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Overcoming barriers when introducing perceived disruptive innovations into rigid efficient systems

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OVERCOMING BARRIERS WHEN INTRODUCING PERCEIVED DISRUPTIVE INNOVATIONS INTO RIGID EFFICIENT SYSTEMS

A Dissertation Submitted in Fulfilment of the Requirements for the Award of the Degree of

Doctor of Philosophy
from
UNIVERSITY OF WOLLONGONG

by

Andrew Martin Connery *MIS (Research)*

Sydney Business School
FACULTY OF BUSINESS

2015

THESIS CERTIFICATION

I, Andrew Martin Connery, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Sydney Business School, Faculty of Business, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

.....

Andrew Martin Connery

Date: 3 September 2015

ABSTRACT

This thesis addresses the tensions within rigid efficient systems that support the routine processes of productive institutions and the perceived disruptive innovations required for the sustainable development of those institutions in changing dynamic complex environments. The researcher's experience (Phase One) as outlined in Chapter Two has motivated reflective research (Phase Two) on introducing innovation into hierarchical institutions, including the role of rigid efficient systems, managing wicked-type problems, the appropriate handling of exceptions to general rules and how to improve didactic communication within silo-based legacy systems. Phase Two is presented as a single case dominated by the tensions between the researcher and the institution regarding the introduction of a perceived disruptive technology. The narrative-based ethnographic approach was supplemented with a Leximancer text analysis of the relevant documents which detected the diverse perceptions of various stakeholders and displayed the uncovered themes, and concepts, as maps. Cultural Historical Activity Theory has been utilised as a framework to interpret these maps and identify tensions and systemic contradictions and their possible roles in addressing difficulties faced by higher degree researchers investigating innovative activities in university settings. The research findings led to the development of a modified informer framework that will help to overcome many of the type of systemic communication problems uncovered. The researcher also undertook an online review of intellectual property policies and related commercialisation guidelines in universities throughout Australia and developed a number of strategies to help overcome identified barriers likely to discourage the participation on campus of internet start-ups, small businesses or private individuals (with early-stage inventions or intellectual property) wishing to undertake worthwhile research with overt commercial outcomes.

KEYWORDS

Cultural-Historical Activity Theory
Cynefin Category-Sensing Model
Disruptive Innovation
Informer Emancipation Framework

Rigid Efficient Systems
Semantic Media Richness
Student Intellectual Property
Systemic Contradictions

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Last but not least, I would like express appreciation to my wife, Margaret, who was always my support in the moments when the completion of my research was most uncertain.

GLOSSARY

Activity: The main unit of analysis in Cultural-Historical Activity Theory

Bell Curve: The distinctive graphical shape of the mathematical concept called normal distribution, sometimes referred to as Gaussian distribution

Bureaucracy: The administrative system governing any large institution - also see Rigid Efficient Systems

CMC: Acronym for computer mediated communication such as email

Complexity: The phenomena which emerges when a number of objects interact

Cultural-Historical Activity Theory: An object-oriented psychological theory which treats individuals as an outgrowth of social forces rather than as an autonomous being

Cynefin: A framework developed to address the impact of complexity on decision making processes

Dialectic: The process describing the development of scientific thought through argumentation

Dichotomy: A division or contrast between two things that are or are represented as being opposed or entirely different

Didactic Communication: Two-way communication between teacher and student to promote learning

Disruptive Technology: A unique innovation that helps to create a new market and value network, and eventually disrupts an existing market and value network by displacing an earlier technology

Disruptive Innovation: The term "disruptive technology" has been widely used as a synonym of "disruptive innovation", but the latter is now preferred because market disruption has been found to be a function usually not of technology itself but rather of its changing application

Dogma: A philosophy or belief that is acknowledged as an absolute truth

Dynamic Evolving System: A system continually evolving in a dynamically changing and complex environment.

Emancipation: The process of securing equality

Endogenous: To originate from within a system

Epistemic: Related to the meaning of knowledge

Epistemology: Branch of philosophy concerned with the nature and scope of knowledge

Exogenous: Refers to an action or object coming from outside a system.

Formalised decision making: The process of defining the research question, designing a tool, collecting the raw data and evaluating the results

Gestalt: A school of thought that looks at the human mind and behaviour as wholes rather than attempting to break them up into smaller parts

Hierarchical Institutions: Organisations whose members are arranged in order of rank, grade or class

Hyperlink or back-link: Usually a link from a high ranking website pointing to another capable of improving the target website's page rank – the fundamental basis for most SEO campaigns

Indogenous: Originating or produced within a system

Innovative: Something original and important in any field that breaks into a market

Intellectual Property: Rights protecting the products of human intelligence and creativity, such as copyrights, patents, trademarks etc

JD-R model: HR framework designed to evaluate on-the-job effectiveness in terms of demands and resources

Localised Search: Web-based search for local content utilising a standard browser

Local Search Bias: Local search engine results overly influenced by page rank

Methodology: Prescribed process to collect information and data for scientific evaluation

MOOC: Massive Open Online Course – university-level education delivered over the internet

Object-oriented: Process of planning a system of interacting objects for the purpose of solving a problem

Ontology: The basic categories of being and their relationships with each other

Page Rank: A value (0-10) assigned by Google to indicate web-page importance and an important predictor of prominence on Search Engine Results Page (SERP)

Rigid Efficient Systems (such as bureaucracies) are a way of organising work in which people are treated as interchangeable and replaceable cogs to fill specialised roles. Two key features are hierarchy and a specialised division of labour.

Routinised Information Flows: Data collated with computers using standard input fields having limited ability to handle ambiguous or imprecise content

Semantic: The real meaning of a word as perceived by a human as opposed to a computer – dictated by context and often in stark contrast to the pure textual meaning

Semantic Media Richness: Suggested term to describe the combination of media channel choice together with ability to record meta-data – a requirement to improve communications particularly in large organisations

Sequential Epistemic Actions: Instances in the cognitive (thinking) process of attaining knowledge

SERP: Acronym for Search Engine Results Page – most importantly in Australia the first ten organic listings on Page 1 of Google

Silo-based legacy systems: The standard structure of large hierarchical organisations comprising multiple divisions or departments

Social Conflict Theory: A Marxist concept which argues that classes within society have differing amounts of material and non-material resources and that the more powerful groups (elites) use their power in order to exploit groups with less power (the proletariat)

Subject-object relation: Concerned with the analysis of human experience where the world consists of objects (entities or matter) which are perceived or otherwise presumed to exist as entities (consciousness), by subjects (observers)

Sublate/Sublation: In philosophy an old theory or principle is sublated when it is preserved but has lost its immediacy

Tätigkeit: German term for activity

Ubiquitous Computing: A concept in software engineering and computer science where computing is made to appear everywhere and anywhere

Un-ordered processes: Two domains defying traditional logic in decision making and described in Cynefin as complexity and chaos

Wicked Problems: a group of persistent problems that have incompletely known and contradictory elements that are interconnected and constantly changing

PUBLICATIONS FROM THE THESIS

Peer Reviewed Papers

Sustaining a Locally-based Virtual Community

CONNERY, A. and HASAN H. *Proceedings of IADIS2004, Portugal, 2004.*

Social and Commercial Sustainability of Regional Web-based Communities

CONNERY, A. and HASAN H. *Journal of Web-Based Communities* pp.246-261, 2005.

Towards a Modified Framework for Informer Emancipation in Complex Contexts

CONNERY, A. and HASAN H. *Proceedings of Informing Science & IT Education Conference InSITE 2014* pp. 91-102

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1 INTRODUCTION

This thesis describes research on the challenge of allowing and supporting innovation in bureaucratic systems, such as universities, that are putatively in the business of knowledge creation but are often administered in a rigid manner that precludes such innovation.

As will be shown, this deficiency has been a characteristic of bureaucracies world-wide for well over a century and anecdotal evidence strongly suggests that it is particularly common within large publicly funded research organisations here in Australia.

The study is comprised of two distinct parts. In the first part (Phase One) the researcher encountered unexplained and ultimately unsurmountable, barriers to undertaking the original research as proposed and in the process revealed a much deeper systemic problem that became the focus of the second part (Phase Two) of the study. Part Two thus adopts the approach of a single case study, where Part One is that case.

1.1 The Phase One Context

The first part (Phase One presented in Chapter 2) details the researcher's growing awareness and significance of the topic whilst undertaking a study of the performance of a community portal previously developed by the researcher. The original positivist methodology adopted for this research was planned so that data could be collected through the introduction of hyper-links from the university in which he was enrolled to his local community portal. These temporary high ranking geographically located links were essential to increase the page rank of the portal in order to compile data for the research.

There was no reason to believe that this would be a problem. Being a regional university, community engagement was overtly encouraged and there were existing links on the university's website to other local community projects so that the proposed project seemed to align with existing practice and policy. Indeed the original research proposal had been

accepted by the university and its relevant student research committee. However, permission for the requested links was later withdrawn by the administration of IT Services.

When the research finally stalled after 20 months of unexplained delays the researcher became fully aware of the tensions and contradictions between the institutional activities of knowledge creation, research and innovation on the one hand and the bureaucratic activities of administration through rigid systems and policies on the other.

After a break of two years and much reflection the researcher realised that this topic was in fact an important field of enquiry in itself and likely would benefit from further in-depth investigation. It became the new focus and main part of the research, referred to as Phase Two which addresses the topic expressed in the title of the thesis, namely “Overcoming Barriers when Introducing Perceived Disruptive Technologies into Rigid Efficient Systems”.

1.2 Motivation

The research described in Phase Two is motivated by the efforts of a mature-age PhD student researcher with extensive business experience to undertake research on a perceived disruptive technology within a university context.

The student researcher’s business had enjoyed a successful over-ten-year partnership with information systems researchers at the university involving collaboration applied research – see APPENDIX A. Initially this involved a Master’s research undertaking which investigated his innovative business model developed in implementing a unique commercially-operated community portal. This was completed in 2006.

In late 2008 he was accepted into a PhD program which would investigate the efficacy of the business’s local search optimising (SOLD) technology and secured an agreement to this effect in his doctoral research proposal – see APPENDIX D.

The technology (utilising a local community portal and associated service directory) was developed by his business, Your Online Community Pty Ltd (YOC), and provisionally patented in his own name – (see APPENDIX H for YOC Business Plan and APPENDIX H for Patent Renewal).

Most significantly, the proposed research required temporary back-links from the university's website to the portal and directory sites owned by the student researcher's business in order to create a comprehensive dataset for detailed analysis. This appeared to be relatively straight forward as the university website already had web-pages showcasing its local community engagement and numerous hyper-links to external not-for-profit websites and currently includes on its front page re-directs to overseas-based commercially operated social media portals such as Facebook, Twitter, LinkedIn and YouTube.

If proven and patented this development would have massive commercial potential globally (see 6.7) and favourably enhance the university's reputation for innovative research.

At the commencement of the planned (Phase One) research, the methodology, proceeded as outlined in the researcher's PhD proposal (2008) APPENDIX D but efforts to proceed further met with prevarications and unexplained delays when it came time to set up the required temporary back-links.

As will be described, this revealed the clash of two distinct cultures, between what Snowden (1995) calls the 'ordered' and the 'un-ordered'. The student's doctoral research was put on hold for two years as a succession of unsuccessful attempts were made to resolve the impasse.

This clash of cultures was identified as a more interesting research problem compared to the original one and the student's PhD (Phase Two) now focuses on the wicked problems emanating from the introduction of disruptive technologies into the bureaucratic environment of formal institutions such as universities despite their stated claims to be fostering innovation etc.

This is not an isolated case, e.g. refer the introduction of MOOCs into universities, see Armstrong (2012) which also highlights the general phenomena that is the topic of the research described here. However, as Christensen (1995) emphasises, it is not technology by itself that makes an innovation disruptive, it is combining the new technology with an optimised business model.

There is clearly the need for institutions to have formal policies and systems that support routine process and activities, however institutions should also recognise that to be sustainable and prosperous there is an imperative to be innovative and have the flexibility to adapt to new circumstances. This challenge represents a complex or ‘wicked’ problem.

1.3 Identification of the Topic

The adoption of innovative technology into a rigid efficient system, such as a university, should be welcomed, certainly if it fully complies with known strategic goals, delivers better business-related research outcomes or has the potential to improve organisational efficiency and community engagement.

However, based on the researcher’s experience (see 2.1) this has not been the case and anecdotal evidence strongly suggests this broad-based organisational reluctance to embrace new initiatives is not likely to be only confined to the site of Phase One of this study at the researcher’s university.

The researcher who had previously completed a Masters by Research at the same university, (Connery, 2006 and APPENDIX B), was always conscious of the difficulties likely involved interacting with a large organisation when he was persuaded to undertake a PhD and as a consequence had adopted a highly prescribed and strictly incremental approach to his proposed hyper-linking research methodology - see APPENDIX D.

It was only after much reflection, and when Phase Two had commenced, the researcher realised that the proposed Phase One ‘ad hoc’ methodology in fact closely followed the

recommendations of the Cynefin-based sense-making framework for un-ordered, complex and emergent domains viz proceed in the sequence Probe-Sense-Respond – see Figure 3.1.

The Cynefin framework (Snowden 1995) provides a sense-making-tool to identify appropriate strategies to adopt in complex situations as distinct from non-complex ones. The researcher was well aware that the research he was introducing to his university, in terms of the required supporting infrastructure (sub-domains etc) was very similar to that used by the founders of Google at Stanford nearly 12 years prior to the commencement of his Phase One Research. He had pointed out this fact in early submissions about his proprietary SOLD Technology and reinforced the point in his PhD application APPENDIX D: *SOLD Technology utilises the web framework as originally intended by Google founders (Larry Page & Serge Brin), and enshrines the local university as the centrepiece of local online content.*

Presciently the researcher was not confident that his university was as open to ground breaking research as it might wish to project in its rhetoric and numerous public announcements on topic and to that end made the following observation in his PhD application: *The potential to dramatically improve web based local search world-wide, here is very exciting and certainly if successful would be in keeping with the University's stated goal of becoming recognised internationally as a University sponsoring R&D of the highest quality.*

The proposed Phase One research methodology adopted deliberately split the intended research into three distinct sequential parts with the built-in safeguard that the research would only progress once the prior step had been completed and that no adverse problems had arisen. This strategy was deemed by the researcher as the most appropriate given the complex and emergent nature of the proposed research and would address any legitimate concerns the University administration may have had about safeguarding the integrity of their mission critical web infrastructure.

The on-going support provided by his supervisor and all other academic staff encouraged the researcher to continue with his privately-funded and provisionally patented research and actively pursue permission from the university administration to access promised resources (see Steps 2 & 3 of Proposed Hyper-linking Methodology in APPENDIX D) when they were withheld for unexplained reasons.

Although an experienced business person, financially supported by his locally-based internet start-up YOC, and a previous Higher Degree Research (HDR) student, the researcher under-estimated the intransigence of the university's administrative staff involved and, after pursuing all possible avenues for over two years, ultimately was compelled to terminate his planned (Phase One) doctoral research.

The new PhD focus (Phase Two) became the main topic of this thesis which attempts to identify the difficulties faced by any student attempting to conduct action research into innovative and possibly disruptive technologies within a university setting and examines a number of frameworks and models which have the potential to circumnavigate the current barriers to this field of enquiry.

The wide-spread adoption of Cynefin would seem to support its usefulness in providing a framework for decision-making when dealing with complex and wicked problems, such as faced by the researcher in Phase One, however the researcher's experience (see Chapter 2) suggests this approach may in most instances be predicated on all the relevant actors actively and overtly collaborating to reach a mutually beneficial goal.

1.4 The Complexity of the Topic

Managing complexity within a dynamic and evolving system is a day-to-day challenge for all managers. There is a need to find a balance between the requirement to exploit existing resources with efficient, but rigid, information systems that support the routine processes of productive institutions and the imperative to explore new opportunities for innovation that will enable the sustainable development of those institutions in changing dynamic complex

environments, (March 1991). This is particularly evident within larger organisations, such as universities, that should by their nature, be fostering innovation and new knowledge while running an efficient, stable business.

The introduction of disruptive technologies that foster innovation should not preclude sufficient attention being paid to the sustaining technologies that will allow the central core of the institution to maintain its favourable position in the marketplace, Christensen (1995). There is a tendency by senior management to conserve and prefer existing proven practices and processes over the introduction of newer and perceived riskier or less profitable concepts or innovations. While this is clearly understandable, the real challenge for organisations in the 21st century wishing to remain productive and sustainable is to accommodate the tension between the exploitation of ordered process and systems, and the exploration of the innovation that comes with disruptive technology-based systems and un-ordered processes March (1991), Snowden (1995).

Ideally, knowledge-focused institutions such as universities must actively encourage a culture that is not only open to innovation but also tolerant of the inherent risk involved to optimise the outcomes of both approaches. However, to do this they will be compelled to implement more flexible information systems with formalised human intervention to handle non-conforming input data and explorative projects.

Recognition of the positive role that the Cynefin approach could play in managing risk for large institutions in complex situations is a topic worthy of further research. In particular the importance of utilising it as a framing tool, (see Hasan 2011), who makes the point that dealing with a wicked problem needs an approach that suits wicked problems, “allowing the emergence of partial solutions as all stakeholders continually ‘test the waters’ on what is happening and what might work”.

1.5 Theoretical and Methodological Aspects of the Research

The review and reflection of Phase One that is presented in Chapter Two uncovers many elements of the identified topic for Phase Two.

A desk-based online survey of the Intellectual Property (IP) policies of leading Australian and leading US universities (see 5.1) also revealed other major inconsistencies hindering the pursuit of innovative research with overt commercial outcomes being conducted within a university context in this country.

Less than optimal, or incomplete, communication was a significant contributor to the breakdown of this research. The nature of the extensive communications over three years between the researcher and the various university entities involved was analysed using Leximancer Text Analysis (Section 5.4).

Attempts to make sense of the communication breakdowns in this case has led to the development of a Modified Framework for Informer Emancipation, Connery & Hasan (2014) (see 5.3) building on the work of the Informing Science discipline and leveraging the framework developed by Cohen (1999, 2009).

Using an action-research approach the student researcher has examined how the use of email for all informing purposes can become the basis to creating a more effective communication channel. Whilst the framework architecture remains largely unchanged the innovative use of electronic mail systems provides a robust, cost-effective, trackable and scalable repository for information that not only informs the client asynchronously but establishes a verifiable record of informing with legal status complete with temporal markers characterised by enhanced Semantic Media Richness (SMR), see 6.2.

Cultural Historical Activity Theory (CHAT) (3.7) is utilised to identify systemic contradictions within the researcher's and university's activity systems (see 5.7).

1.6 Phase Two Outline

Phase Two starts with the Literature Review (Chapter 3) which has six broad topic areas, commencing with an examination of Disruptive Technologies and an explanation of the Cynefin sense-making framework as a means for understanding complex phenomena such

as the one encountered and often called ‘wicked’. The term ‘wicked problem’ describes a group of persistent problems that have incompletely known and contradictory elements that are interconnected and constantly changing (Rittel & Webber 1973).

Rigid efficient systems with their close adherence to strict rules are critiqued, together with the role of exceptions that disturb rigid systems. Forms of computer mediated communication including executive information systems and email are also described, and Cohen’s framework for Informer Emancipation is explained, together with the ubiquity of the bell curve as a means to understand the role of exceptions in a random distribution. The final section (3.7) details the origins of Cultural-Historical Activity Theory and describes the activities, actions and operations of the framework and the important role of contradictions uncovered in Phase One and explored in Phase Two (5.7).

Chapter 4 (Methodology and Research Questions) presents the proposition which underpins the four research questions and provides an explanation of the methodology employed in Phase Two. Non-trivial communication instances in the form of a database of primarily the researcher’s emails is forensically examined with the aid of Leximancer text analysis software. The chapter concludes with a full implementation of Cultural-Historical Activity Theory which is employed as a lens to identify critical contradictions.

Chapter 5 tables the results of Phase Two research and Chapter 6 discusses a number of significant and discrete elements discovered within the research findings and gives insights and analysis of their importance. .

Chapter 7 concludes the Phase Two research with recommendations on addressing specific IP and communication issues within rigid efficient systems and raises issues with wider implications for the community generally in terms of dealing with complexity in the dynamic and ever-evolving world we inhabit in the 21st century.

2 PHASE ONE BACKGROUND

As explained in Chapter 1, the origin of the main topic of this thesis was the researcher's unsuccessful attempt to undertake (Phase One) positivist-shaped research as part of his PhD studies in the Computer Sciences Faculty at his university.

The main topic is dealt with in Phase Two and follows an interpretive, exploratory and ethnographic research paradigm following the style of the researcher's Masters Degree thesis (see APPENDIX B). This was action-research based and non-quantitative in approach more comfortably accommodated within the discipline of Information Systems within the Business Faculty at the same institution.

Phase Two was undertaken after consultation with the university concerning the researcher's inability to complete the (Phase One) research and the researcher's original Masters Supervisor agreeing to have responsibility for completion of the doctoral research.

2.1 Context of Phase One research

An appreciation of the background to the researcher's efforts to develop a business model for community portals with privately funded commercial (off campus) research and his preliminary Masters by Research on topic is essential to place the planned Phase One research into its proper context.

In addition to being a mature-aged student and an experienced business person the researcher also personally held Provisional Australian and US Patents which critically required proving, using promised university resources. The researcher was well aware that these factors may have influenced his expectations and were likely to be in contrast to most other HDR students' purely academic requirements, although he always anticipated that common sense would ultimately prevail if and when any operational problems with the planned temporary hyper-linking to his 'commercial' community portal website ever arose.

The researcher had in fact enjoyed a very rewarding learning experience as part of his Masters by Research undertaken in 2003 (completed in 2006) which included the university successfully sponsoring his B2B marketing group, then trading as Empower Australia (now Your Online Community Pty Ltd), for a Prime Ministers Award in 2004 – see submission APPENDIX A.

Both the researcher's daughters were also alumni of the same university which may have contributed in some part to his perhaps overly optimistic expectation that the planned Phase One PhD 'computer science' research would just follow on in a similar vein to his overtly satisfactory Masters 'information systems' experience.

The student researcher's business Your Online Community Pty Ltd (YOC) originally conceived the creation of a commercially-funded regional community portal in early 2001 (then trading as Empower Australia The Marketing Group) and launched its official website in Wollongong in May of that year with the financial support of several other local businesses.

The fledgling web-based business quickly became popular - see APPENDIX B Connery A, Masters Thesis (2006) and several innovations to monetise the portal were introduced including a weekly e-zine, or electronic newsletter, of the same name WollongongOnline and a local online business directory Wollongong SmartPages.

A number of innovative advertising products were developed (See APPENDIX H for YOC Business Plan) and tested both on the portal and e-zine although it was evident that advertisers much preferred year-long directory-type listings than casual banner advertisements. It also quickly became clear that making the portal financially viable was much more of a challenge than simply creating a popular high traffic website.

The innovative endeavour attracted researchers in information systems at the university and a partnership developed introducing funds to study the project. In 2003 the businessman

became a student researcher, commencing a Master's Degree to investigate the sustainability of, traditionally publicly funded, community portals world-wide.

