Development of a community e-portal constellation: Queensland Smart Region Initiative

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Abstract: A community e-portal facilitates dynamic (developing), value (financial and non-financial), constellation (collaborative networks), which supports community integration and economic growth. The OECD has identified that social cohesion rather than narrow economic gain is the most significant outcome for societies where all citizens, through learning and the transfer of knowledge, skills and attitudes, leads to becoming more effective and proactive participants in civil and economic processes. In this work, action research facilitated design, development, and implementation of a community-portal dynamic-value constellation to support networked value chains, community, and local government connectivity. The research gives insights through working closely with stakeholders. The research domain represents a novel value creation model, incorporating technologies and solutions in the context of virtual enterprises, partnerships and joint ventures and other market-driven value constellations, where partners dynamically come together in response to or in anticipation of new market opportunities. Such constellations, however, bring with them significant operational and logistical challenges, about which there has been very little prior knowledge.

Keywords and Phrases: Dynamic value constellations; E-community-portal; E-business; E-Commerce

1   Introduction

An extensive and eclectic literature, spanning several disciplines, surrounds our understanding of e-community-portal dynamic value constellations (Parker 2002a); with information spanning electronic-commerce, information systems, logistics, economic-social infrastructure, and, amongst numerous other literatures, urban renewal strategy (Bughin and Hagel, 2000, Staab et al, 2000).

Notwithstanding other disciplines' focus, we argue that there has been little attention to the design and implementation of dynamic value constellations, from the perspective of the end-user and stakeholder value. This paper, in-part, addresses these limitation by using action research (Ellis and Kiely, 2000) during development and implementation of an electronic-community-portal to support a dynamic value constellation (Parker, 2002a).

The research started in 2005 under the auspices of the *Smart Region Initiative*: funded by the Queensland government, Australia. The initiative had the objectives of developing a web-based community portal (for the area of Redlandshire, Queensland) to support networked value chains and community connectivity. The research domain is a novel value creation model, with technologies and solutions in the context of dynamic enterprises and other market-driven value constellations, where partners dynamically come together in response to or in anticipation of new market opportunities (as depicted in Figure 1).

Such constellations provide creation of highly-customised products and services in response to changing market demands (Balasubramanian and Mahajan, 2001). A key aspect of this action research was the need for identification and selection of value constellation partners, including contractual and value sharing arrangements; and supporting the full life-cycle management of products and services across evolving *partnerships*. Within a community web-portal the dynamic value constellation provides a customer-oriented set of relationships focused on competence-based networking (needed for value creation) (Parker 2000b; 2002c). Such dynamic value constellations are designed in response to constantly changing, highly customised market demands (Bieber et al, 2002;

Brenner, 2000). The increasing capabilities of information and communication technology and the accompanying falling costs are changing the rules of employment (Alsop, 1999), education, and service delivery (Dabholkar, 1996). As a result, all industries, whether private or public, are facing operational challenges; and where sustaining old work practises may stifle the opportunities presented by the *new information age* (Cowles and Crosby, 1990). Nowhere is this more evident than in the public sector and in local and central government (Elofson, Beranek and Thomas, 1997; Parker, 2002b). By pursuing an active role in today's information age, public authorities, at all levels of government, can exploit the possibilities of this technology and effectively empower every citizen by providing rapid and easy access to information and services (Zwass, 1998). This is the aim of *e-government* (Bughin and Hagel, 2000): a concept that provides a framework for planning and action across the public sector.
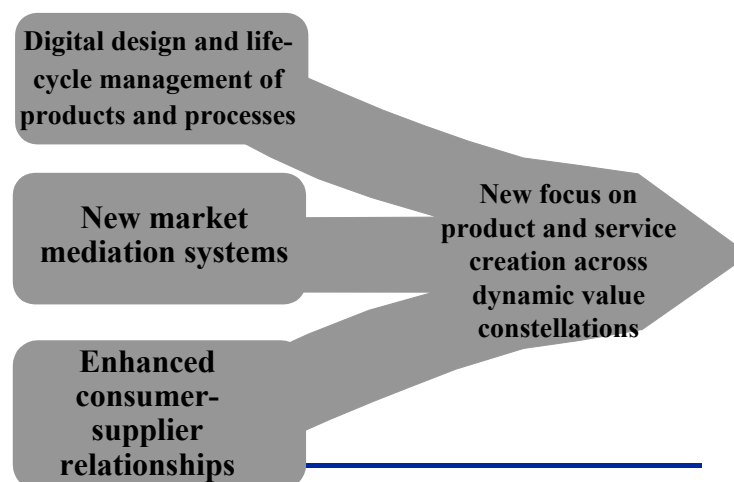
Figure 1: Dynamic Value Constellation

Community-portals (see as example http://my.ca.gov) provide opportunities for all citizens and residents, community groups, businesses and services (de Kare-Silver, 1999), and government agencies to access information, interact and to participate in developing an e-community that fosters economic co-operation (Parker, 2000a). A community-portal facilitates dynamic (developing) value (financial and non-financial) constellations (collaborative networks) which supports community integration and economic growth. The OECD (1999) has identified that social cohesion rather than narrow economic gain is the most significant outcome for societies, where all citizens through learning, and the transfer of knowledge, skills and attitudes (Mick and Fournier, 1998), leads to citizens becoming more effective and proactive participants in democratic, civil and economic processes. Portals, therefore, are the means that provide a personalised and adaptive interface for people to discover, track and interact with others in the e-business and e-community (Voss, 2000). It delivers a personal or community desktop and provides consolidated access to important contacts, applications and content as well as access to and display of, aggregated data and information resources. Easy-to-navigate browsing and search, and multi-functional in nature, portals provide an important platform on which to consolidate and aggregate all the resources of the e-community (Leung, Cheung and Hui, 2000). An e-community-portal needs to ensure access to end-user services with different needs and abilities (Mossberg, 1999). It also has to accommodate the use of different interfaces including hand-held devices, low cost network appliances, kiosks, Web TV, telephone call centres, and so on (Marshall, 2000).

