

Title Page

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Title:

Sensible Organisation: A unifying construct for Information Systems in diverse ecologies

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Abstract

The object of this paper is to present Sensible Organisation as a unifying construct for IS in diverse ecologies that can underpin holistic research into complex phenomena. We describe and justify this new construct that consists of six bifocal elements that are each in a dialectic relationship between order and complexity. We discuss the implications of the Sensible Organization construct to the scope, theoretical underpinnings and methodologies of IS research and demonstrate its application in an illustrative case.

Keywords: sensible organisation, fragmented adhocracy, intellectual structures, complexity

1. INTRODUCTION

The *Sensible Organization* concept was introduced into the field of Information Systems (IS) by Hasan et al (2007)¹ in response to the increasingly diverse and complex ecologies of organizations in which they had conducted research over several decades. According to these authors “many organizations are now hybrids of a traditional hierarchy, with a limited command and control structure, allowing the emergence of self-directed groups in a network-centric configuration”. While there will inevitably be a desire for stability, predictability and order, hybrid organizations also need the flexibility, adaptability and innovative culture to prepare for uncertain and unpredictably futures. Traditional scientific approaches to research do not provide adequate methods for the holistic investigation of these phenomena so new approaches are needed.

The object of this paper is to provide a unifying construct for IS that can underpin such research, recognising that the IS artefact is socio-technical in nature, embedded in socio-material practices and situated in a diverse range of ecologies. The field of IS is characterised by its diversity (Benbasat and Weber 1996) and can be considered as a fragmented adhocracy (Banville and Landry 1989). IS scholars are therefore well positioned for innovative research that brings together multiple elements in complex phenomena within the dynamics and purpose of a systems’ perspective. *Sensible Organization* is presented as a unifying construct for understanding such phenomena.

Our endeavour is timely. The field of IS is in its fifth decade giving us sufficient time to draw on its history to make sense of where we have been, where we are and where we may go as a discipline. IS has gone through many changes over these decade but there have been some real tipping points, such as developments of the 3rd generation programming languages of the 1970s and the personal computers in the 1980s. However, the most profound tipping point occurred in the 1990s with the exponential growth of the Internet that still continues with spectacular rise of social media. Eric Schmidt, former CEO of Google described it as “*the first thing that humanity has built that humanity doesn't understand, the largest experiment in anarchy that we have ever had.*” The World Wide Web, which sits on the Internet as a gigantic complex adaptive information system, began its rapid ascent when end-user computing and graphical interfaces had become widely available and commercial interests were allowed to participate (DiMaggio et al 2001). This heralded the new age of globalisation for everyone from multi-nationals to micro-business. It coincided also with the rise of the knowledge economy as exemplified in the work of Nonaka (1994) and the emergence of Knowledge Management (KM) as a field of research and practice. The IS landscape had become complex as knowledge is much more problematic than data and information as the core of organizational systems. This has profound implications for the IS discipline.

In our development of the holistic *Sensible Organisation* framework we are motivated to focus on sense-making theories by our observations that many things in the current “Digital Information Age” that just don’t make sense:

- Why are we working so hard when IT promised to give us so much extra leisure time?
- With digital storage so cheap, abundant and flexible what happened to the promise of the Paperless Office?
- With all the functionality, connectivity and easy access to information provided by the Internet why have we not learnt to cope with information overload?
- Why are managers still obsessed with being in control and using so many resources striving to impose order on complex ‘wicked problems’ while ignoring the affordances of Web 2.0 tools that empower individuals and groups to innovate through self-organization?

The paper will begin with a brief background to the concept of *Sensible Organisation* and a critical analysis of previous work on identification and unification of the field of IS. We then acknowledge the increasing global complexity and diverse ecologies that have emerged, in particular since the mid-1990s following the exponential growth of the Internet and World Wide Web (WWW). We look back to the Intellectual Structures framework proposed by Hirschheim et al. (1996), which in hindsight heralded many of the changes that have come with the Internet and the evolving WWW. We argue

¹ Nominated for best paper at ICIS2007, Montreal

that the diversity of the fragmented adhocracy of IS has not kept pace with the changes to IS ecologies and IS has not articulated the theoretical constructs necessary to address the implications of these changes in a coherent manner. From our vantage point in 2013, and the knowledge of several decades of IS scholarship, we have a new perspective on the historical trajectory of IS evolution that will no doubt continue into the future as we encounter increasingly more complex situations, problems and systems.

In order to meet the challenges this entails we extend the *Sensible Organisation* concept (Hasan et al 2007) into a framework to be used as a unifying construct for IS across a landscape that includes situations, problems and systems that are both *complicated* and *complex*. In presenting the construct we broaden the term *Sensible Organization* to address both aspects of the term. We refer to *Organization* as a generalized concept that results from activities of *organising* and we incorporate the deeper ideas of *Sensible* to include sense-making and the popular notions of acting sensibly and using good sense.

Finally, we apply the *Sensible Organization Framework* holistically to the investigation of a particularly challenging case of IS in government-community engagement. In this setting there is a clash of cultures between the complicated order of the governmental bureaucracy and the unordered complex community demands. In describing the case we demonstrate how the *Sensible Organization Framework* contributes an integrated suite of conceptual tools that allow us to distinguish between the complex and the merely complicated and address each appropriately to encompass topics within the broad umbrella of the fragmented adhocracy of IS.

2. LITERATURE REVIEW

There is a broad body of literature attempting to make sense of the IS discipline. In their effort to define the ‘intellectual core’ of the IS discipline Sidorova et al (2008) refer to many other IS scholars who have attempted to do so with no general consensus. Until recently, the main body of IS research has not kept pace with Web 2.0 revolution. For example, Sidorova’s et al (2008) analysis identifies a conservative set of constructs on how IT systems are developed and how individuals, groups, organizations, and markets interact with IT. They conclude that this analysis demonstrates that the IS academic discipline has maintained a relatively stable research identity.

Indications that IS scholars are breaking this conservative mould can be found in the reflections of Walsham (2012) and responses from others published in the same issue of the Journal of IT. According to Westrup, Walsham’s article attempts to resolve the paradox “Why is discussion of crisis in the IS field so prevalent when the significance and usage of IS has grown dramatically?” (Westrup 2012 p 106). Walsham claims that ‘traditional’ settings for IS research studies are business and government organizations, while future agenda will ‘embrace communities and networks beyond organisations, including online communities and user communities’. March and Niederman (2012) challenge this claim, suggesting that such settings are already part of the IS agenda. As there is abundant evidence that IS remains a fragmented adhocracy, there is still need to make sense and find ways to take advantage of this diversity. The *Sensible Organisation* may provide a way to do this.

