Dangerous solutions: case study of a failed e-project

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Introduction

To stay competitive and improve responsiveness to changing customer demands, organizations have to think about more creative ways of using and integrating technology into their business processes (Czuchry and Yasin, 2003; Birkhofer *et al.*, 2000). However, due to the complex nature of many e-business initiatives and a failure to take a holistic view of the impact of technology on organizational life many of these initiatives fail (Doherty and McAulay, 2002). This paper will take a critical view of a recent e-business initiative (referred to as 'eCRM') undertaken by a global technology solutions organization. The initiative was designed to link the sales, marketing, fulfilment, manufacturing, and distribution systems together in order to reduce supply chain stock levels, increase responsiveness to customer demands, and increase profit margins by providing a direct link to customers (circumventing business partners for some product lines). Unfortunately, after significant financial investment (approximately US$300 M), and three years of development, the project was deemed a failure. The eCRM project was downgraded and re-focused on simply delivering a web-interface for on-line sales and product enquiry. The program failed to deliver against its original objectives but certain lessons can be learned about development of an e-business strategy framework. It is the contention of the author that this framework should be considered by organizations for their future complex e-business initiatives.

This paper will look at how the project measured up to a set of e-business success imperatives identified by the author through comparison of success and failure factors relating to complex change around e-business initiatives as outlined by Gartner Research Group (2000), Kanter (2001) and Kotter (1995).

eCRM: a case study

The overall aims of the eCRM system were certainly ambitious, and very much in line with driving a flexible customer focused e-strategy (Leader and Sethi, 1988). The eCRM project would look to channel stock in the supply chain pipelines out to business partners and customers, and improve profitability by providing a direct route to end customers for some of the high-value products. The eCRM model would drive improvement by focusing on six key areas of performance. Not only would profit levels increase and stock cost levels decrease, but eCRM would drive significant transformation across all aspect of the business. The six key transformation areas are outlined in Figure 1.

Success in these key areas, or processes, is critical if the business is to progress up the e-business evolutionary curve from an information/transaction-based organization to a transformational e-business (Gerbert *et al.*, 2001). The project had to be managed and deployed in the correct sequence. It is no use developing the manufacturing capability if its basis for competition has not changed to allow the marketing and selling of customised

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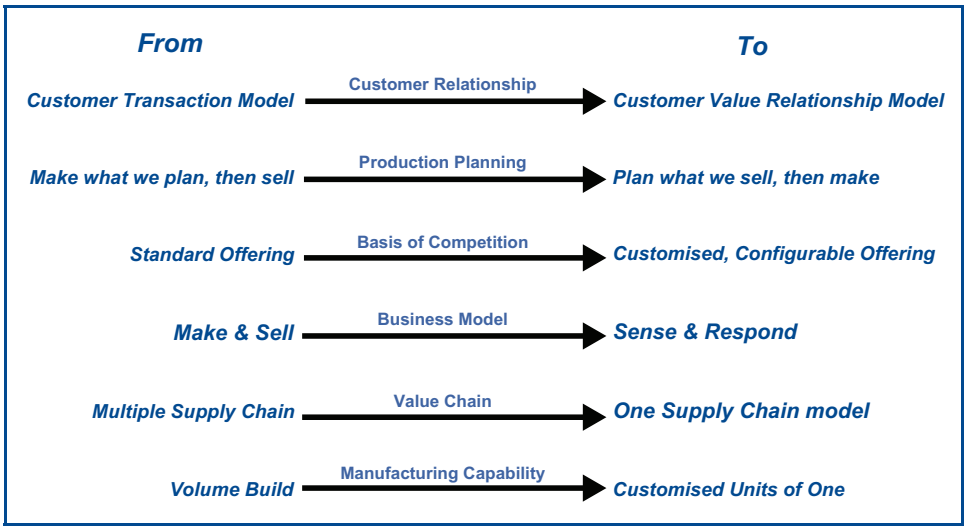
Figure 1 Key transformation areas for eCRM



products and offerings (Johnson and Scholes, 1999). Each of the areas in Figure 1 must be planned, developed and deployed in a manner that bests suits the overall business strategy and demands from the market place. Because of this, the project was managed centrally. The main project development was driven out of the North American headquarters, with input sought from the other geographies (Europe/Middle East/Africa, Asia Pacific, and Latin America). The geographies had responsibility to respond to the central team on local aspects of the eCRM project. The central team had responsibility for the overall scope of the project and the back office, or the eCRM 'engine', whilst the geographies had responsibility to ensure the system, once deployed, considered local and cultural aspects of how the organization interacted with customers and business partners.