Learning skills and knowledge have now become the key factors in gaining national, regional and even urban economic advantage (Callon, 1996). Using powerful technologies and innovative ways of collaboration, an e-community-portal provides a conduit to enable businesses, public sector agencies, and associations to provide services that support the growth and development of communities and individuals. Using knowledge management tools and multiple delivery channels, e-community-portals offer the means for citizens to interact with each other, with government (Craig, 1998), and businesses at a local-level. The result is greater social cohesion for community and society as a whole. By harnessing the power of emerging technologies (and by using knowledge management

tools, portals, and multiple delivery channels), dynamic constellations offer the means to enable greater interaction with the miscellany of service providers. Community e-portals offer the technological infrastructure to enable more collaborative working, where practitioners and professionals can communicate and interact at a dynamic level. In the context of the increasing need for government to offer transparent and seamless services to the public, e-community portals have an important role to play.

2   E-communities and e-commerce

E-communities aid the business-engagement process because they provide a holistic approach to service delivery by overcoming the traditional obstacles imposed by geography, income, demographics, skills, language, and organisational structures (Hagel and Armstrong, 1997). E-community portals have the potential to nurture a rich diversity of activities, resources and opportunities across a wide spectrum of interest groups (Allee, 2000). Through virtual collaboration on defined subjects or issues, groups of individuals or organisations can work together in new ways, resulting in greater co-operation between departments, agencies, and authorities (Allen et al, 2000). A more effective multi-disciplinary way of working and interacting within a supportive culture is therefore encouraged. E-community portals enable public sector staff to be more responsive and more knowledgeable when working with clients (Gartner Group, 2000). They provide the basis for developing greater expertise, sharing experiences and pooling common tools and methodologies (Evans and Wurster, 1999), substantially enhancing the decision-making process. By encouraging proactive, dynamic, and interactive delivery of services, e-communities offer some extremely powerful opportunities (Kambil and van Heck, 1998).

Government, and local government in particular (in this research: Redlandshire Council), is in a unique position to develop the potential of e-communities (Parker, 2002a). The information, the services, and facilities provided by local government offer some exceptional opportunities for citizens to meet their lifestyle and personal interests' (Lechner and Hummel, 2001). This *feel good* factor creates a momentum of its own; encouraging a more positive perception of government at all levels (Lechner and Hummel, 2001). The information services and facilities available via e-communities can also play a significant part in boosting the local economy (as citizens have instant access to knowledge about local businesses). Knowledge sharing among citizens is also an important element, recreating *word of mouth* recommendations on local businesses and other services similar to the culture of *village communities'* (Leebaert, 1998). E-community portals offer a variety of ways for local authorities to harness the 'local advantage 'and can also provide a valuable public relations role for the physical community, attracting investment into the locality, raising funds for *ad hoc* events, charities, special needs, and so on (Miles, Howes and Davies, 2000). In enabling a single window on local services, an e-community-portal will provide citizens with convenient access to logical groupings of products and services (Zwass, 1996). A citizen needing to access multiple services can avoid providing basic personal data each time the service is accessed. The automation of such routine tasks (Vaugn and Schwartz, 1999) will improve the quality of service (Zwass, 1996), enhance customer satisfaction, and reduce administrative costs (Zwass, 1998).

The emergence of powerful new information and communication technologies, based on the use of the web and multimedia, digital compression and satellites, fibre-optics and wireless networks, artificial intelligence, and virtual reality, dramatically expand the options for communicating and interacting at the individual, community, and societal levels (Zwass, 1996). Such technology has offered the opportunity to develop community-portal dynamic value constellations and allow businesses and services and citizens, to engage in community planning issues (Craig, 1998). Such technologies are reshaping working life; the organisation of enterprises and communities is at all levels; with particular opportunities for flexible modes of education and skills training (Mason, 1998). In order to appreciate the benefits of adopting an e-commerce approach it is first necessary to understand the concepts involved. E-commerce is not a new technology that provides a quick fix panacea for processing all commercial transactions Rather, it is business process re-engineering and cultural change facility, enabled by technology (Zwass, 1996; Turban et al, 2000; Turban et al, 2002; Timmers, 1999). It is argued (Chesher and Rukesh, 1998) that the adoption of e-commerce using an e-portal will represent a significant change in daily operations for users; and that e-commerce will be evolutionary rather than a revolutionary development. This underpins the notion of the *information society*, which in turn supports market driven value creation constellations, where suppliers and consumers come together dynamically in response to or in anticipation of new market opportunities (Elofson, Beranek and Thomas, 1997). Such technology supports employment growth and

strengthens social cohesion. It enhances people's ability to participate fully in every aspect of social and economic life. Thus, it can be considered as a tool for the creation of an inclusive society (Jeffcoate, Chappel and Feindt, 2000). Such community-portals offer the possibility to generate new types of consumer and public services, and new modes of access to existing services.

