & Hsu (2001) argue that there exist implementation aspects that add unpredicted costs to the portal technology which can affect quality of final organisational output. Thus cost management thus can present problems with B2E technology implementations.

White (2000) raises several issues regarding Intranet deployment as well as customisation and integration issues. This is further emphasised by Hawking, Foster & Stein (2004) about implementation problems with respect to change management. Effective integration is an important factor with corporate portal implementations (White 2000). Thus, White (2000) advocates the issues with Intranet applications also tend to occur in portal development and adoption in organisations. Hence it can be anticipated that B2E technology implementation faces problems in content and cost management, and issues with changes in work culture. From the above literature review its is evident that important problems with B2E implementation are cost for support and expansion (Kotorov & Hsu 2001), evaluation (Lai 2001; White 2000), content dissemination (Curry & Stancich 2000; Ruppel & Harrington 2001); employee concerns (McDowall 2002), technology deployment and change management (Hawking, Foster & Stein 2004; White 2000).

2.6   Differences and similarities with other e-business models

Important e-business models are Business-to-Business (B2B) and Business-to-Customer (B2C) models apart from B2E. In B2B and B2C e-business models, business transactions are coordinated with business partners and customers respectively through

the internet and corresponding IS applications or systems (Papathanassiou, Arkoumani & Kardaras 2003).

Business-to-Business (B2B) e-business model deals with facilitation of buying and selling of goods between business partners, suppliers and vendors. Internet EDI and e-procurement applications of B2B lead to efficiencies in company's processes and operations (Subramaniam & Shaw 2002). For example, firms can achieve a number of operational performances benefits through B2B such as reduced paper work, clerical costs, inventory and order lead-cycle time, improved quality of business partner service (Mukhopadhyay & Kekre 2002). Organisations can also benefit in terms of market performance by having their partner organisations collaborating and transacting a greater share of their business with EDI linkages (Ramamurthy, Premkumar & Crum 1999). B2B transactions are generally via extranets and Internet (Turban et al. 2006a). According to Papathanassiou, Arkoumani & Kardaras (2003) connections and communications between organisations through EDI, and private networks provide opportunity for companies to collaborate. Kalakota and Whinston (1997) refers this to as integrated or extended supply chain. Moreover, there exist electronic hubs also known as electronic marketplaces (e-markets) which are setup to facilitate procurement transactions among various business partners (Standing & Stockdale 2001). Participation in e-markets leads to many positive outcomes for organisations. Standing and Stockdale (2001) identify these benefits as to enhance awareness on the information needed, in producing effective business decisions and organisational communications. Many scholars also highlight the reductions in cost pertaining to transactions and company operations (Ramamurthy, Premkumar & Crum 1999; Standing & Stockdale 2001). Quayle (2003) elaborated on these benefits to be of cost saving from reduced paper transactions; shorter order cycle time and subsequent inventory reduction, speedy transmission of purchase order related information and enhanced opportunities for the supplier/buyer. In addition, Standing & Stockdale (2001) highlight time savings, process efficiencies, inventory management and overall productivity gains. Therefore, B2B e-business seems to create value for organisations in various aspects of business to business transactions and exchanges.

On the other hand, Business-to-Customer (B2C) e-business model achieves end customer business through the online storefront a commonly studied sample for this

type of model is Amazon.com. In B2C e-business model, customers carry out product search, comparison and payment transactions (Turban et al. 2006a). According to Riggins (1999), cost-effectively implemented web-based storefronts achieves effective usage with the aid of real-time communications. B2C e-business has offered great deal of benefits to organisation resulting from reduced cost and reduced time. According to Bughin and Zeisser (2001), various B2C models such as service providers (AOL) and transaction sites (Amazon) serve their customers through interactivity and fulfilling customer needs. Another example is the Wall Street journal website which provides its customers with real-time updates of stock quotes, mutual funds and interest rate (Riggins 1999). Moreover, Papathanassiou, Arkoumani & Kardaras (2003) emphasise that organisational environment is mirrored through its ability to satisfy customers. One of the important aspects of e-business adoption is to fulfil customer needs and essentially keeping the customers satisfied. As a result organisations adopting B2C e-business model are deriving many benefits via online delivery of business services and by selling retail goods directly to consumers in a wider geographic area.

Hence, similar to B2B and B2C e-business model, the outcomes of B2E e-business model also derive value for the organisation. However, B2E e-business model is different from the other e-business models in that it uses a private network, the Intranet for delivering the services. Likewise the applications provided on the Intranet are only available to its targeted users who are employees of the organisation. It also differs due to its composed implementation approach since the model is applied for the internal management of the organisation.

2.7   Development of B2E research framework

The anecdotal evidence shows that B2E e-business model impact organisation similar to B2B and B2C. The impacts of organisational management through B2E technologies can be understood by looking at how they affect organisational processes versus the effect on external entities such as customers.

When summing up the literature evidence it can be concluded that, technologies such as Intranet, portal and ERP enable B2E in organisations. These technologies notably impact organisation functions by improving its business processes related to information dissemination, knowledge management and human resource. As a result when there is

transferring of knowledge across tasks and business units, and increased collaboration among organisation structure and hierarchy levels, it is providing transparency within the organisation. It can facilitate interactive work between business units that might as well result in linking of employees with the business objectives. In addition, by keeping the employees informed with real-time business information it enables them cope with complex and changing business environments. Organisational specific business knowledge allows employees to have a holistic view about the organisation, their business partners, customers and its various units. Thus the transparency, real-time information dissemination, improved collaboration and communications that are existent with other e-business models also seem to exist in the B2E e-business model.

Although literature highlights several positive impact of B2E in organisations, to date there is no formal evaluation of B2E in terms of employees as an important resource in organisations and organisational improvements achieved from B2E e-business model. Because of the lack of research on B2E model and especially with respect to organisational effectiveness, it becomes vital to understand if organisational effectiveness is achieved from this e-business model. Hence, the next section discusses the theoretical foundation for a rigorous inquiry to understand effectiveness achieved from this framework.

2.8   Theoretical understanding of the research framework

The study ventured upon business, technical and management theories to seek explanation and understanding of B2E realm and effectiveness. Hence it reviewed two theories: resource based theory (Resource Based View – RBV) and Competing Value Framework to understand organisational effectiveness achieved from the B2E model.

Resource based view (RBV)

Resource base theory is known for its competitive advantages nature through resource optimization according to (Kotzab, Skjoldager & Vinum 2003). Bharadwaj (2000) views information technology as an organisation resource and is associated with organisational performance. Hence, the optimization of the technology resource can be effective for organisations. Since Intranet occurs to be the main web technology used for conducting B2E, as such it may be seen as a resource. However, since portal and

ERP also influence B2E e-business, it is only feasible to view B2E technologies as resource.

According to Barney (1991) firm resources in RBV are

> "..all assets, capabilities, organisational process, firm attributes, information, knowledge etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" p.101.

With this approach the role of organisational resources are examined through this theory. The focus of the theory is on firm's internal characteristics (scope) and long-term corporate performance (McGuinness & Morgan 2000). As described by Barney (1991) the resources are classified into:

(1) Physical capital resources: technology, equipment, locations, and raw material access;

(2) Human capital resources: training, experience, judgement, intelligence, relationships insights of managers and non-managerial workers; and

(3) Organisational capital resources: management structure, planning, control, and coordination within organisational environment.

In this manner, if B2E technology is viewed as an organisational resource; then it will have effects on an organisation's assets, capabilities, process, information and knowledge. It is feasible to understand the values identified in the earlier presented B2E research framework through the shades of RBV. In this case, technologies, processes and services of B2E can be viewed as resources because Barney (1991) suggests that resources must enable the creation of value (B2E outcomes). Further, it is emphasised that this notion leads to some value that is essentially providing organisations with a competitive advantage. Thus it can be argued that RBV of B2E e-business can lead to organisational performances and more specifically provide competitive advantage for the organisation.

The values as a result of these resources are the pointers indicating organisational performance. Moreover, it accomplishes internal analysis of the firm by finding optimal boundary so that the value of the resource is realized (Das & Teng 2000). This attribute makes RBV to occur in slight similarity to the organisational effectiveness, in essence making it possible to evaluate B2E generated values. According to Das & Teng (2000),

RBV maximizes value of organisation through 'pooling and utilizing valuable resources' to create competitive advantage.

Even though the focus of RBV is within firms internal characteristic (McGuinness & Morgan 2000) and resulting generated values (Das & Teng 2000); the major final goal of RBV is within the premises of achieving competitiveness and associated advantages for the firm as well as realising this from a longer period of corporate performance (McGuinness & Morgan 2000).

This study involves a least researched area (B2E e-business model) which lacks any sort of performance measurements or evaluation. Moreover, literature itself reveals that organisations with B2E are using various technologies and applications. There is no general guideline to understand optimisation of resources involved in B2E, such as its technology. This makes it difficult to apply RBV for achieving the basic understanding of organisational effectiveness derived from the B2E model. Hence, the scope of this study leads to the elimination of RBV theory being used as the basis for understanding organisational effectiveness, rather RBV is used to identify organisational parameters to be evaluated in the research framework.

2.8.1 Competing Values Framework - Organisational Effectiveness and its constructs

The Competing Value Framework (CVF) was originally developed by Quinn & Rohrbaugh (1983) for understanding organisational effectiveness (OE). The literature observations from earlier studies on organisational effectiveness bring about several meaningful views by scholars (Federman 2006; Quinn & Rohrbaugh 1983; Redshaw 2001; Robbins & Barnwell 1998). Organisational effectiveness (OE) is conceptualised in terms of understanding an organisation as a "measure of worthiness" for taking part in "society's resources" (Campbell 1977; Federman 2006; Goodman & Pennings 1977) as a tradition to assess the organisational performance. Hannan & Freeman (1977) describe OE more simply as the nature of the organisation. However, Federman (2006) elaborate it further that OE refers to organisation's ability to assess resources and achieve objectives. Federman (2006) believes that such assessments can reflect, "..effects created in the complex environment within which the organisation exists and interacts, the organisation can reconceive its theories of action by balancing four

primary competing values -focus, structure, outcomes, and orientation". It is imperative to presuppose that CVF will aid in assessing B2E components as specified in the research framework better that RBV. This is also because, Goodman & Pennings (1977) agree upon four competing values notion and indicate effectiveness determinants (from those achieved outcomes-values) through internal and external constituency ruled actors.

This current study relies upon the organisation effectiveness studies in order to understand the effectiveness achieved from the B2E e-business model. It can be viewed that the OE studies generally suggest that effectiveness is indicated by mainly four value criteria and its subsequent indicators. Quinn & Cameron (1983) acknowledge that the four effectiveness criteria (CVF) such as organisational goal setting and goal attainment, acquiring outputs from resources, organisational response to demands, better functioning of organisational process and performance, are important for achieving organisational effectiveness. According to these scholars, the Competing Values Framework (CVF) view organisation as a whole and is made up of *internal* and *external* components of a closed containment; where the internal component is about regulating the internal aspects and competitiveness respectively for the organisation. Redshaw (2001) employs this framework and uses the measures behind CVF to assess organisational effectiveness. The study suggests that organisational results can be influenced by several factors such as activities in an organisation, internal conflicts and 'resistance to change'. But despite of these factors, Redshaw (2001) suggests that effectiveness can be better evaluated if the components or entities are broken down into 'workable fields'. According to Redshaw (2001), if the business process or functions that will bring about improvements in the organisation are identified, then the indicators for success (as identified by managers) can be linked to the objectives for the business functions. The broken down workable fields suggested by Redshaw (2001) are increasing resourcefulness and improving internal processes (internally), and achieving goals and satisfying clients (externally).

From an *internal* perspective, to identify effectiveness, comparisons among previous organisational performances or other organisations can indicate outputs acquired. From those comparisons if organisations are increasing their expertise and employee flexibility, productivity and broadening of market base then they are in effect acquiring

outputs from the resources (Redshaw 2001). Internally, indicators of organisational effectiveness also implies that improving internal processes based on hard data such as labour turnover, motivation and teamwork brings better functioning of internal process which is associated with organisation's process.

In the internal component, the focus of the organisation is on the development of human capital in terms of training, teamwork and keenness to the organisation. It also deals with the importance of organisation's ability to manage information, and having stability and control over internal process (Quinn & Rohrbaugh 1983). The scholars note that OE, "... commend an orderly work situation with sufficient coordination and distribution of information to provide organisational participants with a psychological sense of continuity and security" p.371 (Quinn & Rohrbaugh 1983). As suggested by the literature, the above indicators or criteria are meant to provide internal focus to understanding organisation's effectiveness. Further, Redshaw (2001) emphasises that organisations achieve effectiveness if it has a lower level of internal strain in its processes. With CVF, the measurement and evaluation of OE is often subjective based on people's reflections and opinions (Quinn & Rohrbaugh 1983). Thus, set of the OE values for understanding effectiveness of internal organisational entities are availability of information, stability, cohesive workforce and a skilled workforce (Robbins & Barnwell 1998).

Alternatively, there is also an *external* perspective for CVF. In the external component, organisation is a system that is open and is steered towards its adaptation to changing environments and leading to its greater growth (Quinn & Rohrbaugh 1983; Redshaw 2001). Externally, the framework identifies a strong organisational emphasis to be its outputs (organisational achievements) such as achieving productivity, efficiency and maximise benefits (Redshaw 2001). Moreover, the external component requires organisations to have clearly defined processes, goals and planning to be able to realise its effectiveness. According to Redshaw (2001), this means that an organisation has broadened its market base, increased production capacity, improved production economy and increased ability to respond to changes. Further analysis by Redshaw (2001) elaborate the criteria in which their indicators are defined. From an *external* perspective, it suggests that achieving goals focus on the extent to which organisational targets or goals are met through indicators such as generated profit, quality

improvement and sales achieved for the organisation. It also deals with satisfying customers, suppliers, or other regulating bodies like stakeholders by leveraging the accuracy of customer orders, on-time deliveries, reiterating business and managing customer complaints also indicate effectiveness (Redshaw 2001). Robbins & Barnwell (1998) comprise the externally affecting indicators to be flexibility, acquisition of resources, productivity and efficiency, and planning.

Overall OE evaluation is determined on the basis of sub-organisational level or functional level (Redshaw 2001) and on subjective reflections on organisational subjects (Quinn & Rohrbaugh 1983). In addition Redshaw (2001) indicates that effective measures for organisations also include task re-design, business re-engineering and building a strong internal structure. There are also other OE studies which have relative understanding of OE and support notions similar to CVF (Fink 2006; Wang 2005) for technological innovations. However they categorise these notions as strategies involving people, system and organisation. The current research uses the eight criteria highlighted in figure 2 as its basis for making competing values operative for OE evaluation.
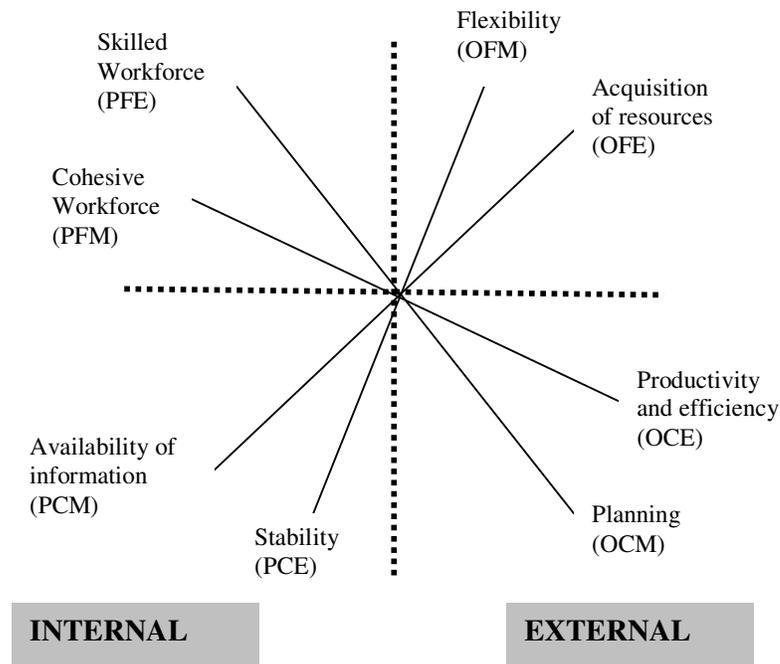
Figure 2: Adapted from (Quinn & Rohrbaugh 1983; Robbins & Barnwell 1998)

According to Cameron (1986), Quinn & Cameron (1983), Quinn & Rohrbaugh (1983) and Redshaw (2001), organisational changes resulting in improvement is one among

many of the criteria that are associated with indicators for organisational effectiveness. By providing a variety of support services for employees and electronically managing various units of the organisation through B2E applications, it appears that organisations are generating some value from B2E e-business. As a result, competing values framework is a suitable theory to understand the underlying possible relation between B2E generated value causing organisational improvements which lead to organisational effectiveness. Therefore, a brief review of key indicators of organisational effectiveness and B2E e-business model generated values are presented in the following section.

2.9   Adapted research framework – B2E value and organisational effectiveness

In the B2E context, according to Baldwin-Evans (2006), employee training is accomplished through online learning and this type of corporate learning is cost-effective for the organisation. Online learning is easily delivered via the B2E model. Further cost savings from B2E can be achieved from organisations providing information on the Intranet. This helps organisations to significantly reduce the cost of printing, photocopying and distributing. Storing and updating information does not require much effort or costs (Singh 2005).

Literature highlights that employee self service (ESS) application provides corporate information tailored to the needs of employees (Benbya, Passiante & Belbaly 2004). Thus it offers freedom to employees by providing them access to manage their personal and career related information (Payton 2003) hence achieving *information management*. It is therefore an integrated environment to access and manage online resources (Rahim, Sugianto & Shameem 2005) *creating stability and control of internal functions* as it supports employee-centric processes (Kalakota & Robinson 2004) and provides employee support system (Singh 2005) creating *flexibility* for employees. According to Farhoomand & Lovelock (2001) as cited in Singh (2005)), time saved from searching relevant information enables employees to spend that time on other activities enhancing *productivity*. Trethewey & Corman (2001) propose that knowledge management in the organisation derive improved and *quality information delivery*. B2E knowledge management application also creates common organisational knowledge for all employees (Stenmark 2003). Moreover, Paust (2005) emphasises that building electronic work culture will foster creativity in organisation and can affect employee knowledge on the enterprise business fostering *expertise.*

Delivery of timely and accurate information to make better work-related forecasts improves strategic directions of organisations (Tojib, Sugianto & Rahim 2005). Information management application can handle real-time data, timely dissemination of internal information and content services. Thus, employees are able to make informed decisions with up-to-date information and are able to make better *responses to demands* (Singh 2005) creating flexibility. B2E applications enhances internal electronic communications (Tojib, Sugianto & Rahim 2005). It enhances intra-organisational interactions (BCG 2002) and brings together departments (Bland 2004). As such, it encourages interaction among employees through collaboration leading to *teamwork* and to some extent reduces organisational hierarchies (Singh 2005). Stellin (2001) emphasis that *internal operations are transformed* by allowing employees to decide on their job benefits, ordering supplies, taking classes, track projects and many other tasks. Time and labour intensive business processes such as administrative paper work are also integrated through B2E (Singh 2005). These include online grant approval, travel reimbursements, online payslips. Rahim, Sugianto & Shameem (2005) and Singh (2005) identified the *streamlining of business processes* achieved from B2E applications in the university environment. Moreover, Lissak & Bailey (2002) envisage that operational efficiency can also be achieved through the streamlined process and cross-functional integration.

