

DEVELOPING AN INTRANET AND EXTRANET BUSINESS APPLICATION FOR A LARGE TRAVEL AGENT

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Abstract: This paper outlines an e-business strategy for a large independent Travel Agent with multiple sales channels and business units. The present configuration does not provide a framework for the development of e-business solutions for the travel company. The paper discusses the creation of an infrastructure for the development of the company's Intranet to integrate its separate business units with Extranet technology using e-business applications. This strategy provides a stable platform and infrastructure capable of supporting the traditional business functions and allowing for development of e-business operations. The paper discusses a number of tools and techniques for strategic development to incorporate e-business sales channels. The most appropriate tools for application to the travel industry are discussed and their application has shown how the travel agent can develop competitive advantage through the use of strategic information systems. The creation of a centralised e-business system, utilising a Virtual Private Network (VPN) is outlined with a predicted cost savings of £1 million per annum. The application of a centralised e-business system supported by the VPN has allowed Customer Relationship Management (CRM) to be evaluated. An initial trial using a CRM system gave increased sales of £150,000, which if applied throughout the business would increase sales by £1.2 million.

1 INTRODUCTION

A large retail company, which operates a locally based Travel Agent business, has pursued a policy of expansion by acquisition. The business consists of three main business units: Retail (High Street), Home worker and Call centre sales respectively. The current IT infrastructure is hampering future growth and the problem is compounded by the

existence within the business of a plethora of holiday sales systems, inadequate network capability and poor Management Information Systems (MIS). A conceptual diagram of the current system is illustrated in Figure 1. Recently, a rollout of corporate e-mail and Intranet services placed considerable strain on the business ISDN based network.

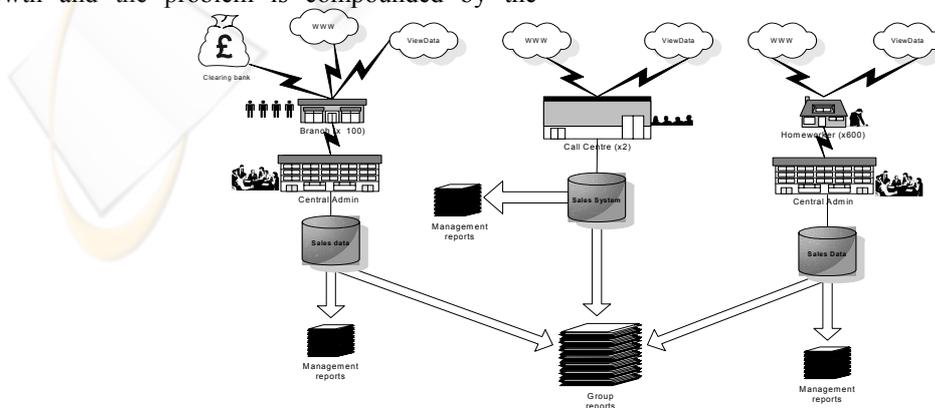


Figure 1: Current systems – conceptual diagram

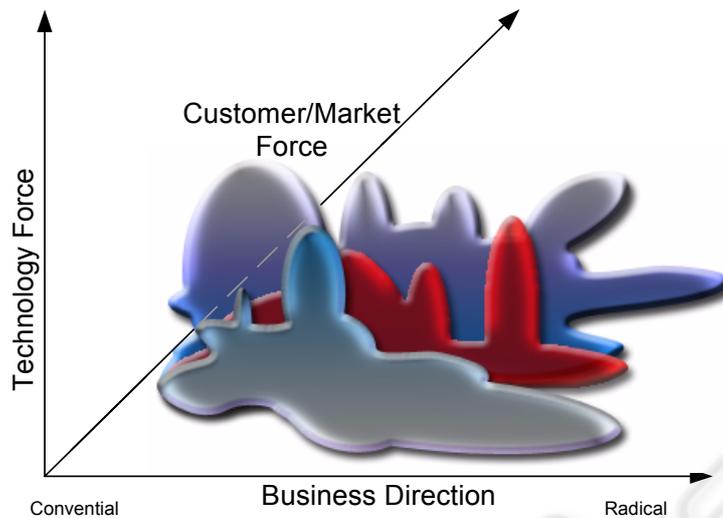


Figure 2: Depiction of forces affecting different business unit direction

The Travel agent therefore requires an IS/IT strategy that will allow the business to increase market share, remove the barriers to growth and allow it to achieve its strategic business strategy which is summarised as follows: -