In particular, many forms of social disadvantage can be tackled in new ways (Kosiur, 1997). Community-portals have a powerful capacity to shrink distance and improve access to information and services (Lee, 1998). The new technologies and networks have the potential to bring work to areas of high unemployment, to reduce the disadvantages of less favoured and more peripheral regions (a problem here in Australia) (Parker, 2002b; Marshall, 2000). In addition, social integration can be enhanced by the potential offered by community-portals, and can support more cohesive and integrated communities and reduce the exclusion facing minority and disadvantaged groups (Lohse and Spiller, 1998). E-commerce, in its basic sense, (Orlikowski and Baroudi, 1991; Adam and Yesha, 1996) is 'doing business electronically', and has become the most important business development of recent years. Its importance is expected to be intensified further when the impact of another current ubiquitous phenomenon, i.e. globalisation takes greater effect (Benjamin and Wigand, 1995). Forging closer relationships between partners and consumers is likely to be one of the key factors in achieving competitive advantage, especially in virtual value chains (Bughin and Zeisser, 2001). However if the web is the road to a real-time economy then electronic commerce is the vehicle (Dell, 1999). Electronic commerce incorporates applications on a number of different levels: person to person; person to application; and application to application. One report (Gartner Group, 2000) argues that e-commerce is an activity that is the direct result of the internet's technological development. It is not so much a developing industry, rather which the technology is allowing new, more efficient ways of carrying out existing business. This approach provides substantial cost savings based on increased competitiveness and efficiency (Kiani, 1998). Whilst others (Orlikowski and Baroudi, 1991) argue that the true impact of the internet has yet to be realised.

Information and communication technology allows us to construct, analyse, store, interrogate, and share information in different ways (McGonagle and Vella, 1999). It creates the opportunity to move towards building distributed (as opposed to centralised) information networks (Mossberg, 1999). Community-portal dynamic value constellations support new sorts of social places in the virtual reality, where people can meet, work and undertake leisure pursuits without ever seeing each other in the physical world, creating virtual communities (Leebaert, 1998; Lechner and Hummel, 2001; de Kare-Silver, 1999). A relevant range of services can be provided at three levels of interdependence through the portal, which enables individuals to achieve their full potential and for organisations to ensure they are positioned as *market facing systems* (Jeffcoate, Chappell and Feindt, 2000). The range of services provided will have an external focus which considers value chain innovation (Allee, 2000; Leung, Cheung and Hui, 2000) on either the supply or demand side (Tomkins, 2001), and with an internal focus aimed at leveraging and managing an individual's or organisation's knowledge assets (Fingar, Kumar and Sharma, 2000)]. Moreover, it seeks innovative efficiencies through process innovation (Hagel and Armstrong, 1997) which considers customers, suppliers, partners, and internal systems.

3 Structures of e-community-portal dynamic value constellations

There are two elementary approaches to developing e-community-portal dynamic value constellations (Parker 2000a). If the need for the constellation were informal, then the design would be based on self-selected membership that may be fluid and unstructured. This could be described as a *community of interest* approach where members are united by a common interest. One example might be a constellation initiative established by training providers. Alternatively, if the need is more formal, such as a multi-disciplinary constellation, a *community of practice* approach is more appropriate. Such an example is the focus of our research, the Smart Region Initiative, involving participants and representatives from a number of businesses, agencies and organisations. This can be viewed as a dynamic and complex network of alliances; a move away from traditional bureaucratic arrangements (with rigid governance) or an entrepreneurial initiative that attempts to meet a market opportunity (See *Figure 2*). An e-community portal provides the infrastructure and communication channel for interaction and support; with mobile technologies having a very important role to play (Kosiur, 1997; Laudon and Traver, 2001). PDAs, and other mobile devices (e.g., mobile phones) allow access to the most up-to-date information. This empowers individuals to make the appropriate decisions and judgements, confident that they have all the relevant information on which to process their decision. Whether based on a *community of interest* or *practice* approach, an e-community is a

group of individuals working as a virtual team to drive the creation, acquisition, and re-use of knowledge in their area of expertise. This then drives the plans and activities of the e-community-portal dynamic value constellation in order to deliver high quality services to the local public or the broader community.

Grouped around a strong sense of identity and common interest, an e-community-portal's infrastructure essentially comprises people, processes, and technology. Comprising multi-disciplinary by design, e-community-portal members span organisational boundaries and geographical areas. Open sharing of knowledge, an innovative approach to information, and a positive sense of collaboration are defining characteristics of membership to an e-community-portal dynamic constellation (Bughin and Hagel, 2000; Bughin and Zeisser 2001.