Hence B2E generated values can affect effectiveness and bring about improvements in an organisation. Therefore, for the purpose of this research, the Business-to-employee (B2E) is viewed as a paradigm that is composed of Intranet and portal technology applications, and managerial practices that employers use to provide electronic services to employees leading to organisational effectiveness. As a result, the focus of this research is depicted in the following research framework (in figure 3) indicating the B2E factors that can lead to organisational effectiveness.

Proposition: *B2E generated values for organisational improvements are related to the indicators of organisational effectiveness.*

B2E Technologies
- Intranet and its (online) applications
- Portal
- ERP (ESS)
- Collaboration tools (discussion forums, chat)
- Knowledge management (knowledge base)
- Other intelligent technologies

B2E Processes & Services
- Information dissemination & management
- Web collaboration
- Online training
- Workforce analytics or performance management
- Incentive & employee benefits management
- Knowledge sharing & management
- Employee self-service

B2E Outcomes
- Better information access
- Enhanced learning
- Employee empowerment
- Satisfaction
- Collaboration
- Teamwork
- Cost saving
- Process efficiency
- Increased productivity
- Increased employee morale & commitment
- Organisational performance

Organisational effectiveness:
1. Internal Impacts
- Availability of information
- Stability
- Cohesive workforce
- Skilled workforce

2. External Impacts
- Flexibility
- Acquisition of resources
- Productivity and efficiency
- Planning

Figure 3: Adapted B2E research framework including OE

2.10 Summary

The research framework developed from the literature review was initiated by the question 'How do B2E benefits lead to organisational effectiveness?'. This query provoked the examination of B2E technologies, business processes that are affected and the outcomes of this model as preliminary requirements. These provided initial reflection on the basic mechanics of this e-business model. Furthermore, a research framework was developed from a thorough literature interpretation. Then RBV and CVF theories were implored for inductive reasoning in order to understand the indicators for effectiveness. From this analysis the study therefore adopted the 'Competing value framework' developed by (Quinn & Rohrbaugh 1983; Robbins & Barnwell 1998) to interpret some of the preliminary effectiveness indicators from literatures on B2E. A research framework presented in figure 3 was developed to guide thesis.

The following chapter 3 entails the methods undertaken to explore B2E e-business model and understand the outcomes and organisational effectiveness achieved from this model.

Chapter 3

METHODOLOGY

3.1   Introduction

This study is conducted using qualitative research methodology. As such this chapter commences by detailing the qualitative approaches taken to achieve the research objectives. It describes the methods involved in case selection and data collection. Finally it discusses the data analysis techniques used for carrying out the current study.

3.2   Methodology

The approaches for qualitative method are usually action research, case study(s) or ethnography. Case study however provides, "an understanding of the dynamics present within a single setting" (Eisenhardt 1989), in-depth knowledge (Hussey & Hussey 1997), and phenomenon in a defined context (Miles & Huberman 1994). It can be argued that these qualities of case study are essentially what qualify the qualitative approach to be discriminated from quantitative for the current study. Moreover, B2E e-business research realm still lacks a solid rigorous understanding of its concepts therefore overall phenomena needs to be studied in detail.

The methodologies for this research mainly follow the process of building theories from case study research to discover the B2E e-business model (Eisenhardt 1989). This inductive research process pursue the research framework developed from literature survey and presented in chapter 2 page 28 (B2E research Framework – figure 3) for its

'focus and better grounding of construct measures'. The process begins with defining priori constructs.

Priori Constructs

Priori constructs are used to help researcher avoid getting "overwhelmed by the volume of data" as well as to provide a "well defined focus to collect specific kinds of data systematically" (Eisenhardt 1989). The research proposition or the objective serves as the basis for priori specification construct in this study. As such the study focuses on:

> a) relating B2E outcomes to effectiveness criteria; and
>
> b) at the same time exploring B2E use (such as technology, application and business process) with in large organisations.

Eisenhardt (1989) emphasises that the priori focus leads the researcher to have accuracy in measure and hence the research will be empirically grounded. Moreover, Miles & Huberman (1994) also advocate the importance of priori specification of constructs in the early stages of case study based research.

Research philosophy

Research paradigms used in IS studies are varied and generally include both qualitative and quantitative approaches (Kaplan & Duchon 1988). The current study uses qualitative approach with the interpretive paradigm to explore the B2E e-business model.

Hussey & Hussey (1997) are of the opinion that interpretive is a phenomenological paradigm where 'facts of occurrence are perceived'. This qualitative approach also reflects the subjective features because of its focus on the meaning of social phenomena. According to Kaplan and Maxwell (1994), interpretive research allows the research to focus on full complexity as the situations emerge. As such the interpretive approach aims this research allowed for emerging patterns from B2E e-business to be drawn within the organisations investigated. Additionally, Klein & Myers (1999) suggest that interpretive methods used in IS research can enable the study in, "...producing an understanding of the *context* of information system, and the *process* whereby the information system influences and is influenced by the context p.69". Hence the interpretive approach is used in this study for attaining an understanding of effectiveness from B2E outcomes there by fulfilling the initial *priori* construct.

Likewise, aspects of interpretive approaches are also regarded to assess second priori construct for general "verification" of the developed research framework. This approach is expected to predict occurrences about the generalisation of findings in theory building from case study (Eisenhardt 1989); specifically in the understanding of technologies, applications and business processes supporting B2E model in large organisations. With these philosophical standpoints, this research employs the case study method.

Methods taken for case selection and data collection are presented in detail in the following section.

3.3   Methods

3.3.1   Case Selection

With the case study approach, Eisenhardt (1989) emphasises that case selection 'activity' should be targeted on 'specified population' and on a 'theoretical' basis so that it 'sharpens external validity' and is able to 'replicate or extend theory by filling conceptual categories' P.533. In order to investigate the organisational effectiveness of B2E e-business, the proposed research adopted the case study strategy as the qualitative approach. This is because, "case study is an empirical inquiry that, investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident p. 13" (Yin 2003).

Case study research was also chosen for the study of organisational effectiveness from B2E because it is appropriate for research where little is known about the phenomenon (Eisenhardt 1989). Case studies are mainly known to be used for the purposes of descriptive, illustrative, experimental, explanatory and exploratory studies (Hussey & Hussey 1997; Yin 2003). Current study is exploratory in nature because the area studied consists of a deficiency in its body of knowledge.

The choice of cases is made on 'conceptual grounds' on the basis of matching to the underlying theory. With this perspective, sampling operation that designed a case (for non-knowledge intensive organisations) is based on 'criterion' sample strategy; where all cases are congregated based on the criterion that the organisation has implemented B2E model and is large in size. According to Miles & Huberman (1994) criterion

strategy is effective for ensuring quality in findings. However, a knowledge intensive organisation was also studied as 'confirming and disconfirming case' sampling strategy to elaborate initial analysis (that is to establish organisational effectiveness), to seek exceptions and to find variations from non-knowledge intensive organisations. Moreover, "multiple case sampling adds confidence to findings" and "emerging theory is generic in predictable ways" and hence allows generalization to take place moving from one case to another (Miles & Huberman 1994) pg 29.

One of the considerations in a case study is whether to adopt a single case or multiple cases. According to Yin (2003), analytic conclusions independently arising from two cases, as with two experiments, will be more powerful than those coming from a single experiment. Likewise, (Robson 1993, in (Saunders, Lewis & Thornhill 2000) argues that a small number of related 'cases' will result in the development of detailed and intensive knowledge about the effectiveness factors that are achieved from B2E generated outcomes. Because the analysis of multiple cases is likely to be more robust than a single case (Yin 2003); this current study followed a multiple case study approach. For this research, three organisations were approached and investigated (three case studies) on the B2E e-business model.

In a multiple case study approach, there is no scientific method to determine the number of cases required, as one cannot aim for sample representativeness (Yin 1994). The targeted unit of analysis for this study are large organisations in Australia from different industry sectors. Therefore, the decision to study three organisations from different industries is purely based on operational grounds to make cross-industry comparisons. For the purpose of this research, an organisation is designated as large if it has 100 or more employees (ABS 1998). The focus was on large organisations because literature indicated that most B2E adoption is with large organisations. In addition, large businesses have more organisational and managerial complexity that makes them genuine population to be studied for B2E. It is believed that three cases are adequate for the purpose of this research.

Three organisations that participated in this study are from different industry sectors. They are a knowledge intensive educational institute consisting of approximately 3500 employees; a Victorian local government or council consisting of approximately 680

employees; and an insurance service provider consisting of approximately 16,000 employees.

The sampling strategies used in this research are 'explicit sampling frame' since it is exclusively guided by research questions and conceptual framework (Miles & Huberman 1994) such that:

- Setting: is an organisation setting;
- Sub setting: education organisation, local government organisation and insurance organisation;
- Sampling parameters of 'social phenomena' propagating to: technology, business functions and generated outcomes.

This sub-setting and phenomenal sampling parameters selection was made according to implicit modelling and relevant theory. Implicit modelling is used to provide logical coherence for understanding the data by examining its underlying parameters. According to Miles & Huberman (1994), such an extensive use of sampling technique both within and across cases "puts flesh on the bones of general constructs and their relationships p. 27".

3.3.2 Data Collection

Data collection plays a vital part in triangulation and for formulating the findings. Eisenhardt (1989) advocates that multiple modes of triangulation leads to stronger corroboration of underlying research constructs or the hypothesis; and is also vital for tabulating evidences (Myers 1997; Yin 1994). Accordingly this research employs evidences such as documentations (such as Intranet snapshots), interviews (with 13 participants), direct observations or physical artefact evaluation (Intranet walkthrough) as its multiple sources or evidences for collecting data. In addition, multiple participants are also involved for gathering and understanding different perspectives as well as identifying patterns or themes from each case corresponding to each organisation.

Initial data collection started with gathering snapshots or documentation in regards to the Intranets, portal, or ERP employee modules. This was accomplished via key informants from each organisation. It was used to gain background knowledge and create a sketch of B2E applications used at the organisation. It also provided confidence

in the organisation studied for its suitability as a participant in contributing within entire research context.

In this research, interviews were conducted using a developed interview protocol. Interviews were conducted with 13 participants from 3 different organisations to collect data on B2E implementation. It was conducted using a semi-structured interview tool (Appendix A), which consisted of open-ended questions that were developed in advance along with few prepared probes (Morse & Richards 2002). The questions were based on the research framework developed from literature review. It was used to collect detailed and complex answers to the topic. Interviews were tape-recorded, unless requested otherwise and lasted approximately 45 minutes.

Multiple participants were involved in interview data collection; this is because it provides coexisting views of evidence while fostering divergent perspectives and strengthens grounding (Eisenhardt 1989).

The sampling strategy used for interview participant selection was snowball or chain strategy. Miles and Huberman (1994) refer to snowball or chain strategy to "identify cases of interest from people who know people who know that cases are information-rich p.28". Selection of first interviewed-selected person was on the grounding assumption that; since Intranet, organisation portal and ESS application are underlying technology for B2E; the first person selected would be aware of these technologies, and hence someone from the technical department. Email was first sent out for establishing the initial business contact with technology experts or managers in the selected organisations to be able to conduct interviews. This interviewee led to other interviewees in the organisation. Hence snowball sampling was achieved. Four to six respondents were interviewed from each organisation. According to Miles and Huberman (1994), this strategy is beneficial for inductive and theory-building analysis.

Interviews were conducted with various levels of employees such as managerial as well as non-managerial staff members as shown in the above table. Chief Executive Officers (CEO) was anticipated to be interviewed from senior management since they can provide data on key business and management theme in their organisation. However, due to several constraints this mission was not achieved with Case 2 and Case 3. On the

contrary, Chief Operating Officer (COO) from Case 1 did participate in the interview data collection. From middle management, a manager from IT, operations, HR or finance business units were interviewed along with other non-managerial employees. This overall participant cohort differed in each organisation due to participant availability and various role requirements. However, all the participants were likely to have, had some level of influences on various aspects of B2E such as technology integration, changes in business processes and operations, including B2E initiatives in the business strategy, identifying changes in cost or as its users respectively. With regards to non-managerial employees, there was equal number of employee participation to avoid response bias in sample data with only managerial level responses as well as to capture the opinions of employees at non-managerial levels as well. Moreover, the underlying phenomenon can become evident by extensive interviews amid many people from different levels in the organisation (Yin 2003).

The plan was to develop three semi-structured interview protocol for each case to collect interview data from the three organisations. However, after first case study it was best for the research to be continued with a generic semi-structure interview protocol to gather extensive perception or information from each participant. Hence the questions were selections from a cluster of generic questions in the protocol and the choice of questions was dependent on the kind of participants involved in their organisational backgrounds. Eisenhardt (1989) emphasises that such flexibility must be taken advantage of, for the purposes of overlapping data analysis and data collection to guide into data analysis at an earlier stage.

Final mode of data collection involved direct observation of Intranet walkthrough by each participant which helped in probing for details and confirming 'un-understood' aspects from documents and interviews. Hence, data was collected with direct observation or physical artefacts which allowed further triangulation of data.
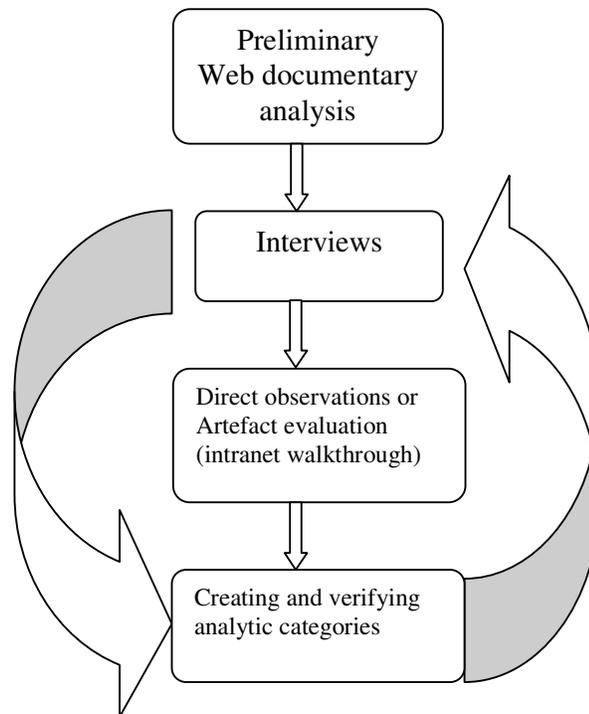
Figure 4: Data collection procedure

Thus it can be noted that the overall data collection techniques followed an iterative procedure as depicted in figure 4. Finally the collected data was organized and documented for developing case studies, whilst maintaining a chain of evidence via various analysis techniques.

3.4   Data Analysis

Data analysis was approached as an iterative and interpretive process while collecting data from interviews such that it involved creating, testing and modifying analytic categories (Symon & Cassell 1998). As a result initial data analysis overlapped with data collection as shown in figure 4. The quality of research outcome abides within the analytic inductions made by reviewing and discussing the data extract which supports and contradicts the researcher's argument. Analytic induction can be an effective examination of data when the data collected is around multiple cases (Johnson 1998), which is the situation in this research. Thus, in the context of this thesis, inductive analysis plays an integral part in theory development, driven by findings derived from interviews with various participants. Moreover, data collection and analysis should overlap for the research to acquire emergent themes and unique case features (Eisenhardt 1989).

Data analysis was accomplished in three stages:

In stage 1: large quantities of raw transcribed interview data were processed using familiarization, and identification of thematic framework (coding) data analysis techniques suggested by (Miles and Huberman 1994). Familiarization involved the researcher immersing within each interview data, which followed coding based on themes identified such as various patterns occurring in B2E applications (such as applications for achieving similar business functions were grouped, grouping of instances before B2E implementation and integration of business functions or processes). The themes identified as a result included technology implementation, access and privileges before implementation, process transformation and integration aspects, after implementation; and benefits, impacts and issues. The coded information was used as the basis for developing the case studies presented in Chapter 4. It also reduced the data to manageable and structured proportions. Moreover, such a systematic manner in data reductions are suggested to be accomplished in research studies in order to sharpen, sort, focus and reorganise data such that conclusions drawn from it are valid (Miles and Huberman 1994). Eisenhardt (1989) also confirms that developing within-case analysis allows researchers to gain familiarity with data and leads to preliminary theory generation.

In stage 2: Cross-case analysis was conducted (Chapter 5 – part 5.1) where each structured proportions of individual cases were compared and contrasted with each other. It segregates the data categorically (themes) across all cases investigated. The cross-case examination leads to different perspectives of same data, where one instance of a case can be confirmed by evidencing another case in the similar context (Yin 2004). Moreover, Eisenhardt (1989) advocates that seeing evidence through multiple lenses and coercing research to look beyond initial impression ensures internal validity.

In stage 3: Phenomena-context matching analysis technique is accomplished (Chapter 5 – part 5.2) to verify if the B2E outcomes are achieving organisational effectiveness. The basis for this technique is by using the description and definition of organisational effectiveness (OE) criteria (Robbins and Barnwell 1998) as highlighted in Table 1 below. This technique compares the key criteria (proposition from research framework) to the data (emerging concepts) from each case study matching the underlying definitions.

Set/criteria	Description	Definition
PCM	Availability of information	Have good communication channels to keep employees well informed
PCE	Stability	Have good sense of order and long-term continuity. Operations are able to function smoothly
PFM	Cohesive workforce	Employees trust, respect and work well with each other
PFE	Skilled workforce	Employees are trained adequately to perform their work effectively
OFM	Flexibility	Able to adapt to changing external conditions and demands
OFE	Acquisition of resources	Able to obtain external support when needed and expand size of workforce
OCE	Productivity and efficiency	The organisation can produce high output volume
OCM	Planning	Able to plan effectively setting goals that are clear and understood by all
Source: Robbins and Barnwell 1998, p.64		

Table 1: Eight criteria for organisational effectiveness (Robbins and Barnwell 1998)

Triangulation

Triangulation involves interpreting same phenomenon from various dimensions. It can improve validity and reliability of the research outcome (Halloway 1997). This study adopts 'data triangulation where data is collected at different times or from different sources in the study of phenomenon' (Hussell and Hussell 1997; Patton 1989). Therefore, this research included triangulation of data sources by involving document analysis such as web analysis of B2E applications and processes and Intranet walkthroughs were conducted to obtain additional data, apart from the interviews. Theory triangulation was achieved by comparing with the conflicting and similar literatures (Chapter 6 – section 6.1). Eisenhardt (1989) emphasises that such comparisons can increase theoretical intensity leading to internal validity and sharpening generalizability respectively. Furthermore, triangulation of data was made possible by multiple data collection methods and provides stronger substantiation of constructs (Eisenhardt 1989). In the context of this research such triangulation of data attempted to validate the proposed framework.

3.5   Summary

The chapter provided the basis for each research strategy undertaken to complete this study. It also detailed the overall research methodology in regards to its basic construct and philosophical standpoints. Further, it discussed methods involved in selecting each case and approaches to data collection. Finally it describes the three analysis stages pertaining to the techniques used which are demonstrated in Chapter 4 – Case Studies (consists of within-case analysis of each case) and Chapter 5 – Analysis (consists of cross-case analysis and phenomena-context matching). It also describes theoretical triangulation achieved presented in Chapter 6 – Implication and Conclusion.