- ◇ Integration of their acquisitions.
- ◇ Consolidation of their market share.
- ◇ Development of new sales channels.
- ◇ Introduction and development of Customer Relationship Management (CRM) techniques.

One of the main difficulties facing the Travel Agent is that each business unit is driving, or being driven, in different directions. The Retail sector, which historically was the core of the business, now represents only 40% of overall profit because rapid expansion in home working business and call centre acquisition. The home worker and call centre business see the Internet and Digital TV as means of generating new business, whilst the retail business see these as eroding their business and look to areas such as kiosks and interactive customer focused technologies (brochures and CD) as driver of business opportunities. Figure 2 depicts the effects of business direction, technological development and market forces on the different business operations. The difficulties caused by the divergence of the business units can be summarised as follows: -

- ◇ Multiple sales systems.
- ◇ Distributed customer and sales data.
- ◇ Unreliable overnight data downloads.
- ◇ Rising usage and costs of ISDN based network.
- ◇ Heterogeneous MIS/sales systems.

- ◇ ViewData connection required for each sales location.
- ◇ Separate business units.

It is suggested that there are two different approaches to developing a business strategy namely a prescriptive and emergent approach (Lynch 2000; IBM 2000; Mintzberg 1987; Jauch and Glueck 1988). A prescriptive approach is where business strategy development is viewed as a linear process, following up the core areas in a systematic process. It starts with a review of the current state of the business (where-we-are-now) and develops a strategy from there. Essentially the objective is pre-defined and the elements are already in place before the strategy commences. In the later case an emergent approach is where business strategy development is viewed as an organic function and where the strategy adapts and develops over time. Its final objective may be unclear and elements supporting the strategy are developed as the strategy proceeds and evolves.

2 STRATEGIC ANALYSIS TOOLS AND TECHNIQUES

There is an overabundance of tools and techniques, together with modifications to take account of the impact on business of the Internet, which can be used to create or, at the very least, direct, a strategy for a business' IS/IT (Ward and Griffiths 2000; Porter 1980, 1985, 1996; Earl 1989; Tozer 1995). Whilst the depth and breadth of this strategy will

Table 1: Selected analysis tools after Tozer 1995, modified by authors

Technique	Business Planning	Business requirements definition	Information architectures	Current status assessment	Application strategy selection	Application portfolio assessment	Technical strategy and architecture
Technology Review			✓	✓	✓		✓
Strategic Impact Grid				✓	✓	✓	
SWOT Analysis		✓		✓			
Critical Success Factors	✓						✓
Porters Five Forces				✓			
Agile Infrastructure							✓

and the market it operates in, a number of aspects will be similar:

- ◊ Need for the business strategy to direct the IS/IT strategy.
- ◊ Need for a comprehensive audit of incumbent systems and technology.
- ◊ Need to be aware of the current environment.
- ◊ Need to be aware of likely future environmental changes.

Not only the choice of tool, but the number of methods/tools to use is also important. The use of a minimum of two tools, namely SWOT analysis together with a further tool, has been recommended (Robson 1997). Further, using every tool or technique available can lead to problems of conflicting interpretation. The business could take so long in analysing and developing a strategy, that the business could find itself having to implement too many options, with no overall coherent strategy and miss opportunities that may present itself in the short term. The business will effectively be “Stuck in the Middle” (Porter 1985).

techniques available and their relevance to particular planning stages has been carried out, based on initial work by Tozer, 1995. (Tozer 2002). From knowledge and experience of the Travel Industry the tools and techniques most appropriate for the analysis are outlined in Table 1.