After three years and significant investment, the organization stopped the eCRM project with no elements of the system online or even near completion. The project was still on the drawing board with no clear date for testing or deployment. The reasons for stopping the project were based on a number of factors; the failure to deliver any working components after three years of development, the failure to provide realistic delivery dates, and the failure to prevent significant project drift due to constantly changing requirements; all aspects of change that need to be managed in order to stand any chance of embedding a successful complex change (Royal Academy of Engineers, 2004; Boddy *et al.*, 2002).

Why did the eCRM project fail to be implemented? Certainly, the aims of the project were ambitious, but this was a global technology solutions company whose business was selling complex technology-based business solutions.

Although the eCRM delivery mechanism was heavily dependent on technology there were cultural, strategic, and stakeholder (employee and customer) capability issues that would also need to be considered (Strebel, 1996; Davenport, 1994).

Research context and methodology

The research methodology follows a critical theory approach in identifying best practice for the development and implementation of organization-wide, complex e-business solutions. The research is exploratory in nature and a case study methodology is used to support this line of inductive theory building. The findings presented in this paper are based on data collated within and across the organization's customer fulfilment, sales, marketing, and supply chain groups. The authors surveyed over 346 individuals working across those business groups directly affected by the eCRM program. A direct questionnaire was used to target as many employees as possible throughout the European, Middle East and African

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(EMEA) organisation. As the eCRM system is an organization-wide initiative, its success would be dependent on its acceptance not just by one group of users but by the organization as a whole (Strebel, 1996; Boddy *et al.*, 2002).

The target population for the survey covered the following groups:

- *Sales and marketing* – throughout EMEA.
- *Fulfilment organisation* – throughout EMEA.
- *Service and support organisation* – throughout EMEA.
- *Manufacturing organisation* – main site based in the UK.

Out of the 1,141 individuals contacted, 346 responses were received within 10 days of the initial mailing, a 1 in 3 response rate. The breakdown in responses across the organization is shown in Table I.

The author used a semi-structured questionnaire to map out the organizational landscape across which eCRM was to be deployed to help gauge why the project failed certain aspects of employee engagement and buy-in. These included as a bare minimum the following:

- level of employee awareness of the eCRM system;
- employee buy-in;
- employee confidence in eCRM system; and
- employee awareness of barriers to successful implementation.

The analysis of the data has been used to understand why the project failed to deploy and meet the organization's initial success indicators. The analysis also identified where existing understanding of e-business project success factors for consideration can be refined to produce a set of new implementation imperatives. From these imperatives the author proposes a framework for developing and deploying future e-business projects.

Considering the cultural aspects of eCRM

On reviewing the documentation surrounding this project, it was clear that the organization took a 'systems' approach to managing this significant change event. To develop a framework for future e-business projects and preclude similar failures, one needs to consider the broader aspects of change, in particular, the nature of cultural change (Kotter, 1995; McCalman and Paton, 2000). Kotter (1995) identifies eight common errors that every organisation should strive to overcome in order to survive within a change environment, as Table II shows.

Table I Survey breakdown

Survey group	*% of survey responses*	*% of respective workforce*
Manufacturing	9	18
Fulfilment	35	32
Service and support	21	27
Sales	35	35

Table II Kotter's cultural change issues

Error	*Kotter's cultural change*	*eCRM system compliance?*	*Meeting Kotter's change*
1	Not establishing a great enough sense of urgency . . .	Sense of urgency exists	Yes
2	Not creating a powerful enough guiding coalition . . .	Ensure who is driving the development. Is it IT or the Strategic Business Units?	Unclear
3	Lacking a vision . . .	Vision is clear but high level	Yes – but too obscure
4	Not communicating the vision by a factor of ten . . .	Deliverables are not being communicated. . . to anyone	No
5	Not removing obstacles to the vision . . .	Not happening quickly as deliverables are not being met	No
6	Not planning for and creating short-term wins . . .	Still not past the evaluation stage due to deliverables not being met	No
7	Declaring victory too soon . . .	Still not past the evaluation stage due to deliverables not being met	No
8	Not anchoring change in the corporate culture . . .	Not enough interaction with end users to ensure that final deliverables will fit with culture	No

The findings in Table II can be summarised as follows:

- A sense of urgency has been established by the general manager.
- A clear vision has been communicated, but only at a high level.
- Coalition to drive implementation is strong, but is it made up of the right players? In the case of eCRM the main players are IT specialists who are not part of the Strategic Business Units (SBUs); Sales, Fulfilment, Marketing etc.
- Main obstacles are not being removed because the SBUs responsible for their own process changes are too removed from the eCRM system development to react and remove the main obstacles. This is compounded by poor communication throughout.