Chapter 4

CASE STUDIES: Within Case Analysis

4.1 Introduction

The case studies were conducted to study the effectiveness achieved from B2E e-business. They aimed to explore the technologies used for B2E e-business, the business functions or processes affected and the outcomes of B2E e-business model adopted by three organisations in Australia. The case studies also cover different industry sectors since all of the cases are developed from different organisations. Participating organisations were selected on a volunteer basis.

The participants from three organisations are: Case 1 interview participants include a chief operating officer, technology manager, administrative manager, finance director, training and support officer and an information officer. In Case 2, the participants included technical services manager, multimedia officer and an applications developer. In Case 3, human performance manager, customer care manager, business analyst and a senior customer service officer participated in data collection.

Case study method was chosen for this research in order to explore the phenomena in-depth and also to understand the boundaries of the field of study, since the research area itself is relatively new. Generic questions used to acquire data was organised in a semi-structured manner, which included five sections to seek information on company background, technologies for B2E, business process or functions and services, benefits

and outcomes and perceived organisational effectiveness. The questionnaire consisted of approximately forty questions, some or few questions were omitted to certain participants due to their work role and answerability. In addition, Intranet walkthrough, screen shots, organisation charts, and statistical graphs (usage trends) were collected from organisations for document analysis and further triangulation. These additional documents were used as a guide to sketch the structure of B2E technology (Intranets) and its applications at the organisation.

Five sections from the questionnaire assisted in developing the case studies and identified the following aspects of B2E e-business (model) at each organisation:

- business background

- technologies supporting B2E model, such as Intranet(s) and/or organisation portal;

- technology access and privileges;

- employee inputs in B2E implementation;

- management of internal services before B2E implementation, integration or transformation of business process or functions involved, and the areas affected after B2E implementation);

- benefits, effects and impacts;

- training; and

- security and privacy.

Three case studies are developed with this structure and presented hereafter.

4.2   CASE 1 – An Educational Institute

4.2.1   Business Background

Case 1 is an educational institution (university) that uses technologies to deliver services to its employees and clients (students). It is structured into different units or departments which include three major disciplines and twenty five different schools within it. Each of these units has its own functions and purposes that contribute to the entire running of the education institute.

The main business of the university is to provide education delivering over 200 programs in a wide variety of fields for which the organisation requires a large number of employees over 3500 employees. These employees can be classified into the following categories: senior management, academics, support or administrative staff.

The organisation is innovative and technology savvy. It has implemented technologies for internal management (B2E), to service its clients (B2C) and to procure goods and manage business with its partners (B2B). An organisation portal is implemented to facilitate all of these e-business models at the education institute.

Organisation Portal

The education institute has a general university portal, which is the main website that supports different types of audiences including employees, students (current, prospective and alumni), and industry (partners and media). The portal makes use of information from university's ERP systems and various backend databases. The content is secured with login access depending on the nature of the content. It is from this main organisational portal employees are able to login and are able to access B2E specific applications through Staff Essentials (SE) page. The Staff Essentials (SE) page is the Intranet that facilitates B2E model in the organisation, it is sectioned into seven components. In this manner, the main organisational portal leads the employees to electronic services.

The focus of this case is B2E model at the education institute, which is illustrated in figure 5.

```
                                  ┌──────────────────┐        ┌──────────────┐
                                  │   B2E at the     │        │  B2B/B2C     │
                                  │ education institute│       │  related     │
                                  └──────────────────┘        │ information  │
                                                              │     for      │
                                                              │  Employees   │
                                                              └──────────────┘
```

┌────────────────────┐   ┌────────────────────┐   ┌────────────────────┐
│ Staff Essential (SE)│   │ Major Discipline │   │ Info for staff on │
│   Intranet   │   │   Level *3   │   │   organisation   │
│   │   │ (B, DSE and SET Intranets) │ │   │
└────────────────────┘   └────────────────────┘   └────────────────────┘

┌────────────────────┐   ┌────────────────────┐   ┌────────────────────┐
│Find out more /Contribute│ │ School level *23 │   │ Department pages   │
│ (News, bulletin boards, media │ │ Intranets (with links to main SE) │ │ (ITS, People and culture, │
│ releases, OPIS survey, Teaching & │ └────────────────┘   │ international development) │
│ Academic)   │   └────────────────────┘
└────────────────────┘

┌────────────────────┐
│Online services for Staff│
│ (Employee Support Service (ESS),│
│ DLS, remote working, email)│
└────────────────────┘

┌────────────────────┐
│IT services & Information│
│ (Training, online assistance,│
│ technology mgt)   │
└────────────────────┘

┌────────────────────┐
│Online Administration│
│ (e-proc, iExplore, document tracking,│
│ RPO, travel, CG editing)│
└────────────────────┘

┌────────────────────┐
│Strategy and planning│
│ (Quality, R&D, annual report and│
│ planning, teaching and learning│
│ strategy)   │
└────────────────────┘

┌────────────────────┐
│ Staff Networking │
│   │
└────────────────────┘

┌────────────────────┐
│ Non-work related │
│ (-Support and advice│
│   -Lifestyle)   │
└────────────────────┘

Figure 5: Sketched B2E model at the education institute

It can be noted from figure 5 above that, B2E at this organisation is facilitated on the Intranet referring it as Staff Essentials (SE) page. In addition to the SE page, there are 23 departmental level Intranets belonging to various schools contained within three major disciplines at this organisation. These 23 Intranets are linked to the B2E

applications available on the main Staff Essentials (SE) page. They differ in the news content in correspondence to the underlying school. Because they are all essentially linked to the organisation's main Intranet (SE-Staff Essential); this study is focussed on this main Intranet of the education institute which is the Staff Essentials (SE) page. The subsequent section 4.2 will discuss the above B2E applications included in each component of Staff Essential (SE) page - Intranet in detail.

4.2.2 Technologies supporting B2E

4.2.2.1 Intranet – Staff Essentials (SE)

The Intranet (Staff Essentials SE page) is the backbone of B2E at this organisation where it integrates several systems for internal management and carries out delivery of online services to employees. It integrates the ERP system developed on PeopleSoft incorporating AMS (Academics Management System - Iexplore) as well as ERP system developed on SAP incorporating ESS (Employee Support Services). It uses online education technologies for delivering DLS (Digital Learning System) and also acts as a medium for delivering information on various aspects of employee work activities that supports organisation's business processes.

Business Processes Supporting Employee Activities

Staff Essentials (SE) page - Intranet is organised into seven components:

Component 1: (Explore or contribute) This component of staff essentials (SE) addresses delivery of information through bulletin boards, news, media releases and current events of the organisation to employees at all levels in the same organisation. It consists of weekly bulletins to inform administrative employees of student related issues. It informs the employees of administrative matters such as changes or modifications in regards to the processes of enrolments, fees invoicing and mailouts. Likewise, there is a separate bulletin dedicated to informing academic employees (academics) in regards to their academic policies and administering student activities or transactions. Academics can also make use of the handbooks and university related publications contained on Staff Essentials (SE) page. There is also news update made available for all employees to keep themselves updated about the industry, university events, news and internal advertisements for jobs research grants and awards.

Component 2: Online services for staff support all employees to manage their HR related information (employee support service - ESS), digital learning system (Online Learning Hub), online staff email, and remote working. Employee Self Service (ESS) application aids employees with online viewing of pay details, and updating of personal information. It is also used by the employees for processing their sick leave and organising their annual leave. Hence, employees are able to manage their HR related information by themselves through the Intranet. Another part of the 'online services' component leads the employee to online learning hub (DLS/Blackboard) where they are able to manage their work related documents and materials used as part of their major work activity, teaching. Moreover the section provides a collection of help material on remote working apart from allowing employees access email and documents online and remotely. Email which acts as the ubiquitous communication tool for employees internally, is presented via GroupWise on desktops and on the Intranet via Https server. Moreover, email remains to be the main collaboration tool used by the employees.

Component 3: IT Information and Services delivers information technology related services and act as an information resource for employees. As such it includes help section and resources directed towards providing service to employees with ICT related issues. The help, training materials and related documentation is also uploaded into the help section of the Intranet, (which is the knowledge base for employee reference). Many of the resources include training materials, scheduling group training on a particular theme for departments to support and in managing all aspects of information technology related issues. The older documents and materials that are non-relevant to newer systems/technologies are then archived and hence the updated documents are made available for employee access. It also addresses frequently asked questions on online IT services as well as on different technologies used in the organisation by all employees.

Component 4: Administration section contains administration related forms, procedures and online links in order to manage administrative work online. This component manages administrative work activities of academics and non-academic employees. For academics, administrative work regarding online student grading and assessment processing's (such as Results Processing Online – RPO), attaining electronic research

related documents (Document tracking system), Academic management system (Iexplore), Course guide editing system and employee travel management forms are all achieved through electronic administration. It leads the administrative employees on information to electronically procure stationary materials, other equipment and services for their corresponding department and its academic employees. This lists e-procurement information including listing of organisation-preferred suppliers and tenders which employees can access to procure work-related material. It consists of online academic calendar, structure and business unit's (Finance, HR, ICT, Learning and teaching, Organisation and Governance, and Research and Innovation) policies.

Component 5: Strategy and Planning component of Staff Essentials (SE) delivers documents and information regarding organisation's annual report, future and current plans. Reporting and planning aspects of the university is shared with employees to create awareness on university's strategies. It informs academic employees on university's strategic plan as well as provides information on teachings, academic employee learning, and research and innovation. It also consists of quality management guidelines for employees to adhere to while conducting the organisation's business operations. Overall, this section assists the academic employees with focusing their teaching and research strategies in alignment with the organisational strategy.

Component 6: (Staff networking) It provide online information on employee rights and links employees to state and national level unions and to other members who are involved in the education sector.

Component 7 & 8: (Support and Advice, Lifestyle) It is a non-work related section where employee support and well being are addressed online. As such the organisation provides expertise contacts and information in a variety of areas to deal with employee health, counselling, finance, career and personal development. For HR purposes the organisation delivers services ranging from information for new staff induction information to any other HR related information such as policies, workplace fairness, safety and diversity at the education institute. Moreover, it provides online resources for assisting employees in balancing employee work and lifestyle activities.

Thus, the Intranet - Staff Essentials (SE) page with the above components acts as the main B2E pathway which provides university wide information for conducting B2E e-business at the organisation. Web publishing system is the key technology that delivers the above Intranet applications for employees through Staff Essentials (SE) page and also to the departmental units.

4.2.2.2 Reasons for implementation of B2E

B2E applications seem to have evolved and improved over the years at this organisation. Implementation was phased sequentially over the last 4 years to incorporate data conversion to digital format, data cleaning and updating of information. It also provided training at a good pace. The B2E system required a major 'internal restructure' of the organisation.

Prior to this, there were independent websites run independently by academic employees as part of conducting their teaching of various courses. The restructuring of websites involved planning, migration of content and staff training for website maintenance. Thus, the new B2E technology implementation not only brought standardization to the web internally and externally of organisation but also brought together many scattered and separated people and business units.

As the organisation experienced a growing number of customer volume, it required a change in general university accounting, greater data and internal management practices. The institution has to adhere to not only Y2K compliance but also to normal corporate standards and practices.

Staff Essential (SE) page accessed via the organisation portal is designed to match work design while supporting its audiences (employees).

4.2.2.3 Employee Input for B2E implementation

The organisation included employee inputs on content presentation and its usability. As the users of B2E e-business model, academic employee inputs were considered prior to implementation. The inputs were acquired by conducting user acceptance testing on prototypes with couple of scenarios such as finding the timetable information; minimal testing was accomplished with the help of academic employees, and non-academic

employees with the exception of information technology employees. Book vouchers were given out as incentives for contributing employee inputs towards B2E implementation. Moreover, the actual content aspect was left to the owners (departments and its academics) of the site.

4.2.2.4   Technology access and privileges

The Intranet applications are for all employees (i.e. senior management, academics, and administrative employees) to use. Managers are given greater access to be able to support staff and carry out their responsibilities such as approval of leave, travel, research, work plan and other staff related work.

Only authorised employees are given access to different applications due to privacy of information. For example Academic Management System (AMS) is managed with password access and is closely guarded since it contains sensitive student information.

Hence, it can be noted that B2E applications accessibility if set is to be different depending on the users and certain access privileges are given to employees depending on their role. However, this does not imply that the Staff Essential (SE) page is also delivering customised content for each user. The accessibility protocol allows the pages to be either visible or invisible in its entirety.

4.2.3   Management of internal services

4.2.3.1   Before B2E applications implementation

Prior (before 2001) to the B2E applications the organisation had approximately 155 different servers around the institution that employees and/or departments had run individually. A participant explains,

> *"it was run pretty much on a very ad hoc basis, for example any academic who wanted to put up a website about their course they just did and ran it themselves according to their technical knowledge till they got someone to do it for them so we had no consistency anywhere. Multiple people were doing exactly the same thing which is why we introduced the web publishing system for standardization".*

In such a premise, there was no standard to abide by for the users since the system was not unified. Moreover, many of the organisational functions were achieved manually through forms and manual documentations. For example, with the processing of student grades; this task was accomplished manually by academics with the aid of administrative staff. On the administration side, the enrolments were few days' process. As such, the students were expected to fill in numerous forms and then come in to the organisation another day for picking up their class schedules as well as changing courses. Such administrative work required numerous employee counts and took longer time periods.

For HR processes, payslips were printed on paper and distributed manually to mailboxes every fortnightly which required much manpower and capital cost. There are approximately 25 different types of leave at the organisation. Taking leave involved collecting the appropriate form from HR personnel and filling out forms, then getting it approved from senior managers. Such processing of leave took valuable time out of employees work. Later, electronic processing with employee support service (ESS) in the early stages required paper backup until recently. However, some scenarios still require paper-based application. For example,

> *"When a staff takes sick leave and has a doctor's certificate then the certificate has to be submitted as a paper application. The online process can handle about 10-15 types of leave out of 25 different types of leave existing at the organisation; leaving the rest to be paper-based. There are also types of leave that can be requested through paper only".*

All process including finance was performed manually through tedious paper work or on disparate systems. With financial aspects, administrative or support employees were keying in similar data from different business units of the organisation regardless of their skill level, training, and task capabilities in the area. Such data entry required about 40-50 employees. Further, there were also instances where parts of process that did not function appropriately experienced a lot of problems. Management observed that the business processes were not replicable or was not conducted in a sustainable manner because of its "home-grown" nature, and non-scalability. However this approach had to be changed since the organisation itself at the time was a growing organisation. Hence, it became necessary for the organisation to take upon a strategy to have a transition to

streamline and centralise internal management of resources adhering to "services integrations" and "shared services morals" to be sustainable in high volume environments.

4.2.3.2 Integration and transformation of business functions/processes

Organisational functions/processes have transformed to and as electronic services. It can be understood that at the education institute, first level of integration took place through main organisation's page (i.e. portal) such that sections/parts of the portal integrates and bring together B2B, B2C, and B2E e-business aspects. A second level of integration implies on bringing in multiple processes included/involved within a single department or group of employees (i.e. administrative employees) under one SE page. With respect to B2E at the organisation, the integration brings together cumulated employee services (such as AMS-Iexplore, ESS, DLS, RPO, Research Document tracking, Course guide editing, online travel forms and many more documentations) into one online destination i.e. SE page; which is viewed in the same manner for all staff so it is "a one size fits all" or "one stop destination" approach. Moreover, this notion is also supported by participants who view B2E applications and services as one stop application.

Implementation of Academic Management System (AMS) transformed the old processes involved in student administration achieved by the support staff to a newer refined and simpler process. The transformation digitized and electronically managed data on PeopleSoft ERP, as well as cleaned up all unnecessary data. It was noted that following the transformation into electronic processing of student-related administrative information; the organisation integrated the AMS into the web content within Intranet - Staff Essentials (SE) page calling it Iexplore. Academic employees pass on student queries to administrative employees who then gather information from AMS. However, Iexplore was introduced so that the earlier step is avoided freeing administrative employees in taking different responsibilities.

To handle or to transform the information regarding finance and procurement aspects of the organisation, it implemented mainly two elements (general ledger and payroll system) of ERP system called SAP. General ledger transformed many business operations involved in reporting, purchasing and the overall management of financial aspects of the organisation. Even though this element of SAP is used by administrative

or support employees to conduct some process involved in B2E such as procurement of office supplies; it is mostly used for the overall organisation administration. Hence it is not integrated into the Intranet. On the other hand, the later element of SAP, payroll system consists of employee support services (ESS). This element (ESS) aids a full array of HR operations where it supports all manner of organisational engagement with employees, from initial job appointment, salary scales, qualifications, tax compliance for group tax and so forth. ESS is not only widely used by all the employees but it is one of the core components that support B2E e-business in the organisation. Unlike general ledger component of SAP, the ESS is integrated into the Intranet – Staff Essentials (SE) page because of its usage quotient. Thus, the organisation delivers Employee Support Services (ESS) in order to make human resource related services online for the employees. A participant explained,

> *"Certainly with leave, there were lots of forms and paperwork going missing and they wanted everything in one place to be in a consistent system. I suspect that they wanted reports on who hasn't taken their annual leave because it's a big problem if people haven't filled in their forms".*

With payslips it is completely online for all employees to access it anytime they wish to. These online services in effect manage time required for HR processes.

Academic employee's' main role of teaching is synchronised with B2E applications such as results processing online (RPO), online blackboard, and digital learning systems (DLS) by which the organisation address aspects of teaching process. Digital learning system (DLS) is used for conducting B2C e-business, however it also supports B2E model in that it acts as a work tool for academic employees by enabling them to distribute course related material electronically and to conduct discussion via online forms. DLS is the key for managing online education. DLS is also integrated via Intranet by the name of Online Learning Hub. With results processing online (RPO) traditional/older ways of student assessments or grade processing are transformed electronically.

In the organisation, email happens to be the key application that supports communication amongst employees internally, with industry partners and other academic scholars around the world. It is hence also the main collaborative tool used in the organisation.

Apart from the above discussed B2E application, the organisation also delivers information, forms online, and documents electronically. The electronic information (e-information) includes contact and support aimed for employee career development and, personal well being. The employee news and bulletin boards on the Intranet assist the organisation in broadcasting organisational information to its employees. This internal news can assist employees in gathering information related to their work activities. For example, *Frontline*, a weekly newsletter for all student administrative employees informs them of administrative deadlines and developments. Thus, such aspects of the B2E model then enable in managing the information flow throughout the organisation through delivery of news, contact information of internal employees and to some extent to external media inquiries.

Many of the forms that employees require for managing their work related travel and requesting procurement material are available on staff essentials (SE) page. The forms are generally downloaded and filled out manually which are then forwarded to administrative employees who then process it either electronically or otherwise depending on the nature of process. Further there is online documentation. They provide help/manual instructions to employees with usage of various systems in the organisation. These resources are placed on the Intranet -staff essentials (SE) page so that any employee can login (from the organisation's Intranet) and access it online. The documents are frequently updated and placed back on the Intranet. It addresses similar technical issues arising from using applications and systems used in the organisation. This approach allows organisation to achieve some degree of technical training with the online training materials. A participant explains,

> *"...there is all the content which include all the basic and standard training sessions along with the large help section within the website".*

The employees are granted access to these materials once they complete attending a session in person. The materials are designed for employees to use as a reference point and act as a manual after training.

Non-academic employees involved with carrying out administrative tasks also have B2E services for processes that support business activities online such as documents and information required for student administration, online procurement and information for

travel management. Due to such transformation, employee responsibilities and work-role responsibilities have eventually changed.