3 TECHNOLOGY REVIEW

The current infrastructure with multiple sales systems, an ISDN based network, and aged hardware is hampering any progress towards e-business and customer relationship management.

The current technology infrastructure is incapable of allowing for the implementation of new technologies and developments within the industry, particularly IP based ViewData.

An analysis of the network infrastructure shows that the implementation of a Virtual Private Network (VPN) is required. Analysis of costs shows a predicted saving of over £0.7 million per annum as illustrated in Table 2.

Table 2: Comparison of current and predicted communication costs for the branch network

No. of branches	Current branch sales system operating costs per annum	Predicted centralised sales system operating costs per annum	
		ISDN based	VPN based
1	£ 2,400*	£ 13,700**	£ 4,000
92	£ 220,800	£ 1,260,400	£ 483,200***
	* Includes ViewData costs of £1,700	** Includes ISDN rental and ViewData costs	*** Includes an initial, one off installation cost of £105,200

Note 1: ISDN “call” costs taken at the national call rate of 6.73p per minute (ex. VAT). Assumptions are 9 hours connection, 6 days a week, 52 weeks of the year.
Note 2: Supply of IP ViewData, is included within the overall rental price of the VPN solution.

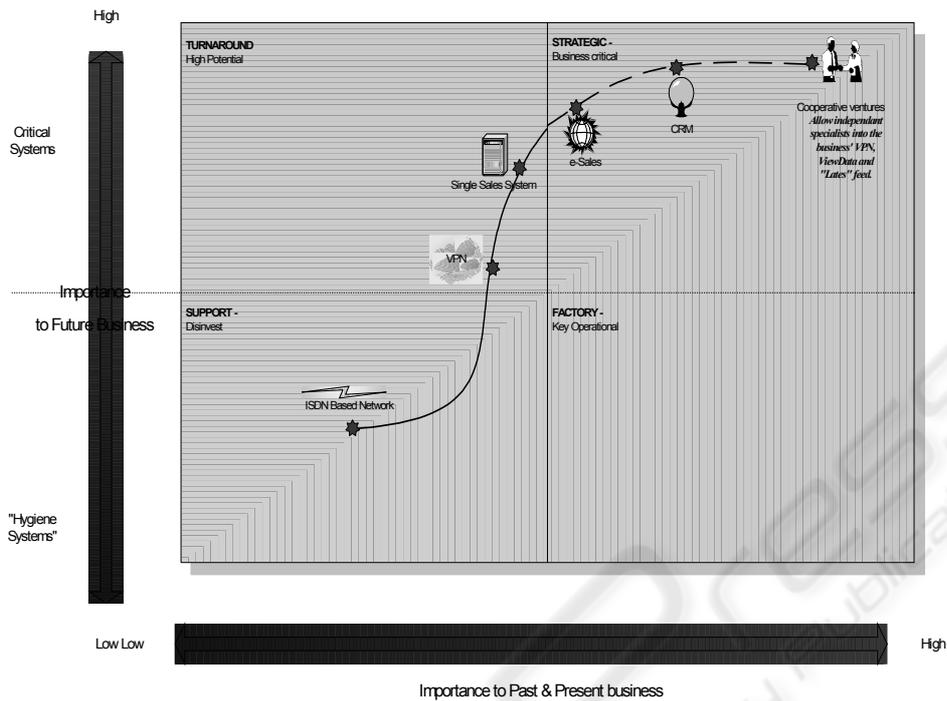


Figure 3: Strategic impact grid analysis

4 STRATEGIC IMPACT ANALYSIS

Figure 3 shows a number of discrete steps that are required to develop strategic systems and competitive advantage for the Travel Agent.

It is clear that, on a cost basis alone, the current ISDN based network is hampering any IS/IT supported initiatives the business wishes to develop. A stable network will allow for the introduction of a "single feed" for ViewData, Late Availability Holidays ("Lates") and credit card authorisation by a Clearing House. It will also allow for a single, managed link to the Internet for the whole business. The second major problem for the business is the existence of multiple sales systems, particularly within the retail business unit. The removal of these two impediments is seen as a priority for the business.