Outside IS, the term *Sensible Organisation* has only been used to refer to organizations that develop innovative means to ‘sense’ their environment in order to respond appropriately (Hitachi 2006). This follows Strati’s (2007 p62) definition of sensible knowledge and that which “concerns what is perceived through the senses, judged through the senses, and produced and reproduced through the senses”. This implies merely sensitivity to situations and awareness of problems. Our use of the term extends this not only to then making-sense of what is sensed but then applying it sensibly to decision-making and action through what is understood as *common* and in particular *good sense*.

Within IS, *Sensible Organization* is related to the sense-making view of organization at the individual, organizational, and intermediate (the team/group/unit) levels (Weick, 1995; Wiley, 1994; Cecez-Kecmanovic & Jerram, 2002). Furthermore, the Cynefin sense-making framework (Snowden 2002) depicts how problems and situations in organizations can be *complicated* but still *ordered* or *unordered* and fundamentally *complex*. The latter requiring different approaches to problem-solving and decision-making spanning a broad range of organizational elements, related to technology, co-

ordination, structure, information, work, capability development and context. Within the fragmented adhocracy of IS, and a unifying systems' perspective, there are many phenomena that lie across the different levels of sense-making and across the ordered/unordered dialectic of the Cynefin sense-making framework.

We recognise that, among the diverse ecologies of the current IS landscape, there is a fundamental difference between situations, problems and systems that are *complicated* and those that are *complex* (Snowden 2002; Kim and Kaplan 2006). *Complicated* systems, although composed of many intricate parts, can be understood over time by careful examination so that their future behaviour can be predicted. We suggest that most IS research deals with *complicated* systems. *Complex* systems, on the other hand, are “comprised of populations of interacting entities where the overall system behaviour is not predefined but rather emerges through the interactions of its entities” (Kim and Kaplan 2006 p37). Growing interest by IS researchers in accommodating complexity is evident in an emerging body of literature on information systems development as complex adaptive systems (Kautz 2012; Benbya and Kelvey. 2006). Distinguishing the *complex* from the *complicated* can help us make sense of the diversity and pluralism in the field of IS. It can enable us to more effectively align research approaches with problem domains and allow us to investigate more difficult and complex areas that have often been avoided by IS researchers or inappropriately over-simplified.

We already noted the profound tipping point in the field of IS that occurred in the 1990s with the exponential growth of the Internet. Among the various critiques of IS at that time was the work of Hirschheim et al (1996). Rather than impose a unifying conceptual structure over the field Hirschheim et al (1996) developed the ‘federated’ IS framework that provides the theoretical basis for a fragmented adhocracy. The framework, shown in Figure 1, is expressed as a matrix with one axis being domains of change, the objects that are changed by IS, and the other axis being the orientations that signify the purpose of the change brought about by IS. There are three fundamental orientations: control, sense-making (communicative) and argumentation (discursive); but a distinction is made between control over objects (instrumental) and humans (strategic). This distinction is important as instrumental control treats people as physical objects while the latter treats them as intelligent agents. The domains of change are technology (the artefacts), language (all forms of communication) and organization. The cells of the framework represent object systems that, in an abstract way, show the diversity of IS in terms of their content and purpose.

Domains	Orientations			
	Control		Sense-Making	Argumentation
	<i>Instrumental</i>	<i>Strategic</i>	<i>Communicative</i>	<i>Discursive</i>
Technology	Information Technology Systems, <i>infrastructures</i>	<i>DSS / EIS / Intranets / email</i>	<i>Web 2.0, social media</i>	<i>Advocacy forums</i>
Language <i>Knowledge flows and co-evolution</i>	Formalized Symbol Manipulation Systems	Manipulative Communication Systems	Systems for Consensual Communication	Systems for Rational Argumentation
Organization <i>Work, structure and context</i>	Mechanistic Social Systems (ritualized tasks)	Political Systems (decision making hierarchy and control)	Cultural and Social Systems (negotiated meanings and practices)	Systems for Institutional Democracy (checks and balances)

Figure 1 IS Object System classes in the Intellectual Structures Framework (adapted from Hirschheim et al. 1996).

The typology of the original Intellectual Structures Framework is reminiscent of the modification of Giddens' original model of structuration theory, developed by Orlikowski (1992) and others, in which technology-in-practice is both the medium and the outcome of human agency in mediation with facilities (such as technical artifacts), norms (organizations, communities and their variable cultures), and interpretive schemes (such as language/communications and all that is mediated by it). In her more recent work, Orlikowski (2002, 2007) focuses on the importance of knowledge and knowledge work, advancing a view that knowing as a practice is also always material. The practice view of knowledge leads us to understand knowing as emergent, embodied and embedded in the situated socio-historic contexts of work (Orlikowski, 2002). Knowledge is then positioned in socio-material practice, whereby the entanglement of the social and the material is evident in every aspect of the IS ecology (Orlikowski, 2007). These ideas are representative of the current thinking in IS and demonstrates the need for constructs that can deal more holistic with the complexities surrounding the fragmented adhocracy of IS. Our response to this need is the *Sensible Organization* framework.

3. RESEARCH FRAMEWORK

The *Sensible Organization* framework is grounded in the Intellectual Structures Framework but re-examine and reinterpret its Domains and Orientations in light of the transformations of IS since the 1990s. The resulting six Domains are overlaid with the order/unorder dialectic of the Cynefin Framework to form six elements that account for the increasing complexities that have come with these transformations as will now be described.

3.1. A Contemporary Interpretation of the Intellectual Structures Framework

In Hirschheim et al's prominent and insightful Intellectual Structures Framework of the 1990s (Figure 1) the Technology domain only populated the Control orientation reflecting the pre-Internet technologies of that time. Changes brought about by the revolution in ICT and the Internet have transformed organization and pervaded all aspects of life in society at large. We argue that, since the framework was published in the mid 90's, a rich body of IS research has accumulated in which its orientations and domains co-exist. In this paper we revisit the framework in light of these subsequent developments. In the Technical Domain, IS needs a broad range of conceptual tools to accommodate our current reality, where technology is embedded across all Orientations of the Intellectual Structures Framework as indicated in red in Figure 1.

The Technical and Control aspects of IS are consistent with the Cynefin concept of 'order' which focuses on the known factors within the application area, or those aspects that can be rationally analysed, to determine optimal outcomes. Clearly this 'ordered' perception of IS constrains the affordance of digital technologies when they are deployed by organizations.

We propose that the changed reality and advancing generations of digital technologies requires that we now see the Technology Domain populated across all Orientation of the Intellectual Structures Framework. We suggest that the Strategic Control Orientation of the Framework already has an established embedded Technology Domain, as Intranets, KM and Decision Support Systems (DSS) have given strategic decision-makers senior executives direct access to business intelligence and extended strategic control capability to the organisational boundary.

