

MANAGING E-BUSINESS CHANGE WITHIN A GLOBAL E-MARKETPLACE: A BUYER'S PERSPECTIVE

Ash, Colin, Edith Cowan University, Pearson Street, Churchlands, Perth, Australia,
c.ash@ecu.edu.au

Abstract

This paper presents the results of a case study into the management of change from e-business adoption by a globally distributed mining company. The case represents a large buyer organisation's perspective on participation in an e-marketplace for the mining industry. Detailed case study analysis identified the facilitators of change essential in overcoming the barriers to B2B e-marketplace adoption. The case study used an established research framework for gathering evidence to examine the factors for success of e-business implementations for active trading partners. The research framework was chosen for its ability to explore the complex phenomena of B2B e-Marketplace activity. The findings suggest that e-business readiness and change management are essential facilitators for success and where the key issues remain as people oriented organisational issues.

Keywords: B2B e-marketplaces, supply chain automation, change management, e-business readiness.

1 INTRODUCTION

Numerous papers have been written about e-business and how this concept will change the way companies do business, characterised by rapid exchange of information within a virtual network of customers and suppliers working together to create value-added processes (Ticoll et al. 1998, El Sawy et al. 1999, Jansen et al. 1999, Burn & Barnett 2000). However, little information is available on how to successfully integrate e-Business projects with ongoing B2B e-marketplace systems (Kaplan & Sawhney 2000, Segev & Gebauer 2001). As more and more established organisations realise that they need to form alliances with their customers, partners and suppliers over the Internet, e-business integration with e-marketplace systems becomes a critical issue (Koch 2002, Osburn & Kisiel 2003).

Kalakota & Robinson (1999, p. 60) state that “the creation and implementation of an e-business project is inextricably linked to the management of change.” This requires systematic attention to learning processes, organisational culture, technology infrastructure, people and systems thinking. e-Business change (eBC) is defined here as an organisational initiative to design an e-business project “to achieve significant breakthrough improvements in performance” (Guha et al. 1997, p. 121). These performance gains can be achieved through changes in relationships between management, information, technology, organisational structure, and people. Planning and managing such systems requires an integrated multi-dimensional approach across the e-business and the development of new business process models (Kumar & Crook 1999, Scheer & Habermann 2000).

In trying to bring about e-business change “managers would do well to recognise the complementary nature of technology, business models, and e-business readiness throughout the value chain from their suppliers to their customers” (Barua et al. 2001, p. 39).

This paper reports on the initial findings from a case study of a global mining organisation’s ongoing e-business projects within an e-Marketplace. This involved the collection of most recent information from multiple interviews from four distinct internal mining sites and web-based secondary data. An established research framework of e-business change (eBC) is used to identify the factors for success of e-business implementations. The qualitative data provided content and discovery of elements that surround each construct to identify those facilitating and inhibiting factors that lead to eBC goals.

The results confirm that a successful project was found to have facilitators in all components of the eBC framework, including the change environment and management practice. Further, there is the implication that successful e-business projects between buyers and sellers within a public e-marketplace will have facilitators in all components, especially in the area of cultural readiness and the management of e-business change.

2 THEORETICAL FRAMEWORK

We define a B2B e-marketplace (or e-Marketplace), as a virtual marketplace where multiple buyers and sellers can interact with information and transactions supported by additional value-add facilities. This involves the application of Web-based technologies, including “sell-side” and “buy-side” applications. In the case study QTX is the alias for the e-Marketplace organisation and Global Mining Corporation (GMC) is a large internationally distributed mining company (Figure 1).

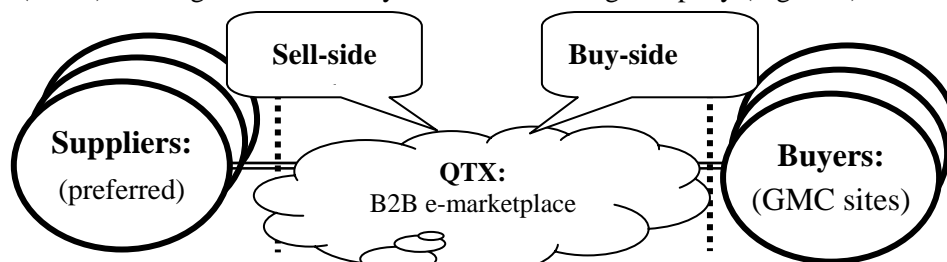


Figure 1: QTX's Public e-Marketplace

GMC is leveraging QTX's e-Marketplace to position itself as a major buyer within this global mining industry virtual marketplace. The positioning by GMC demonstrates a differentiation towards this public e-Marketplace to further enhance flexibility to source from local and regional suppliers to take full advantage of operational obligations.

