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Abstract

This paper looks at the implementation of a new customer value based model in e-government. Firstly the paper reviews the issues of e-government and the drive towards customer centric organisations in the context of a government agency. A model of change is reviewed and extended to the development of a virtual organisation model which can be applied along the customer value chain across multiple service organisations. A case study is used to demonstrate how the concept of a virtual organisation as a value-alliance model can improve customer service within a Government agency. Finally, it examines how the Aboriginal Affairs Department, a Western Australian Government agency is implementing this model as a virtual organisation and the implications of this model for the management of change in a developing e-community.

Introduction

With the emergence of the World Wide Web, a totally new business environment is emerging, companies must work together to create online networks of customers, suppliers and value-added process (Ticoll, Lowry and Kalakota 1998). Within the next five years the Internet will transform not only the way in which most public services are delivered but also the fundamental relationship between government and citizen (Von Hoffman 1999; Sprecher 2000). A major driver has been the desire to reduce costs and make revenues go further. U.S. federal, state and local procurement spending on materials and services in 2000 was estimated at around $550 billion, and in the European Union member states' combined procurement spending was around $778 billion (Symonds 2000). With a 20% cut in costs we are looking at savings of around $250 billion.

An additional driver comes from customer expectations Customers now have far greater access to information and demand personalised experiences as opposed to simply acquiring goods and services. A customer driven organisation is one that maintains a focus on the needs and expectations of customers both spoken and unspoken in the creation and/or improvement of the product or service provided. Successful organisations, state or municipal governments and federal government departments and agencies have recognised that developing customer focus is an absolute necessity (Cavanagh and Livingston 1997). This paper looks at a specific e-government solution in the context of the West Australian Government.

Developing a Customer Focus

Prahalad and Ramaswamy (2000)suggest that organisations need to "create their future by harnessing competence in an enhanced network that includes customers". They developed a three-stage model which we have extended and adapted to a government context, summarised below in Table 1.

The idea of extending the government services network and changing the nature of its usage to improve core competencies is a central component of this model. In the past, most government agencies have had a traditional focus and where they have embraced the concept of the extended enterprise they have been primarily concerned with alliances, networks, and collaborations among other agencies and services. The old idea of the "extended enterprise" should give way to the idea of an enhanced network of traditional agencies, other services, funding bodies and customers.

Table 1. Developing Model of E-Government

	The Agency	Network of Organisations	Enhanced Value Network e-Government
Unit of analysis	The government agency	The extended enterprise:- the agency, other service providers	The value alliance:- the agency, its partners, other service providers and its customers
Resources	What is available within the agency	Access to other service providers competencies.	Access to other agencies' competencies, as well as customers' competencies and investments of time and effort
Basis for access to competence	Internal agency-specific processes	Privileged access to organisations within the network	Infrastructure for active ongoing dialogue with diverse customers
Added Value of managers	Nurture and build competencies	Manage collaborative partnerships	Harness customer competence, manage personalised experiences, and shape customer expectations
Value creation	Autonomous	Collaborate with partner organisations	Collaborate with partner organisations and with active customers
Sources of managerial tension	Service-unit autonomy versus leveraging core competencies	Partner is both collaborator and competitor for value	Customer is both collaborator and competitor for value

Strategies for a Service Driven Environment

Many companies already focus on core value adding processes, working with external partners to jointly bring forward a service. These companies believe that a more flexible organisation built around a series of alliances and business relationships, is the most effective way to respond quickly and creatively to constantly changing market conditions (Miles and Snow 1995). The conventional, vertically integrated corporation may be too slow, or have too much retained infrastructure to allow it to compete with companies who can quickly put together a customised response to its clients (Campbell and DiNicola 1997).

To initiate such developments in Government, an agency needs to perform a full customer value chain analysis in order to set up a number of different alliances through an electronic network. This may form the basis for a one-stop portal where the alliance combines a range of services and facilities in one package forming one single customer supply chain. Substitutability has traditionally been a function of efficiency and transaction costs: searching for, evaluating, and commencing operations with potential partners has been a costly and slow government procedure, relying as it does on information transfer, the establishment of trust and policy rules across states, time zones, culture, and legal frameworks. These have determined the relative positioning of partners on the chain and the reciprocity of the relationship.

This value-alliance will be built around customer value chains and enable the sharing of resources, skills and knowledge to produce a 'best' customer solution and offer superior quality of service.