The researcher's thesis, Connery (2006) APPENDIX B, concluded that a sustainable platform to operate community portals had not been established anywhere in the world, notwithstanding that the notion of operating a localised community portal was extremely popular and that the concept enjoyed considerable, but not on-going, financial support from all levels of government.

The thesis predicted that a 3rd generation network-type of community portal had the most potential of achieving long term sustainability and that Localised Search was an area of significant commercial opportunity (see Item 7.3 Page 85) which would benefit greatly from further development.

Your Online Community's business angels were not prepared to fund this additional area of research and, as other competing industry players declined the opportunity to collaborate, the researcher financed the work himself, subsequently personally securing provisional patents, to improve local search by overcoming search engine bias, in both Australia and the US in mid-2008.

Provisional Patents usually require proving within 12 months so the researcher was initially aiming to complete his research on overcoming search engine bias by mid-2009, and although the patents were subsequently extended 12 months to mid-2010 they could not be extended any further (see US Patent Renewal letter in APPENDIX G for details).

The researcher had approached two universities in the areas YOC operated portals and directories (see APPENDIX J) since they were the only neutral entities with sufficient online presence in terms of Page Rank that could assist prove his patents. It quickly became clear that small companies trying to undertake innovative, but not purely academic, research on campus faced a number of hurdles, including long delays in decision-making

processes and perhaps more significantly the inability to make presentations in person to key gate-keepers, stakeholders and decision-makers.

2.2 Motivation for Phase Two

Following representations from academic staff in late 2008 it was decided the entrepreneur should undertake a PhD with Institution A and that the required university resources to confirm the value of his provisional patents should be explicitly stated in the formal research proposal and a participatory action research methodology adopted.

Notwithstanding a long and mutually rewarding association of the student's business with the university and the full support of all academic staff, the researcher was unable to progress his PhD studies due to the refusal of the university's IT Services division to allow the required temporary back-links from the university's website to the portal and directory sites owned by the student's business.

These simple-to-embed temporary hyper-links (estimated as being required for only six weeks per step and 18 weeks in total) were an essential requirement to increase the target website's page rank, for a short period, to both gather data for the researcher's PhD thesis and simultaneously prove his personally-held provisional patents.

These requirements had been explained in detail in his approved PhD application form (see APPENDIX D) which were set out in his proposed Research Methodology and were well known to all relevant academic staff.

Given the relatively simple but critical requirements for Phase One (see APPENDIX D – Hyper-linking Research Methodology) the researcher's ability to proceed when the prescribed high ranking hyper-links for Step 2 were withheld was severely constrained. Notwithstanding this impediment the researcher identified alternative commercial websites in the local area and gained permission to embed replacement Step 2 temporary hyper-links on their website's front pages for up to six months to enable the research to continue (see APPENDIX J).

Since the even higher page-ranking Step 3 temporary hyper-links, off Institution A's main webpage, were not capable of being replicated locally 'off campus' their continued withholding by Institution A's IT staff was directly responsible for the Phase One research being terminated.

Whilst the non-provision of the promised hyper-links was clearly the prime causal factor for the cessation of Phase One what was not obvious at the time was the motivation and responsibility of the administrative staff who decided to over-ride the direct wishes of the researcher and all relevant academic supervisory staff at Institution A.

In particular the unexplained denial of essential specified resources raised major concerns, since they had not only been negotiated in mid 2008 with the then proposed supervisor together with the Head of School (in accordance with established protocols) but also explicitly outlined in the researcher's PhD application form, see below and APPENDIX D.

The student researcher submitted numerous requests to academic staff to argue his case. A total of 166 non-trivial communication instances were compiled for the critical early and late parts which occurred between February 2008 and 28 March 2011 – refer APPENDIX K.

The student pursued all avenues available to him as a research student including nearly weekly face-to-face meetings with his supervisor. Critically 38 relevant emails were sent by the student directly to his supervisor but only 2 responses were received from the supervisor utilising this media.

Interaction between the student and administrative staff was actively discouraged by academic staff and at no time was the student allowed to present his case or directly query the basis for delays by Institution A personnel.

Due to the prolonged time taken for this approval-seeking process the student researcher lost his provisional Australian and US patents and was unable to complete his doctoral thesis as planned.

As the stand-off continued the student came to the realisation that this experience had uncovered a wicked problem related to the impact of perceived disruptive technologies on traditional institutions, namely the conflict between an institution's espoused support for innovation through action research in other organisations and its reluctance to allow this practice itself.

After an enforced break of two years the student researcher decided to resume his PhD study making this contradiction the topic of his research.

2.3 Sources of Data

In an effort to more fully understand the scope and complexity of the various interactions between the student and his university, and the temporal considerations involved, a personal statement was prepared by the student - see APPENDIX J. From this document a dataset of all non-trivial communication instances was extracted - see APPENDIX K.

The dataset of non-trivial communication instances revealed the previously unobserved email trail and its critical role would become an important basis of analysis in Phase Two.

Further Leximancer analysis of this dataset revealed concepts and themes not readily discernable and produced insights which were incorporated into the subsequent Activity-Theory-based research ultimately leading to the identification of systemic contradictions at four levels.

3 LITERATURE REVIEW

The literature review begins with the two broad topic areas of interest reflecting the focus on the introduction of Disruptive Technologies into Rigid Efficient Systems. Then follows a section on Computer-mediated Communication, which directly relates to the research design, with reference to the Leximancer software (see 5.4), which played an important role in detecting critical concepts and themes within the researcher's dataset of emails.

The framework for Informer Emancipation, (Cohen 2009), is explained and a modified version is suggested (see 5.3) which is directly linked to the efficacy of confirming all non-trivial communication instances by email - as evidenced (see 5.4.1 – 5.4.4).

The final section of the literature review details the origins of Cultural-Historical Activity Theory and describes the activities, actions and operations of the framework and the critical role of contradictions. It explains the background to the analysis described in Item 5.7 (Activity Criteria and Identified Contradictions) and demonstrates the unique features CHAT can provide as a framework to analyse human behaviour in tool mediated contexts.

It underlines the reasons why the researcher employed CHAT as the lens to examine and identify the various activities and contradictions in play which ultimately led to the cessation of Phase One of his research.

The topics reviewed in Chapter 3 are tabled below to describe their linkage to the identified research problems and to refer to the related sections within this thesis.

Ref	Literature Review Topic	Research Problem	Relevance
3.2	Disruptive technology & complexity	Identifying disruptive technologies	See RQ#1 6.8 & 7.4
3.3	Rigid Efficient Systems	Management of non-routinised information	See RQ#2 3.3.1 – 3.3.3 & 7.6
3.4	Computer Mediated Communication	Single formal channel of communication	See 5.3, 6.2.2 & 6.2.4
3.5	Framework Informer Emancipation	Single formal channel of communication	See 5.3
3.6	Random Distribution – Bell Curve	Identifying disruptive technologies	See 6.4 & 7.1.3
3.7	Cultural Historical Activity Theory (CHAT)	Framework to subjectively understand activities and behaviours	See 5.7

Table 3.1 – Research Literature Framework

3.1 Overview

As explained in the Introduction Chapter 1, the Phase Two research presented in this thesis spans a number of fields related to overcoming barriers to introducing perceived disruptive technologies into rigid efficient systems. The thread that runs through this review is the difficult to recognise but pervasive influence of perceived disruptive technologies upon the traditional decision-making processes employed by rigid efficient systems.

As already noted, it is inspired by the researcher's efforts to understand the thinking, motivation, actions, in-actions, structure and under-lying processes employed by his

university that led to the non-completion of his original doctoral thesis (Phase One). This section will examine the literature on disruptive technologies and the need for innovation together with the attendant tensions between the need for exploration versus the desirability of exploitation which then arise.

The Cynefin sense-making framework approach (Snowden 1995) and its suitability as an appropriate tool to guide decision-making in a complex domain, such as the researcher's thesis topic, with their characteristic wicked problems will be examined.

This section will also look at the positives and negatives of rigid efficient systems and the role of bureaucracies in an evolving and dynamic environment such as is becoming increasingly common in the 21st century. Computer Mediated Communications particularly the Framework for Informer Emancipation is examined as a means to understand communication flows.

The role of exceptions to general rules historically is explored together with the likely incidence in the present day of such instances occurring based on the notion of random distribution.

The review concludes with a background to Cultural Historical Activity Theory (Engeström 1987) which has been employed as the lens to both examine the research questions and to provide the researcher conclusive answers not readily available with other more traditional techniques.

3.2 Perceived Disruptive Technologies and Complexity

The term *perceived disruptive technology* has been used throughout this thesis to emphasise the point that whilst any new technology or innovation may appear at the outset to have the potential to upset an entire business model, the reality is that it is only after its introduction into a marketplace that its real ability to disrupt will be truly demonstrated.

The term *complexity* is generally understood as the description of something with many parts where those parts interact in multiple ways and within the discipline of complexity theory the terms actors and networks are used to describe these parts. The term *endogenous* is used to describe such actions originating from within the system and *exogenous* refers to actions or objects coming from outside the system/network. Characteristically it is extremely difficult to anticipate with any great accuracy the ultimate result of any set of complex interactions.

3.2.1 Disruptive Innovation

Christensen (1997), March (1991) and others describe disruptive innovations as typically innovations in technology with the ability to disrupt entire markets. For example, the automobile was a revolutionary technological innovation i.e. it was a disruptive technology but it was not a disruptive innovation because early automobiles were expensive luxury items that did not disrupt the market for horse-drawn vehicles. The market for transportation essentially remained intact until the debut of the lower priced Ford Model T in 1908 (Christensen 2003). The mass produced automobile was a disruptive innovation, because it changed the transportation market. The automobile, by itself, was not. However, the researcher draws a distinction in that he maintains disruptive innovations are not particularly innovative in a technological sense and they derive their potency from their innovative use of existing technology rather than any inherent technological innovativeness. For example, US-based start-up Uber has the potential to disrupt the taxi industry by leveraging existing smart-phone technology, (Malik 2014).

3.2.2 Exploration versus Exploitation

The work of Christensen (1997) and others during the 2000s has addressed the question of what firms can do to avoid displacement brought on by technological disruption. Disruptive Technology has been defined as a unique innovation that helps create a new market and value network, and eventually disrupts an existing market and value network by displacing an earlier technology. Established market players are usually aware of potentially

disruptive innovations but their business environment does not allow them to pursue them when they first arise because they are not profitable enough at first and because their development can take scarce resources away from that of sustaining innovations which are needed to compete against current competition, (March 1991). A firm's existing value networks place insufficient value on the disruptive innovation to allow its pursuit by that firm. Meanwhile, start-up firms inhabit different value networks, at least until the day that their disruptive innovation is able to invade the older value network. At that time, the established firm in that network can at best only fend off the market share attack with a me-too entry, for which survival (not thriving) is the only reward see Christensen (1997), The Innovator's Dilemma.

3.2.3 Wicked Problems

Pioneers in this field maintain a complex problem is often referred to as 'wicked' since it is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize, (Rittel & Webber 1973). Moreover, because of complex interdependencies, the effort to solve one aspect of a wicked problem may reveal or create other problems. Stakeholders may hold contradictory but valid views of a wicked problem and how it should be solved.

More recently Hasan (2011) makes the point that there are so many wicked problems around now that are not being treated as such because our rational Western attitude to problem solving is so ingrained and emphasises it is important to remember that when dealing with a wicked problem you need an approach that suits wicked problems, i.e. allowing emergence of partial solutions as all stakeholders continually test the waters on what is happening and what might work. The problem is that most stakeholders don't understand this and want the certainty of a solution that would almost certainly be doomed to fail as the situation unfolds.

According to Conklin (2006) the defining characteristics of wicked problems are:

- The problem is not understood until after the formulation of a solution.

- Wicked problems have no stopping rule.
- Solutions to wicked problems are not right or wrong.
- Every wicked problem is essentially novel and unique.
- Every solution to a wicked problem is a 'one shot operation.'
- Wicked problems have no given alternative solutions.

3.2.4 Cynefin sense-making framework

The Cynefin (pronounced kun-ev'in) model (Snowden 1995) recognised that situations and problems vary in their inherent degree of order or un-ordered from simple to chaotic. It started life as a sense-making framework not a categorisation model although now it is often used as such. In a sense-making model the framework emerges from the data, while in categorisation the model is imposed on the phenomenon of interest. Cynefin is particularly useful for identifying and understanding situations and problems that are complex.

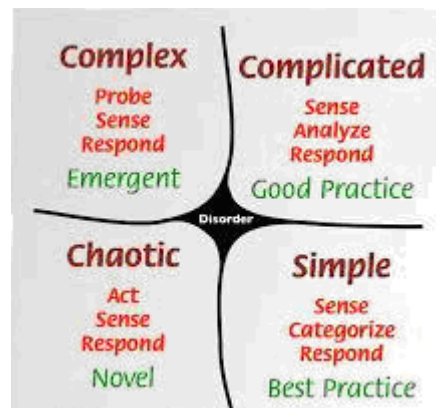


Figure 3.1 - Cynefin Framework

The Cynefin framework (Figure 3.1) consists of five domains: two of 'order' (the known and the knowable), two of 'un-order' (complexity and chaos) and one of 'disorder'. Wicked problems cross all domains but are most appropriately understood in the complex domain. This research focuses on the clash between the ordered domains, where organisations' processes are similar to March's (1991) concept of exploitation, and the 'un-ordered' domains where exploration is appropriate. In some respects these domains signify what in

information systems are variously referred to as different worldviews, epistemological stances or paradigms that make it difficult to present situations and problems from one coherent perspective (Hasan & Kazlauskas 2009).

The researcher was impressed by the potential contribution of the Cynefin framework to act as an analytical tool for his research tasks. This research focuses on the clash between the ordered domains, where an organisation's processes are similar to March's (1991) concept of exploitation, and the 'un-ordered' domains where exploration is appropriate. In some respects these domains signify what in information systems are variously referred to as different worldviews, epistemological stances or paradigms that make it difficult to present situations and problems from one coherent perspective (Hasan & Kazlauskas 2009).

There are a number of generic approaches to the optimal handling of inherently complex situations which are germane to this research, they include the preference for bottom-up responses (as opposed to top-down) and the recognition that solutions will emerge as the situation evolves. The dynamic, iterative dialectic process favoured by Hegel (1874), Marx (1973) and Engels (1886) clearly recognises these types of hard-to-handle wicked characteristics (and their interaction) and strongly suggested to the researcher that Activity Theory (which is based primarily on the dialectic approach – see 3.7.2) was the most appropriate tool to employ to analyse the wicked problems encountered in Phase One.

3.3 Rigid Efficient Systems

Rigid efficient systems, usually referred to as bureaucracies, are the predominant form of large organisation currently operating in all economies (capitalist and communist) and despite their well known deficiencies Weber (1922) there are still no obvious or viable replacements extant or in contemplation.

The legion of problems, that can arise with the interaction of an individual with such large entities, are well known and famously featured in the novel *1984* (Orwell 1949) but remain largely unaddressed since their continued existence supports the elites in power with a vested interest in maintaining the status quo. In any event rigid efficient systems provide a

much needed framework to cope with the demands of a complex environment delivering on their promises and justifying their *raison d'être* – most of the time.

This research addresses the areas where rigid efficient systems (universities in this case) are not delivering on their core values and seeks to establish means to overcome these deficiencies which are stifling the adoption of much needed innovative ideas and failing to foster breakthrough research.

3.3.1 Bureaucracies - primacy of the entity

Any serious study of bureaucracies necessarily involves the two principal thinkers on the topic, viz Marx (1990) and Weber (1992). Whilst differing on many issues they both acknowledge the primacy of the entity (for Marx read bureaucracy as capitalism) in an increasingly industrialised world. Of course Marx speculated, or more accurately foreshadowed, their ultimate demise whereas Weber reluctantly recognised their on-going role in modern society. This view can basically be summed up (by the researcher) in Marxian terms as “the best solution available notwithstanding its inherent favourable bias towards the owners of property (capital) and against the working classes (proletariat)”. Max Weber described many ideal-typical forms of public administration, government, and business in his now famous work *Economy and Society* published by his wife in 1922 after his death. According to online sources this critical study of the bureaucratisation of society became one of the most enduring parts of his work. It was Weber who began the studies of bureaucracy and whose works led to the popularisation of this term. Many aspects of modern public administration go back to him, and a classic, hierarchically organised civil service of the Continental type is often called *Weberian*. As the most efficient and rational way of organising, bureaucratisation for Weber was the key part of the rational-legal authority and furthermore, he saw it as the key process in the ongoing rationalisation of Western society. Although he is not necessarily an admirer of bureaucracy Weber does argue that bureaucracy constitutes the most efficient and (formally) rational way in which human activity can be organised, and is indispensable to the modern world. Bureaucratic administration fundamentally means domination through knowledge. Weber listed several pre-conditions for the emergence of bureaucracy, viz. the growth in space and population

being administered, the growth in complexity of the administrative tasks being carried out, and the existence of a monetary economy requiring a more efficient administrative system. Development of communication and transportation technologies make more efficient administration possible but also in popular demand, and the democratisation and rationalisation of culture result in demands that new systems treats everybody equally.

3.3.2 Bureaucracies – the Iron Cage

Weber's ideal-typical bureaucracy (Weber 1905) is characterised by hierarchical organisation, delineated lines of authority in a fixed area of activity, with action taken on the basis of and recorded in written rules. Bureaucratic officials need expert training, rules are implemented by neutral officials and career advancement depends on technical qualifications judged by organisations, not individuals. While recognising bureaucracy as the most efficient form of organisation, and even indispensable for the modern state, Weber also saw it as a threat to individual freedoms, and the ongoing bureaucratisation as leading to a 'polar night of icy darkness', in which increasing rationalisation of human life traps individuals in a soulless 'iron cage' of bureaucratic, rule-based, rational control. While the emergence of bureaucracy may enable more efficient and stable govern it has been found also to have many drawbacks, both in theory and in practice. Weber's bureaucracy is an ideal model. There are numerous ways in which it can degenerate, some leading only to inefficiency, others with more serious consequences for the maintenance and development of the society - see below and Max Weber on Bureaucracy.

- Vertical hierarchy of authority can become chaotic, some offices can be omitted in the decision making process, and there may be conflicts of competence;
- Competences can be unclear and used contrary to the spirit of the law; sometimes a decision itself may be considered more important than its effect;
- Nepotism, corruption, political infighting, and other degenerations can counter the rule of impersonality and can create a recruitment and promotion system not based on merit, but rather functioning as an oligarchy;

- *Officials can try to avoid responsibility and seek anonymity by avoiding documentation of their procedures (or creating extreme amounts of chaotic, confusing documents).*

According to Weber (1922) even a non-degenerated bureaucracy can be affected by common problems such as:

- Overspecialisation, making individual officials not aware of larger consequences of their actions;
- Rigidity and inertia of procedures, making decision making slow or even impossible when facing an unusual case, and similarly delaying change, evolution, and adaptation of old procedures to new circumstances;
- The phenomenon of ‘group thinking’: zealotry, loyalty, and lack of critical thinking regarding the organisation which is viewed as ‘perfect’ and ‘always correct’ by definition, making it unable to change and realise its own mistakes and limitations;
- Disregard for dissenting opinions, even when such views suit the available data better than the opinion of the majority;

The *Catch-22* phenomenon (1961): reinforces inter alia that as bureaucracy creates more and more rules and procedures, their complexity raises and coordination diminishes, facilitating the creation of contradictory rules. This particular phenomenon became apparent to the researcher during his quest for promised resources and it was further aggravated by the complete lack of transparency in decision making, another drawback commonly associated with large and powerful bureaucracies.

3.3.3 Exceptions, Rules, Duties & Principles

The much-used phrase in common language ‘exceptions prove the rule’ is in fact an abbreviated and hence distorted variation of the original which is more fully understood as being ‘exception proves the rule ... in cases not excepted’. Most probably the first written record regarding the importance of exceptions is that of Plato. In his *The Republic* (Book I) he describes in detail Socrates’ *elenchus* method developed to aid him in his philosophic investigations into *virtue* and *ethics*, (Annas 1981; Prior 1991). This approach involved his

teacher and mentor debating at length theoretical situations where seemingly robust and inflexible rules (definitions) had in fact real but not obvious exceptions. The phrase in question was allegedly derived from a legal principle of republican Rome: *exceptio probat regulam in casibus non exceptis* viz. ‘the exception confirms the rule in cases not excepted’, a concept first proposed by Cicero in his defence of Lucius Cornelius Balbus (Yonge 1891) meaning a stated exception implies the existence of a rule to which it is the exception. The second part of Cicero's phrase, ‘*in casibus non exceptis*’ or ‘in cases not excepted’ is almost always missing from modern uses of the statement that ‘the exception proves the rule’, which may contribute to the frequent confusion and misuse of the phrase (Yonge 1891).

As previously observed, (March 1991), most established market players are usually aware of potentially disruptive innovations *and actively resist their introduction*. This resonates with the researcher’s real world experience (see Chapter 2) and it follows many truly worthwhile innovations will never reach the marketplace unless rule breaking exceptions are pursued and developed in opposition to the ruling orthodoxy. These ‘outliers’ can often be identified utilising a bell curve compiled with relevant data – see 3.6.

Bureaucracies are often defined as being ‘rule-based hierarchies’ (anon 2014) and it is the strict adherence to a particular interpretation of rules which can give rise to problems such as those the researcher experienced. The unquestioned reliance by managers of modern, particularly large, organisations on computerised information systems which are rule-based (by design) can further aggravate this situation.

3.4 Computer Mediated Communication (CMC)

3.4.1 Executive Information Systems

In the activities of Phase One, the sole formal channel of communication between the researcher and the university was the University Student Record System. There were only three instances of this electronic conduit being deployed in the period commencing late 2008 through to mid 2011 and they comprised the PhD Enrolment Form and the Annual Progress Reports for the 2009 and 2010 academic years - see APPENDIX D, E & F.

Each of these documents made explicit reference (see marked in bold) to the researcher's Provisional Patents APPENDIX C and emphasised the commercial value and importance to the researcher's internet start-up and highlighted the necessity to complete the hyper-linking research at the earliest possible time. It is important to recognise that there were no other formally recognised channels open to the researcher to present his case or complain about the non-provision of promised resources. The 2009 and 2010 APRs made clear the problems being encountered by the researcher and these documents were duly signed off by his Supervisor and the Dean of the Faculty who both acknowledged the problems being encountered in the relevant sign-off sections. These duly completed Annual Progress Report documents were subsequently forwarded to the Dean of Research, however when questioned by the researcher the Dean of Research advised there was no obligatory requirement for him to read the documents and they as a consequence the APRs were filed with no official response being considered or even noted.