2.1 Model of e-Business Change

Barua et al. (2001). specifically refer to the success of a company's e-business initiatives coming from the readiness of buyers and suppliers to engage in electronic interactions. Norris et al. (2000) capture the essence of moving to an e-business environment as involving a major organisational change. "Like ERP major business initiatives, e-business forces change to occur to three corporate domains – *technology, process and people* – at both a strategic and operational (tactical). level". To overcome resistance to change, each component must be aligned, along with the enabling technology, to the strategic initiatives (Hesterbrink 1999).

This case based research uses a model of e-business change (eBC) developed by Ash and Burn (2004). It was derived from the result of a longitudinal study of e-business implementations with existing ERP systems. This comprehensive model of eBC is proposed for the case study of an e-marketplace. Figure 2 illustrates the new model of eBC where all components within the three levels are considered antecedents to success.

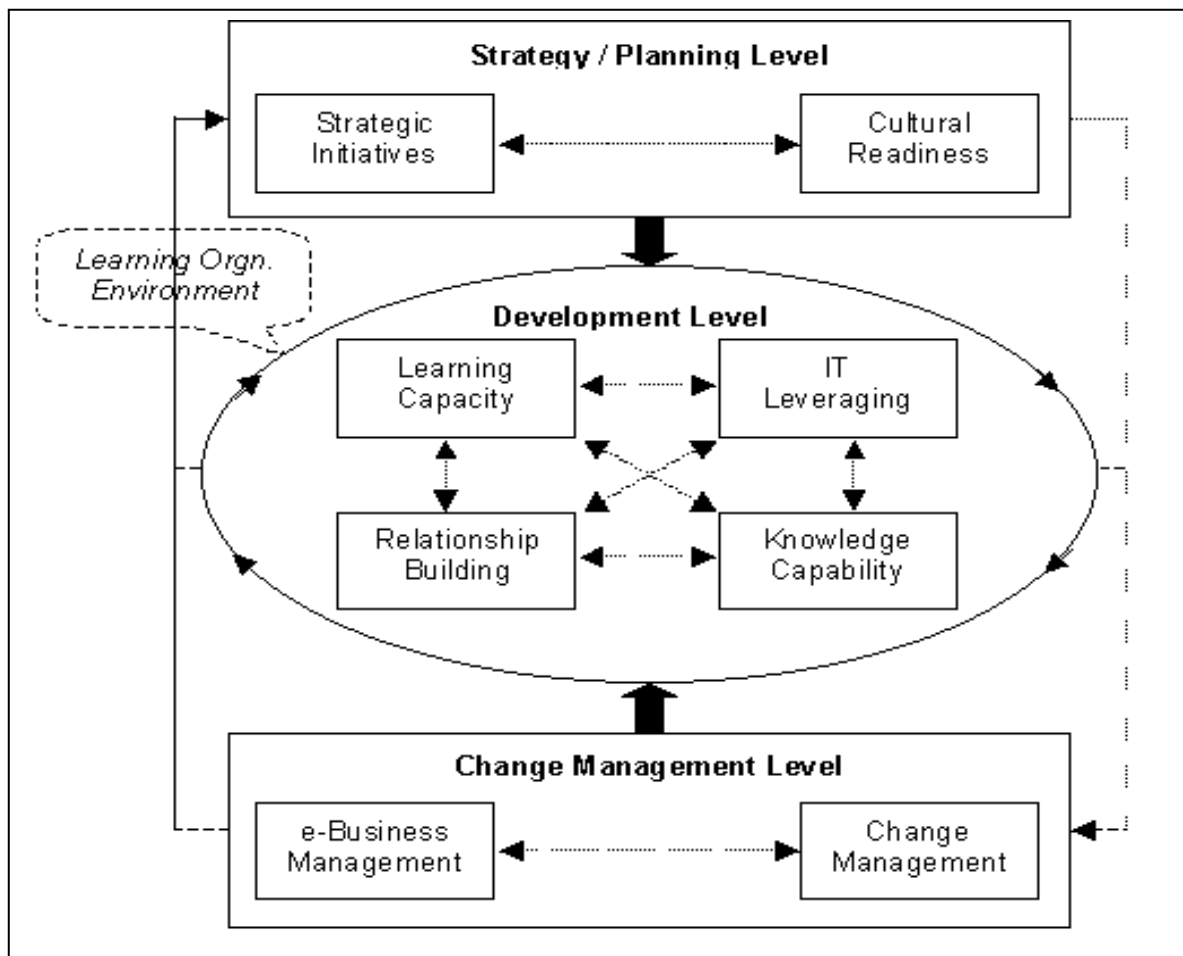


Figure 2: Model of e-Business Change (Source: Ash and Burn, 2004)

Figure 2 shows that strategy drives developmental and management activities, management supports developments in e-business, which in turn gives feedback to strategy.

Based on the previous work by Ash and Burn (2003) for identifying and examining the facilitators and inhibitors of successful e-business projects within ERP environments, the research question(s) addressed are as follows:

- What components of eBC model facilitate and/or inhibit success of e-Business projects?
- What are the critical success factors of e-Business adoption within a B2B e-Marketplace?
- Is the eBC model appropriate for identifying patterns of change?

3 METHODOLOGY

“Embedded” multiple case-study analysis was chosen to investigate the research questions concerning the complex phenomenon of e-business change projects. Embedded approaches enlist the use of multiple units of analysis; (i) the company’s strategy, (ii) the project team, (iii) the project. This triangulation attempts to validate primary data. The case-studies selection criterion required a major e-business project, which had organisational implications. Also, as the focus was on studying antecedents to organisational performance, a homogeneous set of projects (having similar initiatives) with variance across cases but with the same outcome measures - cost, responsiveness, flexibility, satisfaction, shareholder value, and other e-business metrics – was required.

3.1 Data Collection