With the implementation of a reliable network and a homogeneous sales system, the Travel Agent will then be able to develop the e-Commerce arm of its business. The sales system will be able to accept orders/booking from any web site the business develops and a single feed for ViewData and "Lates" will provide the Travel Agent with the means to direct particular holidays and offers directly along the e-Sales channel.

If these options are implemented, tools such as CRM will provide the Travel Agent with a means to develop customer loyalty, possibly with such techniques as discount/loyalty cards, air miles bonuses, etc.

Finally a stable, integrated system will allow the Travel Agent to develop cooperative alliances, by allowing external businesses access to its network resources. Businesses such as taxi firms, for example, could allow a two-way transfer of passenger information, specifically for airport transfers. It would also be possible to allow small independent specialist travel agents, access to the network based ViewData and "Lates" feed, strengthening both the Travel Agent's "Specialist" sales and the specialist travel agent's "General" sales, with benefits to both businesses.

5 FIVE FORCES

The bargaining power of suppliers is low, compounded by the independence of the Travel Agent under review. Buyers bargaining power is also relatively low for package holiday buyers,

though somewhat stronger for specialists. The risk of new entrants is relatively high, particularly in the specialist market, though some barriers do exist. The threat of substitutes is virtually nil, competitive rivalry is very high and competition for customers is

fierce. The analysis has been performed on the business “as-is”. However, the effects of the Internet (Porter 2001) need to be taken into account, as illustrated in Figure 4.

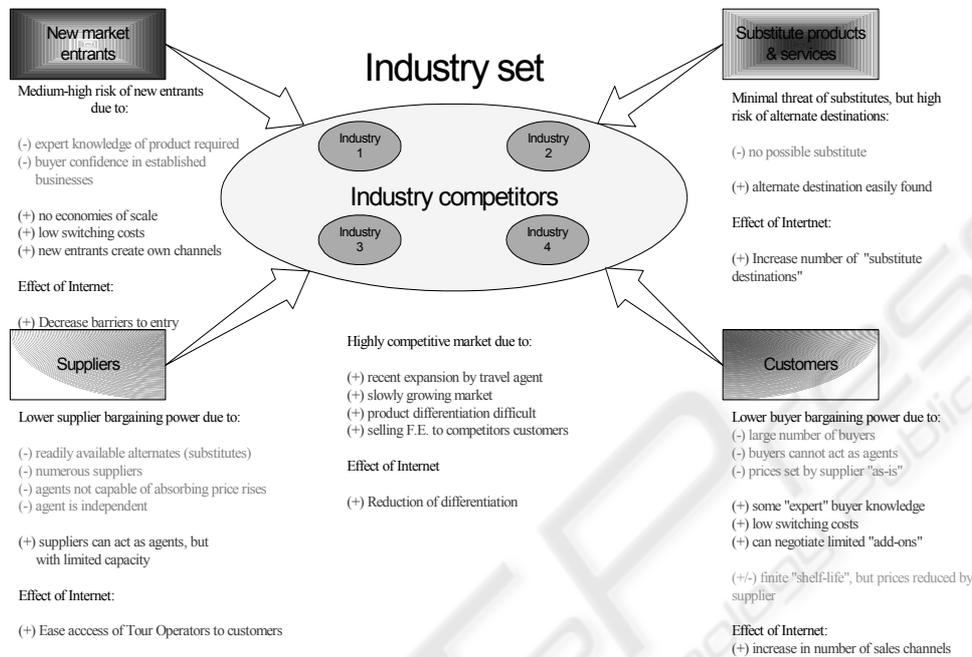


Figure 4: Diagrammatic representation of five forces analysis

Note (+) denotes increase in force, (-) denotes decrease in force

6 SWOT ANALYSIS

Primarily, the problems with the infrastructure and sales systems need to be addressed. The business needs a homogenous sales system, supported by a stable, manageable network, addressing the threat of rising costs. This will then allow the business to utilise its strengths, particularly with its current mix of sales channels. An integrated network will allow the business to develop a single connectivity solution (with built in-redundancy for business continuity in the event of supplier/network failure) for its ViewData, “Lates” feed and Clearing House transactions, addressing the threat of loss of connection to external suppliers/systems.