Therefore, an evident pattern emerges from this organisation, where business functions are firstly transformed into digitised processes. It is then taken to the next level in a more structured way and presented by integrating it with web technology i.e. the Intranet and naming it Staff Essentials. As a result the overall transformation of business operation and integration into web technology have affected the organisation and employees in many ways (which will be discussed in the next section).

4.2.3.3 After B2E Implementation

New technology implementation mainly turned a lot of old or manual process such as routine clerical matching tasks into a re-engineered process. A participant explains that,

> *"the power of these systems is such that you've got a requisition, it's been approved, provides vendor with the invoice, you may never see an invoice. The two matches it gets is posted, that's the end of it"*.

Even though B2E applications implementation is an evolving and ongoing task at the organisation; so far as a result of B2E technology applications, several schools and respective businesses units are brought together. Every department has its own page and as well as every employee, which can be accessed and viewed by other employees. An individual (web manager) from each department is nominated for maintenance and management of the content. Organisation delivers information in a continuum manner. Forms and information are digitized for ease of access and instantaneous update. From overall strategy perspective management were able to see the perceivable benefits in the long term on business units' level and for the employees which enables the organisation in acquiring the 'natural growth of business'.

The technology implementation has impacted employee work such that it has added more workload on employees and decreased expected deadline time on work. For example: from an administrative outlook, previously an employee would send in a document via internal mail and would have deadline for few weeks before the response is mandated. However, with online real-time technologies instant communication had increased the expectation on the response rate from people which essentially decreased the expected deadline date. Administrative employees who were tied up with student

queries and time consuming administrative work were able to take on more responsibilities and work activities. For employees, there has been a lot of learning in terms of learning of new technologies and new work activities/tasks. Moreover there were changes in employee work roles such that employee skills and knowledge 'got absorbed in the system' leading to greater productivity.

Communication has increased in terms of clarifying and coordinating with other departments leading to more interaction and team building between various departmental employees. However, communication and frequency of academic employees relying on administrative employees for help has reduced. This is because the B2E model addresses the required information online to which academics have access to directly, such as the academic management systems (AMS) through Iexplore on staff essentials (SE) page. There is an increased amount of online access to training material available online, which has resulted in reduced inquiry on one-on-one consulting. This has significantly reduced workload for support employees. Face-to-face communication has reduced in terms of what was before because of the availability of training material online for reference. One of the participants acknowledge about staff essential (SE) that,

> *"it's written for an audience who is very new to the system so there exists information for users at a basic level to advanced level".*

Benefits of B2E include organising meetings, appointments and using calendar functions in a more efficient way and individual webpage provides information on every staff member with contact information. The impact of online internal processes assists administrative employees better manage their work regarding clients (students and academics). With students there were a reduced number of days in terms of processing things and administrative employees were able to handle student queries better. In this manner, overall some of organisation's internal process seems to have become centralised and streamlined.

4.2.4 Benefits, Effects and Impact

At this institute, there was a reduction of approaximately180 administrative employees and other administrative employees had taken up new roles within the organisation. It has increased employee input in that it has increased their work activities and roles. It

has brought efficiencies in terms of enrolments, dealing with clients, travel processing and so forth.

The impact is difficult to measure in the short term at the time because the technology itself is relatively new. According to a respondent,

> *"It is difficult to get those sorts of measure because we don't know what we did beforehand so it allows us to measure that, it allows us to (we haven't leveraged this) but it would allow us to review wether we are having more problem in one area".*

However it did highlight repetitive problem to the organisation from the problem patterns that occur through a certain period of time that require immediate attention in order to be addressed holistically for the entire organisation.

Because the employees have reduced workload in the time saved they are able to fulfil different tasks in the same time while ensuring the quality of work output. A participant explained,

> *"Overall the employee productivity seems to have increased in terms of work activities and is able to take on more responsibilities. This had added value to the organisation by having employees take on more roles and responsibilities".*

4.2.5 Issues and Problems

Changing people's work habits: Employees have choice to look up material online or manually walk up to someone for answers. However, due to previous work habits with new B2E applications and online services in place employees tend to follow previous methods. As such a participant explained

> *"the biggest challenge is to change our work pattern to get the people to use the system without getting them upset because in the end we are providing them with a service".*

Thus there is a need for finding new way and techniques to convince the employees for using the applications provided for them until it becomes natural for them to use technology as the first point of reference.

System reliability: Because the technology is relatively new, there seems to be an issue over its reliability. There are times when technology has problems and in such instances the employees tend to fall back to old working methods. This in essence also increases

the amount of *ad hoc* work for the employees. There are also issues with usability of the technology.

Change management: this issue can perhaps relate back to employees having starting trouble with using the online resources as the first point of resource. A participant observes that,

> *"It's an ongoing challenge when employees tend to use their local resources first. An employee tends to use more local resources first before going back to the more general website"*.

This indicates that employees are reluctant to switch to online information delivered via B2E model at its initial stages.

4.2.6 Training

Training is made available for individual B2E applications such as academics management systems (AMS), employee support services (ESS) and online learning hub of variable quality. After formal training, the organisation introduced a 'champion system' – *designated expert*, where employees could,

> *"walk down and talk to someone just a few offices away they knew (a friendly face) rather than going to another building to a training class"*.

These champions were either volunteers or nominated individuals by senior managers. There were also written instructions for employees to follow through.

There were no incentives provided to employees to take part in training. It was also not mandatory for employees to take part in training, however, with some applications employees would not have been able to use without having proper training. Access to certain online tools or applications (such as AMS) was only given to employees who had basic training in AMS.

4.2.7 Security

B2E applications on Intranet are accessible within the organisation portal and is protected with secured password access. This security measure is taken to protect sensitive employee and student information accessed by employees through public organisation portal. Employee information contained in the applications such as ESS function is hence secured.

4.2.8 Summary

The B2E model at the education institute is constantly improving. At this organisation, Intranet is the main technology facilitating B2E applications. Through the organisation portal some B2E applications are also available externally through the Internet. These applications include online news and organisation information such as policies, strategies and procedures, downloadable documents and forms; human resource applications such as ESS; web tools such as AMS (Iexplore), digital learning system to enrolled students and results processing online for carrying out daily work activities; and non-business related employee support information. With the aid of online information the organisation improved information management of processes. The business functions carrying out administrative functions for student enrolments, grading and dissemination of teaching materials are also accomplished via the B2E e-business model. In addition, online HR processing, such as process managing employee leave and pay, is allowing managers as well as employees to handle such tasks in an efficient manner. Hence it was evident in this organisation that its internal processes were re-designed and integrated into a single point for easier access by a large number of employees. Accordingly it was also noted that the organisation faced problems in changing employee work habits, maintaining reliability with B2E system and change management.

The B2E applications at this organisation somewhat differs from the applications highlighted in literature survey due to the nature of business being conducted by this organisation. Employee Support Service (ESS) application is widely used by the employees and as literature highlights it streamlines HR related functions at this organisation. The case also matches with the literature where the underlying technology (such as Intranet) and some of the outcomes coincide with each other. Because of ramifications from one of the failed IT implementations, resources were diverted to the organisation's strategic objectives. However, since its recovery the organisation is making a great effort to improve its online services with regular upgrades and more complex features made available for the employees to use.

4.3   CASE 2 – A local council

4.3.1   Business Background

Case 2 is a local government organisation (local council) in Victoria which covers an area of five suburbs, rural areas, and townships and is responsible for a population of approximately 127,000 residents.

To service the local community the council is organised into six units: corporate services, planning and development, community services, economic development, infrastructure and technology and human resources under which several other units also operate. Together these units not only conduct their duties as the local government/council but also play a major role in assisting the state government in managing local issues and laws passed down from the federal government. The organisation is responsible for planning, construction and maintenance of community facilities, local government policies and city's actions, and community services to the community. The organisation is made up of approximately 680 employees.

The city council hosts eight external websites for its community which deals with council information, council's building department website which deals with building permits and for servicing its associated community with B2C activities. They also deliver online services through internal website, the Intranet, for their employees (B2E activities), which is the focus of this study. The organisation's B2E applications are depicted in the following figure 6 and explained in the following section:
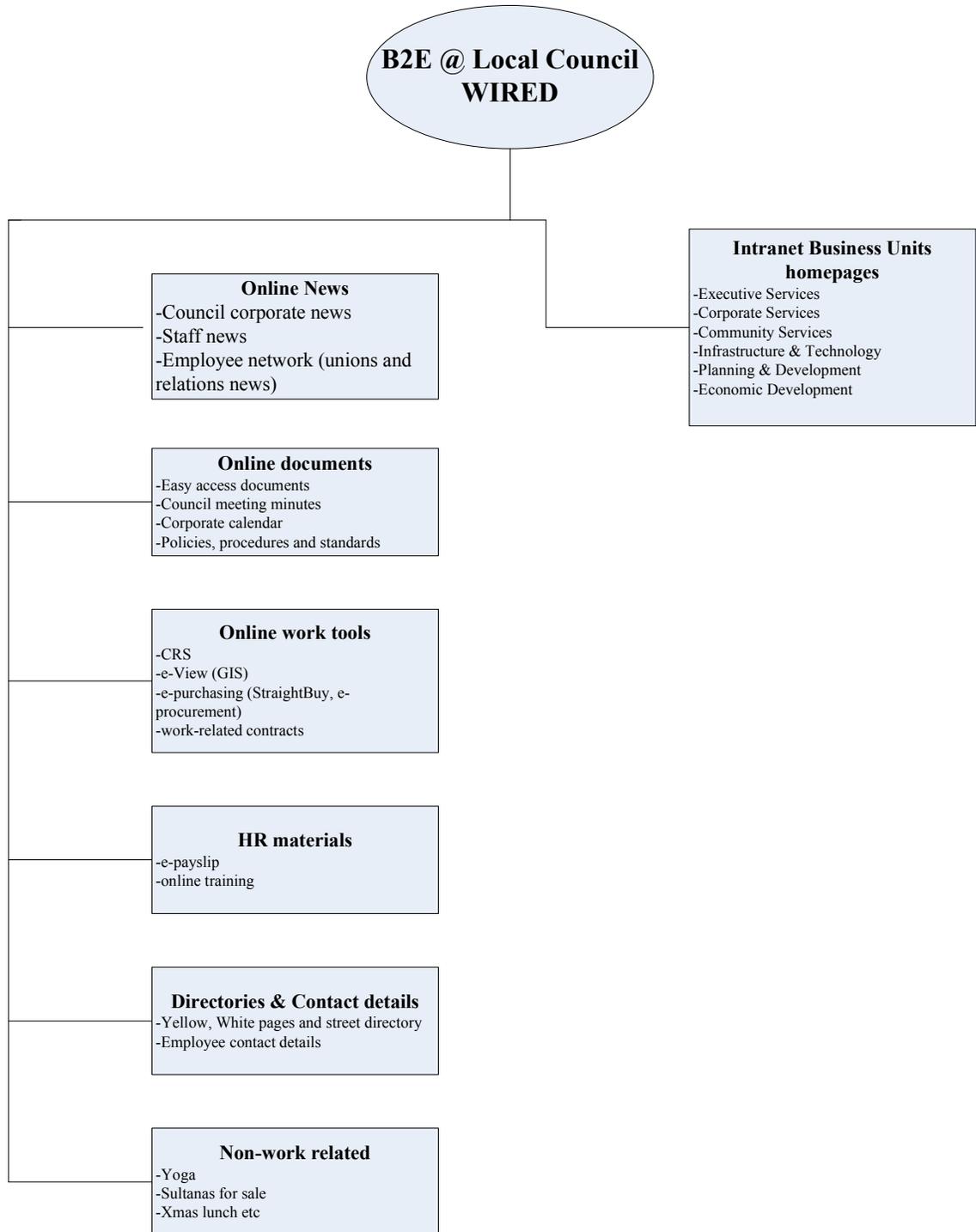
Figure 6: Sketched B2E model at the local council

It can be noted from above figure 6 that, B2E at this organisation is facilitated on the Intranet. It is referred to as WIRED. It disseminates information for approximately thirty business units by connecting six departmental level homepages; such that it is viewed as "a central repository for all of council internal needs". Thus the information

contained in WIRED is outspread for employees leading them to several B2E applications.

The subsequent section 4.2 will discuss these B2E applications that are delivered through WIRED-Intranet in detail.

4.3.2   Technologies supporting B2E

4.3.2.1   Intranet - WIRED

The Intranet website for the local council is seen as an information front end for employees in the organisation. The organisation makes use of B2E applications such as online news delivery, documents, collaborative information, HR materials, online work tools (CRS, e-view, StraightBUY), and non-business related services. These are delivered via the Intranet and it is inside the organisation's firewall. Several business functions are facilitated as a result of B2E applications on the Intranet – WIRED.

1. Online news delivery is achieved by various levels of presentation. It includes corporate news, staff news, media releases and message postings. It is viewed as an electronic notice board, and is aimed at communicating messages delivered from the organisation to all employees. The electronic notice board service is displayed more like an email, so employees have an option to open or view it based on the subject matter. Council information is regularly updated and delivered online for employees to be informed of corporate news. There is also separate informal staff news where employees can post their own messages for other employees such as 'Sultanas for sale' or 'Pilates and Tai Chi at lunch'. They are separated as such because for 'general staff news' anyone can post messages on it, and for the messages contained in it need not necessarily be work related. Employees are informed of media announcements regarding the council through WIRED, the Intranet. All news assists employees in being informed with updated information not only about their employer but also about the industry.

2. Online documents on Intranet WIRED include 'Easy Access Documents' under which, it contains most of the documents corresponding to all departments in the organisation in an electronic version. There are finance department documents such as

new cheque releases, petty cash forms, new purchase forms provided for employees to manage finance related aspects. Records unit have online instruction manuals on record keeping, filing and archiving old documents. There are also documents corresponding to meeting minutes from council meetings, policy procedure and strategy and online standards. Information Technology department have online forms for getting new equipment purchases as well as the instructions manuals. These easily/readily accessible documents are frequently used by employees and hence placed within the main page on the Intranet and also on a departmental homepage.

3. Online directories and contact information contain a wealth of information in assisting employee collaboration on projects. There is an electronic telephone search of internal staff phone directory and their contact details. There are also electronic whiteboards which notifies managers and colleagues which employee is in and who are away. These whiteboards replace traditional/physical whiteboard messaging and is widely used by all departments. Online directories with council business information, yellow pages, white pages and street directories is also included in WIRED for easily accessing these information. Moreover email is also widely used to communicate internally and externally.

4. HR material includes electronic payslips (ePayslip) and corporate training information. Leave forms are also available, however, anything that requires a signature must be printed out and handled manually. Availability of training documents or manuals online delivers training material which consists of training information that employees can take part in. It also consists of help manuals for using applications online. Employee travel forms are also placed on the Intranet, which can be accessed and filled electronically and emailing it to HR for approval. Thus HR department manage payroll and related forms electronically.

5. Online work tools: some of the employee work tools are made available on the Intranet, and these are electronic view (eView - GIS), customer response service (CRS), e-purchasing (StraightBUY), and online bookings. E-view consists of functions associated with global mapping of suburban areas as well as aerial views and dimensions of land and houses, which is used by employees for conducting their daily work activities involved in planning and development or building infrastructure.

Though, it is used as part of the approval process, it also assists employees in other areas such as dealing with complaints or conducting investigations. E-view is accessed via the Intranet and its underlying technology is a graphical information system. CRS (customer response service) on the other hand, assists employees with handling of local community member inquiries. For example, when a customer calls the council about rubbish bin not being picked up, a case request is created in CRS and allocated to a council employee for response. These allocated requests are displayed via the Intranet which gets resolved and updated on the Intranet itself. Any employees who need to work with the case at a later time can rely on the Intranet for the same information. This enables employees to work collaboratively in dealing with their clients. Another work tool (B2E application) at the organisation is electronic purchasing or e-procurement (StraightBUY) where it assists employees in purchasing of office materials and other work-related procurement from concrete for footpaths to managing contracts that are worth up to $50K electronically. Finally, the online booking system enables employees to electronically conduct bookings for council-related commuting using council vehicle for conducting community services.

6. Lastly, the organisation delivers non-business related online services for their employees which include advertisements for corporate health programs, discounted movie tickets, bookings for bikes, train and bus schedules, dictionary and thesaurus access are also made available online.

In addition to the above 6 functions, WIRED also leads employees to business unit-level homepages such as Executive services, Corporate services, Community services, Infrastructure and Technology, Planning and Development and Economic development. These sections of Intranet consist of specialised or customised department level news and information. For instance community services home page directs employees to several types of information regarding Family services, Health and Aged services, Leisure services and Planning, Arts and Cultural development, and Library services. However, all of the business unit-level pages are linked to WIRED for overall organisational level information and for using B2E applications.

Thus, the organisation's Intranet – WIRED draws together many internal services and offers most their online. These B2E applications are generally managed by linking or launching them on the Intranet for conducting B2E e-business.

4.3.2.2   Reasons for Implementation of B2E

The implementation was mainly due to the changes in general internal business practises. It occurred in the year 2000 when there was a shift towards new technologies such as the creation of Intranets and an overall strategy for innovation. At the time, there was a multimedia strategy for the council which laid out future plans for the upcoming years; that resulted in the creation of multimedia teams with key members working on Intranet initiatives and developed the B2E applications, along with the organisation's newer applications on the Internet. Organisation considered 'ease of access to information via electronic services' to its employees. The technology innovation was also driven by software vendors. All of these reasons, along with trends in using innovative applications as part of the business practises became the driving forces behind technology implementation at the local council.

WIRED is still evolving at the organisation with newer or enhanced applications. As part of the requirements gathering task in order to create new components of Intranet, multimedia team and business improvement team examined the requirements vigorously. As a result, a tailored solution was presented to the corresponding business unit. Further the streamlined solutions are addressed and developed by the multimedia team which involves Intranet innovation.

Initially there were few core items online such as the homepages for every business unit where navigation was based on the corporate structure. As a result, the content and functions varied for each department. Further it evolved to more B2E applications with greater complexities to what it is today. The B2E implementation is a developmental process at this organisation.

4.3.2.3   Employee Input for B2E implementation

There were brief discussions with employees on their requirements for the B2E applications or (online work tools). Majority input was suggested and implemented by the multimedia team since many other employees were not aware of the potential of the

Intranet. As a result the multimedia team developed prototypes and demonstrated to employees to get their opinions on the final application. An employee focus group was created and presented with the prototype for 'customer request reporting application' and electronic pay slips. An interview participant explains "*We developed it and said to people here it is and they started using it*". Thus, with some employee input, multimedia team and management the B2E was implemented in the year 2001.

Though the organisation received very little feedback from employee on Intranet applications, attempts were made to understand and gather employee input at the time of Intranet implementation and on later developments of B2E applications. Following the first wave of Intranet introduction to the employees, employee focus groups were formed to identify further needs and requirements. However, in some instances because multimedia team was a major contributor on Intranet functionalities that unit took the lead.

Selection on the technology and Intranet applications for the B2E was achieved via collaboration between the multimedia team, IT department and general management at the organisation. The teams are located independently in the organisation and their responsibilities also vary. However, the departments liaise with each other on technical and non-technical aspects of technology implementation around the departments. Hence, it can be said that employees are the underlying contributors in developing B2E e-business applications at this organisation.

4.3.2.4 Technology access and privileges

All of the above technology application for B2E is accessed by all the employees throughout the organisation. It is optional for employees to use the online (forms) applications. However if they were to approach the HR for example to get a particular form, HR will retrieve the form from the Intranet for the requested party. Likewise, there is still an option for employees to receive printed payslips. Intranet is accessible to every employee and department in the organisation. However, the usage of Intranet and its applications vary. The only exception on employee access and privileges is if there is permission required that stops the application from being placed on the Intranet. Conclusively, Intranet functionalities appear to be the same for every employee and are based on the network login credentials.