Early in 2004, four Western Australian mining organisations were contacted with a view to gathering information about the state of e-business developments within the mining e-marketplace. A semi-structured interview approach using open-ended questions was used to capture information of current and future use of R/3 with Internet technology. In constructing an appropriate interview questionnaire, the issue of benefit maximisation was paramount and the focus of this was towards supply chain automation based around business-to-business models.

The study was carried out using multiple interviews of senior project staff of a global mining e-marketplace QTX involved in e-business developments of customer within this e-marketplace. Data was gathered from three sources; primary, secondary and tertiary:

1. Primary data, from open and semi-structured interviews conducted between June and July 2004. Telephone interviews and email correspondence help to verify the case notes.
2. Secondary data, from company documents; case papers and company reports sent via emails.
3. Tertiary data, from case papers and company reports access from company Web sites.

The analysis techniques were used at 3 levels as described in Table 1.

Level	*Coding Technique	Data Analysis
1. Lower levels of detailed benefits	Selective	Content analysis of each sub-case to examine each construct, using exemplar cases.
2. Next level detail of content within key themes	Open and Selective	Cross-sub-case content analysis of selected themes to determine the elements of eBC that contributes to superior value, using exemplar cases.
3. Top level themes	Open	Cross-sub-case content analysis to determine the highest level themes that are critical / essential to e-Marketplace B2B interactions.

Table 1: * Coding techniques open and selective are from Strauss and Corbin (1990: 117-118).

3.2 Selection of Buyer Cases

A search of secondary literature, web sites, and local industry consultants, was performed to identify the case organisations. Significantly the mining and resources sector dominates the local business landscape. Four Australian mine sites as buyer members of the QTX e-marketplace, were selected for their suitability to represent the whole marketplace. The cases are presented in order by the increased level of e-marketplace interaction between buyers and suppliers:

4 GMC CASE BACKGROUND

Global Mining Corporation (GMC) is one of the world's largest producers of precious metals. GMC is the only precious metals producer ranked in both Standard and Poors 500 and the Fortune 500. GMC employs approximately 14,000 people worldwide and is committed to the highest standards for environmental management, health and safety for its employees and neighbouring communities with its mine sites. With mining operations in North America, South America, **Australasia**, Indonesia, Uzbekistan and Turkey, the company has implemented e-business across cultures to achieve a unified global corporate supply chain strategy.