Once such links have been developed, this will assist the business in developing cooperative alliances with other firms, specifically “specialist” Travel Agents, addressing the weakness within the business and possibly reducing the threat of vertical integration. Further, an integrated sales system will allow the business to build on its strengths of existing sales channel mix and geographical

coverage, providing a “one-stop, Multi-outlet” service to its customers. This can be further developed as new e-Sales channels are created and brought on-line. This will provide a central data repository of customers that can be used to develop customer loyalty, using such tools as CRM.

7 CRITICAL SUCCESS FACTOR DETERMINATION

Since the final strategy plan needs to be aligned to the business strategy plan, those Critical Success Factors (CSF’s) with relevance to the IS/IT strategy need to be extracted from the business strategy. Following discussions with senior and operational managers a number of business objectives and CSF’s have been identified. The evaluation of the IS/IS strategy plan against these CSF’s is to be completed once the plan has been developed as illustrated in Table 3.

Table 3: Relationship between business objective and critical success factors

	Business Objective	CSF
1	Increase the number of sales channels	Create new markets and increase market share
2	Protect the core business	Maintain % share of core business unit
3	Reduce operating costs	Reduce comms costs by 10%
4	Enhance sales reporting/M I S	Provision of integrated reporting function.
5	Reduce duplication of IT systems	Single sales system for each business unit.
6	Encompass new technology	Setting up IT review and evaluation procedures.
7	Improve service to customers	Develop increased product knowledge

With the advent of the Internet, new businesses have entered the marketplace based almost exclusively on electronic sales channels – “e-Business”. Given the frequency with which this “e-Market” can change, such that businesses have to adopt new processes and models, the business needs to ensure it is flexible enough to cope with these changes. To ensure this, the systems upon which the business relies, needs to have an infrastructure that is

also flexible. IBM classes this as “Infrastructure Agility” (IBM 2000).

An agile infrastructure will allow the business to swap technologies in and out of the IS function as requirements change. The infrastructure therefore needs to ensure it has sufficient “reactive sites” that will allow technologies to be activated. A cross between a catalyst and “Plug and Play”, which is illustrated in Figure 5.