3.4.2 Email within Institutions

Desk research suggests there is a paucity of recent primary research available about the use or impact of email within institutions and work places notwithstanding that it has been a topic of significant interest for researchers in industry and academe since the mid-1980s. Over ten years have passed since Derks and Bakker (2004) conducted research on the impact of e-mail provided by personal computers and smart mobile devices on work using the JD-R model (see 3.4.3) as a framework. They interpreted the results of their studies showing which aspects of email communication can be considered as demands and resources and hence complicate or facilitate our working life, and found ultimately that email was a technology in itself, i.e. it is neither a demand nor a resource; it is simply how people deal with it. In the researcher's view the Dutch researchers finding that email had the potential to load costs onto recipients and risked work-home balance has been validated however the potential power of email as opposed to other forms of business communication, in terms of robustness, temporal marking and legal substance, was not foreseen and the lack of current research on the topic suggests that this area would benefit greatly from further research. In the suggested research methodology on utterance-level categorisation see (Lampert, Dale & Paris 2008) The Nature of Requests and Commitments

in Email Messages, is also fraught with problems. Not only is it problematic to accurately categorise nuanced semantic language requests or commitment, various factors will also influence the classification decision, including details about the organisational relationship between sender and recipient. For example, as they point out themselves, if a sentence were uttered by a manager to their direct report, the power relationship could easily dictate that it should be interpreted as a request for action, while this interpretation may be less likely were the email sent from the subordinate to their manager. The growth of email into the pervasive business tool we see today has been phenomenal and it now comprises the most significant proportion of all critical CMC traffic on the internet.

Although it remains the preferred mode of task-focused business communication in the 21st century primarily due to its ubiquitous access, low cost and asynchronous delivery the email tool, as we know it, still has other undeveloped features which could potentially enhance organisational performance in rigid efficient systems and large organisations such as universities.

Two models were considered as candidate lenses through which to examine communication the JD-R Model described in Section 3.4.3, and Cohen's Framework for Informer Emancipation described in Section 3.5. The JD-R Model focuses on the impact on job demands and job resources when utilising email within organisations. On further examination it was not considered a suitable tool to analyse the communication flow between parties and the context within which they exist and function in this study. Cohen's Framework for Informer Emancipation, although more abstracted than the JD-R Model, seemed to provide a better lens to examine the critical aspects of communication however in the researcher's view it still did not properly recognise the iterative and interactive nature inherent in email communications. This deficiency is addressed with the researcher's modified framework (5.3).

3.4.3 JD-R Model

The JD-R or Job Demands-Resources Model was developed by Dutch co-researchers Bakker and Demerouti (2006) to examine and predict on job performance - schematically described see Figure 3.2 below:

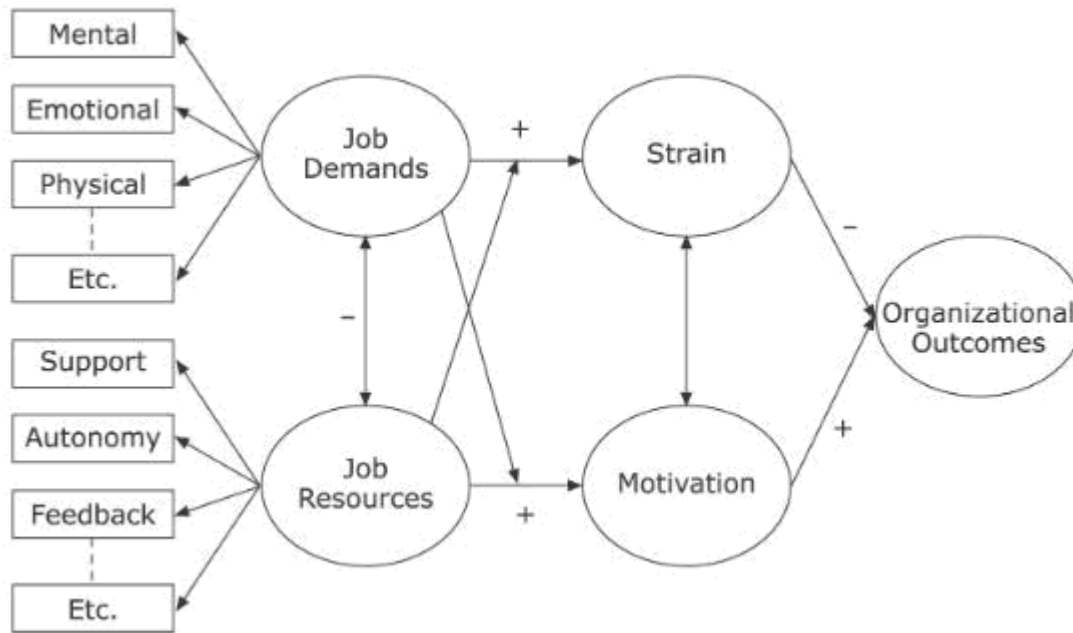


Figure 3.2 - Job Demands-Resources Model

At the heart of their model lies the assumption that whereas every occupation may have its own specific risk factors associated with job stress, these factors can be classified in two general categories, i.e. job demands and job resources, thus constituting an overarching model that may be applied to various occupational settings, irrespective of the particular demands and resources involved. According to Bakker and Demerouti (2006) job demands refer to those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs. Examples are a high work pressure, an unfavourable physical environment, and emotionally demanding interactions with clients. Although job demands are not necessarily negative, they may turn into job stressors when meeting those demands requires high effort from which the employee has not adequately recovered (Meijman & Mulder 1998). Job resources refer to those physical, psychological, social, or organisational aspects of the job

that are functional in achieving work goals or reduce job demands and the associated physiological and psychological costs.

They can stimulate personal growth, learning, and development, hence, resources are not only necessary to deal with job demands, but they also are important in their own right. See Figure 3.3 below:

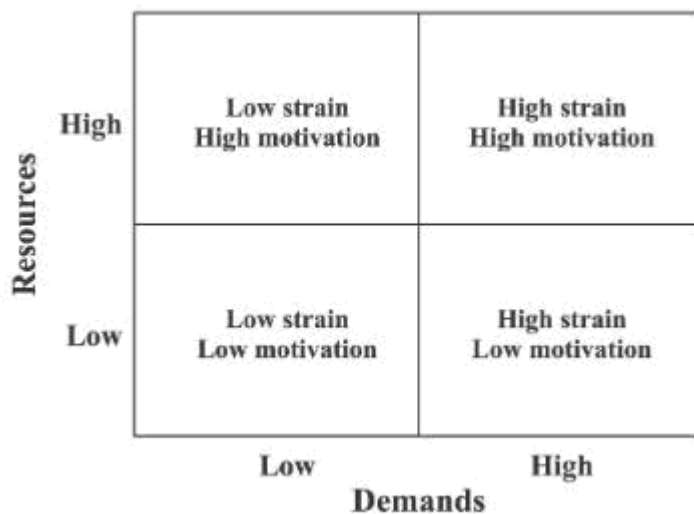


Figure 3.3 – JD-R Model Predictions

Although establishing a useful framework to understand the broad interplay between resources and job performance the JD-R Model lacks the capacity to drill down into the particulars and provide a more nuanced understanding about the impact of real world factors such as those being examined here.

3.5 Framework for Informer Emancipation

Cohen (1999) maintains his rendering of the Informing Science Framework (see Figure 3.4 below) includes the pioneering Shannon-Weaver model and the Wilson model, focusing the reader's attention on the components of informing clients, including the needs and human

fragilities of both the informer and the client. It also points out that the medium or media exists within a context and environment.

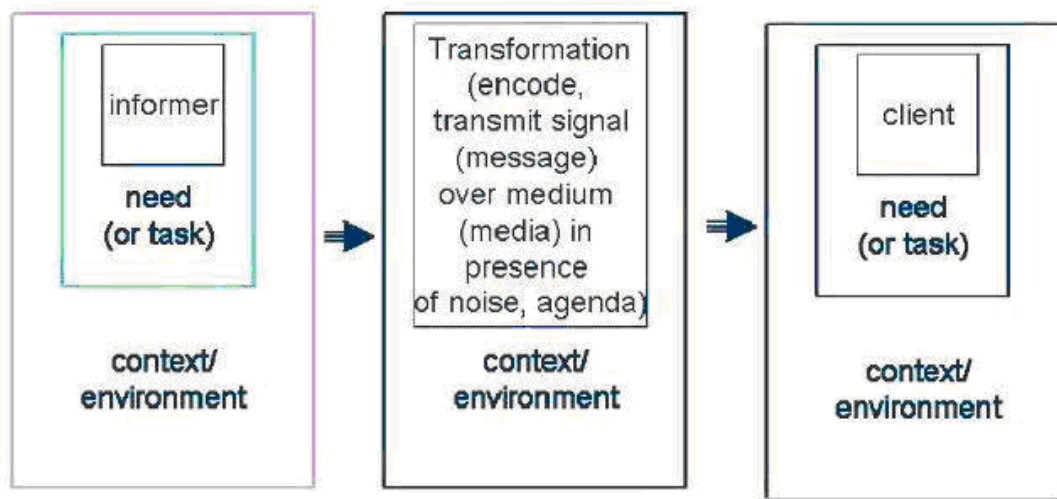


Figure 3.4 – Informing Science Framework

This model was developed as part of Cohen’s seminal ‘ugly duckling’ paper (Cohen 1999) and was the basis for establishing Informing Science which, in his words, is the trans-discipline that studies all issues in informing clients. In recent decades, advances in information technologies magnify the impact and importance of this trans-discipline on many fields of study. Yet trans-disciplinary research conducted to date tends to be field-specific and not well informed by the works conducted in other fields that are also within this same trans-discipline. The researcher has modified this framework, as presented in Section 5.3 to better describe the current use of email in the informing process (Connery & Hasan 2014). The modified framework introduces two important new features. Firstly, it makes all the existing elements iterative and didactic, i.e. recurring instances of communication are now in both directions. Secondly it adds a parallel virtual flow of emails which can mirror stand-alone communications of all kinds, or be emails confirming previous verbal communications. The establishment of a comprehensive electronic repository for all important communications is viewed as fundamental to improve communication and enhance organisational performance generally.

3.6 Random Distribution or Bell Curve

Rigid Efficient Systems are primarily designed to handle large volumes of routine processes (Weber 1922); for example at Institution A all higher degree researchers have their academic records compiled in a central repository called the University Student Record System. As a direct consequence these types of systems are unable to comprehensively process information that does not strictly comply with official guidelines or rules and any innovative research or irregular proposals are either discarded as non-conforming or at best are processed incorrectly. In either situation these types of proposals should more properly be considered outliers or on the fringe of conforming on a randomly distributed dataset of proposals i.e. at the extreme edges of the bell curve and accordingly handled as exceptions.

Almost by definition exceptional behaviour or results are recognised as not being common i.e. they characteristically deviate widely from the norm in nearly all respects. This underlines the almost universal thinking that exceptional and truly break through research discoveries (or innovations) will never be uncovered by utilising purely incremental research methods or as the mathematician John Forbes Nash Jnr (Nash 1948) allegedly described the approach at Princeton while undertaking his innovative doctoral research, in the perennially popular 2001 movie *A Beautiful Mind*, as being “derivative driven”.

Of course the reality is that break through research can occur virtually anywhere and can even build on previous research when the first scientist was totally unaware of the importance of their original finding. A notable example is research undertaken by Nobel prize-winning Australian Howard Florey¹ who developed penicillin at Oxford working from an original paper on anti-bacterial agents (moulds) by Alexander Fleming. The point to be made here is that innovation can often occur in non-traditional areas (some would argue nearly always) and this crucial factor should be recognised by all researchers and as a consequence any identified outliers on the bell curve should not be automatically ruled out of consideration, rather they should always be properly considered as an integral part of any meaningful research undertaking.

¹ <http://www.asap.unimelb.edu.au/bsparcs/exhib/nobel/florey.htm>

Philosophers have reflected upon notions such as Aristotle's Golden Mean for thousands of years and the universal observation that most groupings of objects or ideas are generally very similar in nature (with the middle or mean being the most common and often the most propitious) but always with outliers at the extremes of any continuum. The ubiquitous bell curve (see Figure 3.5) is commonly accepted as conveying the notion that virtually any randomly collected dataset will be distributed in this familiar pattern. We do not propose to investigate this principle per se but to use its popularity and general acceptance to reinforce the observations above (see 3.3.3).

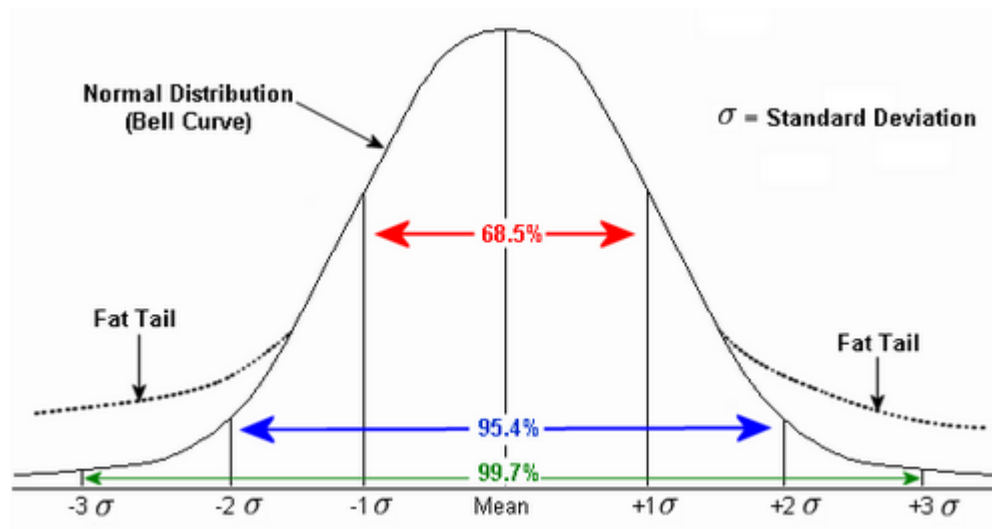


Figure 3.5 – Random Distribution Curve

In the case of normally distributed data, the three sigma rule means that roughly 1 in 22 observations will differ by twice the standard deviation or more from the mean, and 1 in 370 will deviate by three times the standard deviation.

3.7 Cultural-Historical Activity Theory (CHAT)

In this section we will examine the intellectual basis and history of this framework which was utilised, see 5.7, as the tool to discover the difficult to detect underlying tensions and

contradictions that ultimately led to the dis-continuance of the researcher's Phase One research and underpins the Phase Two findings.

3.7.1 Intellectual basis

The intellectual basis for Cultural-Historical Activity Theory in its present form has evolved from many theories developed by a number of mainly German philosophers the earliest of which being Johann Gottfried Herder who maintained in his *Essay on the Origin of Language* (Herder 1772) that thinking was intimately linked with language and culture generally. This then novel conjecture is credited for his status as the founder of cultural anthropology generally and for CHAT in particular.

The term *activity* is the basic unit of analysis within Activity Theory and has been defined Tolman (1988), simply as a concept connoting the function of individuals in their interaction with their surroundings. However, the original German word 'tatigkeit' or 'doing' in English probably better conveys the more nuanced sense of the term, incorporating the strong influences of culture and historical factors, as generally used by modern CHAT practitioners.

3.7.2 Origin – the Dialectic

Cultural-Historical Activity Theory is a descriptive tool that provides a unified account of the nature and the development of human behaviour largely utilising a Hegelian influenced dialectical approach as an object-oriented framework to understand the formation and evolution of human thought. The notion of formally using the dialectical approach as a basis to understand the formation and evolution of scientific thought is usually attributed to Hegel (1979) although other philosophers including Immanuel Kant (1781) have made passing references to the idea before him. The dialectic form of argumentation first originated with orators in ancient Greece but was made popular by Plato in the Socratic Dialogues, however, the dialectic approach as a method of argument for resolving disagreement has been central to not only European but also Indian philosophy since antiquity. Marx (1984) recognised the primacy of Hegel in his early years but critiqued his approach and famously incorporated his own (with input from fellow philosopher, friend

and patron Friedrich Engels) distinctive ‘dialectical materialism’ perspective into many of his later works including most notably Volume I of his most famous work *Das Kapital* (Capital): Critique of Political Economy in 1867 – Marx (1990). The Marxian interpretation of reality (consciousness) views matter as the sole subject of change and all change as the product of a constant conflict between opposites. Soviet-era psychologists Lev Vygotsky (1978) and Alexei Leont'ev (1978) first developed CHAT in the early 20th century built largely on the foundations of the dialectic approach and Finnish researcher Yrjö Engeström (1990) in turn based his 3rd Generation (usually termed Scandinavian School) approach and distinctive triadic model on their early works - see Section 3.7.4.

The central dialectic theme revolves around the concept adopted for achieving the object of an activity i.e. what exactly is the subject (individual person or community of practice) actually trying to achieve? This can be considered as a goal however the ultimate outcome may evolve over time for a number of reasons in an iterative process known as *synthesis* (in dialectical terminology) and usually occurs as a consequence of *contradictions* see 3.7.6.

3.7.3 Pioneers – Lev Vygotsky & Alexei Leont'ev

Professor Lev Vygotsky headed up a group of psychology students in the soviet era at a time when Stalinist-Marxist principles were an officially required guiding influence on all scientific research. Whether Karl Marx’s ideas were given more weight than Hegel’s seems unlikely although it must have been helpful that in many respects their pivotal views on culturally determined influences on behaviour were largely compatible. An early focus on the education of children, or teaching people with learning difficulties, also provided a much needed safety barrier from the close scrutiny of officialdom and likely helped conceal the more in-depth early stage research which had the potential to challenge mainstream political thought. Although Vygotsky met an untimely death at age 37 years from tuberculosis one of his circle of student researchers Alexei Leont'ev (1978) brought together (with some assistance from Alexander Luria and others) the early ideas on consciousness and went on to create a cohesive, comprehensive and scientifically based theory of human thought processes linked to object-oriented activity.

3.7.4 3rd Generation - Yrjö Engeström

Due mainly to lingering Cold War sensitivities in the Western world, discussions and the use of CHAT are now primarily framed within the Scandinavian activity theory strand, developed by Yrjö Engeström.

The triadic model, developed by Engeström (1987), also see below for a Community of Practice Model (complete with quaternary contradictions), is utilised by the researcher as a template - refer Section 5.7.

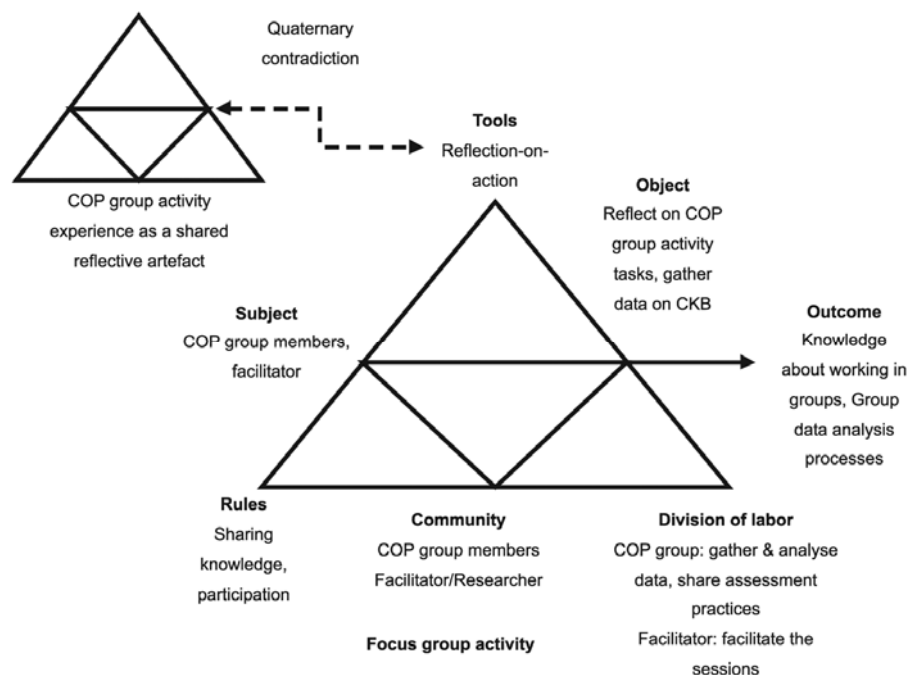


Figure 3.6 – Engeström's Community of Practice Model

Engeström described the various elements of his COP model below:

- The subject of an activity system is the individual or group whose viewpoint is adopted.
- Object refers to the 'raw material' or 'problem space' at which the activity is directed and which is moulded or transformed into outcomes with the help of

physical and symbolic, external and internal tools” It precedes and motivates activity. (Engeström 1993).

- Tools mediate the object of activity. They can be external, material (e.g. a textbook, a computer) or internal, symbolic (e.g. language). Tools take part in the transformation of the object into an outcome, which can be desired or unexpected. They can enable or constrain activity.
- Community refers to the participants of an activity system, who share the same object.
- The division of labour involves the division of tasks and roles among members of the community and the divisions of power and status.
- Rules are explicit and implicit norms that regulate actions and interactions within the system (Engeström, 1993 and Kuutti, 1996).

Five principles of CHAT were also formulated by Engeström (2001):

1. According to the first principle, the main unit of analysis in CHAT is the activity system (Engeström, 2001).
2. Multi-voicedness refers to multiple perspectives, interests, and traditions, which can be a source of trouble and of transformation in the system, as members of an activity system “carry their own diverse histories” and the system itself ‘carries multiple layers and strands of history engraved in its artifacts, rules and conventions’ Engeström (2001).
3. The principle of historicity argues that the history of activity systems helps understand their problems as well as their potentials because ‘parts of older phases of activities stay often embedded in them as they develop’ Kuutti (1996).

4. Contradictions can result in tensions but also transformation in activity systems. In a context of education, for example, a contradiction in teachers' practices might occur when a new technology is introduced into their activity system and clashes with an old element.

5. Expansive learning relates to the possibility of expansive transformations in activity systems through re-conceptualisation of the object and the motive of activity 'embracing a radically wider horizon of possibilities than in the previous mode of the activity' Engeström (2001).

3.7.5 Activities, Actions & Operations

Kuutti (1991), another CHAT exponent from the Scandinavian school, devised a useful table, see Figure 3.7, which demonstrates the three distinct levels of 3rd Generation activity system thinking and the associated epistemic actions.

Activity level	- Building a house	- Completing a software project	- Carrying out research into a topic
Action level	- Fixing the roofing - Transporting bricks by truck	- Programming a module - Arranging a meeting	- Searching for references - Participating in a conference - Writing a report
Operation level	- Hammering - Changing gears when driving	- Using operating system commands - Selecting appropriate programming language constructs	- Using logical syllogisms - Selecting appropriate wording

Figure 3.7 – Kuutti's Activities, Actions & Operations (Kuutti, 1996)

3.7.6 Contradictions

Comprehension of technology-mediated organisational change in terms of contradictions in activity systems is a core theme of activity theory, Allen et al (2013) who make clear that identification of activity systems and contradictions within those systems facilitates the analysis of technology-mediated organisational change.

However there are risks in trying to expand the analytical focus and consider multiple dimensions where the analysis could become too diffuse. Indeed, one of the dangers of CHAT is the tendency to try to explore ‘everything’ according to Engeström (2001).

Timmis (2013) argues in employing CHAT analytically, we need to move beyond description and over-reliance on the expanded triangle models to embrace the dialectical approach at the heart of CHAT. This involves identifying contradictions and tensions that emerge from the relations within and across the different levels and elements within an activity system and sometimes between systems.