In the last few years the acceptance of Web 2.0 into the corporate environment is impacting the technology Domain of the Sense-making Orientation with emergent phenomena such as corporate crowd sourcing (Feller et al 2012) and corporate Wikis (Pfaff and Hasan 2011). Concepts such as the wisdom of (and in) the crowd (Surowiecki 2004) both within institutions, and between institutions and their constituencies, may be the basis of the Technical Domain of the Argumentation Orientation.

The extension of the Technology Domain into Sense-making Orientation also opens the discussion on the potential of digital technologies to address the Cynefin concept of *unorder*. While *order* is well understood and traditional desired, organizations are often wary of *unorder* as it is concerned with diversity, uncertainty, ambiguity, complexity and variety and the need understand the situation and

inform appropriate and acceptable actions. Both the Sense-making and Argumentation orientations are consistent with the notion of *unorder* as they focus on the ability of IS to support negotiated and co-created understandings, with the user as a legitimate participant. The Technical Domain of the Intellectual Structures Framework thus becomes one bifocal element of our *Sensible Organisation* Framework.

A substantive consequence of the new Orientations of the Technical Domain are their impacts on the other Domains of the Intellectual Structures Framework, the Domains of Language and Organization. The new interfaces and functionality of digital systems highlight the need for all other aspects of organizational systems to change to accommodate the evolving reality and exploit the opportunities in its changed circumstances.

We noted that the 1990s saw the emergence of a focus on knowledge within organisational and IS studies. This introduced the notion of the Knowledge Based View (KVB) of the firm (Grant 2002, Spender 2003) and underlying Knowledge Management Systems (KMS) where knowledge can be viewed as a thing (created, embodied and embedded) and as a flow (i.e. emergent and fluid)(Orlikowski 2002, Hasan and Crawford 2003). We recognise this distinction in our *Sensible Organization* Framework by expanding the Language Domain into two bifocal elements, *Knowledge Creation* (a ‘thing’ for Capability Building) and *Knowledge / Information Flow*, each of which can be *ordered* or *unordered*.

Similarly the increasing complexity of the process of organising (Crawford et al 2009) has led us to unpack the single Organization Domain of the Intellectual Structures Framework into three elements of *Sensible Organization*, namely *structure*, *ways of working*, and *co-ordinating mechanism*. Organisational studies have traditionally been concerned with how organizations structure themselves, how they resolve needed coordination and how the division of labour relates to the way work is carried out (see e.g. Mintzberg 1979; Jones 2010). The growing complexity of the organisational context implies that these three concerns are interdependent, never the less we suggest that their longstanding position of importance in the literature makes them ideal candidates for a sensible unpacking of the Organization Domain of the Intellectual Structures Framework in light of their relevance for IS. As with the other elements of the *Sensible Organisation* each of these has an *ordered* and an *unordered* manifestation.

3.2. The Sensible Organisation Framework

We present the *Sensible Organization* framework (shown in Figure 2) as the set of 6 key bifocal elements drawn from a contemporary view of the Domains of the Intellectual Structures Framework as described above. We briefly describe each of the six elements from a meta-level analysis of the evolving IS landscape over past decades and into the future. We draw on the Cynefin *order/unorder* dialectic to depict how each element has an ordered and an unordered attribute in a dialectic relationship.

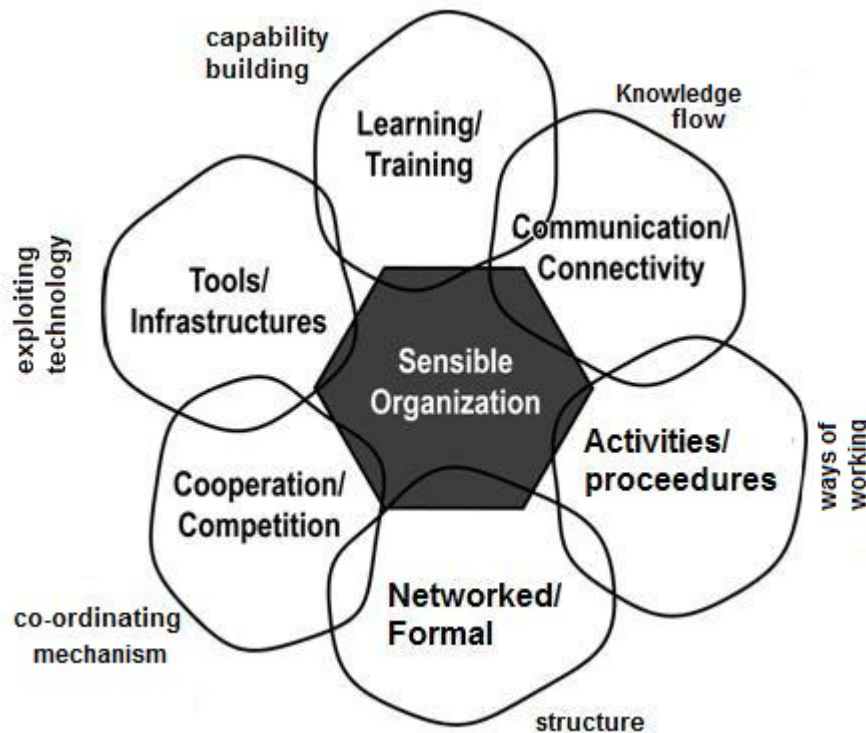


Figure 2 The Sensible Organisation Framework

3.2.1. Tools/infrastructure: exploiting technology

Business information systems have brought great efficiencies to the operation of organizations and enterprise systems are now basic infrastructure. The infrastructure of an enterprise includes not only technical elements but also organizational design, information and knowledge and support for interactions. This infrastructure provides a stable, *ordered* foundation on top of which are the tools used to support diverse human activities, the methods by which these tools are used, the applications that the tools enable and most importantly the promulgation of the tools from the individual, to groups, organizations through to society. This conceptualization of tools is consistent with established theoretical understandings of IS (Orlikowski 1992; Klein and Hirschheim 2008; Hirschheim et al. 1996). Historically, technology and control, the *ordered* context, dominated IS discourse and focused on the difficulties in exploiting the technology within the organization. From the 1990's technology was no longer a constraining factor but had become almost ubiquitous, presenting a different set of issues; it no longer places limits on any task or activity, it supports teams, mediates competition and is inherent in learning. The challenge now is how to sensibly exploit the technology and creatively leverage the affordances offered by each new generation of digital technologies. In this *unordered* context, the imperative is to decide which tools are appropriate in a specific context and understanding the emergent impacts that different tools, methods and applications will have on the way work is done.