Savage (1996)
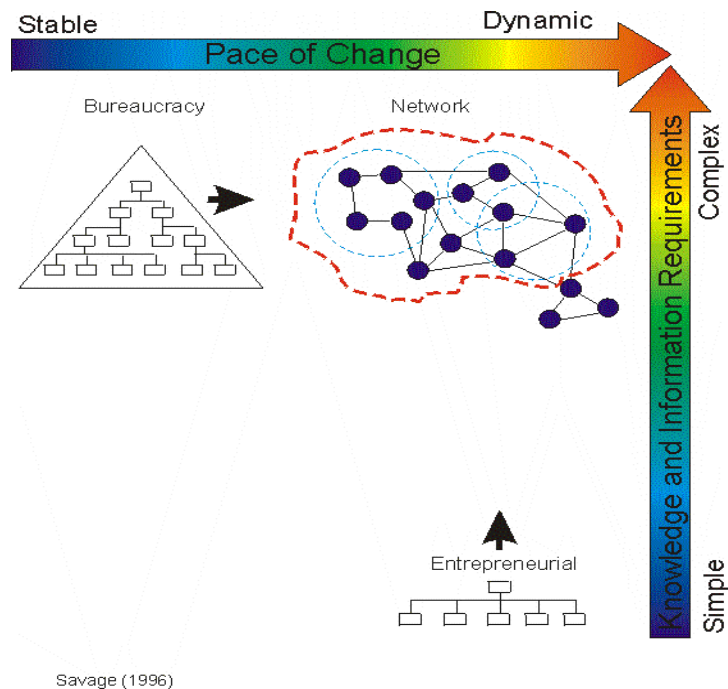
Figure 2: Dynamic and complex network of community of interests

3.1 E-community-portal management

Leadership, management, and monitoring of process performance are vital aspects of a successful e-community-portal that supports a dynamic constellation. Knowledge management is the lynchpin of the e-community-portal, to ensure that the community 'recalls and learns'. Lack of knowledge breeds uncertainty and anxiety (Allen et al, 2000), which in turn interferes with focus and productivity. The responsibilities of a knowledge manager/project director include:

- Actively moving the e-community-portal members towards being efficient and effective knowledge workers
- Proactively driving the knowledge collection process and making that knowledge available for re-use
- Providing hands-on training and support to e-community-portal members
- Keeping e-community-portal members informed about new knowledge initiatives and key knowledge resources.

3.2 Pre-requisites of an e-community-portal

To develop skills, competencies and an understanding around subjects, there are a number of events and tools that are necessary for increasing sharing and learning. E-community-portals need to include:

- Knowledge mapping

- End-to-end content management

- A virtual white board

- Bulletin boards

- After action reviews

- Virtual experts

- Key relationship tracking

- Tailored newspapers and local newspapers (i.e., The Redland Times in this research)

- E-learning

- Sharing behavioural, learning and thinking styles

- Coaching, training, mentoring, up-skilling

- Accelerated learning tools and techniques.

4   The Smart Region structure

The three levels of interdependence in this research are stakeholder/participant requirements and can be described at the level of:

- ***Individuals***: This relates to the individual knowledge, skills, and attitudes that are required for a person to competently perform as an individual, a community member, and in business.

- ***Communities, Businesses, and Government Agencies****:* This relates to the collective knowledge, skills, and attitudes that are necessary within community groups and businesses for them to competently perform as an entity. These knowledge, skills, and attitudes are at a higher level, and support the vision of the organisation and ensure that all members are aligned in achieving the outcome and are all effectively aligned to objectives of client/customer satisfaction.

- ***Co-operative Relationships***: This relates to the knowledge, skills and attitudes which community groups, businesses, and government agencies require as entities so they can effectively interact with other entities in partnering, value chain management, and in meeting and exceeding their customers expectations.

A critical challenge in implementing a successful e-community-portal dynamic value constellation is the complexity and level of integration required. SME's, typically, have more legacy systems and disparate databases than larger enterprise. Consideration therefore needs to be given to implementing credible end-to-end solutions from web content management across all delivery channels (such as to iDTV (interactive digital TV) and other non-PC-based devices). There also needs to be integration across all organisational boundaries and sectors so that the commercial and the public sector can collaborate effectively. Not least, a particular challenge identified in our research is finding creative and innovative approaches to using technology to engage with socially excluded groups.

Building Dynamic Value Constellation Partnerships
Strategies for designing, building, and implementing dynamic value constellations in the community include (Balasubramanian and Mahajan, 2001; Bieber et al 2002):

- Gaining senior management support - is the concept, benefits and consequences really understood

- Agreeing a budget and clear scope for the initial phase together with outline plans or subsequent phases

- Scoping the competencies/skills/experiences: which sector and/or geographic area

- Defining the required applications and infrastructure

- Understanding the gap between the current infrastructure and the required infrastructure

- Understanding what content and technologies are needed to enable the target e-community

- Defining budgets and resources to deploy e-community-portal people.

Basic requirements include:

- A well-defined vision of what is to be achieved
- Political support, as the overall objective is to have a significant positive impact on the citizen and community
- The ability to raise funding from central government or develop partnerships with other local/regional authorities. This will include developing a coherent and compelling business case
- Clearly defined roles and responsibilities within the project
- Defining a common technology and process infrastructure
- Defining a common way of supporting participants
- Communicating the goals and outcomes.
- Citizen-focused electronic service delivery
- Best value and continuous service improvement
- Reduced costs through streamlined and automated service delivery
- A single gateway to access multiple services
- Sustainable community development
- Community awareness of the benefits of ICT.

4.1   Sustainable relationships and partnerships

It was crucial to the long-term success of this Smart State Initiative that sustainable relationships were developed across public, private and voluntary sectors (Balasubramanian and Mahajan, 2001). The links with ICT companies available in The Smart Region Initiative (to provide expertise regarding project development and technical infrastructure issues and also provide equipment and services), the local Redlandshire council and central government departments (to provide district council services, funding and links to central government sites) were all vitally important.

4.1.1   Funding

Confusion concerning who is responsible for funding an e-community-portal project is common (Allen et al, 2000). Often, projects are considered the responsibility of local government or state government and therefore it is assumed that funding will be forthcoming. This is not necessarily the situation (Bughin and Hagel, 2000), so it was important to raise public and private sector awareness and seek funding from both central/state/local government and partnerships with local businesses.