Particularly germane to this researcher’s experience is the notion that human activity can trigger tensions caused by systemic contradictions. According to Engeström (2001) these tensions arise when the conditions of an activity put the subject in contradictory situations that can prelude achieving the object or the nature of the subject’s participation in the activity while trying to achieve the object.

In some cases, such as the researcher’s, the activity may collapse altogether and the subject may not be able to attain the object. In other cases, subjects may attain the object but be dissatisfied about how they attained the object. Contradictions emerge as disturbances, which are visible manifestations of contradictions Capper & Williams (2004) or ‘unintentional deviations from the script which cause dis-coordinations in interaction’ and ‘deviations’ in the observable flow of interaction. They are ‘disruptions’ Berge & Fjuk, (2006) also described as ‘problems, ruptures, breakdowns, clashes’ in activities Kuutti, (1991). They result in double binds in everyday practices when an individual receives ‘two messages or commands which deny each other’ Engeström (1987).

Contradictions are important, not in and of themselves, but because they can result in change and development Engeström (2001). Engeström and Miettinen (1999) suggest a positive view of contradictions as ‘the motive force of change and development’. Engeström (2001) explains how contradictions can lead to innovation and transformation in an activity system. As the contradictions of an activity system are aggravated, some individual participants begin to question and deviate from its established norms. In some cases, this escalates into collaborative envisioning and a deliberate collective change effort.

Table 3.2 provides a summary of the four types of contradictions and the characteristics of each type of contradiction.

CONTRADICTIONS & CHARACTERISTICS	
TYPE	CHARACTERISTICS
PRIMARY	Contradictions within each constituent component of an activity, often between the exchange value and the use value within each.
SECONDARY	Contradictions between the constituents of an activity.
TERTIARY	Contradictions between the object/motive of the dominant form of the activity and the object/motive of a culturally more advanced form of the activity.
QUATERNARY	Contradictions between an activity of interest and its neighbour activities.

Table 3.2 – Contradictions and Characteristics

An expansive transformation is accomplished when the object and motive of the activity are re-conceptualised to embrace a radically wider horizon of possibilities than in the

previous mode of the activity. However contradictions may not lead readily to transformation because they may not be easily identifiable or they may not be easily acknowledged, visible, obvious, or even openly discussed by those experiencing them (Capper & Williams, 2004; Engeström, 1993, 2001).

Capper and Williams (2004) conceive of invisible or un-discussible contradictions as ‘the most difficult to use as springboards for growth’ in relation to the context of work of teams. From their perspective, an invisible contradiction is taken for granted, members of a group do not even recognise it as a difficulty, and it includes “cultural assumptions about how things are done and how relationships are managed’. On the other hand, un-discussible contradictions are those not talked about because they are ‘embarrassing, uncomfortable or culturally difficult to confront’. Foot and Groleau (2011) contend that in most CHAT-oriented articles by organisational scholars *e.g.* Canary & McPhee, (2009); Foot (2001); Hong and Engeström (2004), as well as in many of the works published by activity theorists in other fields contradictions are collapsed into a singular, generic construct, and the generative force of the different levels of contradictions in socio-organisational relations is overlooked.

They point out Engeström (1990) proposed a set of relationships between collective epistemic actions that constitute what he termed an expansive cycle, and the contradictions through which activity systems evolve by expanding (or contracting).

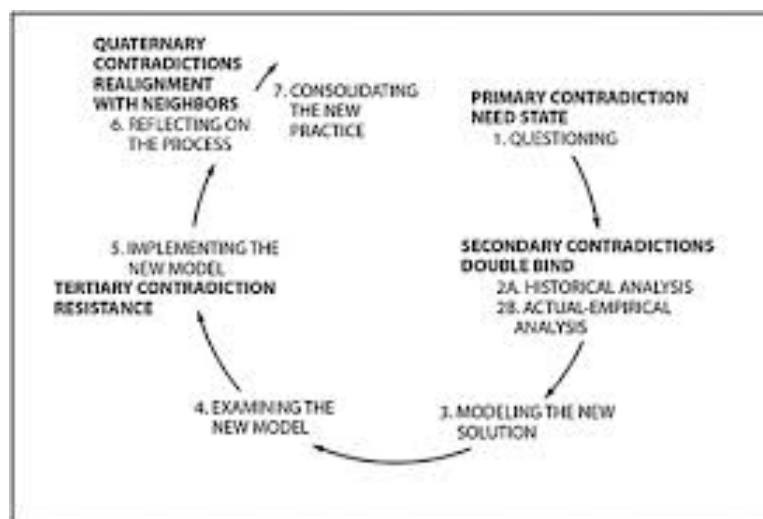


Figure 3.8 – Expansive Cycle of Learning through Contradictions

More specifically, each of the four contradiction levels corresponds to particular epistemic actions that drive the activity through distinct phases of the development cycle in an expansive learning cycle as:

- 1) *questioning*: criticising or rejecting some aspects of the accepted practice and existing wisdom;
- 2) *analyzing* the situation in order to find out causes or explanatory mechanisms;
- 3) *modeling* the newly found explanatory relationship in some publicly observable and transmittable medium;
- 4) *examining the model* in order to grasp its dynamics, potentials, and limitations;
- 5) *implementing the model* through practical applications, enrichments and conceptual extensions;
- 6) *reflecting* on and evaluating the process; and,
- 7) *consolidating* its outcomes into a new, stable form of practice.

The characterisation of these actions as epistemic does not imply that they are purely cognitive. To the contrary, as collective actions, they are necessarily constituted in and through communication. Moreover, labelling particular collective actions as epistemic and significant to the learning cycles of an activity system does not preclude the existence of an epistemic dimension in everyday human practice. Multiple kinds of actions may take place at any time; this set of epistemic actions simply facilitates the identification and analysis of the dominant type of action during particular phases of activity. More specifically, since activity systems are multi-voiced and multi-layered, these epistemic actions do not fully reflect the spectrum of actions being undertaken by all actors within the activity system at a particular moment in time. As each of these epistemic actions is initiated by some set of actors, there are likely to be actions of resistance on the part of some other actors happening simultaneously.

Although Engeström's early work did not specify this particular sequence of epistemic actions, his original articulation of CHAT did suggest that the different layers of

contradictions provoke particular learning actions in a cyclic pattern, and that each cycle of development in an activity system is contingent upon, and somewhat overlapping, of the previous cycle. Combining ideas from several of his publications, we infer that primary contradictions precipitate the epistemic actions of questioning and, when aggravated, lead to the emergence of each of the other types of contradictions. Secondary contradictions provoke analyzing actions among participants in the activity system. Emerging with the implementation of a new model of the activity, tertiary contradictions catalyse examination of the new model and evaluation of the process. Quaternary contradictions are often manifested in the process of consolidating the practice of an activity. This last type of contradiction typically precipitates a new round of questioning actions.

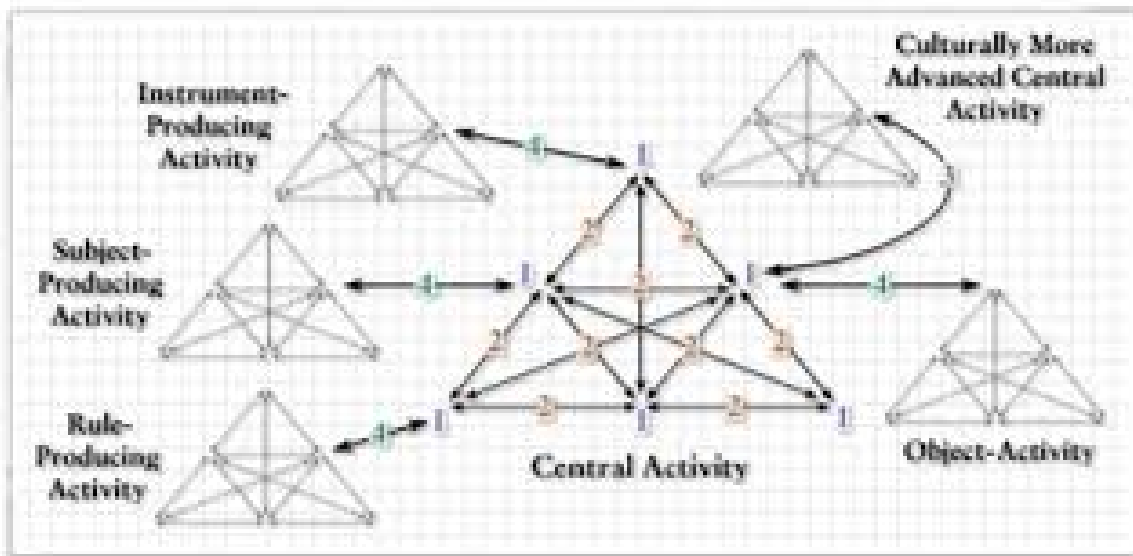


Figure 3.9 – Expanded Triadic Model (Engeström, 1999)

When the object from another activity system is introduced by one of the actors within the activity system, this sets in motion a very different dynamic in which power relations become central (Groleau, *et al.*, in press; Groleau and Mayère, 2009). More specifically, power relations (as manifested in the division of labour) within the activity system determine whether the alternative object catalysing a tertiary contradiction results in a change in the central activity. **Power relations within the activity system influence whether actions of initiative or resistance prevail. (Groleau, *et al.*, in press; Groleau and Mayère, 2009)**

This is not articulated in Engeström's various presentations of tertiary contradictions; perhaps because most of the cases he presents are drawn from interventions in which the researcher has been invited into an organisation that is seeking intervention to help it develop, although this does seem unlikely.

Pfeffer (1981) and Scott (1991) have also drawn attention to the underlying impact of undisclosed power relations. According to Miettinen (1999) the concept of *machiavellism* gives prominence to this issue within the ANT framework (Latour 2005). CHAT is a powerful tool of analysis and has been used in IS Research because of its central focus on the role of tools designed to mediate activities and according to Hasan and Whymark (2005) any review of IS Research shows that activity has long been of central interest in information systems research.

CHAT provides a valuable framework because activity shapes and is shaped by the tools used, the community context in which it occurs, the division of labour among the community members and the community rules, expectations and roles.

CHAT has often been utilised to design information systems commencing with the pioneering work of Korpela et al (2000). For a recent example see Chen et al (2013) who used Activity Theory as a basis to improve emergency response system design. The efficacy of using this particular approach is demonstrated with its ability to present multiple voices in a multi-layered fashion which in turn evolve over time due to multiple inter-related factors i.e. it can construct a meaningful framework which shows the interactions between the various players and provides a lens to both understand likely scenarios and to target potential problem areas before, during or after they arise. The Chen et al (2013) case written up in a recent MIS Quarterly research article shows the versatility of CHAT however the researcher believes it could have usefully delved even further with the identification of contradictions and networks of activities. In this instance it proved particularly useful in the design of emergency response communication systems for multiple emergency agencies involved in sharing task-critical information in a timely manner and suggests more use in future of CHAT to improve IS design in complex situations.

4 METHODOLOGY & RESEARCH DESIGN

The types of problems exemplified in Phase One of this thesis (and described in Chapter 2) are primarily emergent in character and largely dictate the research paradigm subsequently adopted for Phase Two, the main focus of the research expressed in the title of the thesis.

The interpretive and qualitative approach adopted in Phase Two is in stark contrast with the more traditional positivistic and quantitative approach utilised in Phase One. As described in Chapter 2, the latter primarily consisted of a compilation of data observations under specified hyper-linked conditions correlated with the results over time from an un-linked but otherwise identical control website.

The purpose of the initial Phase One research was to prove the efficacy of an invention designed to overcome search engine bias in a local context by hyper-linking a geographically located online directory with a geographically located and high page-ranking portal (the university) – see APPENDIX B. In addition to providing the underlying data for a doctoral thesis the researcher would have also demonstrated the efficacy of his Search Optimising Local Directory (SOLD) technology and more significantly proved the related ‘provisional’ Australian and US patents held personally by the researcher and described in his PhD Research Proposal - see APPENDIX C.

This chapter deals with the methodology for Phase Two which investigated the underlying motivations and ultimate responsibility for the critical actions (or in-actions) in Phase One. These events shaped the structure of Phase Two of this thesis which was only commenced after much reflection and an enforced two year break.

4.1 Proposition

Due to the ethnographic nature of the research methodologies employed in Phase Two it was not practicable to develop theories or hypotheses which could be empirically tested and proven.

However it was feasible to develop a proposition which could be confirmed by research and which would prove useful to adopt for the advancement of knowledge and epistemology generally.

“Exploring perceived disruptive ideas is part of the usual practice of any bureaucratic research organisation since they are often the source of innovation and a fundamental requirement for the advancement of scientific knowledge and epistemology generally”.

In this thesis the terminology ‘perceived disruptive technology’ has been deliberately chosen since it has been noted that any new technology may at the outset appear to be disruptive, and some novel ideas may seem obviously disruptive, however it is not possible to describe them as truly disruptive until after they have actually been introduced into a market-place, and observed.

4.2 Research Questions

The researcher's experiences gained over the past six years have greatly influenced his thoughts on disruptive technologies and how innovative ideas can be fostered within bureaucratic research organisations, such as a universities, and gave rise to the proposition above which in turn led to the formulation of the specific related Research Questions which are at the core of this thesis.

The researcher maintains there are four fundamental questions which must be satisfactorily addressed when seeking to foster innovation within any typical large research organisation in this country run with current IP policies and associated norms of behaviour and management practice

Research Question #1:

How are innovative but possibly disruptive ideas to be identified within bureaucratic research organisation?

Research Question #2:

How are these ideas to be managed utilising existing legacy systems?

Research Question #3:

How is the associated Intellectual Property to be protected?

Research Question #4:

How are innovative and potentially lucrative ideas, identified initially in the business community, to be researched on campus?

4.3 Philosophical Basis to the Methodology

As previously stated this thesis comprises two distinct parts being the ‘Phase One’ to prove the efficacy of linking a locally-based authority website with a locally-based online directory to secure significantly improved local search results and ‘Phase Two’ which examines the possibly ‘wicked’ problems which led to the researcher being compelled to terminate the initial thesis (refer to Chapters 1 and 2).

The initial Phase One thesis adopted a positivist approach (see Table below adapted from Lincoln and Gruba, 1985) and the methodology used was quantitative however it is interesting to note in the section on attitudes to field practice or action viz practice and research inquiry are denoted as separate enterprises – this distinction (although observed nearly three decades ago) would seem to imply that the initial thesis did not meet the usual criteria required for this type of research at that time.

The final thesis (Phase Two) adopted an interpretive approach and the ethnographic methodology used was qualitative. The abundance of original material available as narrative captured in a formal Statement (see APPENDIX J) provided an authentic and substantial dataset for the Leximancer text analysis. Other artefacts included the University’s 2004 sponsorship of the researcher’s marketing group for a Prime Minister’s Community Excellence Award and official student records (withheld) directly relating to the critical period which taken together provide important insights into the behaviours impacting on the researcher’s planned Phase One research.

Using the Table 4.1 as a guide Phase Two, without exception, closely met all their usual criteria. A reason for using ethnographic fieldwork was to observe and study the activity as a complex social, cultural, and political system Harvey and Myers (2002), in particular as an object-oriented activity system as per CHAT.

Beliefs and Assumptions	Positivist Approach	Interpretive Approach
Nature of reality	Reality is single, tangible and objectively given	Realities are socially constructed, there can be multiple constructions and realities, they are accessed through shared meaning
Relationship of knower to the known	Knower and known are independent (dualism)	Knower and known are interactive and inseparable
Possibility of generalisation	Generalisations are possible, and are time- and context-free	Only time- and context-bound working hypotheses are possible
Possibility of causal linkages	There are real causes, that precede or are simultaneous with their effects	All entities are in a state of mutual simultaneous shaping, so that it is impossible to distinguish causes from effects
Role of values	Inquiry is value-free	Inquiry is value-bound
Research methods usually used	Quantitative	Qualitative
Aim of knowledge	Increase predictive understandings of phenomena	Deep and insightful understanding of phenomena ⁷
Attitudes to field practice or action	Practice and research inquiry are separate enterprises	Research is a type of practice that affects the context and can be a deliberate intervention strategy (action research)

Source: adapted from Lincoln/Guba 1985.

Table 4.1 – Approaches to Methodology

The methodology adopted for this Phase Two research is a single case study which utilises as its primary case (Phase One) and is conducted as interpretative action research closely following the researcher's experience over three years starting with a background to his business activities and outlines earlier commercial and academic research. This is written up as a case which identifies the research problem and describes its characteristics as a wicked problem.

Cases of similar problems have been identified including the introduction of Executive Information Systems Hasan & Gould (2001), the introduction of a user driven time-tabling systems Hasan & Suratmethakul (2005) and more recently the introduction of MOOCs Armstrong (2012). While a full presentation of these cases is beyond the scope of this thesis they provide support for the approach taken in this thesis.

Interpretive research in Information Systems (IS) is now a well established part of this field, although as noted by Walsham (1995) this has not always been the case. In his landmark paper Walsham addressed the nature of interpretive IS case studies and described the methods of doing such research. He re-visited this topic area a decade later, see Walsham (2006), adding to his already influential body of work and in the process providing a comprehensive framework for justifying the approach.

He observed that when choosing a style of involvement the two choices were predicated on the role of the researcher being characterised as either ‘outside’ or ‘involved ‘ the former carrying out the study mainly through formal interviews with no direct involvement and the latter as a participant observer or action researcher.

Clearly the researcher in Phase Two is closely involved. Baskerville and Myers (2004) have noted that action research can make the researcher’s work more relevant to practice, which is a good thing, but there is always a risk they may lose critical distance and represent their contribution in too positive a light.

Walsham addressed the question of limited access provided by a single case study (as in Phase Two) and the generalisability of results obtained, in his first paper, and in his later 2006 paper referred to Lee and Baskerville (2003) who described a generalisability framework with four components: from data to description; from description to theory; from theory to description; and from concepts to theory. This approach supports Walsham’s stance and reinforces the point that all of these are feasible from a single case study.

The importance of internally created material such as emails to support participant observation was raised by Walsham. It is particularly germane to the Phase Two research and the software analysis of the Non-trivial communication instances – see APPENDIX K – further develops this approach to interpretive research.

Walsham (2006) also addressed the fundamental question of choosing a theory to analyse the collected data. He made the point that you should find a theory which inspires you, and enables you to gain insights from your field data.

Cultural Historical Activity Theory was first introduced to the researcher in 2003 during a Human Computer Interaction (HCI) tutorial whilst undertaking the coursework for his Masters by Research degree. It immediately appealed in this context because it grasped the notion that different people access and manipulate data on the internet based on their experience with the browser (tool). This insight was a major improvement over other behavioural models being officially advocated at that time and included in the prescribed curriculum. Although CHAT was not part of the coursework its potential was duly noted and subsequently was revisited since it uniquely accommodates complex situations which are both multi-layered and multi-voiced i.e. complex situations and wicked problems such as those revealed in Phase One of this research.

The development of themes and concepts for the purposes of data analysis was also broached by Walsham and the researcher deployed Leximancer software for this purpose – see Sections 5.4.1 – 5.4.4 however as noted by Walsham researchers should always resist the temptation to become ‘locked in’ to this approach as the only way to look at the data.

Justifying the methodological approach to any piece of worthwhile research has become an increasingly important topic within the IS research community and a number of criteria have been suggested by Golden-Biddle and Locke (1993) et al – in their case: the focal points being *Authenticity*, *Plausibility* and *Criticality*.

Authenticity concerns the ability of the text to show the authors have ‘been there’. The appendices to this research include third party created artefacts including a successful nomination for a Prime Ministers Award, Provisional Patents in Australia and the US and an excerpt from Hansard in the House of Representatives.

Plausibility focuses on how well the text connects to the personal and professional experience of the reader. Anecdotal evidence strongly suggests that the types of problems exposed in this research are endemic within most universities in the English-speaking world and as such the Phase Two research findings should come as no surprise and resonate with the target audience of IS professionals and experienced examiners.

Criticality concerns the way in which the text probes readers to consider their taken-for-granted ideas and beliefs. The researcher has raised a number of procedural-type improvements (Chapters 6 & 7) which could greatly assist individual IP holders and small business owners to undertake worthwhile research on campus. A framework to manage innovation within large organisations of all kinds has also been suggested – Section 7.2.

In addition the fundamental notion of how to best handle exceptions to general rules is questioned – a topic of interest for thousands of years ... and the researcher would say well overdue for reconsideration – see discussion in Section 6.4 Rules and General Rules.

4.4 The Theoretical Lens

Having successfully completed a Masters degree utilising an interpretive philosophical approach, the researcher was more comfortable embracing the same approach for Phase Two than the terminated Phase One which was positivist.

However, there have been conflicting views expressed about positivist and interpretive philosophical traditions and with the polarisation of debate across these two extremes there has been a search for a “third way,” beyond both positivism and interpretivism.

Some have argued that the requisite third way Bhaskar (2010) can be found through adopting the ontology of *critical realism*, fostering explanation in terms of real structures, mechanisms, powers, and tendencies, rather than mere description or crude prediction Allen et al. (2011) however others have argued that activity theory still shows the requisite way forward, by locating IS within the context of activity systems. As noted above,

understanding human behaviour, particularly as an activity within a system in a historical context mediated by tools, is a challenging task not easily accommodated with most behaviourist or cognitive-based models.

Latour (2005), a much cited French philosopher and sociologist, developed Actor–Network Theory, often abbreviated as ANT, which is an approach to social theory and research, originating in the field of science studies.

Both ANT and the emerging *critical realism* approach both held some interest, although upon further consideration the Russian-developed Cultural-Historical Activity Theory (CHAT) was shown to provide a framework which was able to deliver perspectives and insights to a superior level of granularity. Amongst some claims to fame ANT is well known because it treats objects as parts of social networks and as such was a possible alternative analysis tool to CHAT.

For this Phase Two thesis the 3rd Generation CHAT triadic model developed by Yrjö Engeström (See Section 3.7.4) was ultimately chosen by the researcher to help isolate systemic contradictions, to more fully understand the tensions involved and reveal the sources of the problems (contradictions) he encountered, see Section 5.7.

4.5 Research Design

Phase Two of the research was conducted in five steps whose findings are presented in the five sections of Chapter Five. The first part or Phase One of this thesis, covered in the Background Chapter 2, provided the data for Phase Two.

4.5.1 Step One

Step One commenced with a review of existing IP practices within universities (Section 5.1). The purpose of the exercise was to discover how intellectual property issues were

handled at both the time of enrolment for higher degree research students and whilst they were undertaking study at the various institutions. All the leading Australian universities plus three leading US institutions were investigated online (see Tables 5.2 and 5.3). The implications of these policies for the topic of the research is discussed in Section 6.1

4.5.2 Step Two

Step Two analyses the chronology of communications during Phase One. A characteristic of HDR studies is the collegiate approach adopted and the less formal interaction between students and supervisors than is usually the case with undergraduate studies. Being a mature-age student and having a lengthy business career the researcher always maintained detailed records of all important discussions and agreements and made a practice of confirming all verbal exchanges, with university staff, by email. This ‘commercial’ practice furnished a detailed record of all relevant communications from the time the researcher first approached the university with a purely commercial proposal right through to the conclusion of Phase One of his doctoral research.