3.2.2. Learning/training: knowledge creation and capability building for decision-making and action

Historically IS has asserted that data, information and knowledge form a hierarchy with each being progressively recognized as *the* critical organizational resource to support decision-making, action and learning (Davenport and Prusak 1998). In the so-called 'Information Age' organizations initially introduced extensive *ordered* training programs to impart new skills and authorized information to

employees. In the shift from information to knowledge, public sector bodies, like their private counterpart, aspire to be learning organizations (Senge 1990). The seminal work of Nonaka (1994) heralded the new field of KM which focused on how the organization could leverage its tacit and explicit knowledge resource to create new knowledge through a spiral learning process that continuously moves between individual, group and organization level. This shift from *ordered* training to a continuous experiential learning environment that supports exploration of new ideas and builds the capacity for renewal through social learning and shared situation awareness. Such a learning environment has the potential to reduce the power of traditional guardians of authorized knowledge sources to allow the co-creation and democratization of knowledge indicative of *unorder*. This provides access to free and open sources of knowledge within the organization and significantly to those outside the organization who have a legitimate stake in that knowledge.

3.2.3. Communications/connectivity: information and knowledge flows

In the 1990s, the Internet emerged as a public utility to support world-wide connectivity, first generation Websites and distributed access to information. The World-Wide Web (WWW), created on the Internet extended the notion of a digital system from an organizational artifact to a social one where everyone could be globally interconnected. The second generation (Web 2.0) has spawned a raft of social media and other applications that have revolutionized the way we communicate, collaborate and form communities. Traditional technological determinism is being undermined by innovative appropriation of technology and communicative forms by civil society, in particular marginalized groups and developing societies and communities (for example Steyn, 2007). Organizations now need to be alert to such innovations and be open to the possibilities represented by such innovations both in terms of infrastructure and markets. In terms of the Intellectual Structures Framework, the clear orientation of this element is communicative taking into account the need to make sense and negotiate meanings and practices. However, in an organizational setting there is a tension between the need for organizational control of internal and external connectivity (*order*) and the value of innovation stemming from more open, collaborative, informal and dynamic paths of communication (*unorder*).

3.2.4. Activities/processes: ways of working

The process orientation of work focuses on continuous improvement and process optimization with the objective of making organizations more efficient and effective. This orientation views processes as *ordered*, requiring knowledge and skills that are technical, mathematical and suited to rational analysis, and their management to be done in an *ordered* fashion. This dominant approach of BPM is followed in most public sector bodies, as in their private counterparts, but does not accommodate the flexibility and creativity required for innovation (Hasan 2011). We propose *activity* as a general term for the antithesis of *ordered* processes encompassing a range of understandings of *unordered* tasks and activities that have come from many diverse fields. In the 1990s the field of HCI shifted from the *ordered* cognitive science model to a model that focused on the user performing a task or work activity through a ubiquitous interface (Bodker 1991, Norman 1991), generating a task-artefact cycle (Carroll et al. 1991). From the field of KM comes the concept of knowledge work (Iivari and Linger 2000) integrating doing, the pragmatic task, with thinking, the cognitive task, and which together influence how an instance of a work task will be performed. From Activity Theory comes an understanding of *activity* as the holistic *unit of analysis* of work where *activity* is the relationship between the *subject* (person or people engaged in the doing) and the *object* of work that encapsulates the purpose and motives of doing (Leontiev 1981).

3.2.5. Formal/Network: structure

This element deals with the organization of work and the nature of work done, spanning the continuum from ritual tasks to independent, self directed intellectual tasks (Weick and Roberts 1993; Cornelissen and Kafouros 2008). We associate the terms ‘team’, ‘teamwork’ and ‘virtual team’ with formal, i.e. *ordered*, organizational structures. The 1990s produced a body of literature (e.g. Boland and Tenkasi 1995; Engeström 1999; Toulmin 1999), which promoted the small group level as the predominant source of learning, creativity and innovation. Concepts contributing to the emergence of groups as the loci of innovation included ‘situated learning’ (Lave and Wenger 1991), that refers to

learning in the community that occurs in the interactions between people and the environment, and 'distributed cognition' (Hutchins 1994; Rogers and Ellis 1994), that focused on how thinking and doing was distributed between people and artifacts. The current trends in organizations are towards *unorder* in the form of decentralized decision-making, self-directed and informal groups, and empowering workers by giving them the authority and skills to self-organize. These trends allow enterprises to position themselves as self-organizing, with self-integrating coordination mechanisms that balance the formal structures and informal networks. Such trends require cross-functional teams with multi-skilled workers. However this also requires enterprises to be able to create and welcome diversity, value boundary spanners or bridging agents, and tolerate permeable and fuzzy internal and external boundaries. These trends are not simply an appropriation of the informal into the formal structures but simply acknowledging the existence of the informal, ceding legitimate authority to those forms and working on the mechanisms for dynamic co-existence to meet the emergent needs of each situation.

3.2.6. Co-operation/competition: co-ordinating mechanism (the culture and context for relationships)

It is commonly believed that business should be market-oriented so that competition drives productivity growth. Ostensibly cooperation is the antithesis of competition. In the 1990's situations were reported where companies worked together in parts of their business where they did not believe they had competitive advantage, while remaining fiercely competitive in other areas (Fisher 1992). The extensive alliances in the airline industry, enabled by e-commerce IS, demonstrate this organizing principle. The dialectical dynamics between *ordered* competition and *unordered* cooperation defines collaboration and generates social capital (networks, shared norms, and trust) (Thompson 1967; Schmidt and Simone 1996; Iivari and Linger 1999). This dialectic can be seen in information sharing behaviours, particularly in highly competitive environments. The tension between cooperation and competition can be exploited to create holistically sustainable and dynamic working communities.

3.3. Implications of *Sensible Organization* for IS

The *Sensible Organisation* framework has implications for IS as follows:

- Scope: It broadens the scope of acceptable problems to be investigated to potentially include phenomena covering all six elements as dialectics of both ordered and unordered forms. Alternatively problems within a narrow scope and recognise this and comment on the implications for elements not addressed.
- Methodologies: innovative research approaches are need when investigating phenomena that cross boundaries and incorporate unorder alongside more traditionally ordered methods

The case described below illustrated these scope and methodological implications. Theoretical and epistemological implications are also significant and will be discussed in the conclusion of the paper.