Managers are able to view their team performance, only if the particular team is set up to achieve tasks online. Some teams have set it up in a way that the permission is provided to other employees to share their tasks. For instance in local laws section, employees have given each other permission to see work-related tasks for them. Hence from a manager's side, he/she is able to oversee the team tasks.

Employees are expected to access and use online material. For example, for the Australian Standards manual, the only way to access it is through the online link. However, if employees prefer to have a paper copy they maybe able to special order it through snail mail from the standards group, in which case it is time consuming and a cost accruing procedure. The organisation encourages online lookup for standards because the changes in standards are updated online immediately whereas paper copy could be out of date. The organisation does not mandate rules but rather provides online systems and its services to enable people with their daily work activities. There are no rules or restrictions on the employee message postings. However, the Intranet is designed to not have anonymous postings. Employees are required to sign agreements to abide by the Internet and email usage policy and to comply with electronic guidelines of the organisation.

4.3.3   Management of Internal Services

4.3.3.1   Before B2E applications implementation

Prior to the innovation many functions had solely relied on paper and manual process. As such each department had forms displayed on the entrance desk, literally 'pieces of paper sitting on the desk' as well as paper phone lists distributed to all employees for contacting other employees in the organisation. The main means of communication both business and non-business related were achieved via paper newsletters and massive staff emails. This approach was viewed as interruptive and time consuming (for employees) to rid of junk emails. For instance, prior to online news, there were newsletters on paper printed out and delivered to employees. Many of the non-work related news were emailed out through mailing lists. This included a lot of redundant and unwanted emails taking up employee time and organisation's resources.

With forms and documents, the organisation experienced difficulty in delivering updated forms. A participant explained that,

> *"people had to actually walk over to a department, get a form; if it wasn't copied they needed to get more copies, so it brought it unnecessary cost and waste of time".*

There was no standardization in record keeping and filing of documents. Previously, the organisation hand delivered hard copies pay slips to all the employees.

With customer requests and complaints, there was no proper tracking for completion time with registered issues. With development in suburban areas and increase in community members, the organisation had to discover newer ways to manage the employee workload. Prior to e-purchasing portal online, an interviewee explained:

> *"…like office supplies or if I needed to buy a video card for my computer we'd have to get the book, fill in the purchase request. Get it approved by two people, the manager and director, and then it went through the purchasing process where the procurement team would retype the order into some ordering system. It was a manual process."*

With the implementation of B2E the organisation brought about changes and improvements in employee work environment by integrating or transforming all business processes.

4.3.3.2 Integration and transformation of business functions/processes

Introduction of WIRED, the B2E model, information is organized and this eliminates unwanted information or news filling up employee inboxes.

As part of the innovation strategy, there was an electronic whiteboard created and integrated on to the Intranet and its departmental level homepages. Some departments had been really successful in this online service while other departments have failed and went back to the old-fashioned or physical whiteboard.

HR process involving delivery of employee payslips had converted the employee pay details into digitised format and integrated into WIRED for all employees to access ePayslip. Similarly, data and information was extracted from database modules of (Customer Request System - CRS and Graphical Information System - GIS) and is integrated onto WIRED as B2E applications referring to it as eView and Customer request applications respectively.

E-purchasing (StraightBUY) enabled e-procurement of a wide variety of requirements. As such when an employee request for procurement of material gets forwarded to the corresponding manager for approval and for further processing by finance department, are all now accomplished electronically. Moreover with the 'easy access to documents', updated version of documents and forms are digitised and made available via the Intranet.

The above shows that as a result of the B2E via WIRED at the organisation, a large number of processes and functions were automated (transformed to digitised form), updated and made available to employees.

4.3.3.3   After B2E Implementation

B2E implementation had changed some of the existing internal business functions and had brought about newer applications in the organisation. The implementation resulted in employees having more time to focus on their operational tasks by spending less time with filling forms and in searching for information. It also assists in capturing customer related information or business problems between teams to work on which is then resolved with internal dynamics of the business unit. Intranet is now the internal system for information sharing and information dissemination amongst employees and business units.

E-procurement is also an important application in B2E at this organisation. The processing time of the documents as well as procurement processing is a lot shorter.

ePayslip implementation streamlining the payroll process created some efficiency in the process. Encompassing online payslips saved time by not having to print, envelope and walk around. There was also some resource saving in terms of paper costs. A respondent explained, *"So it was the efficiency we were looking at across the board, time and materials"*. Uptake of e-payslips was a lot quicker than anticipated. As such a participant explained,

> *"There weren't many people who didn't want to change but again we didn't force them to. Over time as old staff leave and new staff come in because it*

> *already exists its becoming a part of the culture now so I think that's a good*
> *thing".*

Hence, the trend in B2E acceptance at this organisation is greater with newer staff.

Implementation of online purchasing (Straight Buy) or e-procurement reduced purchasing time from two days to almost immediately. As such a participant said,

> *"… email on its very own enables people to address something a lot quicker*
> *than what they would have in the past".*

In this manner B2E applications has brought about efficiencies in business processes and in general administration at this organisation. It is also able to manage employee information on the team performance. It is also able to 'cope with extra workload with existing or its current staff base' and hence no employee reduction.

Evaluation of WIRED (not individual B2E applications directly)

To measure the employee usage, of processes on the Intranet the organisation uses a statistics program which is also made available via Intranet. The statistics program runs in the background. The evaluation is undertaken a couple of times a year. Apart from the statistics employee usage there are no other Intranet measurements or evaluation carried out by the organisation on specific B2E applications.

4.3.4   Benefits, Effects and Impacts

B2E model implementation leads to many benefits for various departments and its employees. With electronic pay slips there is time, paper and resource savings. Applications such as customer reporting system also achieves time saving for employees and keeps an electronic record of complaints and support. Moreover, it is emphasised that the Intranet has streamlined employee access to reports, leads to time saving, supporting employees to take on more operational tasks. A participant explained, "*Certainly time saving is one of the things that are noticeable and increase efficiency*".

Over time, the Intranet applications have almost become part of employee daily work and that its applications did not seem to have affected many employees. It is making

employees "technology savvy people" such that using the systems becomes more natural and easy for the employees. As a result of the Intranet, the responsibilities in employee roles have changed over the years to include additional work activities. The overall workload of employees remained same electronic information and processes. However, they can manage work due. Moreover, people at the organisation embraced the available Intranet functions quickly and effectively.

Along with the resource savings that was noted, a participant also highlights that, "...*it is safe to assume what the electronic environment has actually achieved is a more responsive organisation*". Responsiveness as in "*it actually increased the response time*", this is because, activities such as electronic procurement are able to get purchasing orders out fairly faster than before.

Thus it can be noted that B2E had improved the working environment for the organisation with time and resource savings, achieving efficiency in the internal processes highlighting benefits achieved from B2E.

Apart from the above other benefits achieved were streamlining of certain processes. However the organisation encountered some problems with the implementation as well.

4.3.5   Issues and Problems

One of the not so popular applications of B2E at this organisation was electronic whiteboard. Some important problems highlighted were:

Resistance to change: The change process resulting from B2E was regarded a 'teething problem'. When the business processes were digitised, staff had a general resistance to change. This problem had declined over time to a lesser extent because many staff had been accustomed with technology that is already in place. It has become more of a norm or 'work lifestyle' to work with technology.

Change in work culture: From a corporate perspective, there was an issue of culture shift in changing employee work habits from paper system to the electronic systems. Employees who had been with the organisation for over 10 years seemed to be reluctant to move into the new electronic system. A participant highlighted, *"… like I am doing it on paper it works, why should I change? So yea bit of culture shift was a challenge"*.

Employee technical competency: Another challenge at the organisation was the nature of work and employee technical competency. For instance, and employee's daily job is in regards to maternal and child health dealing with children or people where technology is used rather rarely. With electronic system there were training issues in teaching those employees about the usage.

Many of these issues where addressed through training. Moreover the organisation put great efforts into convincing employees highlighting the efficiencies in their daily work activities that can be utilized through the use of technology applications such as electronic purchasing. As a result employees voluntarily requested for access because they were able to see the benefits themselves.

4.3.6   Training

When B2E applications were first implemented all employees received formal training for its usage. In addition, there is also one-to-one informal training if individuals request for it or if there were problems. Moreover, all new employees get trained on the B2E applications and for specialised applications when they start their work at the organisation. For specialised applications such as eView and CRS (customer response service) there is training for those working in the area.

4.3.7   Security and privacy

The Intranet itself is secure from the external Internet networks since it is inside the organisation's firewall. A security issue that was of concern to the organisation was the possibility of all employees viewing certain restricted documents. This issue was addressed by a locking (password access) system. Thus this security issue is addressed by providing access or disabling access to employees depending on their role in the organisation and Intranet applications. Moreover, a participant highlights that:

> *"anytime an application is created we look at creating security is a major point. What are the security implications and how do we address them when we make it. So it's always on the agenda that any new applications have to be secure to the right degree".*

Privacy of employee information is completely respected at this organisation. The only issue with privacy was that, few employees are resistant to having their photographs on the internal telephone search. However, over time approximately 98% of the employees allow their pictures to be posted on the telephone search.

4.3.8 Summary

The organisation uses Intranet technology to support its B2E applications. The applications are addressing information delivery through news, announcement and peer notification using electronic whiteboards. Many department forms and documents are converted into electronic format and are delivered via B2E at this organisation. The online tools enabling internal employee work are directed to manage processes dealing with customers (CRS), planning and development activities (e-view) and procurements (StraightBUY). These work tools support internal employee activities involved in carrying out business functions to serve planning and development of surrounding suburban communities, fostering client management and managing contracts. It created coordination and team work for instance, in handling customer queries. Moreover, online human resources benefited organisation in time and resource savings as well as eliminated redundant clerical work.

Due to growing awareness of technologies such as Intranet and Internet, more technologies are now imminent among employees and departments. Tech ideas are carefully analysed in accordance to internal and external functions before they are implemented. Following Intranet and its applications implementation, the organisation has developed a technology reliant work-culture, openness and policies for innovation. There exists a business improvement department which constantly looks forward to improving business processes. In that manner they map the existing process and create new streamlined solutions for better business operations. B2E applications used at the local council differed from what was highlighted in the literature review (Chapter 2); where applications occur to be less complex. Additionally, the electronic whiteboard application was not discussed among previous B2E literatures but this application is used in the local council. Benefits and impacts were similar to that in the literature. Moreover, the organisation believes that their approach to delivery of B2E model helped them being successful with their B2E model.

4.4   CASE 3 – An Insurance Company

4.4.1   Business Background

Case 3 is a large insurance company in the Asia-pacific region selling a wide range of insurance products. The organisation offers general insurance covering products such as motor, home, third party, compensation, consumer credit and extended warranty. Its major functions include selling insurance and paying claims.

Although the company has business branches in the UK, China, and Singapore, the main business is based in Australia. The structure of the organisation is such that it owns five different insurance organisations (sub-divisions referred to as brands) within Australia as shown in Figure 7. The brands represent various organisations that sell different types of insurance products under the parent company. Though the entire organisation (insurance company) is made up of 18,000 employees, each brand within it consists of 400-500 employees.
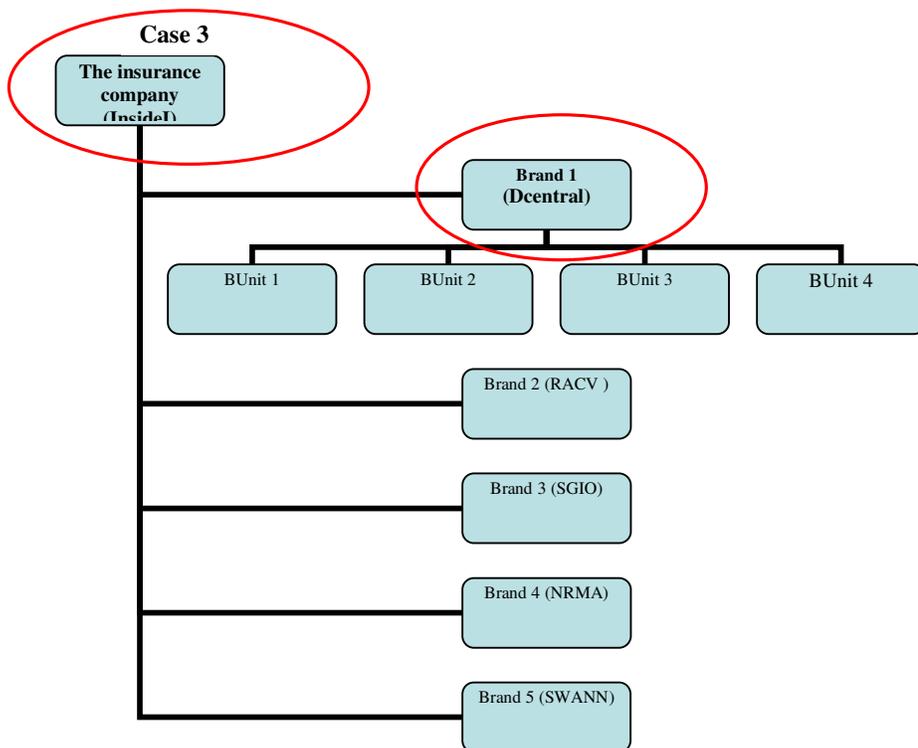
Figure 7: Company structure including parent company, sub-divisions, and its business units

Along with its B2C and B2B e-business, the organisation supports employee work with the aid of online applications, and hence is facilitating B2E e-business. The B2E applications are existent in all different brands of the insurance company.

This study focus on the main organisation's Intranet (InsideI) that is used by all five brands underneath it. The study also investigates one sub-Intranet (Dcentral) used by one particular brand-business units to see the differences between both Intranets as well as to understand the overall structure of B2E e-business at this organisation. Moreover, online services in Dcentral differ from that included in InsideI.

4.4.2   Technologies supporting B2E

4.4.2.1   Intranets – (InsideI and Dcentral)

As highlighted earlier there are different Intranets for each brand at the insurance company. However, this case study focus on two Intranets (InsideI and Dcentral) as highlighted in Figure 8.
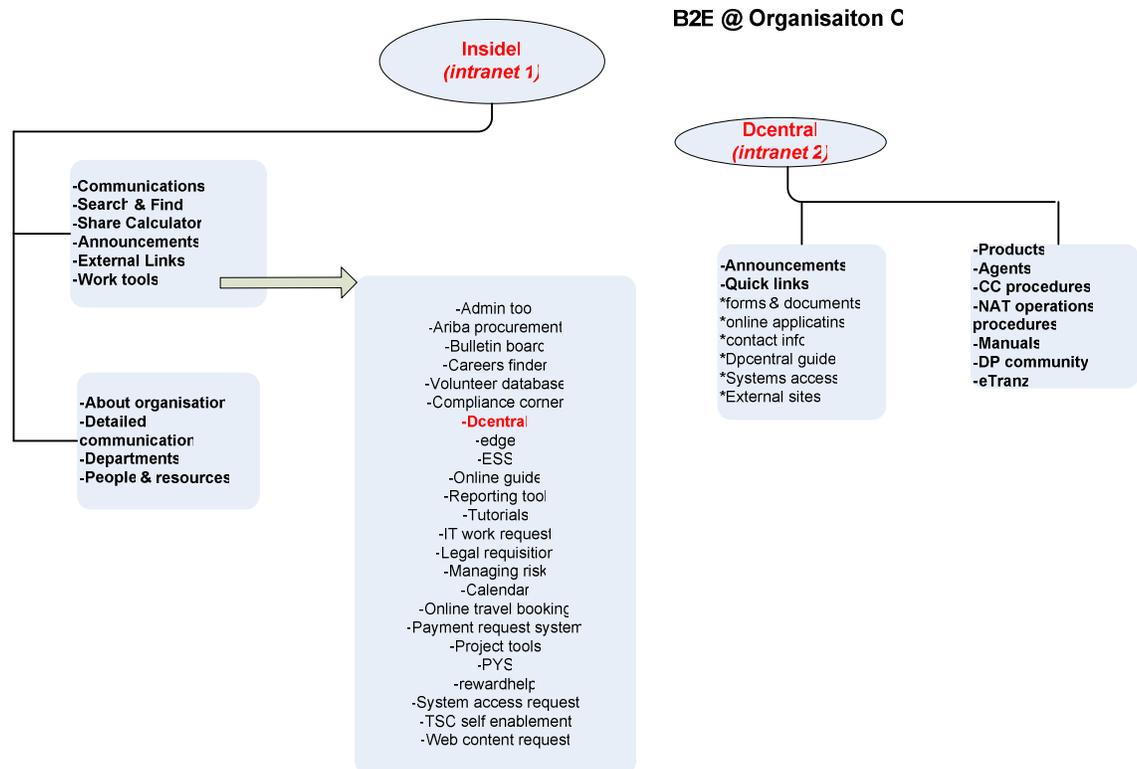
Figure 8: Sketched B2E model at the insurance company

InsideI

InsideI is the main Intranet that is made available with online employee services for the entire organisation and is used by all brands. It consists of corporate information, general information and online tools. Corporate information includes information regarding organisation business, its departments and about employees involved in business units and available resources. In the people and resources, it includes higher management and their reporting structure. The general information is aimed at circulating the updated announcements and other online services such as Intranet search based on keywords, employee search and value of employee share in the company. It also includes important internal and external links to many employee services. Finally the online tool section contains a multitude of B2E applications described in detail below. These online tools include a broad range of services for employees such as purchasing work outfits, ordering stationary supplies, computers, and provide discounts for car hire, hotels, insurance and so forth for a lower price. They are also able to apply for leave, conduct career searches, acquire technology related services and gather status updates on work requests and reporting. The specifics of each B2E applications are discussed below:

- Admin tool: It is an online form used by senior employees for conducting quality monitoring and reporting on the quality of customer service operations conducted by junior employees. It assists managers in providing a balanced feedback on the areas of improvement or development.

- Ariba procurement: is an online procurement tool which offers an array of procurement functions for use by employees to purchase work outfits, order stationary, computers, and discounts for car hire, hotels, insurance for a lower price.

- Careers finder: Leads employees to further job opportunities within the company. It gives them access to internal job postings.

- Volunteer database: The organisation encourages employees to take part in charity work such as help the guide dogs, or help clear bushes in the community. Every employee gets one day a year that is fully paid for doing volunteer work. The online database consists of information on companies and non-profit originations regarding many volunteer opportunity.

- Compliance corner: Compliance corner is used for reporting on privacy breeches or other guideline breeches that are internal as well as legal.

- Dcentral: an Intranet on its own dedicated for a particular brand and its business units. It is discussed in the following section.

- Edge: consists of online training modules in real time which facilitates online learning where employees can order courses that they wish to learn and learn at their own pace.

- Employee Self Service (ESS): is for HR related transactions. It assists in delivering employee payslips, applying for all types of leave, accessing group certificate for tax purposed, and changing employee personal information electronically. ESS provides a clear vision for managers about their subordinates regarding leave or work on varied timings.

- Glass guide online: contains information required motor insurance related work activities where it links employee to latest pricing of motor vehicles. It is an external link that leads employees to other company site.

- Incident reporting: This tool is used for reporting harassment cases and unsafe work practices. It adhered to government occupational health and safety guidelines.

- InsideI tutorial: provides a tutorial on how to use InsideI Intranet and B2E applications.