4.1.2   Citizen-centric approach

This aspect was crucial if the economic and social potential of people and businesses in the community was to develop, and citizens were to face the challenges and opportunities of the *information age* (Bughin and Zeisser, 2001). Relevant content and user-friendly access was assured through the development of community forums and citizen panels to identify citizen priorities and needs (Bughin and Hagel 2000). Those same citizens would also be involved in regular review meetings to ensure that the portal continued to reflect and address any concerns.

4.1.3   Sustainability

Publicity to promote awareness of the project at local and state level was essential in order to receive funding and local support. This was also important to fully engage the support of the local business community.

Implementing a fully functioning constellation requires members who could:

- Understand and provide the basic technologies and infrastructure
- Deliver the variety of consulting and implementation services, business and technology

- Provide proven applications that can be used to support and develop the dynamic value constellation over time
- Attract the broadest possible network of highly qualified business partners.
- A high-level understanding of customer requirements
- A sound knowledge of relevant technology and integration issues
- Experience of similar projects
- Experience of scope/risk management
- Demonstrable ability to deliver.

5   Aims and objectives of the research

The focus of the action research was to develop an internet-based community-portal for the area of Redlandshire, Queensland to support networked value chains and community interaction. Specifically:

- To explore and gain understanding of community-portal dynamic value constellations.
- To gain understanding of participants' perceived requirements.
- To investigate the impact on operation business models from new forms of co-operation and collaborating, facilitated by community-portal value constellations.
- To gain greater understanding of managing in the e-business environment, thereby support solutions for entrants to community-portal value constellations.

5.1   Critical Success Factors of the Community Portal

The critical success of the programme was to be measured against the *User Defined Requirements* for the community portal as part of a dynamic value constellation. These were identified by user focus groups conducted over a 6-month period, and resulted in the following critical success factors:

- To facilitate individual skills development, and organizational skills of community groups, businesses, and government agencies, to succeed as knowledge workers in the knowledge society and wider economy.
- Facilitate e-business by providing the necessary services for community e-businesses, to access suppliers and customers, improve internal business systems, improve service quality, reduce costs, and increase market share.
- Assist e-businesses to succeed in the knowledge economy and become community based '*dotcom'* companies.
- Act as a platform for the provision of community, business, and government services.
- Attract individuals, community groups, and businesses to the region.
- Position the region in the 'e' environment.
- Enhance the capacity to market the community as a Smart Community to the world.
- Support knowledge workers to living in the community to work in a virtual supportive community, linking individuals, community groups, businesses, and government agencies through education and training.
- Provision for individual and organisational collaboration, and industry convergence and partnering within virtual supply chains
- Foster a proactive business sector and collaborative commercial community where all enterprises can participate in the knowledge economy for sustainable competitive advantage
- Leverage the competencies, knowledge, innovations, and networks of the community for social and economic growth for the Redlandshire region.

5.2 Exploratory Information on Design of Community-portal Dynamic Value Constellations

The literature has identified requisites for the functionality of community-portals. Additionally, an extensive dialogue was undertaken with international researchers and portal developers in the UK). The minimal services and functionality suggested for a successful community-portal dynamic value constellation includes:

- Education, training, and e-learning for individuals, community groups, businesses and government agencies.

- Suburban networking to foster individual participation as a knowledge worker in the e-community economy.

- A community leadership and mentoring program to support community groups, and SMEs to achieve objectives, maintain financial viability and embrace e-commerce initiatives.

- Discussion forums (noticeboards, chat-groups, and interest group rooms).

- Community news, notices, suburban information, and events billboard.

- Job vacancies, job search, employment advice and assistance.

- Access to City Council and other local council services and agencies.

- Access to State Government services and agencies.

- Access news (newspapers) at the local level.

Specifically to foster and support SME collaboration and partnering within the dynamic constellation required additional functionality. Specifically:

- Internet Web based customer interface with access to software applications and on-line help.

- Business developments support where ICT skill deficiencies need to be addressed.

- On-line shopping, with secure payment services; access to trade and professional services, and sources of supply.

- e-Commerce (supplier management, procurement, order fulfillment, payments and transaction management, retailing services support, on-line sales)

- SME re-positioning strategies e.g., organisational agility, document management, and other leading knowledge economy frameworks.

6 Research Design and Data Collection

The authors' responsibility within the research focused on gaining greater understanding of the e-community-portal development for the community at large, and SMEs in particular - specifically with regard to their transition to ecommerce, and to give support during their induction. Research included carrying out postal questionnaire surveys to targeted respondents (that had been identified as being likely to participate in the initiative by virtue that they had attended free ICT training courses at the local community college). Design and development of the questionnaire involved testing the suitability of the instrument on focus groups, and modifying questions resulting from pilot testing.

Redlandshire is located 35km south east of Brisbane, and is situated in the Moreton Bay. Small towns, the largest being Cleveland -the civic centre- comprise the region. Telstra (Phone Company) lists 2,458 businesses in their Business Directory; and 26,078 residential telephone subscribers. Two thousand postal questionnaires were sent (in 3 phases over a six month period) representing 7.7percent of the residential population. Four hundred questionnaires were sent to businesses (in 3 phases over a six month period) representing 16.3percent of the business community.   Excluding spoiled/non-readable papers, 250 residential consumers replied (N= 1 percent of total residential population; n= 12.5 percent of questionnaires sent). The total number of questionnaires for businesses returned was 188 (N= 7.7 percent of total businesses; n= 47 percent of questionnaires sent).