4.1 Four Buyer Cases

GMC Australasia or GMC-A is the largest gold producer in Australia with interests in eight mining operations, including one site in Queensland, one in New Zealand, and six mine sites in Western Australia. Management is committed to working closely with remote communities and state governments as an employer of nearly 1,900 people. Table 2 summarises the profiles of the four "exemplar" case organisations that participated in the study (GMC-A1).

Case GMC-A#	Company Type	Australian Location	Employees & Contractors
A1	Underground miner of high-grade gold	Queensland - remote	280 & 120
A2	Underground miner of Copper & Zinc	Western Australia - remote	~400
A3	Open cut and under-ground gold miner	Mid Western Australia - city	550 & 210
A4	Open cut and under-ground gold miner	Nth. Western Australia - remote	150 & 350
QTX	e-Marketplace for mining industry	Perth City, (Australia)	6 (8)

Table 2: Case Profiles

GMC-A has been GMC's fastest e-business implementation to date, by integrating to QTX e-marketplace in less than a month and reaching well over 100 active trading relationships (ATR) with its suppliers. GMC-A's situation is a bit different than the other GMC sites in that it operates SAP enterprise systems for all mine sites across continental Australia, and New Zealand.

4.2 QTX Organisation – The e-Marketplace

QTX is a globally distributed e-marketplace company, operating at eleven locations in seven regions: Africa, Asia, Australia, Europe, North America, S.E. and S.W. America. QTX is cable of providing expertise in support GMC-A's global e-business implementation. The QTX team has been an integral part of GMC's success from a supplier enrolment/training effort as well as listening to GMC-A's business requirements and developing the digitized solutions that deliver value. A good example of this close working relationship is the development of the QTX "Procure to Pay" (P2P). digital document system. GMC-A has also undertaken an electronic tendering effort for complex multiple line item agreements or forward purchase agreements. Finally, GMC-A has been able to utilize the decision based functionality of QTX's e-sourcing application to lower their total cost of ownership for goods purchased.

5 FINDINGS

The case material collected was used to distill the characteristics and issues of e-Marketplaces and to examine change issues with the developments for active trading relationships of buyers and suppliers. A table of key comments was constructed as initial findings for each component of the eBC model (Table 3). These comments of ‘change management considerations’ helped focus the evaluation of the contribution or influence of each component to e-business change.

eBC Model <i>Components</i>	GMC A#	Change Management Considerations
Planning Level <i>Strategic Initiatives</i> <i>Cultural Readiness</i>	All A1	Preferred suppliers need to implement e-business in all branches e-Business value propositions need to be accepted at all organisation levels
Development Level <i>IT Leveragability</i> <i>Knowledge Capability</i> <i>Relationship building</i> <i>Learning Capacity</i>	All A3 QTX All	Customers leverage QTX’s IT to enable business process integration Employees should have constructual knowledge of e-business processes Active trading relationships (ATR) are low level, but critical for growth Supplier employees need training at each stage of eBC
Management Level <i>Change Mgt Practice</i> <i>e-Business Mgt Practice</i>	A2 All	Intermittent staff reductions and change of roles from e-business adoption Data alignment between ATRs requires changes to e-catalog materials lists

Table 3: Key comments of the components of eBC

The initial findings in Table 4 show that GMC-A1 achieved most success, GMC-A2, A3 achieved moderate success, and GMC-A4 was least successful. Again, the cases in Table 3 are exhibited in ascending order of B2B interaction. If we assume these ratings reflect the presence of facilitators and inhibitors, then the initial findings indicate that a successful project should have facilitators in all components, including the planning and management levels, e.g. GMC-A1. Further, there is the implication that least successful e-business projects will have inhibitors in both levels, especially in the area of cultural readiness and change management practice, e.g. GMC-A4.