4. ILLUSTRATING SENSIBLE ORGANISATION

We report on a study on the engagement of citizens in local government in the era of social media, its implications for participation in the democratic process by citizens and the organizing principles of a local government council. This study was chosen because it demonstrates both *ordered* and *unordered* of aspects of all elements of the *Sensible Organisation* framework in an endeavour that has practical, economic and social consequences in addition to significant academic research findings.

4.1. Methodology – action research in the public sphere

This study was undertaken as an action research intervention. Action research is a recognized research method in a number of fields including organizational development (Van Eynde and Bledsoe 1990). Unlike other methods, action research deliberately sets out to solve practical problems and to study the problem at the same time to advance the body of knowledge on a topic. The attraction of the method is that it allows researchers to be relevant to practice. As well as the issue of relevance, action

research is also strongly oriented to collaboration between researcher and participants and is an iterative process, facilitated by learning, which results in change. “Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework (Rapoport 1970, p. 499).” In IS, action research has become much more participatory since the 1990s with researchers and participants sharing responsibility for theory development and problem solving, each contributing from the perspective of their distinctive knowledge bases (Baskerville and Meyers 2004).

Action research is an iterative process that involves diagnosis, planning, action, evaluation and learning. This cycle is considered an idealized template to be adjusted to the problem situation (Baskerville and Wood-Harper 1996). However, recurrent criticism of action research is that is essentially a consultancy with little research rigor. For this reason McKay and Marshall (2001) argue that action research requires both a problem solving cycle and an explicit research cycle that establishes and articulates the research agenda of the intervention. This juxtaposition of theory and practice allows action to be framed and informed by a conceptual framework derived from theory (Baskerville and Wood-Harper 1996).

The interdependence of theory and practice in action research highlights an interesting feature of this method; mainly the nature of the problem being solved. The collaborative analysis of the problem situation determines if the problem can be legitimately theorized and is therefore a suitable subject of research. We present *Sensible Organisation* as useful framework around which to plan and analyse such research as it acknowledge the complexities of the real world while supporting the sense-making effort of researchers.

4.2. Case Study Context and Research Design

The study is set in a regional Australian city. Australia has three tiers of democratic government, Federal, State and Local, with conflicting responsibilities and contradictions that challenge the organization principles of the public sector, in particular when there is public participation. Local government is closest to the citizen and has traditionally been most active in organizing and managing Community Engagement (CE) activities.

This particular case involved the planning for, and potential consequences of, new statutory requirements to broaden the community engagement activities of one local council, Wollongong City Council (WCC) following changes to the New South Wales (NSW) State Local Government Act in Australia (NSW DLG, 2009). This Act now requires all local government councils to develop and implement their own 10-year Community Strategic Plan (CSP) ensuring that all citizens have appropriate opportunities to participate in local government planning and decision-making. One of the requirements of the Act is to actively engage the community in the development of the CSP itself.

The need for this was brought home to Council during a recent episode when parking meters were introduced to the CBD and the community felt that their wishes had not been consulted. The strength of these objections were a surprise to Council as they had assumed the introduction of the meters would be popular with shoppers and shop-keepers because it would facilitate more short-term parking. There had in the past been many complaints that shoppers could never find a convenient parking spot due to predominance of long stay parkers. The unexpected resistance was simply that the main stakeholders were busy people who did not attend the community forums which Council had traditionally used for community engagement and they felt that they had not been consulted. The standoff was resolved when Council representatives walked around the streets and engaged one on one with the shoppers and shopkeepers involved. However this was a time consuming post-hoc process that was unnecessarily confrontational. The Council wanted to explore how digital technologies could be used more effectively for community engagement.

The setting of the case study, Wollongong, is unique as an industrial steel city in a beautiful seas-side location. It is a town where the City Council and the University are leading civic organizations with long standing links and a history of joint endeavours. The case study project was initiated because of these links and project planning explicitly drew on these links to establish a collaboration between IS researchers in the Faculty of Commerce and the CE team from the Council. The stated problem

enunciated by the Council was how they could use online IT systems to develop creative, cost effective, reliable methods to engage all members of the community in council planning in order to capture community needs and aspirations for the future. The action research approach to the case study provided the researchers with an opportunity to study innovative use of digital technology by a public organization as well as helping Council to engage a broader section of civil society than they have done by limited face-to-face community consultation in the past.

The project brought together different areas of University expertise to investigate a suitable mix of next generation technologies that would be suitable for local government community engagement in schools and other hitherto neglected community settings. At the same time this would be studied as action research. The problem for the Council CE Team was to build into their CSP the means, possibly involving new technologies, to engage a broader section of the community. The first cycle of the action research aimed to provide a hands-on demonstration of the interface and functionality of such technologies to the CE Team while at the same time collecting data that would support research its implications for Council as well as provide understandings that would help the CE Team solve their problem.

The chosen technology was the Zing groupware system which can facilitate focus groups, brainstorming session or other types of meetings that would be part of a community engagement program. Zing can be used in face to face meeting with a set of wireless keyboards, laptop and projector or over the Internet for a virtual meeting. Properly designed, Zing sessions are fun and empowering. They automate the laborious alternatives where note-takers record an interpretation of what is said and then transcribe their notes into a formal report. In face-to-face meetings often the loudest voices are heard. With Zing everyone has the same opportunity to type their ideas into the system in their own words for everyone else to see and discuss. As long as the session continues people can add new comments as things come to mind.

All Zing text was saved into a file for further analysis using Leximancer (Version 2.2); a software application for text mining that uses artificial intelligence to develop and identify high level concepts and the relationships between them from an analysis of text (Smith and Humphreys 2006). Leximancer enables an automated navigation of the complexity of a document or group of documents, identifying 'concepts' within the text, not merely keywords. It has advantage of objectivity as well as ease of use and rapid production of results. Leximancer develops a co-occurrence matrix from analysing concept frequency and the co-occurrence of data, and then applies a statistical algorithm to derive a two-dimensional concept map. The labels and themes are developed solely from the text analysed; thus avoiding researcher bias (Hewett et al. 2009). The concepts are presented in a map as an interactive display to visualise and interrogate the concepts as well as their inter-connectedness and co-occurrence down to the original text that spawned them. The ideas and relationships generated in Zing session can thereby be the impetus for the creation of facilitated online spaces for fruitful ongoing exchanges between the participants, in our case the community and council.

The Council CE Team had heard favourable reports of the Zing system and associated technologies and recognizing the possible for its application to community engagement. They suggested that the technologies be first trialled in face-to-face mode in a workshop run by the researchers with a cross-section of council employees including the CE Team. The workshop was held in a neutral venue away from the Council and main University campus and was a data collection activity for both research objective of this project and a pilot for the use of such technologies with community groups. It would thus alert Council members to the capability of the technologies as well as collect a variety of views from them on their past experiences, current attitudes and possible future adaptation to changing processes of online community engagement.