Strategic Management of a Virtual Agency Model

In order to achieve a successful value-alliance it is essential that a business planning model is established that ensures each member has 'buy-in' to the desired outcomes. The first step to achieve 'buy-in' is to establish a high level committee comprising of all key stakeholders. The committee is charged with the responsibility of identifying the virtual organisation's goals. These goals must then be integrated into all processes.

Therefore any business planning must be built on services, delivery goals and objectives that focus on its customers through direct customer input. To achieve this there must be a fundamental shift in management and workforce thinking and practices that include:

- Pervasive knowledge sharing, feedback and communication;

- Integration of environmental considerations at the earliest stages of design;
- Effective partnerships with customers; and
- Commitment to using customer feedback to drive changes in operations, goals and vision.

A key to the success of an organisation is a network of open communication, a combination of sharing and listening flowing both horizontally and vertically through the value alliance.

The following case study serves to explicate this model.

Case Study: The Aboriginal Affairs Department (AAD)

The AAD is a Western Australian State Government Agency. The Department is responsible for the implementation of the Aboriginal Heritage Management Act which states that all Aboriginal Sites in WA be recorded and that prior to any development a search of sites must be conducted to determine the impact of development on sites in the area. If sites are to be impacted then the developer must consult with the site custodians and apply to the Minister for Aboriginal Affairs to either destroy or move the site depending on the nature of the site and the type of development

AAD has a history of each division working separately with very little interaction between divisions or branches. Originally the Heritage and Culture Division had full responsibility for all aspects of Aboriginal sites. The Division was strongly opposed to providing information on Aboriginal sites to mining companies and land developers as they believed that this was the most appropriate way of protecting sites. The manager responsible for heritage management openly labelled mining companies and some Government agencies 'red necks' and was strongly opposed to forming alliances with these organisations and sharing information.

During a restructure of the organisation the management of the information component of Aboriginal sites was moved to the Information Management Branch. This restructure prompted the evaluation of the current status of the sites register and the development of a project to completely revamp all aspects of the system. This necessitated both groups to work closely together and develop a team approach to meeting all legislative requirements.

The system was designed as a web-based application using Internet technology. The database is linked to the maps of the site locations and boundaries. The way in which it operates appears to be unique. Normally, associated databases are accessed via a map in the GIS system. The system reverses this, and accesses a map in the GIS system via the database.

A system for sharing GIS data of site location and boundaries for open sites has been developed. The data is shared using Internet technology to transfer the information, requiring minimal AAD resources as the system is largely automated or user driven. Access is only available to organisations who have signed a licensing agreement in accordance with the endorsed policies, and the access automatically ceases on the expiry date of the agreement, unless the organisation signs a new agreement with the AAD.

In the new system, greater accuracy is provided as the actual location and site extent are mapped and stored, and those for open sites are supplied to clients. Due to the new system utilising GIS technology it can be guaranteed that all sites are displayed. The new system also provides clients with both textual information and a map of the area depicting all sites ensuring that the information is not misinterpreted.

The Customer Value Alliance

Organisations that form part of the value alliance include:

- **State Agencies** - Main Roads WA, Department of Conservation and Land Management, Waters and Rivers Commission, Department of Resources Development, Department of Minerals and Energy.
- **Commonwealth Agencies** - National Native Title Tribunal, Indigenous Land Corporation, Department of Defense, CSIRO.
- **Aboriginal communities**
- **Mining and Resource Development Companies** - Robe River Mining, Alcoa, BHP Iron Ore, WMC, Acacia Resources, Packman Mining, Normandy Mining.
- **Other Agencies** - Aboriginal Legal Service, Goldfields Land Council, Wesfarmers, AWI Administration Services, Shire of Busselton, ACMC.

By streamlining site registration and site searches, improving the relevance and accuracy of stored data and making the information more accessible, the Aboriginal Heritage Management System has had a positive impact on the management and delivery of important Aboriginal heritage information, across Government, for the private sector, and for the general community of WA, both Aboriginal and non-Aboriginal.

Customer Value

AAD policy development identified two customer groups - Aboriginal people, and developers. Both groups required accuracy of information about sites, and accurate information on the location of sites. Aboriginal people required protection of information about closed sites, while developers wanted the location of these sites. A compromise was reached, whereby boxes which masked the exact location of sites were reduced from one hundred square kilometres to four square kilometres. At the same time, the protection of paper based closed site information was enhanced, with the introduction of red files for closed sites (allowing easy visual identification), and the provision that sites would only be closed at the request of Aboriginal people.