5.1 Evaluation of e-Business Success of 4 Cases

Components <i>Constructs</i>	Most Successful	Least Successful	Benefits Realisation
Strategic Initiatives <i>stimuli</i> <i>formulation scope</i> <i>decision making</i> <i>strategy led</i>	pro-active & reacting incremental champion emergence Business a IT driven	reactive revolutionary central autocratic IT strategy lead	pro-active in reacting incremental in practice champion leadership IT aligned to strategy
Cultural Readiness <i>change agents & leadership</i> <i>risk aversion</i> <i>extent of open communication</i>	+ welcomed +	- cautious targeted	need for change leader welcome change open communication
Learning Capacity <i>adaptation</i> <i>improve efficiency</i> <i>learning type</i>	learning from others learning by doing double-loop	response to IT change learning by doing single-loop	*learning induced by IT change learn to be efficient learning from feedback

/Table 4, continued

Knowledge Capability <i>external information use</i> <i>declarative knowledge</i>	boundary spanners focus on core competencies	technology gate keeper R&D resources IT development	collaboration with partners and competitors *acknowledge knowledge is a corporate asset
IT Leveragability <i>use of Internet technology</i> <i>role of IT</i>	+ superior enabling & socio-technical	- poor dominant factor	superior IT not required but * ensure IT is adequate intrinsic to work operations
Network Relationships <i>inter-organisational linkages</i> <i>cross-functional cooperation</i>	cooperative superior (data alignment)	non-cooperative/competitive poor (data alignment)	* Trust and commitment not imperative but needs collaboration for emergence Data alignment is essential
Change Mgt Practice <i>mgt's. readiness to change</i> <i>pattern of change</i> <i>scope of change</i> <i>managed change</i>	committed + improvement well managed process for change	resistant - radical change alleviation of dissatisfaction,	* Mgt committed to communicate change at all levels all aspects in evolutionary change pattern more successful
e-Business Mgt Practice <i>e-business measurement</i> <i>use of tools and techniques</i> <i>team-based structure</i>	use e-bus metrics adequate/superior +	No improvement feedback loop poor (tools training) -	user e-business metrics for feedback educate about techniques * reward teaming

Key: + = facilitator, - = inhibitor, * = satisficing

Table 4: Benefits Realisation Factors by Construct

Table 4 below summaries the pattern of behaviour across the four cases. Consistent with the research objectives, specific constructs were established concerning each component of the eBC framework. The data gathered on each construct was analysed for its positive or negative influence on conducting eBC or overall eBC effectiveness. This is documented with either a plus (+) or a minus (-) sign.

The patterns in Table 4 indicate several important indicators that have implications for both research and practice. For stimuli all four case were the same, proactive but reacted very differently to stimuli. To be successful, eBC management must support a *proactive* way the organisation *reacts* to the stimuli. While most successful organisations had positive characteristics, not all characteristics were seen to be equally important or indeed to directly influence success. Those constructs identified by (*) were seen as 'satisficing' factors, that is, they needed to be present but not necessary to be excellent. These involve components other than strategy and cultural readiness (e-business readiness).

Those with significant impact on the project success are in bold type (+) or (-). In some cases, both positive and negative (+ & -) contributions were found from one component variable. For GMC, leadership was found to exhibit (+ & -) contributions. In some instances, respondents chose multiple values for a specific construct. Table 4 is especially useful in separating those constructs that have variance across the range cases examined and those that have none.

6 DISCUSSION OF FINDINGS

6.1 Planning Level

(i) Strategic Initiatives

There tend to be strategic 'stimuli' ranging from competitive pressures, continued market leaderships, customer expectations, employee dissatisfaction and/or organisation inefficiencies that trigger firms to undertake eBC management. According to these findings, eBC management has to be *proactive* to be successful, but by the way the organisation is *reactive* to the stimuli. This is viewed as a satisficing condition for eBC management success.

Successful eBC projects establish an objective and unbiased team or individual *champion* that continues to push the organisation and groups to find new innovative processes. These *champions* must be empowered to implement the changes within a culture of e-business readiness (Segev and Gebauer, 2001).

One of the most critical groups of stakeholders to GMC's e-business effort. GMC's executive management team, both at the corporate and operating level believed in the long term value, efficiency and cost out savings of e-business. It was because of this belief that they made QTX implementation an imperative at the operating level and incorporated it into performance development plans for those involved.