7   Interpretation of Questionnaire Results

Question 1 (N=250 consumers)

- Average 6.3 hours per week for personal use on the Internet
- Beginners (20%); intermediate (52%); experts (29%)
- Up to 20 yrs (4%) 21-34 age (27%); 35-54 age (54%); 55 plus (15%)
- Average of 3 people in household, 2 of which use internet
- Primarily access from home (58%home/35%work)
- 56% / 44% male/female
- 14% operate home based businesses

Question 2 What residents currently do on the internet (see Figure 3) (N=250 consumers)

- Email, research, and communicating with friends are the three most common activities

Question 3 What Residents are buying on the internet (see Figure 4) (N=250 consumers)

- 76 percent have made purchases on the internet in the last year
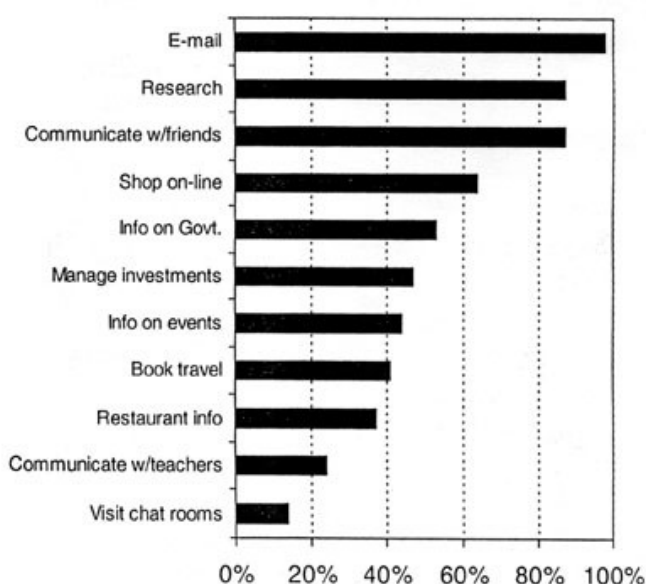- Books and clothing are two most commonly purchased items
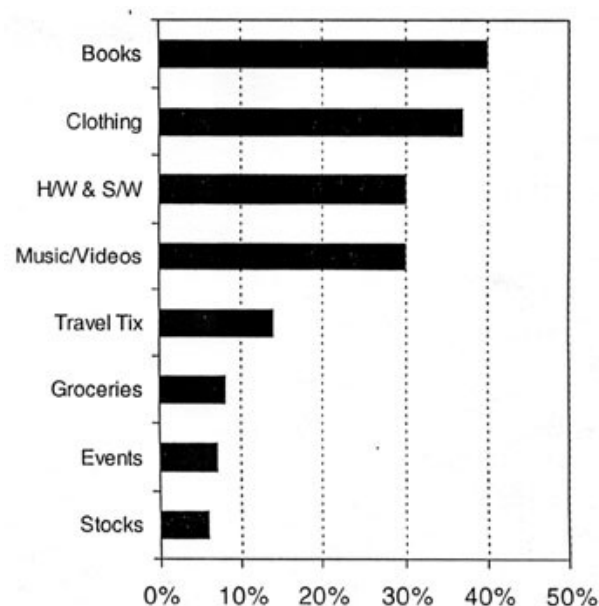

**Figure 3:** Residents' current activity on the internet

Figure 4: What Residents are buying on the internet

Question 4 Activities residents would like to do on the internet (see Figure 5) (N=250 consumers)

- Out of 22 features described to respondents, seven services are 'highly important'

Question 5 What businesses currently do on Web (see Figure 6) (N=188 businesses)

- Email and looking for information on products, markets, and competitors are most cited.
- Internet seen as additional channel to inform and promote products and services.
- Procurement capabilities with suppliers identified as important.
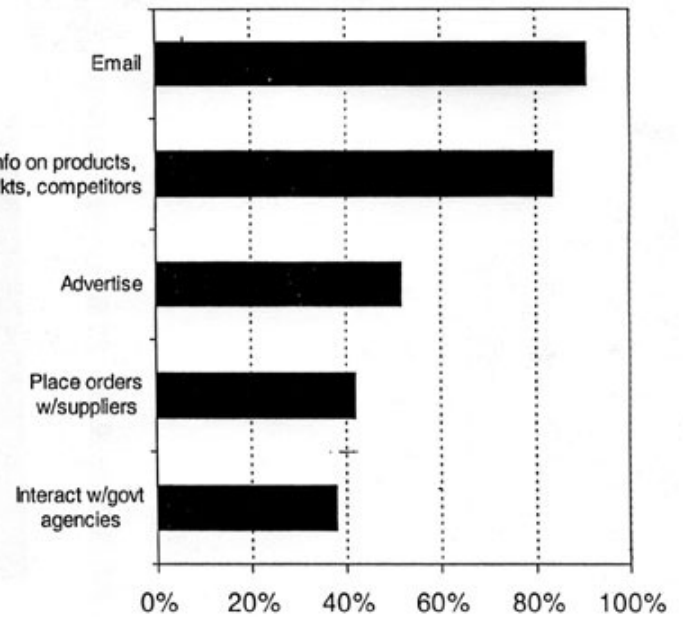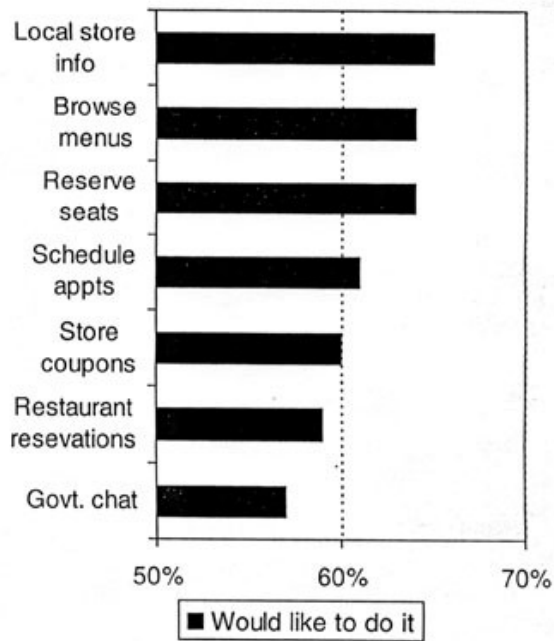
Figure 5: Residents would like to do on the internet   **Figure 6:** What businesses do on the internet