Certainly this initial view of the eCRM project from a cultural change perspective raises key points for consideration. However, this research aims to do more than identify the failure points from a cultural change perspective. We want to develop a framework that considers these failure points as part of a broader view of change. To that end it is important to consider other aspects of project failure.

Criteria for successful e-business implementations

The main purpose of critically reviewing the eCRM project is to determine if there are any lessons other organizations can learn. Is there a set of imperatives that organizations can follow in order to improve the probability of success for their e-business initiatives? Gartner Research Group (2000) developed a set of ten imperatives that organizations' need to consider if they wish to drive a successful e-business project:

1. Understand the context of e-business.
2. Assign accountability.
3. Identify suitable opportunities and threats.
4. Evaluate your position amongst your peers.
5. Identify competitive advantages and core competencies.
6. Strategies and prioritise.
7. Consider alternative business models.
8. Identify impact on all parties.
9. Recognise need for infrastructure investment.
10. Aggressively lead and execute.

Gartner Research Group's (2000) list of imperatives is certainly relevant, but does it fully encompass the key aspects of e-business project development? Kanter (2001) has also identified certain barriers to successful e-business implementation. What the author needs to find out is if these imperatives are relevant and complete. Before comparing the Gartner Group's list against the eCRM project, the list was compared against a list of e-business development and deployment barriers outlined by Kanter (2001), shown in Table III.

All of these are very real issues that organisations need to address to provide an e-business solution in step with the needs of the business.

By comparing them to perspectives on what makes an e-business implementation a success, and also considering Kotter's perspective on driving successful cultural change (Kotter, 1995) we get three additional imperatives: the identification of a suitable change agent, the need to consider the importance/benefits of strategic alliances, and the development of suitable skills to match the task. These new imperatives can be combined with the original Gartner Group list to provide an updated list of e-business imperatives (Table IV).

It is against the modified list of Imperatives that the eCRM project was assessed. The questionnaire was developed to specifically target employee responses to the modified imperative list.

A workforce perspective on eCRM

Based on the initial questions outlined in the methodology section, the survey results provided these insights on how the workforce perceived the eCRM project.

Employee awareness of barriers to successful implementation

Employees said the inhibitors and success factors shown in Table V were key factors in the development and implementation of eCRM (Table V). However, in the case of eCRM, the surveyed workforce believes that the identified inhibitors are currently present and negatively impacting eCRM's chance of successfully deploying.

Table III Comparison between common barriers and the ten imperatives

Kanter's barriers		*Imperatives relating to barrier . . .*
Lack of technical skills amongst workforce	11.	Develop skills to match the task (New)
Customers/markets unwilling to change their behaviour	8.	Identify impact on all parties (internal and external)
More important projects requiring resources	6.	Strategise and prioritise
IT tools inadequate for the job	9.	Recognise need for infrastructure investment
Difficult to find right partners to work with (coalition)	13.	Consider the importance/benefits of strategic alliances (internal and external) (New)
Suppliers not cooperative/ready for e-Business	8.	Identify impact on all parties (internal and external)
Employees not comfortable with change		Identify impact on all parties (internal and external)
Leaders unsure how to proceed with change	1.	Understand the context of the change
	12.	Identify suitable change agents (New)
Senior Executives unfamiliar with technology (abdicate responsibility to CIO/IT Manager)	1.	Understand the context of the change
	12.	Identify suitable change agents (New)
Internal conflict within organisation		Identify impact on all parties (internal and external)
Hard to find the capital for development		Strategise and prioritise
Fear of loss of status/position		Identify Impact on all parties (internal and external)
Government rules and regulations		Identify relevant opportunities and threats
Leaders see no need for change		Understand the context of the change
Bad previous experience with IT	1.	Understand the context of the change
	2.	Assign accountability
	12.	Identify suitable change agents (New)
It is a waste of time and money as it is not relevant to the business	1.	Understand the context of the change
	8.	Identify impact on all parties (internal and external)