The action research cycle for the study was comprised of the following phases:

1. A meeting was held between the researchers and CE Team leaders to create a set of questions to guide discussion at the workshop.
2. A half-day workshop was held involving the CE team, other Council staff and four researchers, where after some initial introductions and briefing, a session was held to brainstorm answers to the questions using the Zing technology to explore together their perceptions and ideas of

community engagement. This was followed by a debriefing and reflection session guided by the researchers, on their experiences of the process of using the Zing technology and explored together their reactions and views on the use of more open technological systems in community engagement

3. The CE Team analysed the data collected from the Zing Session by inspection to seek answers to their problems and provide feedback to the research.
4. The researchers analysed the Zing data by inspection in some depth and also used Leximancer to objectively identify and map concepts in the data and to detect relationships between them.

4.3. Case Study Analysis and Key Findings

Phase 1

This phase involved discussions between the two leaders of the Council CE Team and the two lead researchers and focused on addressing the CE problems. The result was the set of questions listed in Table 1 in the Appendix . A workshop was planned where the whole CE Team, other members of Council and the Research Team would collaboratively seek answers to these questions. The Zing system would be used to facilitate the collection of data from the workshop (see Figure 2 for an example of the Zing interface). This would also allow the investigation of the capability of the technology to determine if it could be used for a typical community engagement activity.

Phase 2

A substantial amount of data was collected at the workshop reflecting the engagement of the participants in the topic. A representative selection of the answers will be included in the analysis that follows in each section as appropriate to support the findings. To begin the analysis the context for the study were opinions such as the following given in answer to the first two Zing questions, namely

What are the really good things about living in Wollongong?

What are some of the problems facing the Wollongong community?

From the data gathering perspective, the user interface and functionality of the Zing system was ideal as it became ubiquitous and participants concentrated on what they wanted to say and what others were saying for each question. This then prompted lively discussion and more ideas entered into the system.

All participants who live locally gave very positive views in answer to the first question, showing their devotion to the City and pride that they all have both as citizens and council workers:

beaches, bush and restaurant lifestyle
It's a city without being too big and busy
Location, climate
surf sun people the innovation campus, proximity to Sydney, cheaper real estate
influences of different cultures – food
relaxed environment

However everyone recognized the problems that the city faces as shown by their answers to the second question:

rising crime rates
youth unemployment
lack of infrastructure
dying inner city centre
ageing community- changing needs for housing and infrastructure
working poor- level of increasing disadvantage in pockets around the city
Wollongong shopping precinct is uninteresting
poor council and government image

The combination of these two contrasting notions created a distinctive atmosphere for the workshop and provided evidence that the bipolar aspect of the Sensible Organisation framework would provide a suitable lens through which to view and analyse the data. Participants were inspired by their realization of the sense of belonging to their special community in a naturally beautiful location while aware of the particular needs the city faces in the current climate of change and uncertainty as the Steelworks, historically the economic mainstay of the area, was in decline overtaken by tourism and education.

Phase 3

Following the workshop, the data collected from the Zing system was sent to the participants from the Council CE Team. A week later the Council CE Team identified three core themes from their retrospective inspection of the Zing data as expressed in the following statements:

- (a) Building learning and knowledge exchange networks for CE
- (b) Educating the community for CE
- (c) Developing council staff capability for CE

In contrast to the broad discussion at the workshop held outside Council premises, these three broad themes seem to incorporate only those ideas that aligned with the Council's current *ordered* way of organizing. Many of the more innovative ideas that emerged in the *unordered* enthusiasm of the workshop seemed to lose their focus once the participants were back at work. We postulate that this was due to the fact that a week had passed and the pressure of the work environment dominated the attention of the Council CE Team.

Statements (b) and (c) reflect the traditional view of the relationship between Council and citizens. Statement (b) implies that Council knows best and it therefore has the knowledge, power and responsibility to educate the citizens on how to use traditional channels and provide feedback to Council on topics identified by Council. Statement (c) gives the impression of an *ordered* mechanistic approach to determining the Council's way of doing CE and developing the capability for that. This probably means that the approach will in essence stay the same even if new technologies are introduced. Statement (a) is more hopeful for change but it is not clear the Council members really appreciated the implications of this in light of Statements (b) and (c). The term "learning and knowledge exchange networks" was frequently used by one of the other researchers in meeting with the CE Team prior to the workshop and seemed to become part of their rhetoric.

Phase 4

A more in depth inspection of the Zing workshop data was made by the researchers following the workshop. This analysis was aided by the Leximancer analysis of the Zing output which maps the concepts and the relationships between them into themes from the raw data (see e.g. the map of Figure 3 in the Appendix). The researchers could drill down from points on the map to the original text. This data revealed a very different and richer picture of the participants' view of CE to that reported from the CE team in Phase 3 and its interpretation though the lens of *Sensible Organisation* is summarised here.

Guided by the Leximancer concepts and themes the answers were coded them according to their relevance to the elements of Sensible Organization as listed below:

Sensible Organisation Element	Code
Tools/infrastructure: exploiting technology	[Tech]
Learning/training: knowledge creation and capability building	[Know]
Communications/connectivity: information and knowledge flows	[Flow]
Activities/processes: ways of working	[Work]
Formal/Network: structure	[Struct]
Co-operation/competition: co-ordinating mechanism	[Coord]

We began by coding responses to questions 5 and 6 (Table 1 Appendix) that compared Council and community views of CE.

It is obviously that Question 5, *From WCC's point of view what should CE involve?* is one, on which participants at the workshop from the CE team of Council (WCC) could speak with authority. There were many responses which we classified into two groups: those that were predominantly *ordered* and those that were predominantly *unordered*. Representative *ordered* answers to question 5 were coded as follows:

- [Council must] be quite clear on the level of influence the community will have on the decision - is it inform Or collaborate Or empower [Know]
- [Council must] inform community how the final decision will be made [Flow] [Coord]
- [We need] a clear understanding of what the input from the community will be [Flow]
- [We need] compliance with government regulations [Struct]
- [We need] clear process, clear guidelines, purpose [Coord]
- [We need] a whole of organisation approach [Work]

Representative unordered answers to question 5 were coded as follows:

- sourcing knowledge from community members [Know]
- open and transparent opportunity to give feedback all stakeholders not just the squeaky wheels with a barrow to push [Know]
- process is as important as the outcome- relationships and collaboration [Flow]
- keeping the momentum going [Flow]
- listening to the community and not going in with fixed ideas [Work]
- connecting with hard to reach groups [Work]
- developing community representative groups abilities to engage ns understand CE [Struct]
- getting community ownership of issues from the beginning [Coord]
- internal WCC engagement [Struct]
- using different approaches [Tech]
- creative methods- exciting and interesting opportunities to have your say- both at a pre-planning phase (ie at the very beginning before an idea has been informed) and on things that are more progressed [Tech]
- technology, blogs, Facebook, interactive tools - fast feedback [Tech]