Question 6 What businesses would like to do on the internet (see Figure 7) (N=250 consumers)

- Business promotion and engagement with the local community cited as activities wanted to be carried out. Also, supplying product and service information; and e-procurement was identified as a future requirement.
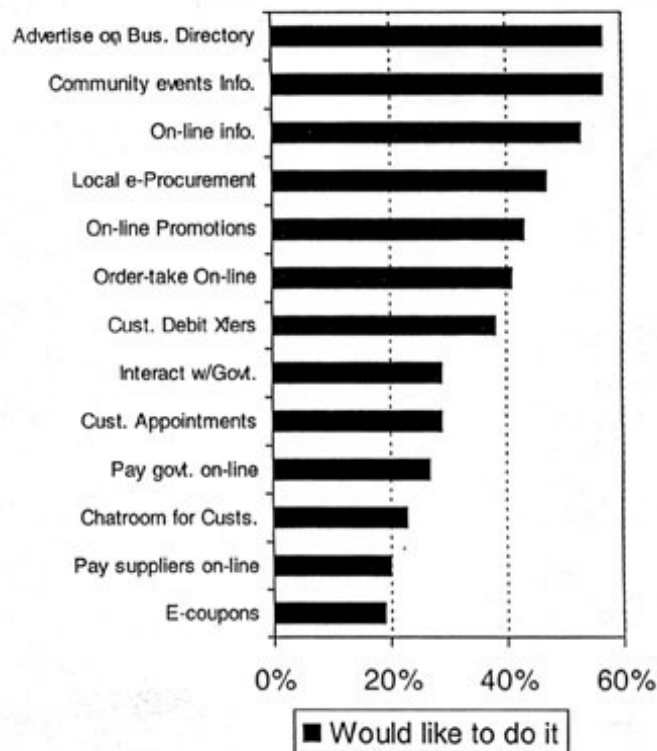
Figure 7: What businesses would like to do on the internet

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8   SMEs Engagement with the Community Portal

These researchers are conducting a longitudinal study with sixteen SMEs, comprising retail outlets, professional services that include solicitors, real-estate agents, and horticultural nursery, light manufacturing and electrical assembly companies. The smallest company employs three people and the largest employs sixteen.

During the last eighteen months, focus group meetings, interviews, emails and meetings between these researchers and senior managers in the SMEs have taken place. Transcripts of audiotapes and emails have been analysed using WIMAX qualitative data software. Eight high-level text codes were used, each having six sub-codes. (The detailed review of this qualitative information is the subject of an upcoming paper). Analysis of the qualitative data has identified a significant range of issues *apropos* engagement of SMEs to the community portal and the opportunity to carryout business within a dynamic constellation.

There have been a number of publications focusing on the take-up of e-business and e-commerce by SMEs (Chaffey 2002; Deitel, Deitel and Steinbuhler, 2001; Oz, 2002). However, by the very nature of limitations imposed by production of such texts, often implementation is described as a linear sequence of events and steps. This action research has highlighted that such engagement is non-sequential, non-systematic, and iterative in nature (Parker, 2002a). The final portal design in this research evolved through an evolving process with close engagement from SME end-users.

The initiative has engaged SME retailers to the eCommerce Portal, requiring extensive support during the initiation phase. The daily operations management has radically changed, exposing frailties in a range of issues, as discussed below. During the transition phase, from conventional operations to e-business, the authors have reflected on a wide range of operations/logistics management issues; and have recorded both qualitative and quantitative data using logs, diaries, and focus group dialogues (transcriptions). The following section identifies early findings.

9   Discussion

The e-environment for senior managers in the research-set is a relatively new experience. The real and imagined context of technology for developing and maintaining relationships with customers, suppliers and their own staff, is a significant change – and for most, a removal of all past experience (and their comfort zone). However, one manager stated, "I can see new opportunities to create capabilities in my business processes to innovate and deliver new products and services to market, that potentially, goes further than our community."

Three high-level issues were identified for operations/logistics management during the transition to e-business via the community-portal dynamic value constellation:

- Taking responsibility for technology deployment and not leaving it to technology experts
- Designing organisations to change behaviours' of staff to use CIT for knowledge sharing and their own learning
- Using performance measures that reflect new factors for definitions of *customer values*.