Table IV Modified Imperatives

	Gartner Group imperatives		*e-Business imperatives*
1.	Understand the context of e-business	1.	Ensure that e-Business Strategy is an integral part of overall business strategy
2.	Assign accountability	2.	Understand and continually monitor external environment for opportunities and threats (SWOT/STEEPLE analysis)
3.	Identify suitable opportunities and threats	3.	Ensure that e-Business Strategy supports the core competencies and any competitive advantages that may exist within the business
4.	Evaluate your position amongst your peers	4.	Identify a suitable change agent who will be accountable and responsible for driving the change
5.	Identify competitive advantages and core competencies	5.	Recognise the need for infrastructure and training investment at all stages of the change
6.	Strategise and prioritise	6.	Ensure that the nature of the change is communicated and the benefits are understood
7.	Consider alternative business models	7.	Identify the stakeholders and the impact the change will have on them (Power/Matrix)
8.	Identify impact on all parties	8.	Monitor and proactively manage the main resistors to change (people, design, organisation, power, and process)
9.	Recognise need for infrastructure investment	9.	Instil a sense of urgency by aggressively leading from the top, and executing throughout the organisation as a team
10.	Aggressively lead and execute	10.	Consider the option of a strategic (internal/external) alliance in helping to achieve the e-Business solution

Table V Success factors and inhibitors

Key success factors	*%*	*Key inhibitors*	*%*
Effective communications	56	Poor communications	62
Clearly defined objectives	54	Lack of relevant training	47
Relevant training	44	Ambiguous objectives	44
Understood deliverables	35	Cultural resistors	32
Sound leadership	30	Unrealistic objectives	30
Shared sense of ownership	23	Increased workload	28
		Poor leadership	23

It is apparent that the belief amongst the workforce is that the three main factors necessary for success are also, in the case of eCRM, the three main inhibitors preventing implementation.

Level of eCRM system employee awareness

Although most employees had heard of the eCRM project, the depth of awareness was not consistent across the organization. From the surveyed population 24 percent had heard of eCRM but were unaware of what the project would deliver. 28 percent understood the deliverables and received regular communications on the project's progress. But 48 percent of the surveyed workforce, whilst understanding what eCRM was about and what it was trying to achieve, did not receive any communications on a regular basis updating them on the project's progress. In effect, 72 percent of the workforce was not aware of how eCRM was progressing, and how the objectives and deliverables were changing.

Employee buy-in

Understanding the importance of developing a sense of ownership around any complex change (McCalman and Paton, 2000) is paramount in getting a significant change accepted

and adopted by those who will be impacted. In the case of eCRM, managers needed to understand how employees felt about the new system, and whether they believed their concerns and views have been considered throughout. Employees were asked to comment on the level of process improvement activity they were engaged in through their day-to-day business. 36 percent said they had no involvement in any process improvement activity, whereas 64 percent said involvement in process improvement activity was part of their day-to-day work activities. However, of the 64 percent involved in process improvement, only 15 percent had been asked to provide any input into the eCRM project.

Employee confidence in the eCRM system

Considering the impact the proposed eCRM system would deliver, and the general lack of understanding and awareness of the deliverables, it is not surprising that confidence in a successful deployment is low. In effect only 8 percent believed that eCRM would deliver on its original objectives and on time. Twenty-seven percent believed that eCRM would definitely not meet its objectives or time to deployment, with the remaining 65 percent returning a ''Don't Know'' response.

Consideration of imperatives in eCRM implementation

The survey was also designed to see how the e-business imperatives (Table IV) related to the overall development of the project. Table VI shows how the questions relate to the new imperatives and shows the overall response of the polled employees.

Table VI reveals that the selected questions also relate to certain aspects of core components for any successful e-business implementation; strategic fit, cultural fit,

Table VI eCRM fit with identified imperatives

Force	*Question*	*Imperative no.*	*Overall employee response*
Strategic fit	Is this change supported as a strategic initiative?	1	Yes
	Does the change reflect the strategic objectives of the organisation?	1	Not sure how change reflects strategic objectives
	Will the change be flexible enough to support the changing needs of the organisation?	1, 2, 3	Not sure whether change will be flexible enough to support changing needs
Cultural fit	Has an effective change agent been identified?	4	No
	Has the effects of the transfer of information been assessed from a cultural perspective?	8	No
	Is the change being communicated well?	6	No
	Are the stakeholders primed and ready for the change?	7, 8	No
Stakeholder	Have the systems users been trained and are they ready to use the systems?	8	No
	Do the people designing and developing the systems have the right skills?	5, 8	Yes
	Are the key people driving the change representative of the Business (it's not being left to the IT Dept)?	4, 9	No
Technology	Can the organisation support the level of technology needed (infrastructure/people)?	5, 3	Yes
	Are the level and type of technology right for the task?	5, 6	Yes
	Is the technology supportable?	5, 10	Yes
	Is the technology scalable?	5	Yes
e-Business	Have end users been employed, where possible, to help define the requirements?	8, 6	No
	Are the deliverables clearly defined and understood?	1, 2, 6	No
	Are the ISM/OD aspects of the project clearly understood?	7, 8	No
	Is the project being driven with a sense of urgency?	9	Yes