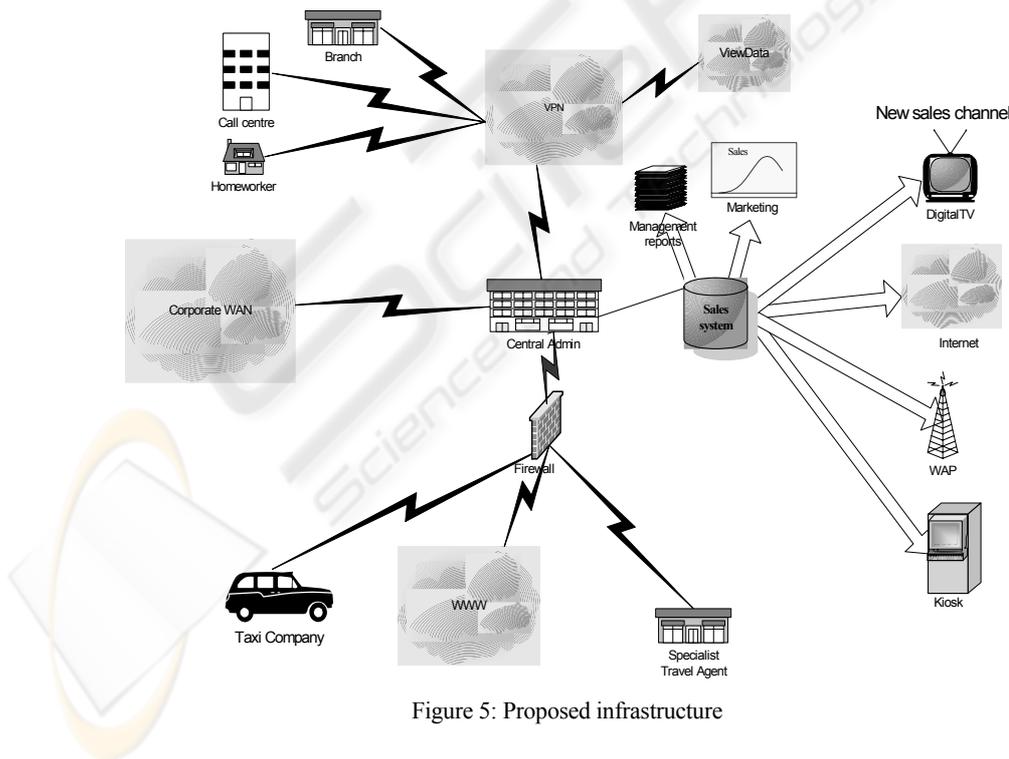


Figure 5: Proposed infrastructure

8 CONCLUSION

The Travel Agent under review has three main business units, namely Retail (high street stores),

Call centre and Home worker. Following a rapid organic growth, the Travel Agent has a number of disparate sales systems. This, coupled with an ISDN based network infrastructure, is hampering the future development of the business. The business suffers

from data corruption problems, failure in data transfer schedules and software version management. With little centralised sales data, the business' management rely on an amalgamation of separate reports to manage the business. The rising network communications (comms) costs, coupled with the increased usage of e-mail and Internet access, is a further problem for the business. The business has expressed a desire to develop e-Commerce and to introduce such techniques as Customer Relationship Management (CRM).

From the analysis of the large Travel Agent, a strategic plan has been developed to provide a way forward for the three business units and the administration unit. The plan covers five main areas namely the sales system, network, sales channels, customer loyalty and cooperative alliances.

It is clear there are two main areas that are holding back the Travel Agent from developing its business. These are the disparate sales systems, and the ISDN based network. A centralised sales system, coupled with a stable manageable network, will allow the Travel Agent to develop strategic initiatives to strengthen the business/market share.

Increasing usage of corporate e-mail, Intranet and growing Internet access have caused an increase in comms costs. To control these costs a leased line Virtual Private Network (VPN) solution has been proposed. Based on current and predicted costs, savings of approximately £0.7 million will be achieved. This will allow controlled access to the Internet and a centralised ViewData service for all business units.

With a centralised system supported by a stable network, the Travel Agent will be able to develop new sales channels, building on the existing strengths within each business unit. The use of a "Pick and Choose" web site, kiosk and the

development of a targeted WAP facility should allow the Travel Agent to increase sales and market share. Though in early development, the proposed infrastructure will be capable of supporting Digital Television.

Recent trials with CRM techniques have suggested that an increase in sales for the retail business unit of £1.2 million would be achievable. This can be further enhanced by combining data from all of the three business units.

With a stable network, capable of supplying access to all external (to the business) systems and processes, it will be possible for the Travel Agent to create new alliances with other businesses.

As the majority of customers require transport from home to airport and airport to home, it is possible to allow taxi firms access to this time/destination data, providing a new revenue stream to the taxi firm and allowing the Travel Agent to give added service to their customers.

The Travel Agent is perceived as weak in the selling of "Specialist" holidays. Allowing specialist travel agents controlled access to the VPN would give the Travel Agent access to the "Specialist" market, albeit in a limited way. Further cooperation, such as the development and provision of CD based brochures, selling of "Specialist" holidays using the Travel agents e-channels (e.g. via kiosks) and mobile technology are also possible areas for development.

The proposed IS strategy has been evaluated for its alignment to the business strategy by the use of Critical Success Factor (CSF) analysis. Seven objectives were extracted from the business strategy and for each one a CSF was created. The match of CSF (and hence business strategy) against the IS strategy was checked and a good alignment has been shown.

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