- IT&T work request: online application for technical work request. This also includes bug reporting.

- Legal requisition: consists of information on how to contact legal department for legal advices from organisation's dedicated lawyers. It is for employees to use in regards to their work. It is an electronic form which forwards the requisitions via email.

- Online travel booking: Allows travelling employees to make their work-related travel bookings online.

- Payment request system: is for the accounts department, where employees can inquire and track client payments.

- PYS (Plan Your Success): this application manages employee reviews and individual reports. It's a live document that can be continually updated throughout the year. Employees can access their own PYS to leave journal

entries reporting their perception of their work quality. Employees are given annual work performance review based on PYS estimates.

- Rewardhelp: is an area for employees to nominate each other or place compliments for good work. This information then gets sent to team managers who can allocate points for good compliments. Every point equals to one dollar. The points can then be redeemed for movie tickets or a list of products that employees can buy online with earned points through Rewardhelp system. A participant explained this application as,

  > *"it will tell you the amount of points so if you have 220 points then you can look at products within that range or smaller ranges to buy several products, which upon electronic ordering gets mailed to any address employee specifies".*

  It also allows inter-department level nominations, as such

  > *"if you had an experience dealing with someone in a totally different department, you've never seen them, but you know they've done something good, and then you can nominate them".*

- System Access Request: is for requesting access to various systems that employee need to access when their work role changes. This online form also gets approved by managers online.

Dcentral

An Intranet specific for particular brand of parent the insurance company, and contains information directly related to employees in only that particular brand. This Intranet is facilitated via the main Intranet (InsideI) of the insurance company. Dcentral is similar to a knowledge base that employees can refer to conduct their daily work activities. It consists of information regarding business products, agents, procedures and policies, and reference manuals. Apart from the work information, Dcentral also contains announcements that are directly related to a specific brand of the organisation. It contains quick links to forms and documents, online applications, contact information, and user guides that are specific to a brand.

This second type of Intranet contains a wealth of information that employees need to refer to support their work. The information contained includes:

- insurance products information which explains all the products that employee can sell to their customers, authorised limits on selling range, copies of the policy wordings and frequently asked questions about products.

- agents information consisting of information on campaigns, schemes and discounts that are set by the agents.

- customer discounts and promotions information describing discounts on car insurance, multi-policy discount, and travel promotions.

- insurance procedures include hundreds of different national operations procedures that are considered as information required to do work. These are searched and used to conduct work activities. In addition, there is also a user help manual describing the usage of Dcentral Intranet within the manual section.

DPcommunity section has non-business related activities in it such as employee-to-employee trading, reward schemes for employee and nominated member of sales team for the month. It is a reward system within a particular business unit where employees can nominate each other for good work. There is also information on Commercial deals with all domestic policies for example, farms and stocks. It assists employees in dealing with commercial insurance.

Therefore, with the aid of two Intranets (InsideI and Dcentral) the organisation has implemented administrative aspects of B2E (with applications such as plans your success (PYS) and ESS), technical aspects of B2E (by providing Online guidelines, compliance and quality monitoring) on Intranets. They also include personnel management (with the aid of Rewardhelp, CareersFinder) in providing service to their employees.

4.4.2.2 Reasons for Implementation of B2E

One of the main reasons to implement B2E at this organisation is to move with technology innovation that is happening in the economy.

Because insurance products contain large amount of information, it was difficult for employees to retrieve information and refer a customer to pertinent information quickly. A participant highlighted,

> "..employees come through induction training, I think at the time we give
> them two big green folders that had all the information, but its not

something that you can flick through or refer to at the desk, and…I don't
want to be flicking through books I want to be able to type something in
and get an answer immediately".

Hence technology implementation was important for quicker information retrieval at this organisation.

One of the main organisation values gained from B2E was transparency of information and technology implementation was to adhere to this value. Bringing in technology included bringing in employees parallel to the organisation's processes, for information sharing and also to involve employees in the processes. A managerial participant highlighted that,

"we want to involve them in the processes, and we did not want to talk a
review to them, we want to share the review with them, we want them to
have an input, as to how they think they've gone throughout the year".

Hence it can be perceived that organisational value was a reason to implement B2E in this organisation.

Insurance business is such that stricter laws or rules regarding privacy initiated the implementation of compliance corner application as a component of B2E system. In addition, the government also had requirements and regulations for the organisation to comply with in terms of protecting employees' and customer information. Hence the compliance corner was created to log and report breeches of privacy for auditing purposes. PYS (plan your success) was introduced by managers for planning out employees future and professional development with the organisation in a standardised manner. Moreover, many of the applications or content in Intranets were also suggested and requested by employees such as products information.

4.4.2.3 Employee Input for B2E implementation

B2E applications were built to be 'user-centric' to ensure it was appreciated by the employee. Employee inputs were on usability and on actual content required for them to conduct work activities whereby:

"…they went down and said, what do you want to see in this, what will
you use, and it was kind of created using lots of index cards on a big
table like this, so they went, ok well under the procedures, we're going to

have new business, cancellation and changing policies, so it was designed with the end users in mind".

Dcentral was developed in-house and was an extension of the main Intranet (InsideI) in order to centralise the six to seven other team-level Intranets. Employee inputs for Dcentral implementation were derived from user group team of 12-15 employees who included and represented end-users and managers.

4.4.2.4   Technology access and privileges

The Intranet, InsideI, is accessible to the entire organisation by its 18,000 employees from all five different brands, whereas, Dcentral access is limited to employees within a particular brand and to their internal business unit (Third Party distribution) consisting of 400-500 employees. The two Intranets are inside the company firewall and hence not accessible to outside individuals.

InsideI have more general employee information, though B2E applications in InsideI are used mainly by managers 'to look after the people (non-managerial employees)'. The tools menu in it has different access levels for each employee depending on their work role. ESS gives more access to managerial employees than non-managerial employee because managers need to approve many transactions. Access level is usually defined by profile (from technical point of view) number corresponding to the employee payroll used as a key to electronic profile in order to set up access to the B2E system. Dcentral, however, is openly accessible to all employees who deal with business clients.

4.4.3   Management of internal services

4.4.3.1   Before B2E applications implementation

Prior to Dcentral implementation, to deal with customers, there were different queues which operated very differently from each other. As a result there existed about six or seven Intranets (in some instances databases created in Access) used by each queue which was built by employees working in each queue areas. For instance, one of the Intranets was referred to as CUQ database which contained team pictures and some information on business products. However, only specific team had access to that particular Intranet (CUQ database). When someone in another department needed to

look through the information to make a critical decision they did not have access to similar information. Another issue with the numerous Intranets were, that *"they did not have dedicated people to update the database, or to ensure its consistency with other Intranets"*. As a result business operations were not consistent across the same business unit. Due to this the existent Intranet did not fully satisfy employee requirements. Moreover, when legislation changed and the information corresponding to it on the six to seven disparate systems also need to be updated promptly, it required a lot of careful update and content creation.

For HR processes, leave application requests required one or two days for approval. A participant commented on the time involved as *'you'd probably be looking at the best part of a week'*. Likewise, change of employee hours needed enormous paperwork, transferred between three different managers, requiring several faxes and waiting period (time) done through payroll services. Communication material was sent out via mass emails and organisation found gaps in communicated information to its employees. This was because, *'people don't always read their emails'*; as a result emails were not seen as effective for the organisation.

Employee reporting in regards to their work performance was accomplished on paper separated in sections. Moreover, junior employees did not have access to these performance reports on a regular basis. A participant noted that,

> *"...in the old days we used to have a piece of paper where we used to write okay, and leave comments a bit like a school report"*.

Hence there arose a need to create a centralised area where everyone could access the same information and create consistency and standardization of the information.

4.4.3.2   Integration and transformation of business functions /processes

B2E implementation involved bringing all the Intranets together and integrating them on to one Intranet controlled centrally and administered by people who are within those separate queues or different departments. The process got further streamlined through a verification and approval process for publishing it centrally.

Dcentral is a 'central knowledge base', which consists of *'knowledge that is scattered all over third party distribution and never in one spot'*. Integration and transformation

of Dcentral involved documenting process which revealed that employees were doing the same process in 4-5 different ways. The scattered processes were then mapped and rules were created around them. From the 5 different way of processing a quickest way was identified and implemented. There was no specific transformation but standardization took place. Work problems that used to take 20 minutes to be resolve was addressed in a few minutes time. Moreover, these new processes were also aimed in assisting disaster recovery areas if required.

Privacy rules are placed online for employees to abide by when they deal with customer issues on insurance policies or products. Instead of sending communications email via mass emails, organisation gathered all communication messages, sort them in accordance to the corresponding employee groups and disseminates through an announcement page on the front page of the Intranet which updates new information and any changes. Information in Dcentral aids in checking general rules and that information is indexed like it is on Google and is easily disseminated. It also contains a glossary of terms related to insuring such as definition of 'mud brick' included in insuring products information. Dcentral hence integrated a lot of information and acts more like a knowledge base that employees can refer to when conducting their work activities. Any new process is re-engineered for improvements with diverse employee teams such as underwriting, compliance, senior team, customer satisfaction team, team managers and customer service officers.

For all processes data are digitised and is delivered via the Intranet front end to the employees. The back end systems are not yet integrated to the Intranet at this organisation. This is because the organisation itself has been in the business for over 40-50 years and the information involved in backend insurance system is vast. This is not only time consuming but also possesses several risk factors such as data loss.

4.4.3.3 After B2E implementation

B2E applications have led to several improvements in the organisation. It was seen that as the Intranet usage trend is increased, the number of inquiry calls in contacting expert resources (to senior employees) has reduced from 12000 to 7000-10000 a month. This has resulted in senior level employees in taking up more administrative responsibilities and resulting in better planning of resources.

This organisation also stopped hand delivery of payslips and made it available online, a participant noted that,

> *"..we used to get a pile of papers like this every month, and someone had to go out and deliver them to two, three hundred people. The same with your group certificate at the end of the year, ready to do your tax, it was always mailed to us, now we just have to go in and print it out, this is the first year that that's happened..".*

As a result of online payslips the organisation is able to cut costs involved with company branded envelopes, postages, paper and also time savings for employees from hand delivering materials to 16,000 employees.

After implementation, when an employee put in a request for change of work hours or leave approval, it is usually approved right away, thus the same process takes much less time. For instance to apply for leave, when an employee place an application with their desired leave date online, the corresponding manager is notified of the application via email and the application is approved instantly. Hence, the time taken for processing leave application is usually within a few minutes , so the online process reduced the time taken for employees and their managers in regards to HR processes.

Online reporting application (plan your success - PYS) acts like a "live report" where it can be updated as often as managers can find time. Moreover, unlike before it is also viewable by employees throughout their work term such that "...*there is no real surprise for employees*". Dcentral helps employees through a process (such as underwriting a home policy) where it consists of guidelines to make sure that *"…everything comes through underwriting can be underwritten"*. As a result, it is evident that Dcentral has made employees more knowledgeable about their work activities. In addition, shorter steps are taken to achieve the same work result.

Conclusively, several business areas and its functions have been affected by the implementation of two Intranets, InsideI and Dcentral. These include improvements in the areas of leave processing, quicker access to information, faster responses via email communication and knowledge available centrally. Similarity and standardization in

conducting business operations, quality achieved in process and procedures respectively are also achieved.

4.4.4 Benefits, Effects and Impacts

DP central initially impacted on customer handle time for conducting work tasks required a longer time, since employees needed to look for information on Dcentral. However, overtime, employees have gotten used to finding information on their own quickly, which reduced considerable time involved in handling each client. A participant notes that,

> "… *it helps us to answer more calls, which gives a better level of customer service, so you're not having a twenty-five minute wait to get to speak to somebody".*

Hence the technology implementation took some time to gain its desired efficiency. However, once the employees became more familiar with the online applications, they were able to accomplish more work completed in a short time, thus increasing the level of quality in customer care. Quality of customer experience has also been noted to have improved. Moreover, senior teams were able to take on extra activities or responsibilities such as quality monitoring and reporting.

The B2E applications have empowered employees to make decisions related to their work. A managerial level participant highlighted that,

> "..*employees are empowered because they can make decisions and be sure that they're right because if they make them and they're unsure and they've got something to check which says you can underwrite this house up to a million dollars, you can list this car to this amount, or something, but knowledge is power, its as simple as that. Its certainly I would think it's made them more competent".*

Employees have become proactive with B2E improvements and have also become environmentally conscious when it comes to printing. A manager highlighted that,

> "*consultants like to see change and they weren't, they actually care enough to put in ideas to improve it, or to improve the way that we do things or to save some money. They are environmentally conscious, which is a good thing. In*

terms of paper, they're all for saving and not printing and so they've got that whole idea".

Overall, the organisation receives benefits such as reduced paper and cheaper information dissemination.

Application like Rewardhelp is an incentive reward for employee's positive work which motivates them on reporting good behaviour. It provides the organisation with a vision of its employee's activities and encourages them to actively participate in organisation's development. PYS (Plan Your Success) engagement tool has been beneficial for sharing ideas and conducting coaching sessions, encouraging employees to provide feedback and acquiring creative ideas. Coaching also helped to support the good work habits of employees. The employee morale and motivation was also noted to have improved as a participant highlighted that,

"from the morale point of view, they realised that we were saying they were important enough for us to dedicate time to them, it got them off the phones as well".

Employees were motivated because managers are able to highlight their good and positive work behaviour. Quality of communication between managers and team members have improved in the type of things communicated,

"...quality is improved because now we talk about things that matter more to the employees, about the career progression, and looking at things from an overall different perspective".

Managers are able to orient more towards individual employee development in the organisation. They are able to support employees so that they comply with the guidelines and also give good customer service; which is a major contributor in maintaining the organisations' good reputation in the industry.

In addition, management believes that the organisation is able to retain staff because from yearly surveys the organisation noted, *"we're sitting there in a group with happy employees at the minute"* and *"employee engagement scores over the last few years have increased"*, and also that employee

"attrition has decreased, so people aren't leaving as frequently as they were, and we don't need to recruit staff as frequently, which is very expensive to

recruit new staff and put them through training…just generally the workplace has become a better place to work".

4.4.5 Issues and Problems

The problems identified from B2E implementation are employee resistance, system accuracy and technical issues.

Employee resistance: When Dcentral was first introduced there were resistance from employees to make it part of their daily work activity. This was because the previous process involved asking another employee and attaining the answers almost immediately. In some instances a participant noted,

"..you will find that some people still have print-outs of the old database with some phone numbers and that sort of thing, because they find it quicker to get to that information".

However, during the initial phases after the implementation, with all the information available on Dcentral, it was seen as additional work because employees had to constantly read and find relevant information.

However the organisation addressed this problem through continuous training, conducting workshops that guided employees through several processes, and provided expert resources in order to direct the non-expert level users to the right information.

Like with any technology implementation, initially the B2E also experienced inaccuracies in the information on Intranets or faced technical problems making the system unreliable sometimes. However, with continuous usage of the system, employees were encouraged to highlight the inaccuracies and report technical problems that were evident to them. These recommendations were rewarding to employees in terms of acquiring incentives, and in turn were further used by the organisation to rectify system issues.

The organisation conducts two surveys a year to identify areas for improvements which provides opportunity for employees to feedback on their area of the company, on management and their measurement on the degree of employee engagement. The

organisation invested its efforts with B2E to provide employees more opportunities to express their ideas. It was noted that,

> *"I think our employees have always had that creativity anyway, I think the difference is that they feel more comfortable in being open about it, they feel like it's not a waste of time to bring it to somebody's attention, because somebody will listen to it".*

With Edge, the online learning tool, a participant highlighted that,

> *"..it has in some ways been negative, because I think that not everyone learns very well from online information, from reading or doing online things, a lot of people need actual practise".*

The organisation addressed this problem with the introduction of a 'Green Room', an elaborate training method that is discussed in the following section.

4.4.6 Training

There were no specific incentives for employees to take part in training or to use technology. Training was provided as part of employee induction. There was also training provided when the Intranet and its applications were implemented initially. It was noted that employees effectively use training programs and refer to Dcentral and use InsideI as part of their work at this organisation.

Dcentral tool is used to coach and develop staff and is used for induction training and other levels of training. There is also a system called Edge in InsideI Intranet which contains real time training modules.

A third level of training method that recently got added is referred to as 'Green Room' training. It is a training environment where new recruits learn to use technologies with special coaches. With the aid of assigned coaches new employees get to handle real clients with assistance from special coaches rather than having role plays. This helps the new consultants in having more confidence when they start their work on their own.

4.4.7 Security and Privacy

As a security measure, the Intranets and its applications are designed to logout every five or ten minutes if it is left unused by the employees. Employee privacy is protected as they are required to use a system login. Dcentral Intranet is within InsideI Intranet,

and this is secured inside the company firewall. Moreover, every time a new B2E application is developed, the system is developed with maximum security standards.

4.4.8   Summary

The organisation constantly focuses on employees' development and delivery of B2E applications as part of employee development. B2E e-business model at this organisation is facilitated with the aid of Intranets covering two aspects, organisation-wide and business-brand wide. Whist organisation-wide Intranet supported internal business functions with varied online work tools, brand-wide Intranet managed information for carrying out essential day-to-day work activities. The B2E model internally managed administrative aspects with applications such as plan your success (PYS), ESS; technical aspects with online guidelines, compliance and quality monitoring and personnel management with the aid of Rewardhelp, CareersFinder in providing service to their employees. The insurance company supports employee internal functions mainly by managing various requests and reporting functions. It facilitates request functions in several business areas such as accounts information, legal, IT, and compliance regulations. As highlighted earlier, B2E applications not only ease the way employee work is conducted but it also allows managers to focus on employee career growth and personal development at the organisation.

Electronic applications used at this organisation occur to be similar to some of the literature finding on B2E applications. The similarity is also evident to some degree from the outcomes achieved from reduced time with processes, cost savings and improved team coordination. Moreover, this case brings about employee development functions leading to improvements in organisational workforce. It was noted that the overall efficiency at the insurance company has improved because of the way work is accomplished and with the quicker service delivery. Information dissemination allowed more consistency with company knowledge and improved employee awareness about its products. Therefore, the overall outcome occurs to be beneficial on both counts that, the online information and B2E applications has helped employees improve their work as well as the improved employee work has in effect resulted in more information added to the Intranets resulting in greater B2E developments.

Chapter 5 (Analysis) will compare the cases and discuss the similarities and differences in detail.

Chapter 5

FINDINGS: Cross-case Analysis and Phenomena-context matching

5.1 Introduction

This chapter aims to cross examine the three case studies presented in Chapter 4 by comparing issues in relation to B2E. Firstly, it compares all the cases with respect to their business characteristics, technologies, and business functions and outcomes. Further, phenomena-context matching analysis is accomplished to evaluate effectiveness achieved by B2E e-business model from all three studied cases. Findings are compared and validated with literature findings.

The primary purpose of cross-case analysis is to derive conclusions and to move beyond initial impressions of individual cases (Eisenhardt 1989). Key findings across cases are discussed within the context of the conceptual model derived from literature review (Figure 3 – Chapter 2). Data collection and analyses were carried out concurrently such that initial data analytic procedures helped to shape the direction of subsequent information collected. This process provided opportunities for increasing the density and saturation of recurring categories, as well as following up unexpected findings. Interweaving data collection and analysis in this way is held to increase insights and clarify parameters of emerging theory (Glaser & Strauss, 1967; Strauss & Corbin1998).

The following section discusses case study findings with regards to two main research questions which emerged from literature survey.