GMC's preferred suppliers were, and continue to be, the cornerstone to GMC's ability to execute its e-Business strategy. Without the suppliers' participation, the effort would fail quickly. From inception, GMC's more progressive suppliers saw the immediate value of streamlining the business relationship through digitized processes. These suppliers were the first to joined QTX. Other GMC suppliers were less clear on QTX and its value proposition, which required additional explanation and a longer enrolment process. Ultimately an overwhelming majority of GMC's preferred suppliers have recognized the long-term value, have joined QTX and are transacting in key regions around the world.

(ii) Cultural Readiness

An organisation attempting to change performance radically seems to require some "sense of urgency" in their business situation, which translates in turn into a compelling vision that is espoused throughout the organisation. To overcome pockets of reluctance to change, an organisation's vision for change must provide an atmosphere of communication where individual concerns are not seen negatively but rather welcomed. An important ingredient is the right cultural mix for successful eBC is leadership from the top and initiatives from employees, together with an atmosphere of open communication, participation, committed cross-functional access to experts, and committed inter-organisational focus.

Teams: The site teams on the ground that were responsible for e-business execution were equally critical to GMC's success. GMC's effort gained traction in the early days of QTX through hard work and commitment to achieving the strategy. The traction was achieved through constant and consistent communication of the change and related value of e-business. Overall, communication was multidirectional - upwards, downwards and outwards. This site-based hard work paid off, as the effort had a cumulative effect of success breeding success. To date GMC has over 800 suppliers that utilize the QTX marketplace to send and receive digital transactions.

GMC Executive Management created a small team whose sole purpose was to develop and implement the e-business strategy at GMC. This small team developed: the strategy, established virtual teams, developed work plans, obtained funding, prepared communication plans, assisted in supplier enrolment and overall project execution. The site teams and the "Project Management Organisation" worked closely together during GMC's execution phase.

Another critical success factor was QTX Seconded supplier enrolment. GMC seconded key internal employees to work on behalf of QTX to enrol suppliers at all levels. Armed with industry experience, information and senior supplier contacts these key individuals contributed greatly to the overall effort. The seconded GMC employees have since been re-absorbed back into the GMC organization and continue to have a significant impact on GMC's e-business program.

6.2 Development Level

At the development level, business process was a critical component in GMC's e-business effort. The company had to devise the best way to approach digitisation of current procurement processes and identify new business processes that needed to be developed in order to execute to GMC's supply chain strategy:

- (i) Learning Capacity** - Successful eBC projects are enabled in organisations that have a propensity to learn from best practice and customer needs, and exhibit learning whereby employees individually and collectively reflect on their past experiences. They are able to modify their course when necessary, and discover new opportunities. This is a new culture of the learning organisation.
- (ii) Knowledge Capability** - Successful eBC projects are enabled in organisations that leverage external information and experts, and focus on core competencies.
- (iii) IT Leveragability** - Successful eBC involves the coalescence of 'IT' and e-business best practice, whereby IT plays a supportive, but not always commanding role that is linked to the business case for eBC. Balanced consideration of the social, technical, and business value elements should be maintained during implementation.
- (iv) Relationship Building** - Successful eBC projects require commitment between partner organisations to use common IT platforms and sharing of corporate information. New business processes were created to enrol, test and ultimately enable key GMC suppliers. This process was a concert of working relationships between GMC, QTX and Mincom. GMC and QTX performed supplier enrolment workshops around the world for the sole purpose of communicating the reciprocal value of e-business to GMC and its suppliers, on a global, regional and local level. Once enrolled, the joint team collectively enabled the suppliers through QTX.

GMC local suppliers were instrumental in GMC's success as they provide important goods and services required to operate the mines. As part of GMC's Social License to Operate and its commitment to being a good corporate citizen, enablement of these local suppliers was a high priority. The local supplier network of forward thinking people contributed significantly to GMC's effort.

6.3 Management Level:

At the management level e-business has at its core a massive change management effort requiring an arsenal of change management tools and techniques (Kalakota & Robinson 1999; Scheer & Habermann 2000). To achieve this requires continuous articulation and recognition of the value of reporting results, as well as monitoring each individual's contribution and accountability to the overall company's change effort. At this individual level, concern should be placed on how the eBC will improve employee satisfaction and the quality of work life (Guha et al. 1997).