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stakeholder (competency), technology (readiness), and e-business solutions. These core components in turn can be viewed as a framework for developing e-business solutions. An explanation of the five key forces is as follows:

1. *Strategic fit.* How does the change fit with the strategic direction of the organisation? i.e. analysing the environment via SWOT/STEEPLE.
2. *Cultural fit.* How does the change fit within the cultural framework of the organisation? i.e. managing the resistors to change.
3. *Stakeholder competency.* Are the stakeholders ready for the change? Have they the skills to cope? Do they have the right level of support to drive through the change?
4. *Technology readiness.* Has the right technology been identified and employed? If not, then the solution will fail.
5. *E-business solution.* This refers to the design and development of the overall e-Business solution.

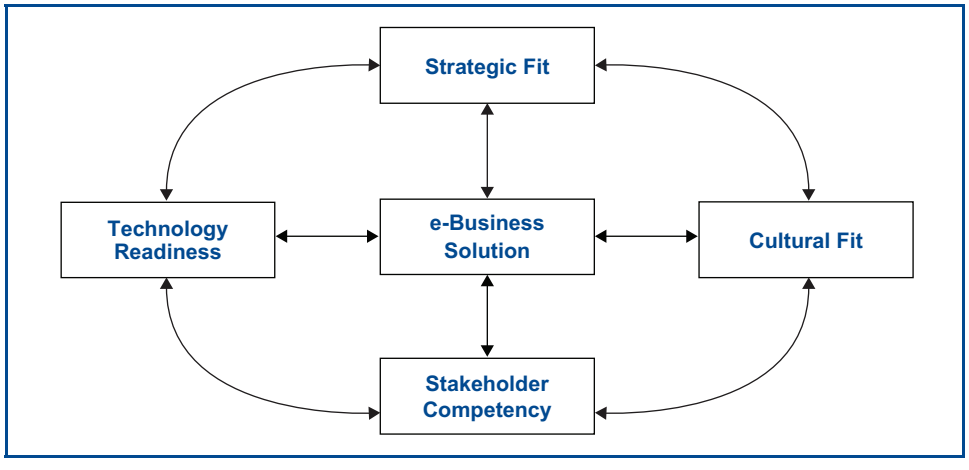
The framework (Figure 2) also helps highlight the interdependency between the different forces. For example, strategic fit is not only depends on the e-Business solutions but also the cultural fit within the organisation and the technology readiness of the systems, be they legacy, shared, or distributed.

However, when we look at the responses from the workforce as highlighted in Table VI, the only component of the framework that has really been considered by the organization is technology readiness.

Conclusion

How does any organisation know that the information system, once delivered, still supports the business requirements? The development of an e-business strategy or solution must be

Figure 2 eBusiness framework



reviewed in the same light as the development of any business strategy. There must be room to manoeuvre and change because change will happen (Kanter, 2001; Bensaou and Earl, 1998; Kotter, 1995). The frequency and nature of that change depends on the dynamics of the business environment and the ability of the organisation to identify and respond to the change (Hofstede, 1991; Davis and Meyer, 1998). Therefore, simply building an e-business system does not guarantee its success.

Although IT is being used to drive significant and rapid organizational change, the main components for ensuring success are in this case based on the stakeholder's capabilities, the fit between technology solutions and strategy and cultural fit. Within each of these components there will be resistors. Therefore, the effective and timely management of the resistors is vitally important.

The research supports the belief that complex solutions need buy-in at all levels, and must support the understood business objectives of the organization. If not, confusion over objectives, deliverables, involvement, and resources will negatively impact the project's chances of success. Considering the complex nature of the change that eCRM, involved, is it practical for organizations to consider such large initiatives, and how can they better determine their chances for success? From the research the author has identified the need to consider ten imperatives that will help organizations consider the wider aspects of such complex change projects.

If an organisation uses the e-business framework in conjunction with the ten imperatives to measure their existing e-business strategy, it will help highlight key areas which need to be addressed. Unmanaged, these areas will cause problems with acceptance within the organisation, the solution's fit with the overall organisation strategy, and the fit between the technology being used and the actual requirements of the task.

It is not enough to consider the imperatives as separate success factors since they are linked to each other as part of an overall e-business framework model connecting technology readiness, stakeholder competency, cultural fit, and strategic fit. For an e-business solution to result in successful implementation, all components of the e-business framework model must be considered.

Keywords:
Complexity theory,
Electronic commerce,
Supply chain management

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