5.2   Comparative analysis of Case Studies (Cross-case analysis)

In this section, research question 1 is addressed with respect to how B2E technologies and its applications are delivered, business functions affected as a result of these technologies and the outcomes including benefits and barriers of the B2E e-business model.

Research Question 1:   *How are the B2E components (such as technologies, business functions or services, and outcomes) enabling B2E model in Australian organisations?*

The case analysis below identifies, compares and contrasts key (technologies, business functions and outcomes) areas of effectiveness from the organisations studied. Hence the following analysis is believed to highlight the differences and similarities from the organisations presented B2E case studies in Chapter 4.

5.2.1   Organisation Characteristics

On the basis of the three cases (Chapter 4 - Case Studies), it can be noted that, cases studied are all large organisations functioning in different industry sectors that have adopted B2E e-business model to deliver online services to their employees. The implementations date back to early 2000 in all three cases. Although the education institute and the local council had implemented B2E in a phased and later in an evolving manner, the Insurance company implemented B2E on an ongoing basis. Many reasons led the organisations to embrace B2E applications. The B2E adoptions in all organisations are commonly seen as innovation and improvement of internal business processes due to changing industry trends and, or adherence to new regulations. In the education institute and the local council, internal changes or restructure of the organisations were also factors triggering B2E adoption. The local council and Insurance Company perceived B2E as a way of managing large volume of data and information in a regulated and convenient manner.

The role of employees in the implementation of B2E at the local council and the insurance company were important, however, at the educational institute it was limited.

The following chart (Table 2) depicts a comparative illustration of the three organisations and reasons for B2E adoption.

Characteristic	Case 1 Education Institute	Case 2 Local Council	Case 3 Insurance Company
Industry type	Education	Local government	Insurance
Number of employees	over 3500 employees	approximately 680 employees	approximately 16,000 employees
B2E implementation	Phased and evolving	Phased and evolving	Phased and ongoing
	Started in 2003	Started in 2000 (6yrs ago)	Started in 2001
Implementation reasons	-Technical reasons (integrated systems) -Internal restructure -Improved business processes	-Innovation in business practises -Internal restructure -Improved information management -Improvements driven by software vendors	-For management of amount of information for quicker access -Implementing company value such as transparency -Employee requests -Better information management -Adhering to standards and regulations

Table 2: B2E specific organisational characteristics (summarised)

From the findings presented in Table 2, it is obvious that organisations with B2E are large and the implementation strategy is phased. Reasons for adopting B2E, however, are varied with a major focus being on innovation of internal processes, better information management for adherence to policies and standards, easing the work of the employees.

5.2.2   B2E Technologies and applications

It can be noted that Intranet is the underlying technology for B2E e-business model. At the education institute, this B2E (Intranet) is made available to employees from outside the organisation as well. This is due to the nature of work by employees at this organisation. It is accessible via the organisation's portal. The other two organisations

the local council and insurance company (Case 2 and Case 3), the B2E technology is enclosed and available within the organisation premise and not externally as in the education institute (Case 1). Moreover, their Intranet is not part of main portal of the organisation rather it is locally made available upon individual login. Therefore this research findings are similar to literature (Rahim, Sugianto & Shameem 2005; Singh 2005; Tojib, Sugianto & Rahim 2005; White 2000), whereby organisation make use of Intranet and portal technologies to deliver B2E. Findings indicate that B2E is implemented on the Intranet, which may or may not be combined with other technologies such as portals. Although access to Intranets can be remote as well, to enable employees to complete tasks at their convenience, the B2E applications are all inside the organisational firewall to protect it from external malicious threats.

The insurance company has a greater complexity in its B2E structure, consisting of applications than that at the education institute and the local council. This is because of the existence of a second Intranet, that itself is different from the main internet (organisation-wide) offering a wider array of services. Even though the education institute and the local council have sub-Intranets, the only difference is the content included in sub-Intranets which are limited to specialised news or events corresponding to the particular business unit. But they are both linked to the main Intranet for organisation wide services. This finding indicates that B2E does not require a specific structure making it adaptable and suitable for different organisations.

Within the Intranet, there are several applications addressing many business functions in all three organisations. The general pattern or theme that the data revealed is that the B2E applications tend to follow a stream of electronic news (e-news), electronic documents (e-documents), electronic information, e-HR applications, and e-work tools which are all services to enhance employee work and activities.

The applications involved in the **e-news** stream are news in electronic form which reports information encompassing the entire organisation, its business units or departments, and employees and their achievements made available online. This is evident in all three cases with corporate news, specialised business unit news, bulletin boards and announcements. Media releases about the organisation are also delivered to employees to create awareness and this was common in all three organisations.

Traditional news bulletin are substituted in electronic format with updated releases. Distinguished from the education institute and the insurance company, the local council was more innovative and made use of electronic whiteboards. Furthermore, the council allowed use of general announcements where employees can trade things with other employees. Similarly, the insurance company also has online employee community where employees can carry out employee-to-employee trading. The findings indicate that B2E systems have the flexibility to integrate information delivery via different technologies.

The applications following **e-document** stream usually consist of documents in digitised form and are made available online for employees in a downloadable manner. For the education institute these are IT help and training material, travel management forms, administration related forms and procedures, quality management guidelines, annual reports, organisational strategy and plans. Similarly, the local council organised document delivery to its departments and business units as well. These include finance related forms and documents, council meeting minutes and standards. The insurance company also operates in a similar manner where the electronic documents are categorised in accordance to functions for employee usage. In essence, their document delivery mode is distributed via two Intranets. However, the data reveals that unlike the education institute and the local council, there are very few downloadable electronic documents for the insurance company in their organisation-wide Intranet. Instead the organisation makes use of electronic web forms for employees to fill and submit the applications and requests in real-time. Although at a subunit of the insurance company, there are some forms and documents that are used by employee for providing service to the end customers. The electronic documents have reduced the number of people required for processing documents in each unit. It is useful to note that electronic documents in the B2E system can be delivered in varied forms. The B2E system digitises all organisational processes, documents are available 24/7 and contribute to substantial cost and time savings for the organisation.

Electronic information (**e-information**) in B2E systems are common types of e-information in all 3 organisations included electronic internal directory of people in the organisation. However at the local council, the external directory information such as local, regional and national level directories are also made available through internal

B2E application to enable employees carry out business operations involving customers and partners. It can be anticipated that this is due to the nature of business being conducted at the organisation which is different from the other two. Subsequently, another type of information delivery notable at the insurance company is search for company related information using a Google search format. The education institute operated somewhat in similar manner where information regarding e-procurement including listings of preferred suppliers and vendors, academic calendar, structure and business unit's policies were delivered electronically. This type of work-related information is different from electronic document (as mentioned earlier) because these acts as essential referral guide for employees and are not a downloadable document. The local council facilitated information regarding records archiving and industrial standards for managing council services. Accordingly, all of the cases have non-work related information included with B2E applications, to provide a wider range of information on services for employee personal well-being. This information generally includes information for handling employee health, finance, counselling and personal development matters. Career development is a major element included in this type of information. Along with the other electronic HR related B2E applications, the organisations also deliver information on services to employees for their well being, informing them about their rights, as well as providing information on issues other than work. Thus B2E is a service to the employees.

All three organisations have included human resource (HR) function such as employee support service (ESS), electronic payslips and electronic leave requesting applications. In the education institute and the insurance company, ESS from SAP enterprise resource planning is used as the major HR application which conducted delivery of electronic payslips, group certificates, processing of leave requests and changing employee details. However, even though the local council delivered only electronic payslips (developed in-house) as part of their B2E applications; leave processing and other HR operations were conducted via forms attained from e-documents. Moreover, it occurs that the electronic HR (e-HR) applications are an ongoing development with newer applications development initiatives at the local council. As such it becomes evident that HR is an important application in B2E and that B2E applications tend be at different stages or phases of adoption and development at Australian organisations.

Lastly, the most important of all B2E application is noted to be the electronic work tools. They differ from the traditional information systems because they are e-business applications delivered via Intranet as a service by the organisation to their employee. These e-business applications utilise data from backend technologies (such as databases or servers) and are presented through the Intranet front end. The work tools are directly related to employee work and hence used on a regular basis to conduct business operations. The applications in e-work tool theme or category are different in each organisation for they are designed in accordance with business type and its functions. At the education institute, e-work tools take forms of Iexplore (which is an academic management system), RPO (results processing online), document tracking system, DLS (digital learning system), and course guide editing; which are used by academic and administrative employees for conducting various business operations. Alternatively, the local council delivers applications called eView (a geographical tool for usage as part of planning and development operations), CRS (customer response service for community management functions), and straightBUY (a tool used for contracts management and other procurements functions). Lastly, the insurance company delivers a large number of work tools on the Intranet than other organisations studied. As such they deliver work tools for administrative work for managers (admin tool), several reporting and tracking tools (compliance corner, incident reporting, IT&T work request and reporting, legal requisition, payment request system), HR and real-time training tools (ESS, Edge, InsideI tutorial and Dcentral tutorial), procurement tool (Ariba) and employee development tools (PYS-plan your success, RewardHelp, Volunteer database, careers finder). Hence it is clear that B2E systems can be integrated with other technologies to better support employees.

The following Table 3 summarises the B2E technologies and applications in all three organisations.

Table 3: B2E Technologies and its applications

	Case 1 - Education Institute	Case 2 - Local Council	Case 3 - Insurance Company	Findings
Underlying technology	Organisational portal Intranet (main-SE) Sub-Intranets *23 (derivations from main)	Intranet (main-WIRED) Sub-Intranets *4-5 (content focus on business units but referring to main for most B2E facilitation)	Two distinct Intranets (InsideI and Dcentral)	Intranets Portals
B2E applications	-Online news, bulletin boards, media releases - ESS as the online human resource services such as salary slips and leave applications -Information technology services and its help information (including email for communications) -Electronic administration (iExplore, RPO, DLS, course guide editing) -Organisational governance information such as strategy and planning -Staff networking information online -Non-business related online support services for employees	-Online news includes corporate and staff news. It also provide employee with external links and news from unions and relations -Online documents are called 'Easy Access Documents' which include council meetings minutes, corporate calendar, policies, procedures and standards. -organisational contact details, yellow pages, white pages, and street directories are also provided on the Intranet. -HR materials such electronic payslips (e-payslips) and	-Communications, bulletin board and announcements. -employee community and online trading announcements - electronic web forms for employees to fill and submit the applications and requests. ESS for payslips and leave applications and updating of personal information, online training module (Edge, Intranet tutorial) -online work tools for administrative work, personal development Reporting applications such	-Digitised info for employees -electronic databases and documents -integrated business process - support automated HR services (ESS) -electronic communications

	Case 1 - Education Institute	Case 2 - Local Council	Case 3 - Insurance Company	Findings
	email (so communication)	online training materials -Customer reporting system (CRS) and electronic view (e-view), and StraightBUY are two work tools that are online	as compliance corner, reporting tools.	

Table 3: B2E Technologies and its applications

Therefore, together these streams of B2E applications allow organisations to manage many of the internal business operations as well as simplify tasks for employee contributing to simplified or transformed business functions and processes.

5.2.3 Business functions or processes impacted by B2E e-business

As a result of the B2E applications discussed earlier (see Section 5.1.2), many internal business functions are automated and improved as a result. It is clear that B2E re-engineered and streamlined business process as it improved tasks for employees. Moreover, it integrates information from various databases and brings them together into one centralised destination.

Communications or business relationships

Communications of all types achieved from B2E model resulted in improved and electronic internal organisational communications. Employees at all three organisation are becoming more informed and knowledgeable about the organisation's issues therefore with B2E downward communications is improved resulting in greater transparency. Employees carry out increased reporting functions on various business processes to managers and essentially to the employers therefore upward communication is also improved with B2E. The system also allows for feedback sharing. As seen at the insurance organisation, managers are able to report on employee performance while employees can also journal their work performances, all of which support employee development. Such approaches also streamline the communication involved between organisation and employee in regards to their performance evaluation while providing managers with more time to coach for improvements. Moreover, any updated organisational communication messages regarding strategy, plans or policies are also mediated via announcements and bulletin boards. Physical communications between managerial employees and non-managerial employees appear to have reduced due to electronic operations such as electronic approval or due to electronic attainment of documents. This is also useful for tracking via emails, electronic trails and submission dates.

Information management

Information from various levels such as corporate, department, employee and non-business or work related are gathered and organised according to the corporate structure. It is then managed such that it is deliverable to a variety of audiences. As a

result organisations are able to have control of processing and delivery of information. In all cases information management improved delivery of data that is critical for employees to make work decisions and thus ease their work.

HR functions

In the education institute and the insurance company, business functions related to HR are delivered online. This includes leave management, payroll functions, and updating employee personal information. In the local council, delivery of employee payslips is the only HR function that is available online. HR administrative functions are a major part of B2E model where it streamline HR administrative related processes into simpler and quicker functions which leads employees in serving themselves based on their need. As such it enables access to payslips and other information at minimal processing time. It also reduced resources required in applying for leave and changing personal details. In addition, organisation support training of employees which is easier with the B2E system with efficient accessing of training materials, getting approval for employee training, and availability of real-time training applications which employees can use at their own conveniences.

Internal work functions involved in carrying out business operations

B2E support internal functions such as administrative and business decisions, where organisation processes are supported by work tools and updated information. In the education institute, because the nature of business is education, the functions or business operations conducted by the employees involved delivery of quality education, processing large quantities of administrative work for their customers (students) and also administrative employees supporting other academic level employees and overall management of the organisation's resources. These operations were enhanced either partially or entirely upon B2E implementation. For delivering quality education functions, B2E models included work tools such as DLS to support employees deliver course material to their customers in a standardized and efficient manner. B2E also contains rich information such as policies for conducting business operations that the employees need as a point of reference in the course of their work. In all cases some of the customer-related administrative functions are brought together into one centralised area, where employees can attain documents and processes it quickly. At all three

organisations business process have been automated due to B2E supporting the employees in their day to day work.

Employee Support

All three organisations also achieved non-business related activities from B2E. At the education institute, these include a wide variety of online information regarding personal well being (such as organisation counselling experts, fitness, etc) and leisure. The local council support employee development through delivery of information regarding health plans and other online information (yoga training). The insurance company allowed incentive programs (Plan your success and reward systems) via the B2E. Another important employee development function carried out by all three organisations is training. The education institute convey information regarding seminars and workshops on various topics for their employee career development on their Intranet. Their B2E model also consists of online documents for IT training. This is also evident at the local council. The insurance company entails interactive training modules that are particularly applicable to industry standards and some training. Thus all organisations manage employee development functions via incentives, career development programs such as training and internal job search, personal lifestyle or leisure aspects. These non business activities are appreciated by employees made possible with B2E.

Planning and coordination functions

Work-related information on the B2E that is appreciated by employees include information regarding organisational strategies, policies and procedures leading to managing and proactively conducting planning aspects in organisations. Departments have more coordination with respect to handling customers and also for general inquiries. An employee conducting a query (such as in the insurance company, a customer service officer) can verify information in the accounts department on their own for a customer. The education institute and local council also deliver organisational policies and procedure information that are essential for employees in coordinating their work activities to align with organisational goals.

E-Procurement

The data revealed that, there seems to be a shift in work culture as a result of technology implementation such that employees are carrying out trading functions electronically. The internal trading can be classified into two forms. Firstly, there occurs to be trading function for work related procurement. In the local council this involves buying and negotiating contracts online for material (such as asphalt, slabs, cements, etc) that is used for community development. In the insurance company, employees (team managers) are able to purchase office supplies and non-managerial employees are able to carry out purchasing functions in order to buy things online with their work earned points, as a reward system. However, the education institute differs in procurement for employees such that it provides online list of information on employer preferred supplier and vendors directed towards the procurement rather than an online application on the Intranet like the local council and the insurance company. Secondly, in two organisations (the local council and the insurance company) it was noticed that there occurs to be employee-to-employee trading; where, by postings of sale goods via general announcements and employee community pages facilitates internal trading of things internally between other employees in the same organisation. Thus the two types of internal trading functions are also conducted through the B2E model.

Hence, it is evident from the case studies that B2E e-business model changes and electronically manages internal business functions conducted by employees. This research also shows that B2E supports B2C (using digitised processes to service clients), and B2B with e-procurement.

5.2.4   Outcomes of B2E e-business model

The outcomes identified from earlier comparison of issues corresponding to B2E model show that the three organisations investigated are generating value from this e-business model. The data reveals that all three cases achieved a common outcome, that is information distribution, ease of access, HR processing, collaboration and communication, savings (of cost, time and resources), build competencies in internal business functions, and improve workforce in their organisations.

Improved Information distribution

All three organisations (the education institute, the local council and the insurance company) have improved news delivery leading to better information flow across business units and communication. The information is typically centrally managed and is distributed to all employees in the same manner. It also becomes vital for carrying out work activities that affect the flow of business processes. As a result, B2E model benefits organisations with newer practices of sharing information.

Easy access

B2E facilitates easy access to documents that are typically used for carrying out daily tasks. These documents are not only made available electronically but can also be searched and retrieved quickly. In some instances it is in the web forms (such as the insurance company) so that it can be filled and processed instantly; in others it is standard and involves policies that an employee needs to know.

Better HR information processing

HR plays an important role supporting employees in an organisation. B2E e-business enables many of the HR functions to be carried out electronically. It relieves employees including managers from tedious data entry tasks leading to more productivity in other applications.

Facilitation of online communication and collaboration

Employees are able to network with outside organisation entities as well as employees in other units (cross-departmental) by networking electronically via the B2E system. This in return fosters productive working relationships making employees multi-skilled in knowing general operations involved with other departments as well.

Process efficiencies (Business competency)

B2E in all three organisations has strengthened core and supporting business functions with improvements in process and quality in business operations. For example in the education institute, core academic operations are carried out mainly by using work tools, supporting business functions like IT and HR. Similarly, the local council and the insurance company also improved their core business functions with e-work tools and other applications. Thus, business processes are streamlined, integrated and automated that support accurate business decisions and quick responses to clients, customers and

business partners. Moreover, it also allows organisations to be more resourceful of their employee capabilities.

Savings (cost, time and resource)

Due to B2E processes are streamlined reducing time taken to complete work related operations. Accordingly, resources are saved by having fewer employees take on more responsibilities. This aids organisations in managing higher volume of activities with the same number of employees. In the education institute, because some processes are streamlined the employees are able to fulfil different tasks at the same time while ensuring the quality of work output. For HR processes, electronic delivery of payslips distribution reduced a large amount of required manpower and cost capital. Similarly, the local council encompassing online payslips saved time, reduced costs and resources involved in payslip distribution. Automated process lead to reduced costs and resources required. Time and cost savings were also achieved from online delivery of industrial standards and updated information. It is thus evident that B2E led to reduced resources, automated processes and significant cost savings.

Workforce improvements

Work environment is improved with enhanced employee assessment and feedback. It benefits employees in career development also by supporting internal changes and transition through improved training. Online services supporting personal aspects along with work allow employees achieve a balance in work and life. Employee inputs make them more proactive in organisation and create an innovative work culture. Therefore organisations are developing a better workforce with B2E e-business model.

The subsequent section, however, applies phenomena context matching technique to undermine OE (organisational effectiveness) criteria derived from the above discussed B2E outcomes in order to develop a theoretical understanding of effectiveness achieved from the B2E model.

5.3   Analysis of organisational effectiveness using OE criteria (Phenomena-context matching)

The evaluation of organisational effectiveness is carried out using the phenomena-context matching technique as described in the methodology (Chapter 3, page 42). It

employs OE descriptions and definitions provided in organisational studies (Robbins & Barnwell 1998).