This record of communication ultimately proved to be critically important since the email components not only provided a comprehensive dataset of communications but listed detailed meta-data including media-type and temporal markers – both being essential constituent elements and characteristics the researcher refers to as Semantic Media Richness (Section 6.2.1)

The Phase One research reported in Chapter Two focuses on the initial attempt to conduct quantitative research on Ranking Websites in a Community Portal (see Background in Chapter 2 and the YOC Business Plan in APPENDIX H)

The detailed communications between the researcher and his supervisor and other academic staff became the central and critical data source for Phase Two of this research. It is important to note that whilst informal dialogue is actively encouraged within faculties all

attempts at communication between the researcher and university administrative staff were effectively filtered by academic staff (within his faculty) since the researcher as a student was not officially allowed to speak directly to them at any time.

As presented in Section 5.2, a Pie Chart is created (by Media Type) of all Non-trivial communication instances for the period February 2008 through to 28 March 2011 – refer APPENDIX K for data source. A breakdown of the Email instances (by Sender) - see Figure 5.2 - further dissects the didactic communications between the researcher and his supervisor described in the researcher's statement refer APPENDIX J.

4.5.3 Step Three

Step Three involves the development of a communications framework that reflected the findings of Step Two. An analysis of the non-trivial communication instances also provided an insight into the systemic communication problems encountered by the researcher when corresponding with his supervisor. Clearly communications were a fundamental component of research activities and the role of email played a significant part in finally being able to understand the causes for the failure of the Phase One research.

It was evident that the researcher's unorthodox use of third party email (for all confirmation purposes) was a major improvement for didactic communications and Cohen's Framework for Informer Emancipation was modified to incorporate this refinement. The modified framework to better demonstrate communication flows is developed in Section 5.3 building on Cohen's seminal work, as described earlier in Section 3.5, incorporating an additional email-based repository and emphasising the didactic and iterative nature of all communications.

4.5.4 Step Four

Step Four involved the content analysis of the communications and other documents.

The documents from Phase One were analysed using Leximancer (Version 4); a software application for performing conceptual analysis of text data where words are mapped onto a small set of derived concepts.

According to Smith & Hasan (2012) Leximancer is superior to other text mining approaches in the way robust artificial intelligence algorithms develop and identify concepts and the relationships between them, (also see Smith, 2003; Smith & Humphreys, 2006; Martin & Rice, 2007). The labels and themes are developed solely from the text analysed; thus avoiding researcher bias Hewett et al, (2009). Details of the scientific basis of Leximancer can be found from Smith (2003) and Martin & Rice (2007)

Researchers in various disciplines have found Leximancer a valuable tool for processing transcripts of interviews e.g., Huber et al (2007); drawing out common themes (e.g., Liu & Maddux (2008); Linger et al (2005); comparing sets of documents over time or between sites, e.g., Martin & Rice (2007). Due to the validity and quality of Leximancer's in-built analytics its distinct advantages are its usability and objectivity. Large amounts of text can be processed quickly in a quantitative, unsupervised manner that may identify concepts that were not envisaged by the researchers. After the first pass, users can inspect the source of the concepts in the text, and remove, merge or add concepts where appropriate. Another pass can then quickly regenerate the map.

By utilising Leximancer text analysis (also see Section 5.4) the researcher was able to detect themes and concepts that were not readily discernible (by simply reading) and provided clues to how various actors' statements and representations changed over time. Sections 5.4.1 – 5.4.4 present the in-depth results of Leximancer software text analysis in a series of charts which are split in two chronological sections viz the First and Final parts –

refer to APPENDIX J for data source. Both Concepts and Themes are fully described in each part.

The spatial positioning of discrete elements and their sizes were indicators as to their relative importance and their connectedness with other elements at a particular point in time. The comparison between these snapshots (First and Final parts) reveals changes in emphasis and most importantly highlights the key activities and suggests the underlying tensions between them and provides the essential clues to identifying possible contradictions – see CHAT analysis Section 5.4.

Leximancer text analysis of the UOW Strategic Plan and the Web Management Guidelines revealed the relationship and interconnectedness of the various actors and made clear the significant differences in emphasis they placed on critical themes / activities as compared to the researcher's stance – also see 4.6.

4.5.5 Step Five

Step Five consisted of an interpretation of the findings of Step Four using *activity* as the unit of analysis. Cultural-Historical Activity Theory was chosen as a lens to examine the roles and actions of all the players, and their associated activity systems, since it was a tool with the unique ability to dissect the behaviours and influences of all actors to a level of granularity that revealed the multi-layered complexity of interactions between the researcher and the university.

CHAT has the practical ability to delve deeply into multi-layered and multi-voiced activities such as those the researcher shared with his university and furnish detailed results identifying the difficult to detect systemic contradictions revealed. In Section 5.7 the key

activities are identified and described. The detection of contradictions was critical since they are a fundamental component of the dialectic process embedded in any activity.

The results of the Phase Two research are fully described in Chapter 5 and interpreted in Chapter 6 corresponding to the five steps described here. These results are then used to answer the research questions in Chapter 7.

4.6 Balance

Although Phase One provided a comprehensive dataset of the researcher's communications, primarily emails, which were analysed with the Leximancer text analysis tool (see 5.4) there is a nearly complete absence of material explaining either the university's position in principle, or basis for not providing the research support promised by the faculty staff when the student initially commenced his Phase One research.

The record (5.2) shows that the student repeatedly requested formal directions to no effect however to address any perceived bias two official sources were located and also analysed with the Leximancer tool. They were the university's Strategic Plans spanning the period 2008 – 2018, see 5.5 and the institution's Web Management Policy 2007 – 2013, see 5.6.

5. RESEARCH RESULTS

In this chapter the findings from the five steps of the Phase Two research are presented

I first table the results of desk research undertaken (Section 5.1) to compare the requirements for IP Disclosure for universities both in Australia and the US. The level of funding available to students and the associated division of royalties is also noted. Suggestions as to how IP in the hands of students can be fostered and how universities could monitor the development of innovation are discussed further, see Sections 7.4 & 7.6.

This is followed (Section 5.2) with a breakdown of Non-Trivial Communication Instances by Media-type and by Sender which clearly shows a previously unobserved directional bias in the email communications between the researcher and his supervisor. These findings suggest a deliberate *modus operandi* is in play and the tactic exhibits the characteristics of a degeneration which is often associated with rigid efficient systems and has been commented on by the ‘father’ of bureaucracies Max Weber (Section 3.3.2).

Based on his observations during the course of this research a Modified Framework for Communication (Section 5.3) was developed by the researcher to improve the understanding of communication flows within large organisations and to suggest possible improvements in IS design.

Leximancer text software is utilised to present concept maps showing themes (activities) derived during the critical first and final parts of the research (Section 5.4.1 – 5.4.4) and compiled using APPENDIX J as the data source. A commentary of important trends detected in the findings is tabled in Section 5.4.4.

Cultural-Historical Activity Theory is deployed in Section 5.7 (and Table 5.14) as a framework to bring all the critical factors, discovered in Phase Two, together and to identify the important systemic contradictions which must be addressed to successfully

overcome barriers when introducing perceived disruptive innovations into rigid efficient systems. The identified research problems and related findings are tabled below and refer to the related sections within this thesis.

Identified Problem	Research Findings	Reference
Single formal channel of communication	A modified Framework for Informer Communication developed to provide redundancy with temporal markings - based on email	5.3
Framework to subjectively understand activities and behaviours	Leximanacer text analysis used to identify concepts and themes	5.4
	CHAT used as the tool to analyse critical activities and detect underlying contradictions	5.5
Identifying disruptive technologies	Non-conforming outliers, on the Bell Curve, are the primary source	6.4
	Cynefin also a useful tool for managing complex domains	6.8 & 7.4
Management of non-routinised information	Rigid efficient systems require accelerator mechanisms to escalate exceptional instances and introduce humans (or ombudsmen) into the decision-making process	7.6

Table 5.1 Research Findings Framework

5.1 Review of IP Policies

The Phase Two results start with a review of current IP Policies at most of Australia's leading universities and some leading US institutions and the results of this desk research are presented in Tables 5.2 & 5.3.

University	Student IP Disclosure	Creator Distribution	Funding for Start-ups
UOW	Via Intranet only since 2006	50%	Deed of Assignment No student share-holding Royalty only
UWS	Yes - Public ex web Students own IP	100% then 33% if applicable	No Published Information
UTS	Background Intellectual Property Statement	100% then 50% if applicable	Supports Accelerator
NSW (G8)	Students own IP since 2004	100% then 33% if applicable	Supports Accelerator
SYDNEY (G8)	Students own IP Rule 2002	100% then 33% if applicable	No Published Information
ANU (G8)	Nil	35% if applicable	ANU Connect Ventures up to \$500,000 per enterprise
MONASH (G8)	Invention Disclosure Form	30% if applicable	\$10-50K
MELBOURNE (G8)	Students own IP Other than for Teaching Materials	100% then 40% if applicable	No Information AngelCube Seed Investment up to \$20K
QUEENSLAND (G8)	Invention Disclosure Form	33% if applicable	No Published Information

ADELAIDE (G8)	Students own IP	100% then 33% if applicable	Accelerator 3 month courses funding up to \$18K
WESTERN AUSTRALIA (G8)	Invention Disclosure Form	100% or other by agreement	No Published Information

Table 5.2 – A comparison of IP policies available online - January 2014

University	Student IP Disclosure	Creator Distribution	Funding for Start-ups
HARVARD	Disclosure since 1975	35%	No Published Information
STANFORD	OTL online disclosure	28%	StartX to match VC funding
MIT	TLO online disclosure	28%	DRF \$20K

Table 5.3 – US IP policies available online - January 2014

IP disclosure upon enrolment is not uniform across universities and there does not appear to be any reason why SIP could not be treated consistently throughout the country and related documentation made available when a student transfers between universities. In fact, based on the researcher's experience, all parties would greatly benefit from such an initiative.

The distribution of royalties or license fees to the creator of SIP also varies significantly between institutions for no apparent reason. Consistency in this policy area is also recommended. The prospect for universities to fund start-ups commercialising SIP also appears to be ad hoc and the temporal constraints imposed unrealistic – in the university this paper relates to a period of 18 months was allowed for the administration to decide if the university wished to participate and the SIP would remain effectively embargoed till the decision was finally forthcoming.

In the case of a student researching disruptive technologies at any university due to the speed of technology adoption generally this type of requirement is both unfeasible and difficult to justify. Given the well-known challenges to discovering and commercialising innovative and/or disruptive technologies it would seem desirable that all government funded research institutions take steps to remove any non-helpful artificial barriers hindering progress.

5.2 The Chronology of Communications

A total of 166 non-trivial communication instances were compiled chronologically for the period February 2008 through to 28 March 2011 – refer APPENDIX K. The individual communications were identified by media type, sender and receiver.

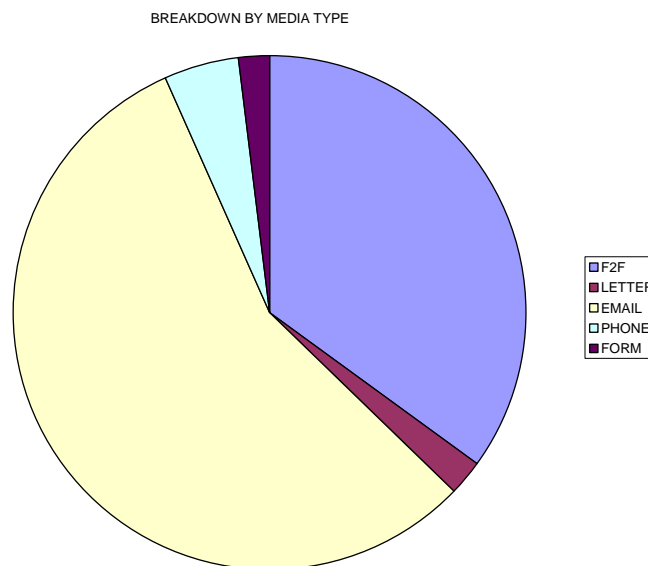


Figure 5.1 – Communications by Media Type

Nearly all F2F exchanges between the researcher and his supervisor occurred at Cafe DSL weekly meetings with strictly limited opportunity for in-depth discussion.

Although no formal records of discussions were taken (by either party) the researcher diarised important matters and confirmed all relevant details in emails to his supervisor.

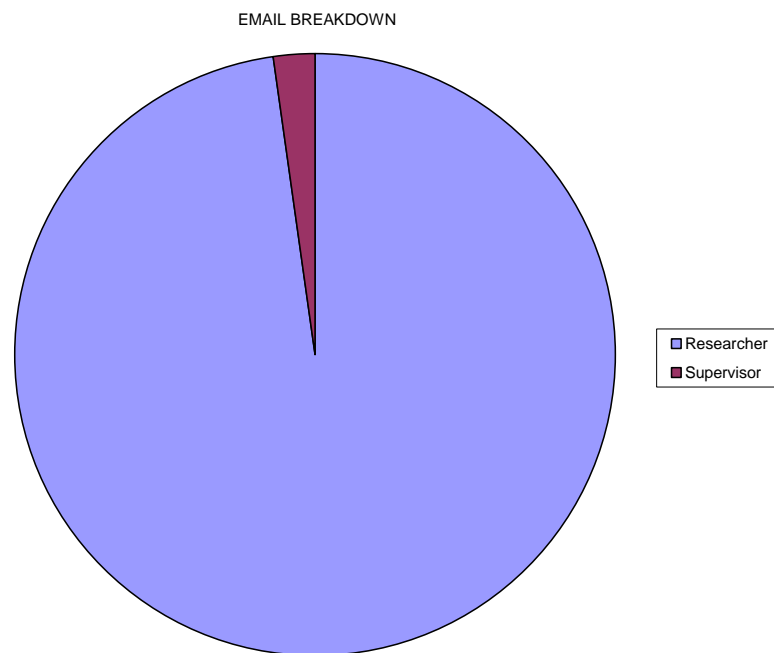


Figure 5.2 – Email by Sender

The predominant media in all communications between the researcher and his university was email (over 56%) and of the emails exchanged 38 were sent to the supervisor and only 2 were in the other direction - this bias is significant.

5.3 A Modified Framework for Communications

The researcher's problems with informing / communication are at the core of the problems he faced in his relations with the university and can be summarised as:

- The university's legacy student information system was only designed for routinised information flow and was deficient for this primary purpose since they had no means of ascertaining the semantic sense of responses, i.e. the input could be nonsensical so long as some data was placed in the relevant field/s.
- The well-known silo approach ensured that critical information or policy settings of the administration were not included in the academic information systems, i.e. no overlap.
- The legacy system has no capacity to handle non-routinised information either by creating a log of non-conforming responses or automatically flagging responses or complaints that require human intervention of some kind.
- The university has no capability to pro-actively monitor, filter or process information flows other than within its own internal systems. i.e. relevant emails or other digital artefacts are not directly accessible, collated or linked in any fashion.
- The university did not appear to have a satisfactory Intellectual Property Disclosure policy in place, at least not one publically available to students.

The proposed modified framework (Figure 5.3) empowers informers by incorporating feedback flows to overcome the systemic inertia so evident in multi-level silo-based bureaucracies by ensuring inappropriate action/inaction by client decision-makers is not rewarded or legitimised and higher organisational goals are achieved.

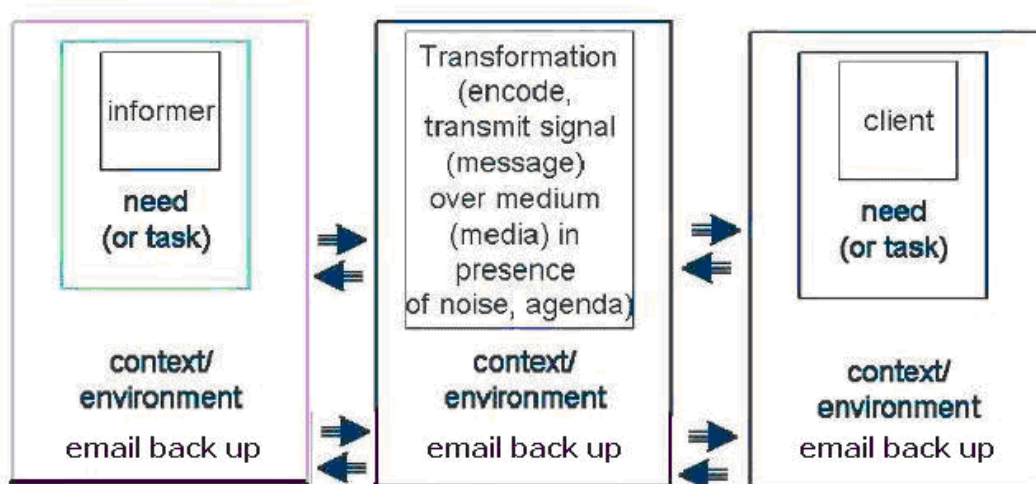


Figure 5.3 –Modified Informing Science Framework

It is argued that in the 21st century transparency in organisational decision-making and the delivery of natural justice to all levels within a large organisation should be mandatory Astor (2008).

To that end all executive information systems should be specifically designed to identify and act upon misaligned or sub-optimal management practices and to enhance organisational performance generally, see strategic alignment of business process models Morrison and Ors (2011).

To significantly improve the discipline of Informing Science within a large organisation requires the implementation of some basic protocols or heuristic routing and, if not currently available, also the establishment of an ombudsman and a decisions review body. The protocols would formalise the required form of inter-organisational communication which could in some instances be directly coded into existing systems or simply installed as pre-set email preferences.

The suggested modifications (see Figure 5.3) embed two key features which are necessary to optimise effective communication flows within rigid efficient systems. Firstly the overt recognition that didactic communications are characteristically bi-directional and iterative

in nature and secondly that a third party operated repository of all non-trivial instances should be compiled automatically to provide an accurate, authentic and temporally marked record of all important communications.

5.4 Text Content Analysis

Leximancer is text-mining software used to analyse the content of collections of textual documents and to visually display the extracted information by means of a conceptual map. The program provides an overview of the material, representing the main concepts and how they are related - see Figure 5.4.

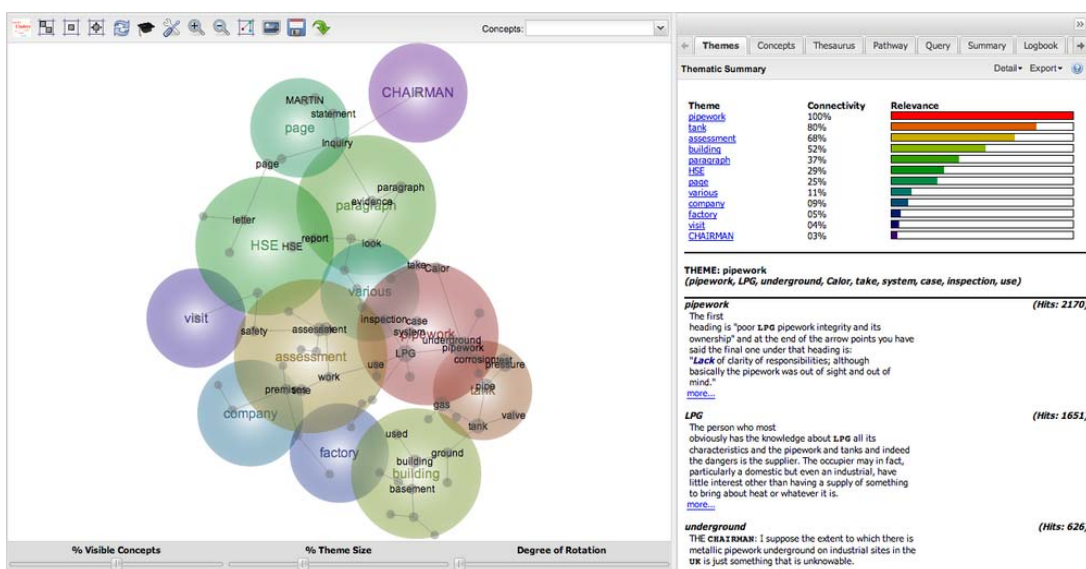


Figure 5.4 – A Typical Leximancer Version 4 Report

The Leximancer system performs a style of automatic content analysis, Smith and Humphreys (2006). The system goes beyond keyword searching by discovering and extracting thesaurus-based concepts from the text data, with no requirement for a prior dictionary, although one can be used if desired. These concepts are then coded into the text, using the thesaurus as a classifier. The resulting asymmetric concept co-occurrence information is then used to generate a concept map.

Leximancer codes natural language (emails in this study) utilising two proprietary algorithms which present the data in the form of maps with two levels of abstraction.

Concepts provide the finest degree of granularity (similar to keywords) and Themes (activities) effectively gather the individual concepts into groups displaying semantic similarities to present a higher level of abstraction which can often reveal hard to detect patterns of meaning not immediately obvious to the human eye.

For rapid human appreciation of the information contained within nontrivial amounts of natural language there is an abundance of rich and complex information that can be extracted by means such as Leximancer - which was chosen to analyse the communication between the researcher and his university, detailed below.

The narrative provided by the researcher for a Statement (APPENDIX J) is utilised as the dataset for text evaluation (Section 5.4.1 – 5.4.4). The characteristics and flow of the researcher's communication stream, with his supervisor and various university departments, reveal a concerning pattern of mis-information (or more accurately a lack of information) which is not immediately obvious from a more traditional evaluation (reading) of the formal document compiled by the researcher.

The dataset derived from the researcher's Statement has been split into two discrete parts with the First Part (Section 5.4.1) covering the period February 2008 to 24 December 2008 and the Final Part (Section 5.4.2) being based on the period November 2010 to 28 March 2011. These two sections neatly mirror the early negotiation stage and the concluding period of the research.