The new Aboriginal Heritage Management System streamlines site registration and site searches resulting in significant reductions in turnaround time for these two processes. Under the old system, clients waited six to ten weeks for site searches to be completed. In the new system, turnaround time for site searches has been reduced to two to three minutes. Additionally large companies are able to download mapping and site index data for inclusion in their own systems, with updates available monthly.

The system contains maps of sites, resulting in significant improved information on location of sites. This has led to reduced misinterpretation of information on location by consultants. The management of heritage survey reports by the Library has ensured they are more accessible to the public. At the same time, the way in which the Library catalogue and Aboriginal Heritage Management System are linked allows for reports to be identified in meaningful ways. For example, a consultant can specify a mining tenement of interest, and all heritage survey reports with sites within the area can be identified.

Clients often assign their own site numbers to sites. These client site numbers are cross indexed with AAD's site numbers, allowing clients to search by their own numbers, without having to access AAD's site numbers first.

Lessons Learned

For this alliance to work and for the project to be successful strong trust relationships needed to be developed between AAD and both client groups. AAD need to take the first step in this process, which was to reverse the basic premise that 'protection meant exclusion to information'. AAD had to be willing to allow their information to be vulnerable. This conforms to the definition that trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control the other party (Mayer, Davis and Schoorman 1995). From the beginning AAD made a conscious decision to define protection as disclosure of information and to define developers as organisations that inherently want to do the 'right thing', to adhere to legislative requirements and assist with protection of sites. These definitions proved extremely valuable to the project in gaining the trust of developers and in forming the alliances. Trust of the Aboriginal clients was gained through ensuring they had input into the policies and procedures and were the senior decision makers for any changes to these.

Newell, Scarborough, Hislop and Swan (1999)discuss the importance of organisational control over the design and use of technology when implementing a project aimed at increasing organisational-wide knowledge management processes . From the outset of this project it was determined that a centralised approach needed to be taken to ensure that it succeeded. Prior to the project the management of the Aboriginal sites information had been left to the Aboriginal Sites section with no involvement of the Information Management Branch. The Sites section consisted of anthropologists and archaeologists with little or no experience in the area of information management, graphical information systems or principles of information storage. The Information Management Branch had staff experienced in project management, GIS systems, developing information systems, library and records management, cartography and implementing Intranet systems. Due to lack of coordination, resources and knowledge of managing such a complex system that encompassed mapping, database management, paper-based information management and storage the information collection and dissemination procedures had not been reviewed in over fifteen years. This scenario meant that the storage of the paper based information was in total disarray, many requests for information were going unanswered and new site registrations were not being forwarded to the ACMC due to a lack of documented procedures and quality controls.

The setting up of a Steering Committee representative of all stakeholders and knowledge gathering ensured a positive outcome for the project. Attention was given to both internal and external networks, the resources required to tackle the project which led to the development of an appropriate knowledge base. The processes that were followed closely match the five guidelines that Berry and Parasuraman (1997) put forward for developing an effective service-quality information system:

1. Measure service expectations
2. Emphasise information quality
3. Capture customer words
4. Link service performance to business results
5. Reach every employee

Throughout the project and beyond implementation customer satisfaction surveys were conducted, stakeholder groups were interviewed, the steering committee formed a customer advisory panel and all processes were constantly evaluated and altered as necessary.

At the end of the day, the project identified three types of change that needed to be dealt with and that will continue over time: anticipated,

1. emergent, and
2. opportunity-based.

These three types of change correspond closely to the three building blocks of knowledge management:

1. appropriation – retention and effective utilisation of internal knowledge,
2. networking – integration of diverse knowledge bases and team work
3. learning – acquisition and exploitation of external knowledge (Dyerson and Mueller , Zack, 1999).

A framework for strategic management is shown in Figure 1.