Research Question 2:   *How does the value (outcomes) generated from B2E model impact organisational effectiveness?*

The analysis aims to identify key areas of effectiveness from the organisations studied. The cases are analysed to identity two main dimensions (eight criteria) that contribute to effectiveness internally (availability of information -PCM, stability -PCE, cohesive workforce -PFM, skilled workforce -PFE) and externally (flexibility -OFM, acquisition of resources (new customers and businesses) -OFE, productivity and efficiency -OCE, planning -OCM). This evaluation of OE criteria aids in identifying the B2E factors that are lead to achieving organisational effectiveness. Hence the following analysis highlights organisational effectiveness according to the Competing Vale Theory achieved from B2E identified from the three case studies. The findings discussed above are summarised in table 4. In Table 4, the first three columns are adapted from Robbins & Barnwell (1998, p. 64), and column 4 includes the findings of this research on each of the issues.

Set/criteria	Description	Definition	B2E outcomes (from the education institute, the local council, and the insurance company)
PCM	Availability of information	Have good communication channels to keep employees well informed	-achieved by all 3 organisations
PCE	Stability	Have good sense of order and long-term continuity. Operations are able to function smoothly	-centralised and controlled operations -improved business process
PFM	Cohesive workforce	Employees trust, respect and work well with each other	-increased cross-departmental work, operations awareness, networking and improved relationships
PFE	Skilled workforce	Employees are trained adequately to perform their work effectively	-employees are multi-skilled and trained in business procedures and in IT. -employees in all three organisations are technocentric
OFM	Flexibility	Able to adapt to changing external conditions and demands	-organisations can handle higher volume of customer requests and demands.
OFE	Acquisition of resources	Able to obtain external support when needed and expand size of workforce	-employee networking -no considerable expansion in workforce but maintains and enable existing workforce to take on more responsibility.

OCE	Productivity and efficiency	The organisation can produce high output volume	-evident in all three organisations that fewer employees could handle larger volume of output
OCM	Planning	Able to plan effectively setting goals that are clear and understood by all	-strategies, policies and procedures online allowed employees to align their work with organisation goals.

Source: Robbins and Barnwell 1998, p.64

Table 4: Summary of B2E outcomes

It is thus concluded that OE achieved from B2E led to improved internal processes, made the employees more resourceful, improved relationship and management of business partners and customers. B2E enhanced cross functional competencies from transformation of business activities as well as improvements in internal processes with streamlined processes involving administration and other support functions. Most importantly a higher performance from employees was achieved.

5.3.1 Revision of research framework

From the above analysis, it can be noted that there are variations in some aspects/components of the research framework which was initially developed on the basis of literature survey guided by Resource Based Theory and Competing Values Theory. As such the framework is modified to reflect the findings from this research in Figure 9.

B2E Technologies
- Intranet
- Portal

Applications
e-news
e-documents
e-information
e-HR apps
e-work tools

B2E Processes & Services
- Information management
- Communications
- HR functions
- Internal work functions
- Procurement functions
- Employee development
- Planning and coordination

B2E Outcomes
- information distribution
- ease of access
- improved HR processing
- improved communication and collaboration
- Employee empowerment
- Employee capability
- Teamwork

Organisational effectiveness:
1. Internal
- Improvements in internal communication channels
- Centralised and controlled operations
- Improved internal process
- Increased cross-departmental collaborations
- Operations awareness
- Multi-skilled workforce
- Technocentric
2. External
- Handling higher volume of customer request and demands
- External business networking
- Maintain and enable existing workforce
- Quality through output
- Alignment of employee with organisation goals

Figure 9: B2E framework reflecting the research findings

5.4   Summary

From the analysis it is evident that B2E e-business is for conducting internal business operations targeted towards the employees of an organisation by managing internal employee aspects through web technology such as the Intranet. B2E also allows improved functioning of organisations with improved processes resulting in better external outcomes.

The analysis reveals that Intranet and organisation portals are the enabling technologies for B2E e-business model. These technologies facilitate B2E applications such as electronic news, electronic information, electronic human resource management, electronic work tools and electronic processes. It is noted that with ESS, a module in ERP systems supports HR related processes within the B2E model. Moreover, there exist variations in electronic work tools or processes in organisation as it is based on the nature of business being conducted at each organisation and the technology that supports this.

The study was able to identify several internal functions improved by the B2E model, mainly information management, with different kinds of information passed to employees fostering good communication. E-procurement is another important function in the B2E model. It was also noted that the B2E e-business model supports the management of administration, employee development and planning as well. Therefore, it is evident that especially for large organisations, adopting the B2E model for organisational and people management is useful.

Chapter 6 will discuss these outcomes and implications for further research.

Chapter 6

DISCUSSION AND CONCLUSION

6.1 Introduction

This chapter aims to discuss the findings from Chapter 5 -Analysis and examine its impact on organisational effectiveness. Further it discusses the findings in relation to the extant body of literature. The chapter also presents implications of the findings for further research, and concludes that the B2E e-business model is also an important model.

6.2 Discussion and Implications

Based on this research, it is imperative to view technologies and the applications supporting B2E as a B2E system carrying out various business transactions internally. The B2E transactions generally consists of electronic news (e-news), electronic documents (e-documents), electronic information (e-information), electronic human resource (e-HR) applications, and electronic work tools or processes. These e-business transactions lead an organisation to achieve effectiveness in its internal operations which then impacts external processes as well.

The findings revealed that B2E generated values from employee related functions leads to improvements internally. B2E also improves a business by managing internal functions related to handling business customers and partners. These internal and external improvements as a result of B2E confirm the research proposition and shows that organisations are achieving effectiveness from the B2E e-business model.

The contribution this research makes to the theory is that the B2E e-business model impacts an organisation mainly in two dimensions. The main dimension identified from this research is the internal management of employee aspects and business operations. B2E achieves these by delivering effectiveness in the areas of information availability, internal stability, a cohesive and skilled workforce. For business operations, by having good communication channels to keep employees well informed, B2E also promotes better information management in organisations. Organisations are centralised and are able to achieve better controlled operations. B2E also results in improved business processes with electronic information and document delivery, human resource functions and other business related work activities. There is also increased cross-departmental work, operations awareness among employees, networking and improved relationships creating a cohesive workforce. B2E e-business is enabling employees become multi-skilled with improvements in training on business procedures and information technology. Employees in all three organisations were becoming technocentric.

Another dimension identified from this research is the impact of B2E e-business externally whereby it is enhancing the business services delivered to customers and partners. In this dimension B2E achieved effectiveness in the areas of maintaining flexibility, acquisition of resources, productivity and efficiency and planning. It was noted that organisations can be flexible to handle a higher volume of customer request and demands as a result of improved internal functions. B2E e-business model enables workforce to take on more responsibilities and in turn all organisations investigated maintained their existing workforce. There was not any significant reduction in workforce as a result of B2E, rather B2E model enhanced existing work practises. Since fewer employees were able to handle larger volume of output, this not only increased productivity and achieved time and resource efficiencies but also allowed organisations to improve quality in their business services. Moreover, with improved internal information the employees are able to align their work with organisational goals and support a greater opportunistic planning.

6.2.1 Findings and prior scholarly work

The literature identifies benefits from B2E which are? used to guide the development of the research framework. It includes internal issues such as – information management

(Tojib, Sugianto & Rahim 2005; Trethewey & Corman 2001), streamlining and supporting employee centric processes in an integrated environment (Kalakota & Robinson 2004; Rahim, Sugianto & Shameem 2005; Singh 2005), improved teamwork (Singh 2005), e-procurement (Huang, Jin & Yang 2004) and increased employee morale and commitment (Baldwin-Evans 2006).

The present research findings confirmed that better information management is achieved with B2E. The findings revealed a new pattern in information management where by information delivered by B2E e-business model included internal organisational level communication with its employees and the facilitation of networking amongst internal employees. Information management entails business products and processes information for assisting employee work.

As per the literature (Kalakota & Robinson 2004; Rahim, Sugianto & Shameem 2005; Singh 2005), this research also confirm that organisations are streamlining processes by re-engineering tasks to eliminate routine clerical tasks. However, it is evident from the findings that organisations are heading towards a centralised approach in information management and the business operations to have a better control of its operations. As a result, the processes involving employees are improved and work tasks are optimised. It was found to be an important part of effectiveness achieved from B2E model in organisations. This research was also able to establish improvements in cross-departmental collaborative work and employee developments.

Although, past literature identified procurement activities as part of B2E (Huang, Jin & Yang 2004), the present research was able to establish other employee activities such a personal development, career development and guidance for employees on legal matters. The new findings also revealed that organisations are using B2E applications to carry out extensive reporting of work place incidents such as privacy breeches. It is noted that B2E e-business model aided employees attain cross-departmental information for managing their customer related work activities.

Therefore, the results of this research study suggest that technology is an enabler of B2E model in organisations. The larger the number of employees in an organisation, the greater the complexity of B2E applications. Management of employees and internal business functions are also supported by B2E. As a result business performance is

positively affected with significant improvements in internal organisation coordination as well as in its external services. In addition, it was evident that organisations are responding to changes in business practices strategically and innovatively.

However, since this research identified that organisations are in fact achieving a degree of effectiveness in both internal and external dimensions, it is vital for organisations to evaluate each component or application of B2E implemented in their organisations. The evaluation including both subjective and monetary improvements will help understand the complete effectiveness achieved from this model.

The research began with a proposition that the benefits of the B2E model can lead organisations to achieve effectiveness. The present research finds that B2E allows organisations to achieve effectiveness, however, to what degree was not determined.

The present research contributes to the existing body of knowledge on B2E by deriving a framework for this model composed of organisational resources such as technology and employees. It has examined outcomes of the B2E model with respect to the impact on business functions. This research makes a contribution to the competing values theory by using it to study organisational effectiveness achieved from B2E e-business model. It shows how B2E outcomes can be evaluated to understand an organisation's competency achieved from the implementation of the B2E e-business model.

All 3 organisations investigated did not evaluate the impact of this model appropriately. Hence it is vital for organisations to realise optimal utilization of the B2E e-business model in their organisation. Such an approach will aid in minimising failed implementations like it was noted in Case 2.

It is also clear that technology is reshaping organisational internal functions which in turn influence employee work practices. As a result, organisations are becoming more technological and its employees technocentric.

6.2.2 Similarity with B2B and B2C e-business model

Some of the B2E characteristics are similar to those of other e-business models such as B2C and B2B. The notable benefits include reduced paper work and associated costs, and improved quality in customer care. B2E also facilitates timely dissemination of updated information to its users, the employees. Another similarity of B2E e-business model is such that it allows online purchasing, which is a B2B application; the e-procurement where employees are able to purchase items with their work bonuses. This is also parallel to the study conducted by (Huang, Jin & Yang 2004) which identified employee procurement functions allowing businesses to reach out new level of customers while creating citizenship behaviours among employees towards their employer.

B2C and B2B e-business models are facilitated on Internet and Extranets, while B2E is on Intranet, hence all are based on HTTP protocols. All 3 e-business model can be linked to portals. The e-business applications handle real-time information targeted to a user group, such as employees for B2E, customers for B2C and business partners for B2B. In this manner, B2C and B2B accomplish customer relationship management and partner management whilst B2E achieves employee management aspects of an organisation. The electronic management in all three e-business models (B2E, B2C and B2B) automate and improve processes involved for attaining greater efficiencies.

6.2.3 Limitations and future research directions

The findings emerged from the research presents several issues for future exploration. This research addressed organisational effectiveness from B2E leading to overall business improvements. The study was limited to 3 organisations and was aimed to explore the overall factors contributing to effectiveness. Hence detailed employee investigation was out of scope. As such, further research needs to be carried out with firm focus on employees and the technocentric effect amongst the employees. Future research is also needed to explore employee perspectives of B2E in the organisations, how B2E affects employee trust and values and problems related to B2E systems.

Additionally, this research could not establish the monetary gains of organisations which adopted the B2E e-business model. Future survey-based evaluations can possibly identify monetary gains and will greatly support the current findings.

The research also suggests the need to explore B2E implementations and the achieved effectiveness from a larger sample of organisations. Comparative evaluations to explore the benefits of B2E with B2C and B2B e-business will provide better grounding for B2E e-business model. Furthermore, investigations are also required for better underpinning of B2E as an e-business model or as a type of e-management.

6.3   Conclusion

The research notes that B2E is an equally important e-business model as B2C and B2B. It is internal and leads organisations to improved processes, supports employees and achieves efficiencies that positively impact external achievements. The research also demonstrates that existing theories can be used to study this model. It highlights not only the importance of the B2E e-business model but also makes a contribution to the Competing Values Theory by emphasising internal and external improvements in OE from e-business model.

Presently there is little research explaining the effectiveness of B2E e-business model to organisations. This research fills that void as it shows the relationship between B2E derived outcomes and achieved organisational effectiveness. Further it provides an understanding of the type of efficiencies that can be achieved from B2E e-business model. This research led into an approach that organisations can use to determine effectiveness from their B2E e-business model and bring out the current B2E e-business practises in Australian organisations.

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APPENDIX   A - Interview protocol

Section A – Introduction

Questions in this section are to establish company background:

<u>Company Background</u>

1. How many employees is the organisation serving?

----

2. What is the nature of business conducted by the organisation?

----

3. What is the organisation structure?

----

4. What are the classifications of employees in this organisation?

----

5. How many employees are involved in each classification (senior /middle management, academics, admin staff and other support staff)?

----

6. a. What is included in organisation's online services to employees?

----

b. Which components are directly related to employees?

Section B

<u>Technologies supporting B2E</u>

1. Which technologies at this organisation support employee activities/work? (Check all that apply in the following table)

	Intranets
	Portal
	ERP
	Collaboration tools
	Knowledge management
	Other Intelligent technologies

2. What other technologies does the organisation have that supports employee work?

----

3. Are all these technologies integrated? How do employees access it online or from their desktops?

----

4. How long ago were these technologies implemented?

----

5. What was the purpose behind the implementation and reasons for selecting particular technologies?

----

6. How was the implementation planned? (ie: phases of implementation, who was involved, end results of implementation)

----

7. Do all employees have access to all the tools in the organisation?

----

8. Is it optional or mandatory for everyone to use these as part of their work activities?

----

9. a. How were the employees trained to use these technologies?

----

b. Was there any resistance from employees to use technologies to perform certain tasks?

----

c. Were there any incentives to the employee to use these technologies?

----

10. Are all the employees throughout the department aware of the applications available to them through these technologies?

----

11. Which services are aimed to employees directly (such as support services)?

Section C

Business process and services

1. What are the main business processes or organisation functions that are supported through Intranet, portals and online applications?

----

2. Are all the business process at this organisation integrated even if they are on different platforms?

3.a. Which new functions/activities were created or were outcomes of technology application for organisational work?

----
b. How did these new applications affect employee work?

----

4. Has communication between departmental units or within department's members improved as a result of integrated technologies?

----

5. What is the impact of technology applications to internal processes (employee work) on knowledge management and knowledge sharing?

6.a. Has this (Q5) impacted or better support employee learning?

----
b. Is there online training for using these technologies

----

7. Do you think employees effectively use the training programs online (if there is any)?

Section D

Benefits and outcomes

1. Has the Intranet, portal and associated technologies provide better information access to all employees in the organisation?

----

2. Has this information access improved the work undertaken by the employees?

----

3. Has the organisation achieved any reductions in cost due to these technologies?

----

4. Has the organisation structure within your organisation changed as a result of this technology?

----

5. Has the technology increased employee output?

----

a. If yes, how?

----

6. Has this integrated technology/Intranet resulted in teamwork?

----

7. Have the employees benefited from teamwork? Were there any problems?

----

8. Has technology brought about efficiencies in organisational business process?

----

9. How was this process carried out before technology?

Section E

Organisation Effectiveness

1. Overall, what is the impact on internal processes due to these technology applications?

----

2. a. Do you think employee productivity has increased as a result of Intranet?

----

b. Has it increased the number of customers as a result of these technologies?

APPENDIX   B - Plain language statement

Invitation to Participate in a Research Project

Project Information Statement

Project Title:

Achieving Organisational Effectiveness with B2E e-business model.

Investigators:

Ms. Feeba Mootheril (Business Masters degree student, Business Information Technology, RMIT University, feeba.mootheril@rmit.edu.au, 9925-1656)

Associate Professor. Mohini Singh (Senior Supervisor, School of Business Information Technology, RMIT University, mohini.singh@rmit.edu.au, 9925-1355)

Dr. Alemayehu Molla (Second supervisor, Business Information technology, RMIT University, alemayehu.molla@rmit.edu.au)

Dear ABC

You are invited to participate in a research project being conducted by RMIT University. This information sheet describes the project in straightforward language, or 'plain English'. Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate. If you have any questions about the project, please ask one of the investigators.

Who is involved in this research project? Why is it being conducted?

Feeba Mootheril is a Masters by Research student who is the investigator of this study which is being conducted as part of her Masters degree through RMIT University. This project has been approved by the RMIT Human Research Ethics Committee. The study is being conducted to investigate organisational effectiveness achieved with business-to-employee (B2E) e-business model used for internal management of the organisation.

Why have you been approached?

Because your organisation has been identified to have implemented B2E model, i.e., Internet and Intranet technology based applications, protocols and electronic services that employees use to interact with each other and with management.

What is the project about? What are the questions being addressed?

The research aims to find the benefits of internal organisation and employee management via technologies (business-to-employee e-business model). Therefore, it seeks to determine:

1. The development of organisational management systems (technology, employee support systems, integration and implementation issues)

2. The benefits of the use of technology to manage the organisation and employees.

3. Improvements in business processes, output/services, employee productivity and organisational effectiveness.

Answers to the above issues (questions) will be obtained from the attached *Interview schedule*.

If I agree to participate, what will I be required to do?

You are expected to answer the interview questions which will last for approximately 45 minutes.

Your interview response will be tape recorded for data analysis purposes. However, you may request for the recording to be terminated at any stage during the interview.

What are the risks or disadvantages associated with participation?

There are no perceived risks.

If you are unduly concerned about your responses to any of the questionnaire items or if you find participation in the project distressing, you may choose to withdraw.

What are the benefits associated with participation?

Sharing the findings with you will give you access to B2E organisational issues that you can also incorporate the findings into your organisation if you wish to do so.

Your participation in this project will enable me to complete this very important and unexplored area of B2E e-business research.

What will happen to the information I provide?

Information will be kept confidential and your anonymity will be respected at all times if you wish to remain anonymous.

Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) a court order is produced, or (3) you provide the researchers with written permission".

The recording of the interviewees will be accessed for transcription and analysis by Feeba Mootheril.

The results of the data collected will be analysed for masters' thesis, and for the publication of papers in academic journals and presentation at conferences.

What are my rights as a participant?

As a participant you have:

The right to withdraw your participation at any time, without prejudice.

The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant.

The right to have any questions answered at any time.

Whom should I contact if I have any questions?

If you have any questions regarding this research please contact:

Ms. Feeba Mootheril (Investigator, Masters Student, RMIT)

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Yours Sincerely

Ms. Feeba Mootheril	Assoc Prof. Mohini Singh
Masters Candidate	School of Business Information Technology
RMIT University	RMIT University

Any complaints about your participation in this project may be directed to the Secretary, Portfolio Human Research Ethics Sub Committee, Business Portfolio, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 5594 or email address rdu@rmit.edu.au. Details of the complaints procedure are available from the above address or http://ww.rmit.edu.au/council/hrec