5.4.1 Themes - As generated from a Leximancer analysis of the First Part of APPENDIX J (covering the period February 2008 to 24 December 2008)

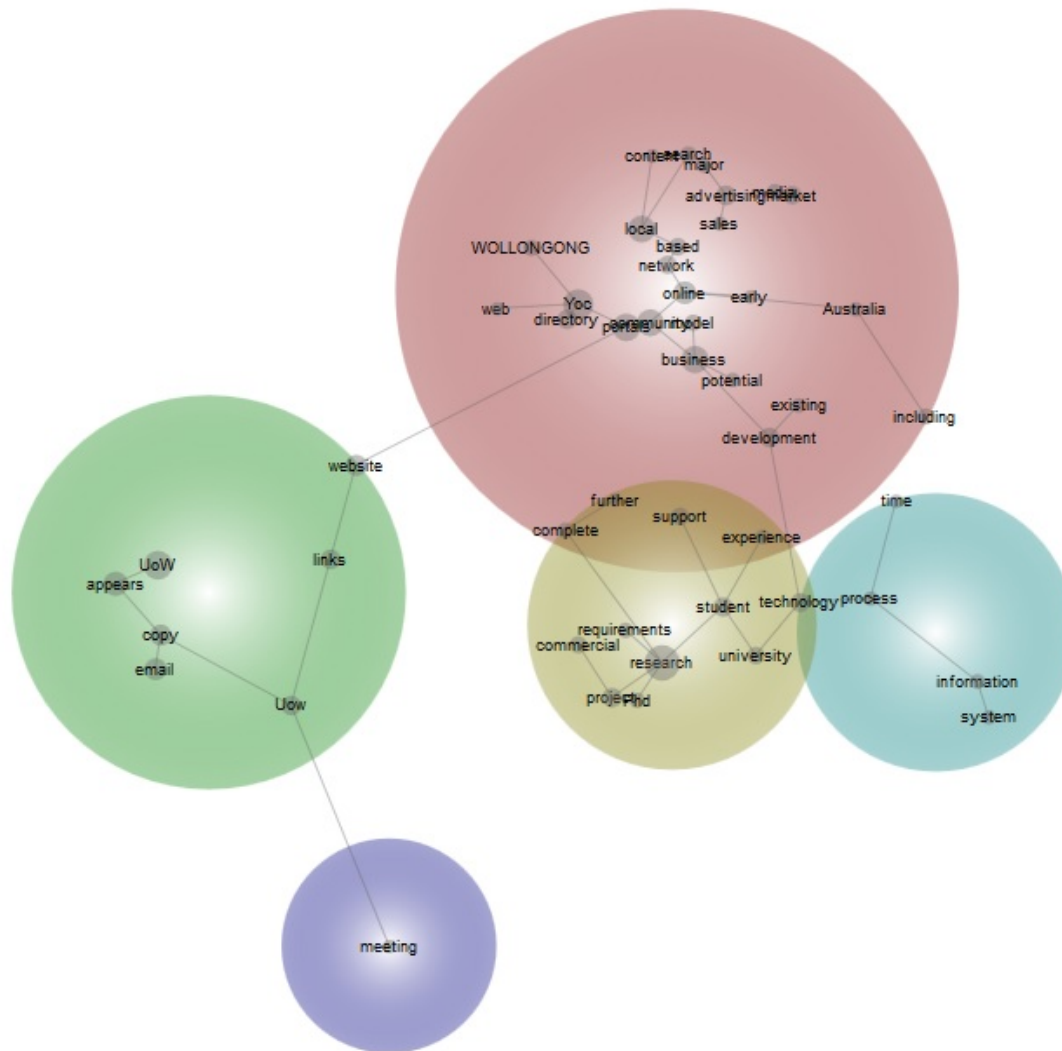


Figure 5.5 – First Part of APPENDIX J

Theme 1: Large red circle represents a number of related concepts describing the context and current activities of Your Online Community Pty Ltd - AMC's sponsor for the proposed research.

Theme Two: Medium-sized brown circle represents the various concepts of support to be provided to the researcher by the university faculty as part of his planned research

Note: Theme One and Two overlap which indicates a significant congruence of goals

Theme Three: Large green circle on left represents the communication channels and hardware to be provided to the researcher by the university administration. Notwithstanding the relative importance there is a significant gap and no overlap with either Themes One & Two

Theme Four: Medium-sized light blue circle represents processes and information systems to be provided by the faculty to the researcher directly.

Note: Theme Four and Two slightly overlap which emphasises the importance of a close relationship

Theme Five: Small dark blue circle represents a single component viz: meeting. The remoteness of this component and its connection (but not overlap) with Theme Three suggests any communication would have to be mediated by the university administration as opposed to faculty

Themes as CHAT Activities (First Part)

The subject in CHAT is always an individual entity consequently the components depicted as part of Your Online Community Pty Ltd in Theme One actually represent the researcher's activity since AMC is MD and major shareholder of YOC.

In Theme Two as for Theme One the subject is AMC however the mediating artefact is now email. The object of the activity is to prove patents although the outcome remains the completion of a PhD.

The subject in Theme Three is now the academic registrar and the mediating artefact is personal representations of faculty supervisors to the academic registrar and ITS staff members.

The object of the activity is to provide research support and the outcome is to maintain the integrity of the university website. Theme Four represents processes and information systems to be provided by the faculty to the researcher directly. The supervisor is the subject of this activity and with the support of the dean will ensure the researcher attains a PhD.

Theme Five represents a single component being a F2F meeting with critical ITS staff. The remoteness of this component and its connection (but not overlap) with Theme Three suggests any communication would have to be mediated by the dean as opposed to supervisory staff. The dean is the subject of this activity and with the support of the academic registrar will endeavour to ensure the researcher attains his required hyper-links.

5.4.2 Themes - As generated from a Leximancer analysis of the Final Part of APPENDIX J (covering the period November 2010 to 28 March 2011)

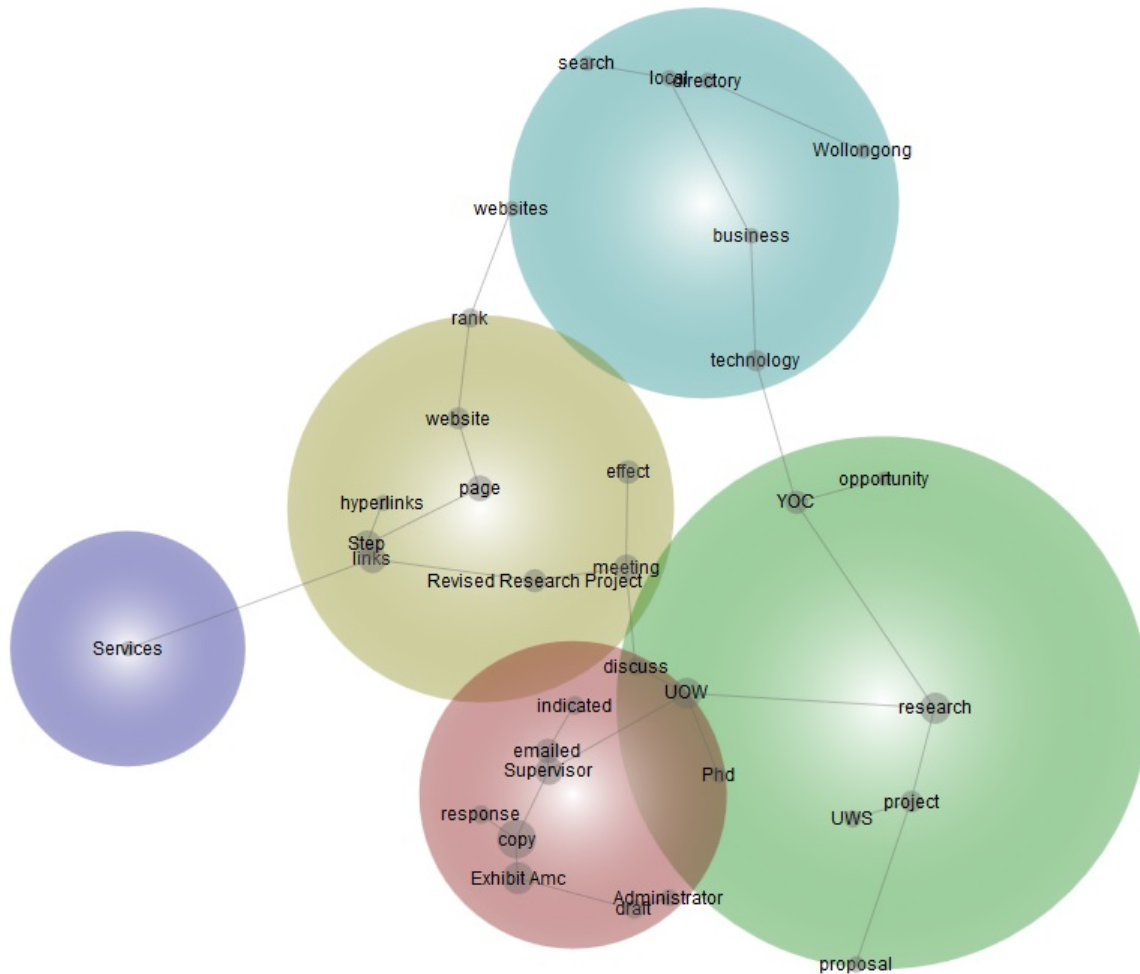


Figure 5.6 – Final Part of APPENDIX J

Theme 1: Medium-sized light blue circle represents a number of related concepts describing the context and current activities of Your Online Community Pty Ltd - AMC's sponsor for the proposed research.

Theme Two: large green circle on right represents the opportunities for AMC to conduct research. There is a significant overlap with Theme Four and a small overlap with Theme Three.

Theme Three: medium-sized yellow circle represents the various concepts of support to be provided to the researcher by the university administration as part of his planned research

Note: Theme One and Four overlap which indicates some congruence of goals

Theme Four: Medium-sized light red circle represents a focus by the researcher on communications to expedite the acquisition of the required hyper-links.

Note: Theme Two and Three overlap Theme Four which emphasises the importance of a close relationship between AMC and supervisory staff.

Theme Five: Small purple circle represents a single component viz: meeting or service. The remoteness of this component and its connection (but not overlap) with Theme Three suggests any communication would have to be mediated by the university administration as opposed to faculty

Themes as CHAT activities (Final Part)

The subject in CHAT is always an individual entity consequently the components depicted as part of Your Online Community Pty Ltd in Theme One actually represent the researcher's activity since AMC is MD and major shareholder of YOC.

As for Theme One the subject in Theme Two is AMC however the mediating artefact is now email. The object of the activity is to prove patents although the outcome remains the completion of a PhD.

In Theme Three the subject is now the academic registrar and the mediating artefact is personal representations of faculty supervisors to the academic registrar and ITS staff members. The object of the activity is to provide research support and the outcome is to maintain the integrity of the university website.

Theme Four represents processes and information systems to be provided by the faculty to the researcher directly. The supervisor is the subject of this activity and with the support of the dean will ensure the researcher attains a PhD.

Theme Five represents a single component being a F2F meeting with critical ITS staff.

The remoteness of this component and its connection (but not overlap) with Theme Three suggests any communication would have to be mediated by the dean as opposed to

supervisory staff. The dean is the subject of this activity and with the support of the academic registrar will endeavour to ensure the researcher attains his required hyper-links.

It is significant but not surprising that the five themes/activities identified in the First Part are largely replicated in the Final Part – see Table 5.4. However the activities relative importance differ significantly and their change in positioning is capable of revealing subtle changes and power plays and variations in the various actors' perceptions of their own and other's activities – See Table 5.5.

CHAT ACTIVITY:	Operating Your Online Community Pty Ltd
MEDIATING ARTIFACT	Student Management System
SUBJECT	AMC
OBJECT	Business
OUTCOMES	PhD
RULES	University
COMMUNITY	Student & Faculty
DIVISION OF LABOUR	Administration over Faculty

CHAT ACTIVITY:	Student Research
MEDIATING ARTIFACT	Email
SUBJECT	AMC
OBJECT	Research
OUTCOMES	PhD
RULES	University
COMMUNITY	Student & Faculty
DIVISION OF LABOUR	Administration over Faculty

CHAT ACTIVITY:	Administration Research Support
MEDIATING ARTIFACT	Faculty F2F representations
SUBJECT	Academic Registrar
OBJECT	Provide research support
OUTCOMES	Maintain integrity of website
RULES	University
COMMUNITY	Faculty & Administration
DIVISION OF LABOUR	ITS over Administration over Faculty

CHAT ACTIVITY:	Faculty Research Support
MEDIATING ARTIFACT	Email
SUBJECT	Supervisor
OBJECT	Provide research support
OUTCOMES	PhD
RULES	University
COMMUNITY	Researcher & Faculty
DIVISION OF LABOUR	Dean over Supervisor

CHAT ACTIVITY:	Arrange Critical Meeting
MEDIATING ARTIFACT	F2F representation to Academic Registrar
SUBJECT	Dean
OBJECT	Provide research hyper-links
OUTCOMES	PhD
RULES	University
COMMUNITY	Faculty & Administration
DIVISION OF LABOUR	ITS over administration

Table 5.4 – Identified Themes

Theme / Activities	First Part	Final Part	Significance
Operating YOC & Student Research	Significant overlap indicates close involvement	Large gap between these two themes	The previously close association is now perceived as more distant
Student Supervisor	Small overlap indicates marginal involvement	Significant overlap	Closer involvement
Administration research support	No close ties	Significant overlap	Administration is becoming more involved with all relevant parties
Faculty Research Support	Significant overlap between student and faculty	Significant overlap between student and faculty	Continuing communication between student and faculty
Arrange Meeting	Big gap & no overlaps	Big gap & no overlaps	Weak tie No improvement in engagement

Table 5.5 – Theme Comparison Chart

5.4.3 Leximancer Observations

TRENDING THEMES		
THEME	EARLY PART	FINAL PART
Research	Significant importance	Less important
Technology	Significant importance	Not mentioned
Policy	Not mentioned	Significant importance

Table 5.6 – Leximancer Analysis – Trending Themes

TRENDING CONCEPTS		
CONCEPT	EARLY PART	FINAL PART
Patent	Significant importance	Less important
Hyperlinks	Significant	Significant
Directory	Not mentioned	Mentioned
Academics	Supervisor only	Supervisor, Co-Supervisor, Dean of Faculty & Dean of Research
Admin Staff	Commercial Director	NIL

Table 5.7 – Leximancer Analysis – Trending Concepts

5.4.4 Leximancer - Commentary

Leximancer was able to identify three major trending themes and five specific concepts from the dataset supplied – see Tables 5.4 and 5.5 for details. They also included *UOW* and *email* as themes and concepts which were identified of major significance in both the early and late parts – but were excluded from this commentary since they remained relatively static.

The three broad themes the overview provided, in the thematic analysis, (*research, technology & policy*) clearly indicate the decreasing importance of *research* and *technology* in contrast to the emergence of *policy* as a major issue in the communication between the researcher and the university. This insight demonstrates that the communications reflected the reality that all the parties recognised that the central issues were no longer about the research being undertaken and were all about the university's putative policies.

Importantly, the concepts being less abstracted and more granular were able to provide specific instances of major topics and the various people involved in the communication process.

Of particular significance was the identification through Leximancer text analysis of *policy* as the Quaternary Contradiction – refer Section 5.7 for further analysis utilising Cultural-Historical Activity Theory. The emergence of *directory* as a term in the late part, not mentioned in the early part, also focuses attention on another commercial (non-academic) factor which is also in turn directly related to *patents*. This difference of opinion, when evaluating the relative importance of the researcher's activity in monetary terms, is a Primary Contradiction in CHAT terms see Tables 5.13 and 5.14. This association is not readily observable or obvious when reading the numerous emails and underpins the importance of using a text analysis tool, such as Leximancer, to gain new perspectives when attempting to analyse large quantities of textual matter.

5.5 UoW Strategic Plans 2008-2018

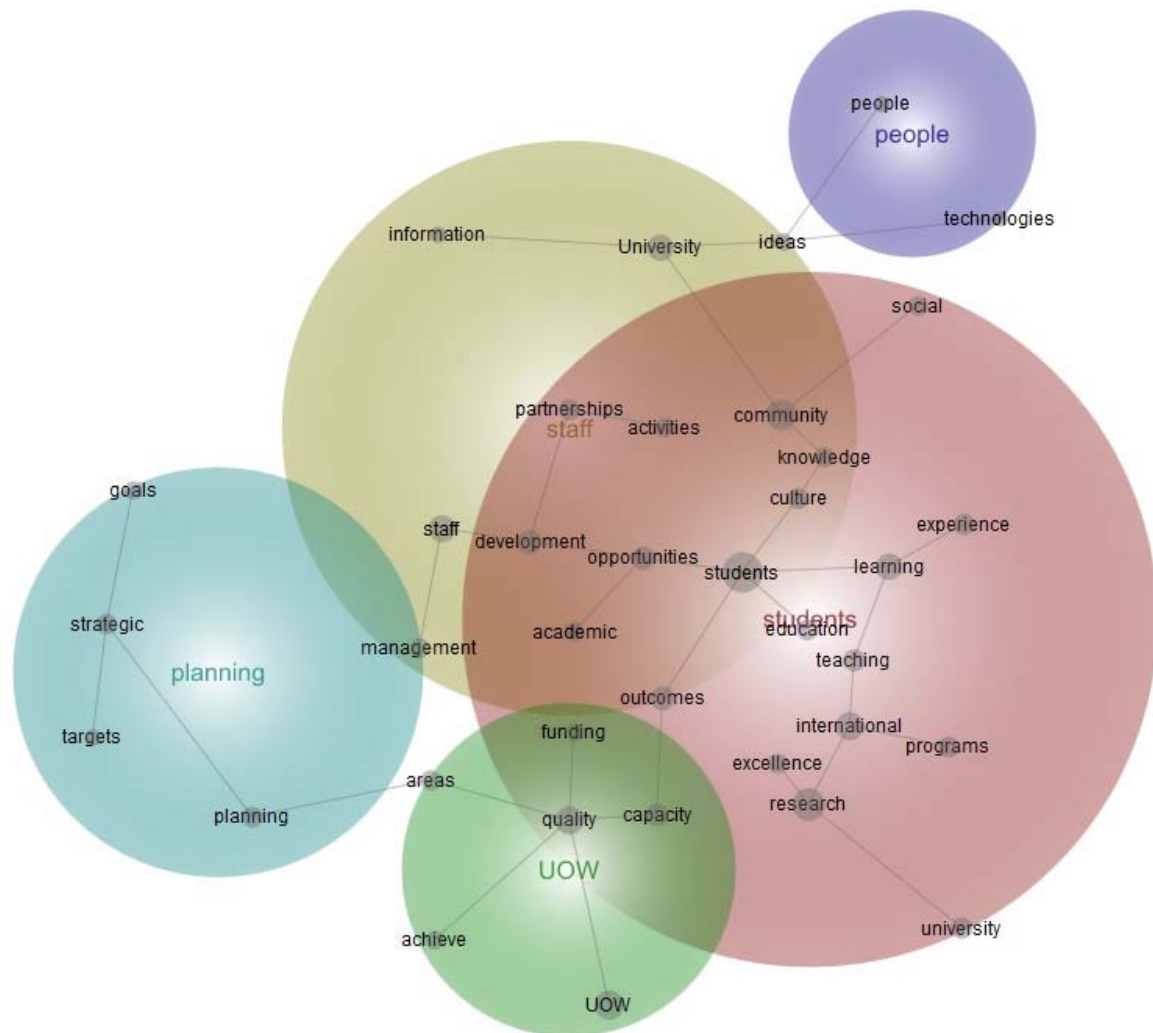


Figure 5.7 – UoW Strategic Plans 2008-2018

It seems clear that the main focus of the strategic planning process centres largely on only two CHAT type activities i.e. Student Participation and Staff Activities. See Tables 5.8 & 5.9 for insights.

Interestingly the role of planning has only marginal impact on staff and there is no direct link with students. In terms of forward planning technology and ‘external’ people are marginalised and do not have any direct association with the university faculty or administration.

CHAT ACTIVITY:	Student Participation
MEDIATING ARTIFACT	Student Management System
SUBJECT	Student
OBJECT	Education
OUTCOMES	Graduate
RULES	University
COMMUNITY	Student & Faculty
DIVISION OF LABOUR	Administration over Faculty

CHAT ACTIVITY:	Staff Activities
MEDIATING ARTIFACT	Student Management System
SUBJECT	Supervisors
OBJECT	Research
OUTCOMES	Grants & Funding
RULES	University
COMMUNITY	Student & Faculty
DIVISION OF LABOUR	Administration over Faculty

Table 5.8 – Strategic Plan CHAT Comparison Chart

Theme / Activity				Significance
Student Participation	Significant overlap indicates close involvement	Large gap between these two themes		The previously close association is now perceived as more distant
Staff activities	Small overlap indicates marginal involvement	Significant overlap		Closer involvement

Table 5.9 – Strategic Plan Theme Comparison Chart

5.5 UoW Web Management Policy

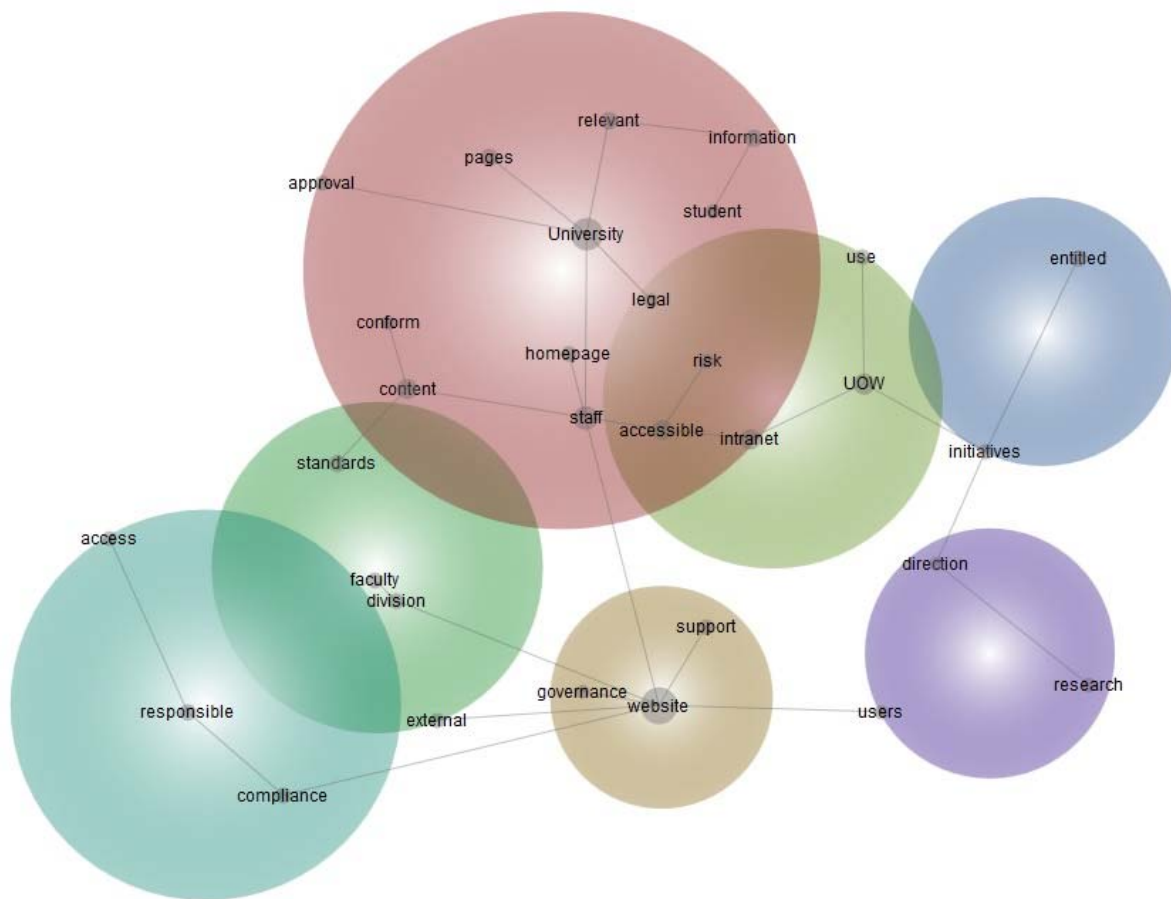


Figure 5.8 – UoW Web Management Policy

There are three broad categories or activities – see Tables 5.10 & 5.11 for details.

The largest part of the scanned documentation relates to the administration and reflects the aspirations of senior management and their perception of what represents ‘excellent’ higher education.