	Exploiter/ Anticipated	Explorer/ Emergent	Innovator/ Opportunist	
Unbounded/ Learning			Aggressive	Enhanced value network
				Agency network
External/ networks	Conservative			Traditional government
Internal/ appropriation				

Figure 1. Framework for E-Government Management Strategy

Increasingly, researchers are identifying the role of organisational culture and how cultural change is a critical factor. (Burn and Barnett, 2000). What makes this system so successful is that the organisation and its staff have a deep commitment to Aboriginal culture and the preservation of this culture. The project has initiated a dramatic change in how sites are managed. In the past protection was based on non-disclosure. The new system works on the premise that the best way to protect sites is through the provision of information. This project would not have been possible without a culture committed to Aboriginal culture and working in the best interest of the organisations primary clients - Aboriginal people. It also required a change from the Aboriginal community who are the custodians of the information. The Aboriginal community are extremely sceptical of Government and very reluctant to work with Government agencies and provide them with information. Through working closely with the elders, building in their concerns and keeping them informed throughout the project a strong working relationship has developed along with a trust of the system to protect their heritage.

AAD has tackled the project in such a way as to take into account four broad objectives:

1. Create knowledge repositories;
2. Improve knowledge access;
3. Enhance the knowledge environment; and
4. Manage knowledge as an asset (Moody and Shanks, 1999).

They have ensured the involvement of all stakeholders, in particular Aboriginal elders and large mining companies at the early stages to obtain 'buy-in' and by doing an environmental scan up front been able to implement systems rapidly whilst not falling into pitfalls that other organisations had encountered.

Conclusion

This paper confirms Tan's and Teo's (1997) view that building linkages along a firms value chain is a powerful source of creating competitive advantage and that internal linkages must be carefully designed such that each activity along the process is properly integrated to optimise the use of scarce resources.

There is much research left on the subject of the implementation of the value alliance model in a government agency, especially the distribution of information and communication within the virtual organisation. Managing a virtual organisation may require a whole new set of virtual information leadership skills (Morin, Devansky, Little and Petrum 2000). Storing knowledge and expertise from both partners and customers are also important areas of consideration.

References

Berry, L. L. and A. Parasuraman (1997). "Listening to the Customer: The Concept of a Service-Quality Information System." *Sloan Management Review* **38**(3): 65-76.

Burn, J. M. and M. L. Barnett (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* **Vol 3**(1): 18-32.

Campbell, A. and P. DiNicola (1997). "Virtual Organisations. Problem setting and research agenda."

Cavanagh, J. J. and D. J. Livingston (1997). Serving The American Public: Best Practices in Customer-Driven Strategic Planning.

Dyerson, R. and F. U. Mueller (1999). "Learning, teamwork and Appropriability: Managing Technological Change in the Department of Social Security." *Journal of Management Studies* **36**(5): 629 - 652.

Mayer, R. C., J. H. Davis and F. D. Schoorman (1995). "An Interactive Model of Organizational Trust." In *Developing Trust for Electronic Commerce*.

Miles, R. E. and C. C. Snow (1995). "The new network firm: A spherical structure built on a human investment philosophy." *Organizational Dynamics* **23**(4): 4-18.

Moody, D. L. and G. G. Shanks (1999). "Using Knowledge Management and The Internet to Support Evidence Based Practice: A Medical Case Study." *Proceedings of the 10th Australasian Conference on Information Systems:* 660-676.

Morin, T., K. Devansky, G. Little and C. Petrum (2000). "The Future of Information Leadership." In *Information leadership - A Government Executive's Guide*, PricewaterhouseCoopers Publications.

Newell, S., H. Scarborough, D. Hislop and J. Swan (1999). "Intranets and Knowledge Management: Complex Processes and Ironic Outcomes." *Proceedings of the 32nd Hawaii International Conference on System Sciences.*

Prahalad, C. K. and V. Ramaswamy (2000). "Co-opting customer competence." *Harvard Business Review* (78(1)): 79-87.

Sprecher, M. H. (2000). "Racing to e-government: Using the Internet for citizen service delivery." *Government Finance Review* **Vol. 16**(5): 21-22.

Symonds, M. (2000). "Government and the Internet: The Next Revolution." *The Economist* (June 24).

Tan, M. and T. Teo (1997). "From low technology to high technology: a tale of two printing companies." *Information Technology & People* **10**(4): 287-302.

Ticoll, D., A. Lowry and R. Kalakota (1998). Joined at the Bit. *Blueprint to the Digital Economy: Creating Wealth in the Era of e-Business.* D. Tapscott, A. Lowy and D. Ticoll, McGraw-Hill.

Von Hoffman, C. (1999). "The Making of E-Government." *COI Enterprise Magazine* (November, 15).

Zack, M. H. (1999) Developing a knowledge strategy. *California Management Review;* Berkeley; Spring.