Question 6 *What should CE involve when viewed from the Community's standpoint?* required workshop participants to consider CE issues from the community perspective and most of them lived in the community. Representative answers to this question were coded as follows:

- transparency and honesty [Know]
- feedback on ideas and what happened to the information provided [Flow]
- convenience [Tech]
- needs to cross boundaries within the community [Flow]
- being listened to [Flow] [Know]
- accommodate different perspectives and interests (4)
- WCC needs to work together and not be separate parts [Work] [Coord]
- take into consideration the different cultures, languages, etc [Know]
- changing from community viewpoint that council will do what suits them anyway [Know]
- too much political interference from bully boys groups [Coord]
- genuine attitude- open to my opinion- don't play the expert card ALL the time [Work]
- technology, email, internet [Tech]

To emphasize the breadth of WCC's CE challenges we include here some responses to other question 9, *What groups are, or should be, the target of Council CE?*

- all demographics and ethnicities
- all relevant groups specific to the project
- those who have the community welfare as a priority
- those who have children and grandkids who will be affected in the long term

council itself!
key community members - those with strong opinions
Politicians

Some Responses to Question 10 *What barriers to CE exist now (within WCC and within the Community)?*

time, money, resources, politics, bureaucracy
council culture, attitude- internal take up and commitment internal beliefs
perceived agendas, different factions, historical events, fear- of change lack of control

Question 11 *How would you propose these barriers be overcome?*

Traditional approaches -

more money, more staff, budget and resources
when community sees results from the implementation of integrated planning reporting
educate the community - specific targeted groups so as to bring them into the CE fold
engagement team values as an expert in the process early on- the ideas and strategies are listened and responded to early
CE reference group
development of greater internal capacity to conduct comm. engagement\

Innovative approaches -

trial and assess new structures for CE and research alternate methods from elsewhere - other councils etc
it is better if initiatives come from the people
find ways to engage with the whole community, i.e.; technology, social media
openness to social media as a forum and method of ongoing engagement

This collection of responses gives a rich picture of what CE could be in a more democratic, open and participatory fashion in accord with the affordances of digital technologies such as Zing. However the CE team of Council have not pursued this further even though it was freely offered to them with offers of technical support. Their responses in Phase 3 suggest that they are reluctant to change their *ordered* perspective and risk the *unordered* outcomes that more interactive e-democracy might bring.

Revisiting the outcomes of Phase 3 confirms this. Statement (a) of the CE Team is an obvious focus on *learning* and implicitly on both *connectivity* and *communication*. However, taken together with Statement (b) there is an underlying assumption that, in the context of *learning*, knowledge only flows from Council to Community: i.e. Council holds the authoritative knowledge and *trains* citizens. The CE Team fell back to a position where CE work is seen as a *process* not an engaging *activity* as was experienced at the workshop. There is also an explicit assumption that *teams* work within Council and community *groups* are external to Council. There is an underlying assumption that CE should be all about *cooperation* which is quite at odds with the *competitive* culture within government for funding, status and resources. The position of the CE Team back at the office on these elements of Sensible Organization is traditionally bureaucratic and suggests a choice of technological *infrastructure* that ensures Council is in control and setting the agenda. This aligns with the functionality of existing Council IT systems for CE which merely provides for feedback from citizens on the Council Website, mainly on satisfaction with existing Council services and structured feedback forms. (see the website image, Figure 4 in the Appendix).

We use the bifocal elements of *Sensible Organisation* to explore the dialectic relationship between the *order* of Council and *unordered* actions among community members and groups.

Tools/infrastructure, exploiting technology: Answers to questions 4 and 5 referring to this element were interesting. While they discussed the general use of social technologies, the Council staff only mentioned emails and the Internet (i.e. a website) as technologies that they thought would appeal to citizens for CE with Council. It seems that they could only envisage any change involving technical innovation to come from Council and be under its control.

Learning/training, knowledge creation and capability building: The CE team say that they recognise that knowledge from citizens is valuable and that open knowledge exchange should be

transparent and honest so that each *learn* from the other. However they also talk in traditional terms of Council informing citizens and controlling the agenda.

Communications/connectivity, information and knowledge flows: The CE team all talked about the importance of listening to different views (really *communicating*) implying a two-way exchange however are hesitant in setting up effective mechanisms for this, concerned that there are appropriate guidelines and policies in place.

Activities/processes, ways of working: It is clear that there is a big difference between the bureaucracy of Council and the informality of the way most community-run project work. Answers to question 9 mentioned that a focus on community projects rather than issues set by Council was important in CE. Some mentioned however that in Council the way things are done was considered as important as outcomes.

Formal/Network, structure: The diversity of community *groups* is noted but also the value of involving the leaders of different *groups* in discussions on particular issues and projects

Co-operation/competition, co-ordinating mechanism: Two issues of cooperation are significant here: the importance of having community ownership and re-examination of the internal working of the WCC

Statement (a) of the CE Team is an obvious focus on *learning* and implicitly on both *connectivity* and *communication*. However, taken together with Statement (b) there is an underlying assumption that, in the context of *learning*, knowledge only flows from Council to Community: i.e. Council holds the authoritative knowledge and *trains* citizens. The CE Team fell back to a position where CE work is seen as a *process* not an engaging *activity* as was experienced at the workshop. There is also an explicit assumption that *teams* work within Council and community *groups* are external to Council. There is an underlying assumption that CE should be all about *cooperation* which is quite at odds with the *competitive* culture within government for funding, status and resources. The position of the CE Team back at the office on these elements of Sensible Organization is traditionally bureaucratic and suggests a choice of technological *infrastructure* that ensures Council is in control and setting the agenda. This aligns with the functionality of existing Council IT systems for CE which merely provides for feedback from citizens on the Council Website, mainly on satisfaction with existing Council services and structured feedback forms. (see the website image, Figure 4 in the Appendix).

Bringing these elements together confirm the contrast between the *ordered* Council and *unordered* community. This case is particularly interesting because it exemplifies a dialectic relationship; many of the workshop participants were both worked for Council as members of the CE team and lived locally so were members of the community. At the workshop, held outside council premises, they expressed many views from the community perspective, such as “we want council to listen”, “it is better if initiatives come from the people”. However their feedback a week later when they were back at the office reflected the council perspective that conformed to formal council structures, processes, one-way communication from council who know best. It is now one year since the workshop and a form CE plan has been submitted as required with little sign of any innovative use of innovative technology for cooperative exchanges between Council and Community. It appears that, despite an expressed willingness to explore new ways of working, there is little appreciation of the potential of the social technologies and it is still seen as risky and a challenge for the entrenched, ordered, organizing principles of Council.