The second large area of importance involves the creators of website content and relates to faculty goals which reinforce existing cultures and norms such as risk management and conformance.

The remaining activity is the role of ITS. Although appearing small in the context of the Leximancer analysis and showing only very loose ties with the two other major activities this unit in fact wields enormous influence when it comes to executing policy.

Significantly the role of research is at distance from users, faculty members and administration.

CHAT ACTIVITY:		Website Administration
MEDIATING ARTIFACT SUBJECT OBJECT OUTCOMES RULES COMMUNITY DIVISION OF LABOUR		Intranet
		ITS staff
		Provide Communication Hub
		Uncompromised Service
		University
		Administration & Faculty
		Academic Registrar over Administraion
CHAT ACTIVITY:		Content Creation
MEDIATING ARTIFACT SUBJECT OBJECT OUTCOMES RULES COMMUNITY DIVISION OF LABOUR		Intranet
		Faculty Staff
		Market Courses & Research
		Increase Enrolments & Grant Income
		University
		Administration & Faculty
		Administration over Faculty
CHAT ACTIVITY:		Governance
MEDIATING ARTIFACT SUBJECT OBJECT OUTCOMES RULES COMMUNITY DIVISION OF LABOUR		Intranet
		Academic Registrar
		Maintain Website Integrity
		100% Uptime
		University
		ITS & Faculty
		Administration over Faculty

Table 5.10 – Web Policy CHAT Comparison Chart

Theme / Activity			Significance
Website Administration	Legal, content, information, conform, approval & risk	Overlaps with Faculty & Administration	Emphasizes central role of Administration over Faculty
Content Creation	Use, accessible & standards	Overlaps with Website Administration	Reinforces sub ordinance of Faculty to Administration
Governance	Support	No overlap	Does not truly reflect the importance of this key activity

Table 5.11 – Web Policy Theme Comparison Chart

5.7 Activity Criteria and Identified Contradictions

The tool finally adopted to draw all the elements of the Phase Two research together was Cultural Historical Activity Theory (CHAT).

It was chosen by the researcher after evaluating several alternatives, notably Bruno Latour's Actor-Network Theory and Roy Bhaskar's concept of Virtual Realism, primarily because of its proven theoretical framework and its practical ability to delve deeply into multi-layered and multi-voiced activities such as those the researcher shared with his university.

Engestrom's 3rd generation Triad Tool (Figure 5.9) was utilised as the framework for the collection of all the disparate elements. The essence of the tool is shown enhanced slightly from the original by the inclusion of arrows which highlight the tensions between the corners of the activity system created by contradictions within the model.

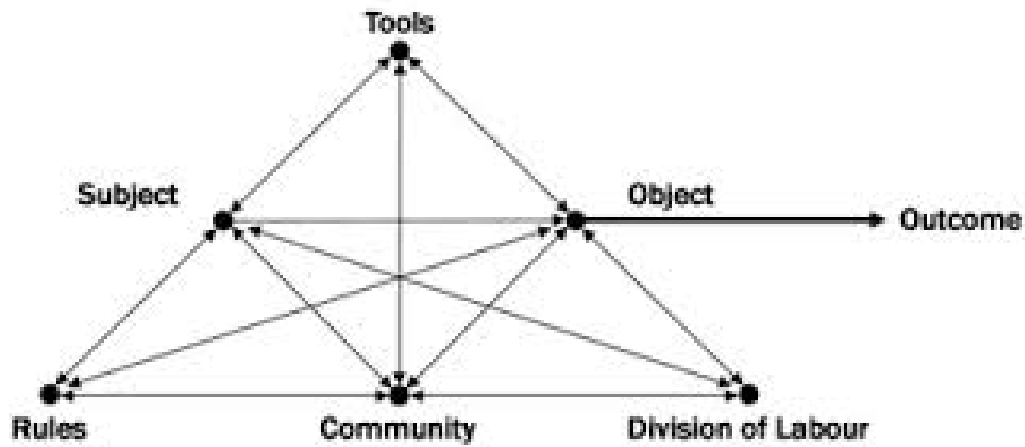


Figure 5.9 – Engeström's Triadic Model

The following criteria describe the Researcher's activity:

RESEARCHER'S ACTIVITY CRITERIA	
MEDIATING TOOL	Email
SUBJECT	Researcher
RULES	Common Law
COMMUNITY OF PRACTICE	Faculty & Students
DIVISION OF LABOUR	Faculty over Students
OBJECTS	Prove Provisional Patents Complete PhD Thesis
OUTCOME	Failure

Table 5.12 – Researcher's Activity Criteria

The following criteria describe the University's activity:

UNIVERSITY'S ACTIVITY CRITERIA	
MEDIATING TOOL	Student Record System
SUBJECT	University
RULES	University Regulations
COMMUNITY OF PRACTICE	Faculty & Administration
DIVISION OF LABOUR	Administration over Faculty over Students
OBJECTS	Generate Revenue Deliver Academic research-based Education
OUTCOME	Failure

Table 5.13 – University's Activity Criteria

IDENTIFIED CONTRADICTIONS	
TYPE	IDENTIFIED
PRIMARY	Researcher viewed his Provisional Patents as extremely valuable Intellectual Property whereas the University considered it was of no commercial significance or value to the University.
SECONDARY	1) Administration not perceived as part of the Student's Community of Practice or Division of Labour. 2) Administration and researcher governed by different rules – University Regulations v Common Law.
TERTIARY	Reliance on different mediating Tools - University's legacy Student Record System v Researcher's improved Email system.
QUATERNARY	The Researcher wanted the University to align its practices with its much publicised strategic goals viz to engage with the local business community and conduct innovative research. The University Administration relied on non-public policies to withhold essential research resources promised by Academic staff.

Table 5.14 – Identified Contradictions

From the Table of Identified Contradictions it can be seen that the researcher and the university's individual activity systems displayed contradictions at all four levels. This is particularly revealing since there were no obvious issues evident to the researcher at any time over the three year period of research in question. It clearly demonstrates the efficacy of the CHAT approach adopted by providing a framework to identify motivations, behaviours and tensions at a far more granular level than is possible with more traditional observational-based ethnographic methods.

6 DISCUSSION AND ANALYSIS

In this chapter the findings from the Phase Two research are presented and interpreted to derive their implications for theory and practice.

6.1 Implications of Student IP Policies

The online examination of University IP policies of Step One in Australian see Table 5.2, and some leading US institutions (Table 5.3), reveals a wide divergence in the documentation of SIP and does not clearly differentiate between whether it is created as part of a university sponsored research project, solely by the student's personal endeavours while enrolled or developed prior to the commencement of study.

The results of Step One strongly suggest the ability of research students to develop their own IP on campus in this country is circumscribed and the notion of IP in the hands of student researchers is perceived by some as somehow being 'anti-establishment' this correlates with the contradictions between student research activities and those of the institution discovered in Step Five. The undertaking of research by tenured teaching staff is seemingly encouraged to the exclusion of all else excepting research funded by corporate or governmental bodies undertaken by faculty or research students with no attendant IP rights attached.

If Australia is to unlock the innovation it so clearly needs to succeed on a world stage in the 21st century it would be highly desirable to develop a nation-wide IP framework which not only protects the IP of university students but provides adequate funding to all parties involved in the research process. It could also address the transfer of IP at all stages and provide a mechanism for students to have their IP related issues reviewed by impartial third parties. Universities could also adopt a standard legally-binding IP form to be part of the HDR Application document which clearly describes the ownership of IP developed both before enrolment and during their attendance on campus.

The development of innovation within bureaucratic research organisations would benefit from being formally monitored and the issuing of Provisional Patents to students/individual researchers could be the KPI to measure organizational performance.

A compelling case can be made to utilise the existing patent system to provide the Federal Government with a virtually costless means to manage the flow of their annual grants and to ensure the optimum return is achieved on any major investments in R&D.

This change in approach would also indirectly ensure that innovative ideas from SIP locked up in our university student body would be released for the benefit of all.

6.2 Insights into Communication

Any study or analysis of communications or linguistics must first acknowledge the limitations of language since words are purely symbols, or abstractions, of particular instances of what people are attempting to describe and the process of abstraction results in loss of content by substituting more general terms for particulars. The spoken word is at best a partial and incomplete representation of both experience and thought and this dichotomy has been commented upon by philosophers ranging from Rene Descarte right through to Noam Chomsky (1966).

The researcher would argue that the written word (text or email) is a further layer of abstraction and as a consequence has even more significant limitations as an accurate description of reality. Most significantly, for this thesis, underlying themes and concepts are often extremely difficult to detect by simply reading documents and these considerations are the basis of Leximancer text analysis – see Sections 5.4 and 6.2.

Reflecting upon the communications analysed in Step Two between the researcher and the university (see Section 5.2) in the critical 36-month period, over three years after the event

and with the benefit of fully understanding the subsequent ramifications, there is a particular discernible pattern of behaviour which raises concern.

Although the motivation underlying this behaviour can only be speculated upon there remain overt clues which could have signalled the prospect of future difficulties if the researcher had somehow identified the action/inactions in question. Specifically, the researcher refers to the volume-skewed or biased series of emails between the researcher and his then supervisor, (email being the primary mode of informal non-verbal communication between the researcher and his supervisor).

It is significant that during the critical 36-month period the researcher regularly attended weekly group research meetings and on most of these occasions would have had at least some F2F, i.e. verbal interaction with his future, and then actual, supervisor. At all times these interactions were friendly and it would be reasonable to expect in such an on-going and cordial relationship that the flow of emails would have been fairly similar in volume in both directions. Not necessarily equivalent (50/50) i.e. a 100% response to all messages but, say, at least one response from every 3 or 4 messages. However the dataset, based on the researcher's Statement, shows that the supervisor only responded by email on two occasions from a total of 37 sent to him, i.e. just over 5% of the emails from his student. It clearly reveals that one side of the supposed didactic communication exchange was being primarily confined to verbal messages which, deliberately intended or otherwise, were not leaving a readily traceable trail or more importantly compiling a repository of messages which could reliably reflect the true status of the various issues and convey any doubts or uncertainties that might in turn impact the researcher's efforts to conduct his doctoral research.

The researcher relied on written (initially HDR Application Form – APPENDIX D – then the Annual Progress Report 2009 – APPENDIX F) documents and subsequently verbal assurances provided from time to time which were never withdrawn in any written communications or even expressed verbally notwithstanding the numerous emails he sent to his supervisor seeking directions on topic. This complete absence of negative responses

can largely explain the researcher's perseverance with his initial Phase One research topic despite the on-going non-provision of much needed resources by the university.

As depicted in the results of Step Three, the proposed modified framework (Figure 5.3) empowers informers by incorporating feedback flows to overcome the systemic inertia so evident in multi-level silo-based bureaucracies by ensuring inappropriate action/inaction by client decision-makers is not rewarded or legitimised and higher organisational goals are achieved.

To significantly improve the discipline of Informing Science within a large organisation requires the implementation of some basic protocols or heuristic routing and, if not currently available, also the establishment of an ombudsman and a decisions review body. The protocols would formalise the required form of inter-organisational communication which could in some instances be directly coded into existing systems or simply installed as pre-set email preferences.

The capture of important metadata by independent third parties is analogous to the notion in current discourse that the government requires access to all supposedly private communications of its citizens in order to effectively combat terrorism. Certainly these developments are technically feasible (at a cost) in both scenarios however whether the political will to introduce these measures exists remains to be seen.

6.2.1 Semantic Media Richness (SMR)

As introduced in Section 1.5, the concept of 'semantic richness' refers to ascertaining the true meaning of words and the term 'media richness' applies to a choice of media content with interactive TV or internet being considered richer than radio or newspapers. Historically F2F has usually been acknowledged as the most effective communication channel however in the 21st century this primacy is now being challenged since this type of interaction is not capable of ready third party confirmation and has minimal legal status as compared to the written word or email artefact.

The researcher suggests that the portmanteau term Semantic Media Richness (SMR) be used to describe the combined communication effectiveness of content and channel choice incorporating a weighting to recognise the importance of direction, quantity of instances and temporal factors.

In any series of didactic communication instances utilising multiple channels there are a number of issues involved which must be recognised to properly evaluate the overall communication's effectiveness or SMR. Choice of media by a sender can have significance particularly if a receiver is relying on its content. But these differences may also be directional, i.e. a manager's email to a subordinate will clearly have more importance than an email from the subordinate to his manager – refer JD-R Model (3.4.3).

Temporal issues can also impact the communication as a whole. Overtly the absolute volume of communication instances can reveal otherwise invisible signals.

6.2.2 Email as Default

The Framework (Figure 5.3) developed in Step Three emphasising the didactic and iterative nature of all communications was inspired by the investigation of the pattern of email communication in Step Two. This investigation shows how email permits a permanent record of communications in any disputed situation between ordered and unordered perspectives using the Cynefin language.

This research strongly suggests all communications should be by email and if verbal in the first instance subsequently confirmed by email. This approach ensures a digital trail is created and embeds annotations, specifically temporal markers, which have legal status.

Any informer requests for action or resources that appear to comply with an organisation's policy guidelines must be granted within a reasonable (or nominated) time; alternatively an

explanation from the client by email explaining why the request was not granted. Where requests are considered by committees all related minutes or motions could upon request be provided to the informer at no cost and within a reasonable time.

After a time lapse non-responses would be forwarded by default to a senior administrator who will either intervene to expedite the original request or report on a regular (say monthly) basis to the head of administration why non-action was appropriate together with recommendations including referral to an ombudsman or review body. The informer would be able to seek a review of unsatisfactory explanations and also have the right to appear at any review body personally and/or with an ombudsman acting for them.

Where non-public policies or guidelines are used by clients as justification for the denial of requests copies of the relevant documents could be made available to the informer upon request. When the interpretation by clients is at odds with stated organisational goals or policies the matter must be referred to a senior administrator who will advise the informer what further steps may be in order and/or grant an appointment.

6.2.3 Scanning Text Electronically

The viability of electronically scanning large repositories of digital text, including in real time (such as for Twitter feeds), would seem a fertile area for further research.

Item 5.4 is an example of Leximancer text mining software developed at University of Queensland in the early 2000s by researcher Andrew Smith as part of his doctoral studies, which can be used to analyse the content of collections of textual documents and to visually display the extracted information. The extracted information is displayed by means of a conceptual map that provides an overview of the material, representing the main themes and concepts contained within the text and how they are related. Leximancer software was used by the researcher to detect trending themes and concepts in communications between the researcher and his university – see 5.4.1 – 5.4.4.

6.2.4 Alternative to Conventional Email Systems:

YOC has successfully utilised a proprietary collaborative email-based software program JIRA for bug tracking from Australian-based Atlassian which could be employed to provide improved issue tracking and project management functions in a university setting. No doubt there are other commercial, and likely open source, packages available which could also provide the necessary features.

6.3 Insights into Activities and Contradictions

Steps Four and Five of this research comprised of an in-depth investigation of Phase One analysing the content of relevant documents, supplied by the researcher, and using the resultant concept maps to identify the activities of different parties and any contradictions arising between them - see Figures 5.5 and 5.6.

Further Leximancer analysis of the UOW Strategic Plan and the Web Management Policy provided an objective view of the institution's formal (but unexpressed) position on various themes / activities - see Section 4.5.4 and 4.6.

The researcher believes the significance of utilising the Leximancer text analysis tool to create authentic CHAT *activities*, by firstly identifying critical *themes*, is an important development in CHAT practice. This innovative *bridge*, for perhaps the first time, has been able to utilise a truly objective dataset as the platform to identifying the basis of CHAT analysis and as a consequence avoids any perceived pitfalls inherent in more traditional subjective approaches to activity selection.

6.4 Rules and General Rules

It would greatly improve organisational efficiency and enhance transparency in large organisations if all Rules, By-Laws and Regulations were considered to be ‘General Rules’ i.e. they would represent the conditions governing most circumstances and an extended form could be ‘General Rules not including exceptions’.

In circumstances that exceptions were known, or possibly could become known at some future date, the term ‘Rules including all exceptions’ could be used to reinforce the position that the ‘rules’ in question were irrefutable and not subject to change under any circumstance no matter how reasonable or appropriate. This overtly inequitable alternative (largely mirroring the current situation) would likely see the term General Rules quickly becoming the norm and the legitimacy of appropriate exceptions being universally recognised.

In any dispute concerning rules the onus would be on parties to prove that the proposed exception was not an appropriate exception given all the circumstances of the case. This more open approach, if universally applied, would also inhibit illicit power relations and assist prevent the unfettered use of secret universal laws and regulations by elites, or powerful cliques, to control subordinates or less powerful actors’ activities.

What seems clear after thousands of years of contemplation and reflection is that it is a lot more difficult to identify rules, duties or principles that are in fact exception-less (particulars) than those with exceptions (universals). Given this situation it is disconcerting that so many entities utilising rigid efficient systems to manage their affairs continue to overlook this now well-established fact.

6.5 Fostering Innovation

As previously stated managing complexity within a dynamic and evolving system is an on-going day-to-day challenge for all managers and particularly those within larger organisations, such as universities, that by their nature are required to foster innovation and new knowledge.

In complex systems, unpredictability and paradox are ever present, and some things will remain unknowable. New conceptual frameworks that incorporate a dynamic, emergent, creative and intuitive view of the world must replace traditional ‘reduce and resolve’ approaches, Plsek & Greenhalgh (2001).

The increasing importance being placed on innovation in the wider economy and its potential to improve productivity and create new jobs still receives uncritical support generally. What appears to escape examination is the role universities could be playing to deliver these desired outcomes. It would seem the focus on producing large numbers of qualified graduates could be coupled beneficially with metrics that measure the rate of adoption of innovation within institutions, e.g. the number of patents registered by university research students – i.e. not employed research staff.

The area of financing student start-ups within universities is beyond the scope of this paper but is also an issue which requires urgent attention if Australia is to seriously compete on a global stage. Given the researcher’s experience it would seem that whilst adopting a Cynefin-based approach to handling complexity is currently best real world practice, implementing this model cannot on its own overcome the significant hurdles that are inherent in out-dated legacy information systems so common in large tertiary educational institutions.

The researcher believes the implementation of the five minimum requirements embodied in the Researcher’s Modified Framework for Inquirer Emancipation could be seen as an integral part of the solution to managing complexity in a multi-level organisation.

However, the essential role of timely human intervention and judicious decision-making cannot be over emphasised and the introduction of policies and guidelines that entrench its importance in the informing science process must be implemented as soon as practicable.

Managing complexity is a field that fits neatly within the Informing Science discipline and uncomfortably with just about all other disciplines. As a consequence further research in this area to build on both Snowden and Cohen's seminal work along the lines suggested in the researcher's modified framework is highly recommended.

In the primary case (Phase One) the strong and on-going relationship of the student researcher with academic staff and their total support for the intended research convinced the researcher that his commercially oriented research would ultimately succeed to the benefit of all and that any covert administrative difficulties or cultural issues the university might have would be identified, addressed, diligently pursued and eventually overcome.

The six-year long experience has highlighted the difficulties likely to be encountered by any student trying to pursue innovative commercially-oriented research at a university. The experience strongly suggests that most, if not all, existing small businesses and internet start-ups will likely face similar obstacles trying to engage with their local universities.

Clearly this research outcome does not align with what the tertiary education sector would wish for generally and is in stark contrast with the researcher's university's own strategic goals (see 5.5) and rhetoric.

6.6 New Entrants and Powerful Incumbents

Entrepreneurs, internet start-ups and new companies that pursue a business strategy involving the introduction of a perceived disruptive innovation nearly always face an opposition with all the resources of an established incumbent, i.e. there is a significant power imbalance involved and the entity under supposed threat is usually quite willing to deploy all the 'weaponry' at its disposal to maintain the status quo.

A saying allegedly attributed to Mahatma Gandhi concerning the phases of a campaign of non-violent activism listed the defensive tactics usually employed by a powerful entrenched opposition describing a sequence of steps. Based on the researcher's experience this continuum applies equally to the behaviour of entrenched market leaders resisting the intrusion of a disruptive innovator, see Table 6.1:

MARKET INCUMBENT DEFENSIVE STRATEGY				
PHASE	I	II	III	IV
TACTIC	Ignore	Ridicule	Fight	Win / Lose

Table 6.1 – Market Incumbent Defensive Strategy

In the case of the researcher the three leading players in the Australian online directory market (Yellow Pages, True Local and Fairfax Media the owner of OMG) and, notwithstanding the researcher had a previous 12-year business relationship with Fairfax, none of them would enter into meaningful discussions about possible pilot studies.

In fact, Telstra and NewsCorp (owners of Yellow Pages and True Local) at various times mounted frivolous legal actions against YOC his start-up company. These tactical and presumably defensive manoeuvres took place in a backdrop where all existing local online directory products were seriously deficient in terms of numbers of listings, accuracy of information and relevance - see YOC Business Plan Feb 2010 - APPENDIX H .

What’s more, global industry thought-leaders such as Jeremy Stoppelman, CEO and co-founder YELP (Fast Company 2012), are quoted as saying “No internet company has ever truly disrupted the local advertising business ... worth \$(US) 90-\$130 billion”.

Sheryl Sandberg, COO Facebook (IPO hearing 2012) is also on the record as saying “Local online (small business) advertising is huge ... it’s the holy grail of the internet”.

6.7 University Community Engagement

The student researcher was always aware of the difficulties involved in dealing with a large institution such as a university and sensitive to the added complexity of involving a disruptive technology, Christensen (1995) et al, however he was always optimistic that commonsense would prevail, particularly with research which so clearly met all the university's formally stated strategic goals, policies, visions and other well publicised material, on topic, in mainstream media.

In particular, as outlined in AUCEA (2006) Position Paper, regarding Universities and Community Engagement under the heading Purpose, university-community engagement specifically implies collaborative relationships leading to productive partnerships that yield mutually beneficial outcomes. A university's communities can include many groups such as *businesses*, industries, professional associations, schools, governments, alumni, indigenous and ethnic communities as well as groups of local citizens. Engagement is therefore a core activity of a university and should not be considered a separate undertaking. The university where the researcher enrolled (Masters by Research and PhD) espoused strong support for community engagement and innovative technology-based research and his community related activities were well known to them, see APPENDIX A.

Community was identified as an important theme in the UoW Strategic Plan (Figure 5.8) but it does not appear anywhere else in the Leximancer analysis which tellingly highlights the significant difference between the institution's publicly stated policy, on community engagement, and the actual reality faced by the researcher in Phase One. Further, when it came to an innovative community project such as that involving the researcher's Phase One research, those at the operational decision-making level at his university seemed completely unaware of the positive role the student researcher could play.

6.8 Reflecting on the Wicked Problem

From the student researcher's Phase One experience he found that when it comes to non-routinised requests the existing university's information and decision-making systems are deficient in a number of areas:

- They are designed purely for routinised functions and are seemingly unable to handle any requests that do not meet their legacy system's exact requirements
- Although all documents are eventually filed in secure repositories ... and become accessible by authorised parties ... they are not in fact formally reviewed or audited for completeness or accuracy ... or action
- There are no formal human-based review systems of any substance in place
- When applying rules there is no automatic commitment to observe official university policy, strategic plans, visions, or rhetoric
- Non-routine requests from academic staff that do in fact meet corporate goals can be declined or ignored by administrative staff without reason and/or review
- Administration staff can overrule academic staff on research related issues which can only be fully understood by qualified personnel associated with the research
- Students do not have any access or rights to be considered on any administrative decisions which directly impact on their research

The researcher's difficulties in attempting to inform the university about the situation could be considered as a symptom of a more general wicked problem i.e. a problem whose solution requires a great number of people to change their mindsets and behaviour.