(i) Change coordination

People, both internal and external to GMC were, and continue to be, the heart of GMC's e-supply chain effort. Communication across multiple sites and throughout the organization (top-down, bottom-up and outward focused) was critical to achieve buy-in, address change management issues and ensure the best solution was optimally implemented. To support the effort, performance incentives

were established to incent employees to reach milestones. GMC also created consensus-building, cross-functional teams to ensure everyone stayed informed and synchronised, and that all knew what the value to their part of the organisation would be as a result of the implementation.

(ii) Change Management

GMC relied on proven change management techniques – namely General Electrics’ change acceleration process Model (CAP). The CAP model requires a significant amount of communication and action around; creating a shared need, shaping the vision, mobilizing commitment, measuring success and making change last. Additionally, action was required by GMC’s management team to lead the change and in many cases to change systems and structures in order to support the e-business effort.

Measurement is a means to success. A well-defined transparent management approach should include a documented methodology of change, use objective and quantified metrics showing the value of change, continuously communicate process metrics to senior management, and possess a well-documented rollout of the new e-business design.

(iii) e-Business Management

Business process re-design (BPR) played a critical role in GMC’s e-business effort. Because of the technological change required, GMC was forced to review the orchestration of accomplishing its business objectives, that is, its business processes. In many cases, this forced view uncovered existing process inefficiencies, requiring GMC to change the way business was performed in order to streamline its supply chain operations. The results were positive and twofold: (1) existing and efficient processes were made more efficient due to digitization and (2) existing, inefficient processes were re-designed and digitized, reaping additional value.

(iv) Performance Reporting

Another critical success factor that was instrumental to GMC’s success was establishing and reporting to an objective set of performance metrics. GMC used the same internal performance measures in both e-business and traditional business operations. Table 5 includes the list GMC performance indications is realizing significant benefits, yet to establish key performance indicators or KPIs. The site teams used these benefits as a scorecard to assist in developing the metrics (KPI’s) and continue to report on a monthly basis. The PI’s provide GMC with the ability to diagnose its e-business effort and take corrective action where required. PI’s were a key part of the change management effort.

<ul style="list-style-type: none">• Orders for goods through QTX towards 100%• Enhanced order accuracy.• Increased inventory turnover rate• Improved inventory forecast accuracy, driving improvement in service levels• Improved supply chain visibility and reduction of lead times• Considerable reduction in order tracking and related errors• Significant reduction in cycle times for the tender process with suppliers• Significant reduction in invoice mismatches• Reduced phone calls and e-mails related to payments• Developed new supplier relationships.

Table 5: Performance Indicators

Additionally, GMC has directly integrated with a few of its key suppliers that have a high volume of transactions with GMC. These suppliers have expressly stated that their operating costs have been reduced as expensive reconciliation processes have been eliminated through the streamline effect of e-business implementation. These key suppliers now have the ability to accept or reject purchase order information at a line item level. This functionality has reduced price, quantity and availability errors at the inception of the business process, significantly reducing downstream errors and reconciliation.

Additionally, it has eliminated the re-keying of fax orders confirmations, including related errors and reconciliation, thereby reducing supplier manpower - or providing the supplier the ability to re-deploy manpower to value added activity.

7 CONCLUSIONS

An established research framework of e-Business change is used to identify the factors for success of GMC's successful implementation within the mining industries B2B e-marketplace. The qualitative data provided content and discovery of elements that surround each component to identify those facilitating and inhibiting factors that lead to ultimate eBC goals. The results confirm that a successful project was found to have facilitators in all components of the eBC framework, including the planning and management levels. Further, there is the implication that the least successful e-business projects will have inhibitors in both components, especially in the area of cultural e-business readiness and change management.

Also, success was due to a very positive and close working relationship between GMC and QTX from the onset of e-business program, at both the regional and corporate levels. Because QTX's global reach (a globally distributed company operating on 6 continents) it is able to provide expertise to support GMC's global implementation. The QTX team have been an integral part of GMC's success from a supplier enrolment and training effort as well as listening to GMC's business requirements and developing the digitized solutions that deliver value.