Operations/logistics managers have identified a number of perceived issues needing to be addressed:

- How to understand the competitive deployment of e-technology and its impact on new business models.
- How to assess the opportunities and threats of an information economy
- How to describe a strategy for e-management for the organisation as a whole
- What qualities and activities of operations management are needed for this transformation?
- How to use e-business concepts in new and existing business processes; how to use them to reduce time and cost, and to improve service and quality.
- How to manage an e-business project portfolio; and how to address the major barriers to change.
- How to adapt company planning and performance management processes in the new business model.

This portal allows access to local knowledge and services and learning opportunities. It also captures community interest and challenges the perception that ICT poses a threat to community life.

During the research, we have recognised the lack of personalisation of content and service delivery in most other developed web-based initiatives. One of The Smart Region Initiative's aims is to *individualise* and *personalise* access and its use. The belief is that citizens are more likely to trust electronic interaction and learning through a community portal with a *local identity* rather than a national, state wide or global development. This inherent quality is a catalyst for greater social inclusion, local knowledge sharing and learning opportunities, both locally and remotely, using electronic means and *appropriate technology*. (See Figure 8 for our portal screen design)
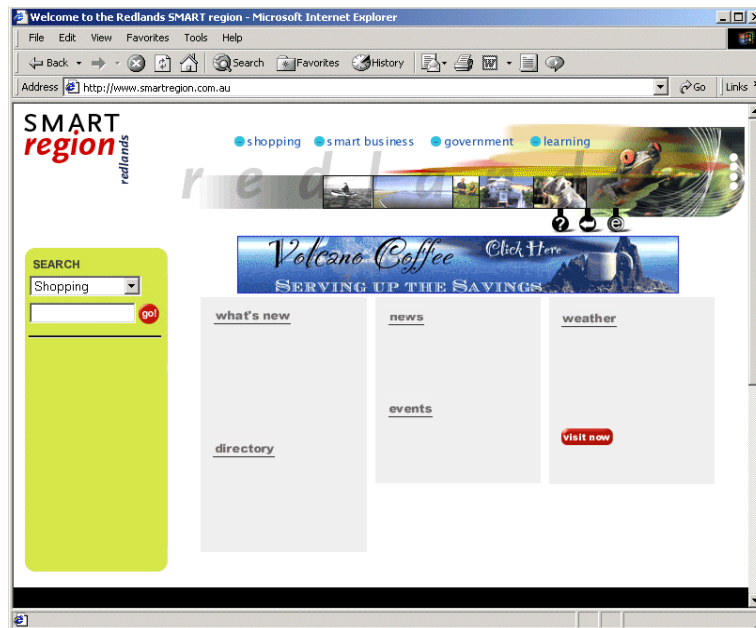

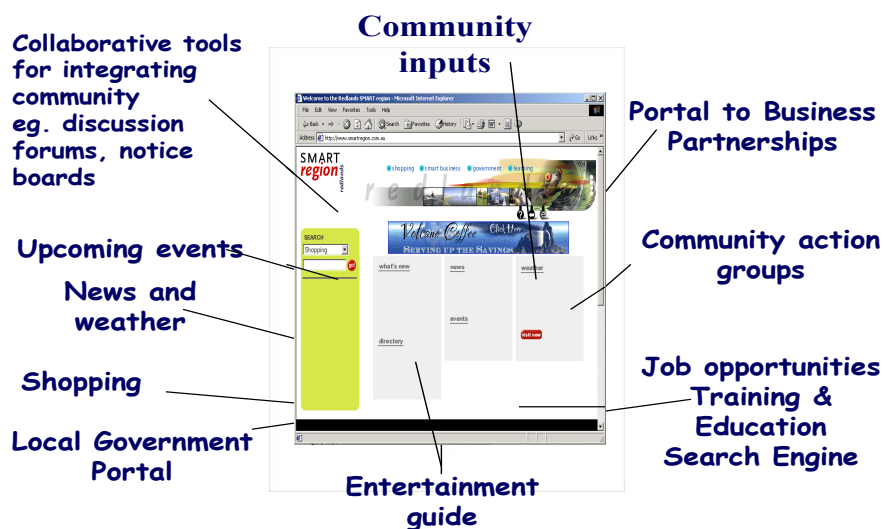**Figure 8a:** Smart Region Home Page

Figure 8 b: Portal Features

10 Conclusion

This action research has given an insight to a specific electronic-community-portal dynamic value constellation, initiated as part of the Queensland government's Smart Region Initiative.

The new e-environment gave the opportunity to develop a dynamic value constellation that comprised partners who came together to meet changing market opportunities. This research has led to propositions that provide organisations' the insights to understand their vulnerabilities and to consider their responses.

Whole layers of a value chain may be removed by superior services. The Smart Region Initiative has identified that traditional customer and suppliers can be removed and novel trading relationships can be developed.

The leadership qualities of operations/logistics managers are enormously important for creating the culture needed to exploit the new capabilities and to absorb present and future volatility. Experiences, however, are accumulating at the various levels of complexity, but these have not yet coalesced into an accepted body of knowledge.

Our on-going longitudinal study (that commenced in 2005) has identified an evolving body of knowledge that points to the need for further research into the simplification of e-business systems to allow e-retailers, SME's, community groups, and the wider stakeholder community to take greater ownership of the technology platforms. The need for 'experts' to update information and undertake maintenance, continues to hinder greater take-up by the community.

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