5. DISCUSSION

The six elements of the *Sensible Organisation* Framework provide a composite lens for holistic understanding of a real world problem such as that exemplified in our case of local government community engagement.

The analysis of this case through the Sensible Organization lens indicates that the current way of organizing by Council is predominantly *ordered*, traditionally bureaucratic, hierarchical and closed in

the sense that there is a clear boundary between the Council and the community. This matches the function of what we would call Web 1.0, as evident in the organization's public website. The website provides information to external constituents, announces what Council is doing to engage the community and provides structured opportunities for feedback on issues determined by Council. This is typical of what is commonly called e-government and which we characterize as *ordered*.

The analysis of the data recorded at the workshop shows indications of a movement towards the more complex concept of e-democracy where there knowledge flows both ways across the boundary between the formal structures and ways of working in Council and the informal activities of the community. Genuine e-democracy represents a radical *unordered* departure from the current *ordered* practices of e-government that are comfortable because they conform to the traditional way of doing business, albeit with different technology. The technologies that are emerging in the social media of Web 2.0 to facilitate e-democracy were firstly of interest and then basically rejected by the members of Council at this time. Challenging organisational learning would have to occur if the Council were to have the capability for working with the *unordered* networked structures and cooperative cultures of community groups. We have encountered organisations, such as Queensland Police who have been leaders in doing this and others are following suit.

We presented the case of community engagement to illustrate how the *Sensible Organisation Framework* could be used as an analytical tool to make sense of a complex phenomenon in a complex ecology without simplifying it or breaking it into separate components. We believe that it is often important to do this and indeed our findings may be wrong if we don't.

This paper began by suggesting that the mid-1990s was a pivotal time in the impact of digital technologies on society just as the Intellectual Structures Framework of Hirschheim et al (1996) was published. The subsequent exponential growth of the Internet, the emphasis on Knowledge in KM and the KBV of organisation and the rise of social media made us re-evaluate the Technical Domain of this framework as we now have technologies with strategic and Sense-making Orientations. We may even argue from our case that there are now technologies with the potential for an Argumentation Orientation as demonstrated in the way social media could be used to facilitate e-democracy.

We then proposed the *Sensible Organisation Framework* as a research tool that

- Is a complex construct appropriate for the study of complexity ecologies
- Incorporates and expands the three Domains of the Intellectual Structures framework into six based on the changed ecology in which IS now exists
- Captures as a dialectic relationship the order/unorder aspects of each element in a domain of change
- Underpins non-reductionist IS research into real-world issues where work on any one element needs to be conducted in the context of all other elements.
- Enables research which is reductionist to posit their results in a wider context.
- Has implications for scope methodology, theory and epistemology in IS

6. CONCLUSION

The contribution of this paper is *Sensible Organisation* as a framework that makes sense of the fragmented adhocracy of IS in the complex context of modern organisations and other settings. We suggest that this framework is a Type 1 Theory for Analysis (Gregor 2006). Its authenticity comes from its grounding in the Hirschheim et al's (1996) prominent and insightful Intellectual Structures Framework, the expansion of the Technology Domain in light of subsequent ICT developments and their implications for the other Domains. Added to this is the realisation of the dialectic nature of each element according to the understanding of order/unorder from Snowden's (2002) Cynefin Framework.

The Sensible Organisation construct is a tool for making sense of problems that are messy, complex, chaotic and wicked. It is sensible to use it for such problem. It does not simplify complex situations as we have already noted the folly of this but has a vital role to play in making IS more relevant in diverse social and organisational ecologies.

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APPENDIX

Table 1 The questions determined by the pre-workshop meeting

- (1) What are the really good things about living in Wollongong?
- (2) What are some of the problems facing the Wollongong community?
- (3) What/Who is the Wollongong Community?
- (4) What CE activities are currently performed by Council?
- (5) From WCC's point of view what should community engagement involve?
- (6) What should CE involve when viewed from the Community's standpoint?
- (7) Does Council have a mainly business orientation to CE?
- (8) Should Council also demonstrate a stronger social development orientation to CE? Why and how?
- (9) What groups are or should be the target of Council CE?
- (10) What barriers to CE exist now (within WCC and within the Community)?
- (11) How would you propose these barriers be overcome?
- (12) What current council policies encourage, restrict or in some way affect CE?
- (13) Describe your longer term vision/goal for community engagement by Council
- (14) Any ideas/suggestions for new ways to pursue CE (e.g. technology supported CE approaches)



Figure 2. The interface of the Zing system online (top) or in face-to-face mode (lower). In each case the question for discussion are displayed at the top. The set of small windows that occupy the bottom half of the screen are each controlled by a participant who type in ideas and then transfer them to the central public area for all to see and discuss leading to more individual entries. This affords lively interaction between participants.



Exhibitions

- [View Current Exhibitions](#)
- [View Recent Exhibitions](#)
- [View a Development Application \(DA\) on Exhibition](#)

Community Engagement

Community consultation describes the ways we interact with the community and the processes and practices we use to:

- notify the community about Council's services, facilities, and plans
- listen to the community about their concerns and aspirations
- seek feedback from the community about existing and future Council business
- inform decisions that are in tune with the best interests of the community.

As the community contribute funds to Council's services and facilities, we need to be responsive to the needs of the community we serve.

Through consultation the community can:

- learn about what the Council does or plans to do
- express views on decisions that affect them
- suggest how the Council may improve the way it plans for and provides services and facilities
- make Wollongong a better place to live.

You can also view and comment on current development applications on exhibition.

How You Can Have Your Say?

Important city strategy plans and studies are placed on public exhibition.

In addition to the below consultation activities, our community engagement team attends community events like markets and festivals so you can have your say.

Kiosks

You're invited to drop by an interactive 'stall' and register your comments and views. You can raise any topic we're responsible for and the information will be relayed back to the relevant part of the organisation. Information and staff will be on hand about a variety of Council services and projects.

Upcoming Kiosks: [Community Engagement Calendar](#)

Community Forums

A community forum is an interactive session where you can speak to Council staff and provide feedback on proposed plans.

Upcoming Forums: [Community Engagement Calendar](#)



See Also

- [Development Applications on Exhibition](#)
- [Ward Maps](#)
- [Contact Community Engagement](#)

Figure 4 The Community Engagement page of the WCC Website which does not afford any real interaction between Council and citizens