The case showed that a key to success has been a commitment to excellence in three key areas: *People, Process and Technology*. Within this case the change management effort was a major challenge. A critical success factor that was instrumental to GMC's success was establishing and reporting of an objective set of performance metrics. KPI's were a key part of the change management effort. These KPI's provide GMC and it's suppliers with the ability to diagnose the e-business program and take corrective action when and where required.

In the long term the viability of this global e-marketplace is dependent on the continued sustainability of active trading relationships within the buyers and community of preferred and local suppliers.

References

- Ash, C.G. and Burn, J. M. (2003). Strategic framework for the management of E-ERP change. *European Journal of Operations Research*, 146 (2), 374-387. Palgrave Macmillian, UK
- Ash, C.G. and Burn, J. M. (2004). A multi-disciplinary approach for staged e-business implementations and change, IFIP WG8.4, Salzburg, June.
- Barua, A., Konana, P., Whinston, A. B. and Yin, F. (2001). Driving e-business excellence. *Sloan Management Review*, Fall, 36-44.
- Burn, J. M. and Barnett, M. L. (2000). Emerging virtual models for global e-commerce - world wide retailing in the e-grocery business. Special issue on Global E-Commerce, *Special Millennium Issue of Journal of Global Information Technology Management*, 3, 1, 18-32.
- Carlson, D.A. (1995). Harnessing the flow of knowledge. Retrieved April 20, 1998, from Ontogenics website: <http://www.ontogenics.com/research/papers/default.htm>
- El Sawy, O.A., Young, K.M., Malhotra, A., and Gosain, S. (1999). The relentless pursuit of "Free.Perfect.Now": IT-enabled value innovation at Marshall Industries. *Sloan Management Review*, Fall, 305-333
- Fan, M., Stallaert, J., and Whinston, A.B. (2000). The adoption and design methodologies of component-based enterprise systems, *European Journal of Information Systems*, 9, 25-35.
- Guha, S., Grover, V., Kettinger, W.J., and Teng, J.T.C. (1997). Business process change and organisational performance: Exploring an antecedent model. *Jrnl of Management Information Systems*, 14,1, 119-154

- Kaplan, S. and Sawhney, M. (2000). E-hubs: the new B2B marketplaces. *Harvard Business Review*, 78 (3). 97-104.
- Koch, H. (2002). 'Business-to-Business Electronic Commerce Marketplaces: The Alliance Process', *Journal of Electronic Commerce Research*, 3 (2).
- Kumar, R.L., and Crook, C.W. (1999). A multi-disciplinary framework for the management of inter-organisational systems, *The DATA BASE for Advances in Information Systems*, 30 (1), 22-37.
- Hesterbrink, C. (1999). e-Business and ERP: Bringing two paradigms together, PriceWaterhouse Coopers,
- Jansen, W., Steenbakkens, W. and Jagers, H. (1999). Electronic commerce and virtual organisations. Special Issue of *eJov* 1, 1, 54-68. <http://www.virtual-organization.net>
- Kalakota, R., and Robinson, M. (1999). e-Business: Roadmap for success. Reading, MA: Addison-Wesley
- Norris, G., Hurley, J.M., Hartley, K.M., Dunleavy, J.R., and Balls, J.D. (2000). *e-Business and ERP: Transforming the Enterprise*. London: John Wiley and sons, BT-series, 119
- Oliver, K., Chung, A. and Samanich, N. (2003). Beyond Utopia, The Realists Guide to Internet-enabled Supply Chain Management, *Strategy+Business*, 23, 1-10.
- Osburn, C. and Kisiel, R. (2003). Swift discovers plenty of mistakes as he reboots Covisint, *Automotive News*, 77 (60300), 28IT-29IT
- Scheer, A. W., and Habermann, F. (2000). Making ERP a success. *Communications of the ACM*, 43 (4), 57-61
- Segev, A. and Gebauer, J. (2001). B2B procurement and market transformation. *Information Technology and Management*, 2, 1, 242-260.
- Strauss, A., and Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. 57-74, 116-142. Newbury Park, CA: Sage.
- Ticoll, D., Lowry, A. and Kalakota, R. (1998). Joined at the bit, in *Blueprint to the Digital Economy creating wealth in the era of e-business* Don Tapscott, Alex Lowy and David Ticoll, McGraw-Hill