In the originally proposed Phase One research an ordered 3 Step Methodology was planned and included in the PhD proposal – see APPENDIX D. All steps were to be sequential and each new step would not commence until the prior step had been in place for at least six weeks and had not created problems of any kind for the host university. Subsequent experiences showed a great deal of 'un-order'.

On reflection the student researcher now views his project within Cynefin's emergent complex domain (Figure 3.1) although, with minimal support in the form of temporary back links, he could test the new technologies he was incorporating in his community portal. Those who refused to allow this appeared to be operating in the completely 'ordered' domains where no untried innovation was allowed. There is definitely a clash between the ordered culture of university administration and the un-ordered world of innovative research, particularly where disruptive technologies are involved.

With the university's legacy information system, the University Student Record System, it is not possible for an Informer (student/researcher) to know whether their communications are actually received or not, by the client (University) and it is this glaring deficiency, so easily accommodated by using a modern email system, this paper also addresses.

In the case of the regulations or rules justifying the university's position when the researcher's Step One hyper-links were withdrawn, without notice of any kind, the administrative staff directly involved refused to provide the researcher access to the supposed supporting, but restricted, documentation (Web Design Guidelines, 2007) which they maintained justified their actions.

The issue of unlawful actions, or undisclosed power relationships, see Vrazalic (2001), is not considered in this thesis although anecdotal evidence strongly suggests at least some administrators will knowingly ignore rules to advance or protect their own organisation's interests, particularly when they are aware that the other party does not have ready access to relevant documentation.

The CHAT notions of disturbances and contradictions largely accommodate the factors and issues that underlie the 'wicked problem' phenomena and can be very useful in their identification - refer Section 5.7.

7 FINDINGS AND CONCLUSIONS

7.1 Answering the Research Questions

The responses to the four research questions (Section 4.2) are based on the Phase Two findings of this thesis and underpin the main proposition developed by the researcher, see Section 4.1. In keeping with efforts described in this thesis to manage complexity the researcher has attempted to respond as and when relevant issues have arisen throughout and also reinforced the views expressed with data in the appendices and commentary both here and in Chapter 6. For added simplicity, the proposition and research questions are repeated in bold below together with summary responses, in order.

7.1.1 Proposition :

Exploring perceived disruptive ideas is part of the usual practice of any bureaucratic research organisation since they are often the source of innovation and a fundamental requirement for the advancement of scientific knowledge and epistemology generally.

The progress of scientific thought is an on-going dialectical process (Hegel et al) and consequently is characterised by the continual questioning of existing forms of knowledge (the orthodoxy). It follows the longer any principle or law remains in place the greater the resistance there will be from the ‘establishment’ to any possible change in the traditional way of thinking. As a consequence bureaucratic research organisations must take steps to accommodate this situation (as a given) and ensure their internal systems and processes are structured in a manner to not only manage, but to also actively promote, ‘perceived disruptive’ innovations when they inevitably arise.

The notion of locating and nurturing much needed innovative research within large and bureaucratic organisations in this country has wide-spread support (in theory) however as documented in this thesis the reality, particularly within university settings, is far from optimal.

Significant administrative hurdles identified by the researcher in Phase One, included:

- Framework to recognise or manage SIP not in place
- Critical resources promised by academic staff to support innovative research withheld by administration staff without notice or explanation
- No effective administrative basis to monitor research progress in place
- Students do not have access to all regulations they are governed by
- Formal communication channel between HDR students and administration not in place
- No transparency – or basis to review administrative decisions

The impediments encountered by the researcher to conducting his research on a perceived disruptive innovation at the university and outlined above, were systemic in nature and there seems no reasonable expectation that this situation, so characteristic of rigid efficient systems generally, is confined solely to that institution.

Further there appears to be no financial incentive for publicly-funded institutions to rectify this situation notwithstanding recent calls for change by higher levels of government. The researcher maintains the case for dramatic change is compelling and firmly believes if implemented speedily would receive universal approval.

7.1.2 Research Question #1

How are innovative but possibly disruptive ideas to be identified within bureaucratic research organisations?

Paradoxically this question is the most easy to answer since it follows that in a ruled-based bureaucracy these types of proposals, by definition, would be identified in the first instance by their not complying with existing rules.

It does of course in turn beg the question: How many organisations closely follow their rules, procedures and policies? This particular issue is not considered in this paper but the researcher's experience strongly suggests that the implementation of software designed to ensure the strategic alignment of business processes would be a significant step in the right direction for all bureaucracies truly concerned with enhancing their organisational effectiveness and sustainability, see Morrison and Ors (2011). In fact, the researcher feels such a device could be used to assess executive impact in all institutions that are funded from the public purse.

7.1.3 Research Question #2

How are these ideas to be managed utilising existing legacy systems?

Based on random distribution bell curve the number of proposals that meet the innovativeness criteria will likely be relatively small (perhaps only 3 or 4 in every 1,000 applications) so that a personally conducted review by a senior research academic would seem to be the first and obvious means to ascertain if special treatment or further review is called for. Given that the proposal will likely be at the edge of accepted scientific knowledge and/or have overt commercial characteristics it will in all likelihood require additional review by suitably qualified academic and administrative staff.

As part of this review process it is essential that the prospective researcher be given the opportunity to discuss all aspects of the proposal with the reviewers. It is also imperative that the nominated decision-makers advise the applicant any grounds about which they have concerns and the potential researcher is able to respond in person within a reasonable time. In the event that the institution ultimately decides to not approve the planned research they are to inform the researcher in writing and advise the grounds for declining the proposal. The unsuccessful applicant would have the right to refer any such decision to a higher government body for further review.

7.1.4 Research Question #3

How is the associated Intellectual Property to be protected?

The issue of Student Intellectual Property could easily be addressed as part of the process of enrolment for Higher Degrees in the first instance.

In addition uniform SIP terms and protocols could be introduced in all Australian universities to help foster innovation in this country and assist in its endeavours to become more globally competitive.

7.1.5 Research Question #4

How are innovative and potentially lucrative ideas, identified initially in the business community, to be researched on campus?

As far as campus-based research proposals are concerned publicly funded organisations and large corporations (of most nationalities) currently enjoy preferential treatment, and this situation is unlikely to change in the near future.

The area of opportunity for Australian universities is at the other end of the business spectrum. To promote this sector a standardized template could be developed to provide a uniform approach for SMEs, internet start-ups and entrepreneurs contemplating research on any campus. The template might also include issues such as the treatment of Intellectual Property and any special incentives to promote community engagement and local businesses.

7.2 The Management Approach to Introducing Innovation

As discussed previously, the issue of dealing with perceived disruptive technologies in dynamic and evolving environments is challenging at any time, particularly so, within rigid efficient systems where the management style is usually characterised by a strictly command and control approach.

Notwithstanding this caveat, the notion of introducing innovation as a desirable or essential management focus into virtually any large and bureaucratic organisation will likely receive universal (if muted) support. However *how*, *where* and *when* this change in management approach would and can occur is less clear.

The researcher would argue that any management focus must not only be contextual, in the sense that it aligns with the prevailing marketplace and complexity domain the organisation currently operates within, but also that the current approach is always transitory and part of an on-going iterative process – see Table 7.1.

The deliberate decision to move from an ordered to un-ordered domain (Step IV) will likely only succeed with top management support and if the new approach is constrained to the selected part/s of an organisation i.e. it will not apply to the whole entity. This generic strategy ensures that the change of management focus can never negatively impact the overall viability of the underlying optimised business model – refer Clayton M. Christensen, *The Innovator's Dilemma* (1997).

In most circumstances this change (Step IV) will be confined to a particular project/department and upon reaching pre-agreed milestones or KPIs will revert to a Step I focus and resume the prevailing paradigm.

When implemented within a traditional rule-based organisation The Innovation Management Spiral can evolve in a continuous series of iterations (vertically) and also expand (horizontally) however it will never become the entity's predominant management style.

whether ‘not-for-profit’ institutions such as universities also employ similar tactics to protect their commercial sponsors is problematic, particularly if the new technology has the potential to provide a major benefit to the wider community who indirectly fund their activities through the taxation system.

7.4 Handling Complexity

The Cynefin framework was employed in the study to make sense of complexity and to help distinguish between the complex unordered situations and those that are ordered and not therefore complex. The way humans cope mentally with complexity and uncertainty often involves stereotyping and grouping and to assist with decision-making in the face of unknown circumstances the human mind by default searches for previous experiences with similar actors or objects and the person then acts as they always have previously.

Over a lifetime a massive repository of experiences is accumulated and ready access to this material greatly assists humans to navigate the complex and changing world they live in. Without this automatic cognitive process humans would spend an inordinate amount of their time just thinking about what actions they should take. Obviously expending too much time thinking, in dangerous “fight or flight” situations, would expose people to unnecessary risk, or even death.

Underpinning this *modus operandi* is the notion that there are general rules for all situations, see 6.4. It must be said this ‘shorthand’ way of thinking has served human-kind well to date, however it is argued that humans have in the 21st century reached a point in their evolution (development) that this approach must be amended or, to use the dialectic terminology, it must be synthesised, to accommodate the increasing importance of exceptions to general rules.

What is suggested is humans generally, and managers and administrators in particular, could train themselves so that when they encounter unknown conditions they deliberately consider (possibly aided by computers) if there is in fact or prospect any factors which would make their ‘normal’ response or action inappropriate, i.e. before they act.

This additional step will add time to decision-making, certainly in the early stages of implementation, however with practice the benefits for organisations will far outweigh this extra effort.

It is suggested an array of generic exceptional circumstances be developed to assist people make their decisions more speedily and the list would likely include factors such as: personal safety, technological advances, impact on innocent third parties and issues or ways of thinking that were not relevant or known when the general rules were first conceived.

7.5 Transparency and Natural Justice

At no stage over the past six years was the researcher ever allowed to present his case personally to university administrators who used restricted and non-publicly available regulations to justify their actions.

Whether the stated regulations did in fact justify their actions (and in-actions) will probably never be known (two email requests to view the relevant documents were declined) but what is clear is that there is no mechanism currently available for students to seek a review of a university administrator's performance or non-performance, under any circumstance, and this inequitable situation needs to be remedied at the earliest opportunity.

7.6 Human Intervention

The larger organisations become the more complex the relationships and duties of the various constituents become and the less likely that any decision-making based purely on computer based information will always furnish the optimal results. In these circumstances the establishment of an impartial and experienced administrator to review purely computer-based decisions and be a conduit for students to address problem areas on campus must become a major priority in all universities.

It is suggested that an ombudsman type of role would be more appropriate rather than an unwieldy committee of review, although a similar body could be considered to more fully examine cases which are beyond the scope or means of an ombudsman, i.e. become another additional layer of review.

This new advocacy service would be constrained to reviewing non-trivial problems which meet a set of prescribed criteria, i.e. it would not become just another bureaucracy bogged down in the minutiae of complexity.

7.7 Detecting Source of Communication Problems

The JD-R or Job Demands-Resources Model developed by Dutch co-researchers Bakker & Demerouti (2006) to examine and predict on job performance - see Section 3.4.3 was investigated but considered a less suitable framework for improving communication within rigid efficient systems than that offered by Cohen's Informer Emancipation Model, refer Section 3.5. This framework was further modified by the researcher, see Section 5.3.

7.8 Wider Implications

Reflecting on this thesis as a whole, it seems likely that the type of wicked problem/s encountered by the researcher within a university context is in fact an increasingly common phenomenon in nearly all aspects of business and institutional life in the 21st century.

It also seems apparent to the researcher that the issue of complexity, or more particularly how to handle complexity, has become of universal importance and cannot remain largely unaddressed outside of academe.

In contrast to many futurologists and scientists the researcher does not envisage a singularity-type future where all major decisions will be made by robots or artificial intelligence but rather he sees a more dialectic shaped future where highly trained ethically-minded humans (managers and administrators), often aided by advanced computers, will be making choices based on the limits of their experience, access to resources, and skills, in the full knowledge that as circumstances change many of their decisions will have to be reviewed and some even reversed.

It is a future of hope, not despair, and an emerging field of enquiry which would undoubtedly greatly benefit from more in-depth research.

7.9 Contributions and Conclusions

The research described in this thesis has taken an unusual form being a single case study of the researcher's own experience in attempting to undertake a PhD with a disruptive technology which challenged the routine processes of the university.

7.9.1 Contributions

The contributions of this research can be described as follows.

The major contribution of the research is the revelation of the complexity which arises when disruptive innovations are introduced into rigid efficient systems. The literature shows that this has long been of universal significance. The case presented in the thesis indicates how such phenomenon can be managed.

This has theoretical and practical implications. A number of steps to overcome related issues which inhibit the adoption of innovation in a university context include, addressing the current uneven and unhelpful approach to handling Intellectual Property in the hands of student researchers and improving didactic communication flows within out-dated legacy frameworks.

The means to identify research topics with the potential to produce truly break-through innovative ideas is also explored and some original concepts and general rules are re-examined to ascertain their possible beneficial use in the 21st century.

7.9.2 Limitations

It seems research based on a single case study (particularly when the researcher is also the subject) will always attract some criticism, no matter how conscientious and un-biased the action-researcher maybe, however the researcher takes some comfort in knowing the validity of this ethnographic methodology is now well established, Walsham (1995, 2006) and Lee and Baskerville (2003).

Engeström's triadic model, focussing analysis on a single unit of activity (as opposed to 'networks of activities') served the researcher's purpose well for this thesis however Korpela et al (2000) have advocated the introduction of generic templates (encompassing Producing or Supporting Activities) could substantially widen the scope of Information Systems Development and significantly improve Activity Theory practice generally.

7.9.3 Future Studies

Several areas of interest for future study immediately present themselves.

Firstly, universities could investigate the design and implementation of communication policies or protocols such as outlined in Section 5.3 - A Modified Framework for Emancipation. Research is strongly recommended in this area which has obvious relevance to the economy generally and particularly germane when seeking efficiency improvements in large scale organisations of all kinds.

Secondly, developing a universally accepted and transportable framework to manage Intellectual Property in the hands of HDR students deserves to be a research priority at the highest level of government. Such an initiative should receive wide support given the overt need to encourage innovation and related jobs growth in this country.

Thirdly, research to improve the scanning of text electronically and the further development of software monitoring and surveillance programs (such as Leximancer) could be actively pursued given the current concerns about the rise in domestic terrorism activities and the increasing mis-use of web based tools to propagate violent or anti-social behaviour.

Special Note: As discussed it is well established that the development of scientific research is an evolving dialectical process which means any non-derivative and truly innovative ideas, questioning the orthodoxy of established theories, will by their nature always receive a less than friendly reception from traditional research organisations.

Accepting this paradox and developing robust systems and methodologies within our universities to accommodate the perceived disruption associated with these lines of research may well be one of the greatest challenges academic institutions face in the 21st century.

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APPENDICES

APPENDIX A Submission Prime Minister's Award 2004

The Partnership

Empower Australia is a small business leading the way in the use of web technologies to revitalise regional areas in Australia. The University of Wollongong is a first class research and teaching institution carrying out pioneering research into self-sustaining online communities. Our unique and innovative partnership emerged from a shared interest in helping the local community develop and achieve substantial economic, social and cultural benefits through the use of sustainable online community web portals.

Web portals have become the most widely used interface for members of a community to meet and interact. They enable people to exchange information, share experiences, solve problems, trade goods and Services, and socialise. Web portals also provide a gateway to community organisations and resources. These types of web portals are typically known as community web portals. Unlike commercially driven portals, community web portals exist for the sole purpose of building social capital in a community. Social capital is the glue that holds a community together and a resource that promotes collaboration and cooperation between members of the community. Our partnership aims to build, sustain and increase social capital in our community through community web portals.

To achieve our goal, we have collaborated in developing a free online community web portal for Wollongong (NSW). Pioneered by Empower Australia, the portal is the first of its kind in the country and can be found at www.wollongong.youronlinecommunity.com.au. It showcases some of the results of our collaboration and partnership. The portal consists of three sections, each based on an important aspect of community growth and development: local businesses, social events and activities, and local sports and leisure (please refer to Figure 1 on page 2). While Empower Australia provides the technology and infrastructure to host the web portal, most of the content for each section is provided by members of the local community. For example, local small business support organisations write a weekly

column and a different small business owner is profiled each week; Creative Arts students from the University of Wollongong write 'blogs' and review movies for the social section; and members of the community can log in to enter match results and draws for the junior cricket teams. This type of interaction through the web portal engages the community at a deeper social level that builds trust and a shared sense of community ownership.

The portal is owned and operated by Empower Australia (together with its founding partners the DMW Group and Internetrix), while researchers at the University of Wollongong have provided support for the portal and contributed to its development through empirical research into community web portals. Some of the outcomes of this research have been built into the Wollongong web portal. A more detailed explanation of our ground-breaking partnership and the variety of other ways in which we collaborate is provided in the following sections.

Selection Criteria

Benefits to Each Partner

Our partnership has generated a number of direct and indirect benefits to both parties. Empower Australia has benefited directly from the empirical research undertaken by researchers at the University of Wollongong into online communities and web portals. This research has been presented and published jointly at major Community Informatics conferences, including the Information Technology in Regional Areas conference in Queensland (2003) and the Web Based Communities conference in Portugal (2004). The outcome of the research has been a model of sustainability named the S3 Model. The model is based on three developmental phases of a community web portal – Set Up, Survival and Sustainability. A set of critical success factors for each phase have been derived to assist with the successful implementation of community web portals. Empower Australia has benefited directly from this research and transfer of knowledge by incorporating elements of the S3 Model into the development of the Wollongong community web portal.

As a marketing business, Empower Australia has also achieved economic rewards, which are being fed back directly into the portal. The web portal has become an important

resource with over 10,000 ‘hits’ (or over 1,000 visits) per day from members of the local community. This in turn has attracted a number of businesses to advertise on the portal because they are able to promote their products and Services to a local audience. The advertising income generated has become a key source of funding for the portal. However, unlike most other commercial portals, advertising on the portal is limited to banner advertisements at the bottom of the page that do not impede the community objectives of the portal because there are no distracting ‘pop-up windows’. Figure 1 below indicates the extent of advertising on the web portal.



Figure 1: www.wollongong.youronlinecommunity.com.au

The income received through advertisements is fed directly into the portal to provide the technology infrastructure and develop various tools for members of the community (for example, the tool for entering local sports results). Empower Australia does not charge a subscription fee and all online activities and resources are free to the community. Furthermore, the income is used to fund some of the research carried out by the University through formal funding schemes (the University’s New Partnerships Grant scheme), and provide a scholarship to a PhD student through the Australian Research Council Linkage scheme. The PhD student will develop open-source tools for community web portals.

Empower Australia also employs and provides internships to undergraduate and postgraduate students from the University of Wollongong. The students are well-trained and self-motivated achievers who bring their expertise and knowledge to the business. These employment initiatives are particularly significant in the Illawarra region, which is characterised by the highest unemployment rate in Australia.

Empower Australia has also benefited indirectly by interfacing with researchers and students who have an interest in cutting edge areas in Information Technology which impact on the establishment, regulatory requirements and growth of online communities. This involves attending seminars and workshops at the University and collaborating with researchers with diverse interests including: Information Systems, Knowledge Management, Anthropology, Sociology, Marketing, Creative Arts and Communications. Empower Australia's association with the University of Wollongong as an industry partner has also served to increase its reputation as a socially responsible corporate citizen committed to promoting community interests by working with the region's leading education provider and Australia's University of the Year (1999-2000 and 2000-2001).

The benefits to the University of Wollongong have been equally significant. Researchers at the University have benefited from having access and being exposed to the corporate sector for the purposes of carrying out joint research. This has also increased the networking opportunities for the University in order to attract industry partners for collaborative research outcomes. Developing long-term strategic alliances with business and industry partners is an integral part of the University's strategic plan. Partnerships such as the one with Empower Australia not only contribute towards achieving this plan, but also play an important role in providing Services that are of benefit to the local community.

Researchers at the University have also benefited from funding provided by Empower Australia to undertake research into a topical area. The research is of national and global significance and has resulted in international recognition for the researchers in the area of Community Informatics. Furthermore, Empower Australia has provided industry-based

training and employment for high-calibre undergraduate and postgraduate students of the University of Wollongong.

Apart from being a principal outlet for research ideas, Empower Australia has also provided support to students at the University of Wollongong by participating directly in teaching and learning activities. The business has volunteered to be a case study for third-year Information Systems students, and provided work experience for students enrolled in a Journalism degree. The direct involvement of Empower Australia in these activities gives students at the University a distinct advantage because they are able to gain practical skills and enrich their educational experience.

Positive and Long-Term Outcomes for the Community

A study by Loughheed and Associates in Canada (2003) found that the economic impact of community web portals is substantial, with a portal of 2000 core portal users generating the equivalent of \$4 million in economic value. These economic benefits are transferable to the Australian context as well. Empower Australia and the University of Wollongong were among the first of a handful of organisations in the country to recognise the potential of community web portals in regional and rural areas. Our partnership was built on the recognition of the opportunities that web portals can provide to a local community.

Research indicates that community web portals have the potential to bring a number of beneficial outcomes to the community, including economic, social and cultural outcomes. The Wollongong community web portal has generated these positive outcomes in the form of increased interaction between community members and the creation of new professional, business and social links within the community. The portal provides a free space for local residents and members to interact at any time and regardless of their physical location. Small businesses can find out about training programmes and workshops available to them and advertise their products and Services on the portal to a local audience. On the NightLive section, local residents can read a movie or restaurant review, write a 'blog' (an

interactive online journal), find out about social events and activities in the area (including gigs and concerts by local musicians and performers, shows and exhibitions), look at pictures taken at social events, or win free tickets to movies, concerts and shows. Sports enthusiasts also have an outlet through the SportsLive section which provides local amateur sports clubs and associations with an online tool to enter match results and draws. The portal has created a space for Wollongong businesses and residents of all ages and backgrounds to interact and communicate.

The outcomes of our partnership have made a significant and immediate impact on the local community as described above. However, a number of other positive and long-term outcomes at a broader societal level have also eventuated. The web portal has contributed to breaking down barriers between people in the local community, because it provides an online forum for people to interact regardless of their background. Furthermore, the direct involvement by local community members in the portal (for example, by updating sports results) has contributed to bridging the digital divide as more local residents increase their computer literacy levels by using the portal. Instead of relying on more traditional sources of information, such as local newspapers and TV and radio stations, residents are able to take advantage of the online domain to post and receive relevant information when they need it and as often as they require.

The overall impact of the Wollongong web portal is apparent in the increased social cohesiveness and interaction in the local community as evidenced by the activity levels on the portal. Empower Australia and the University of Wollongong are currently working on jointly developing a framework to measure the social capital growth facilitated through the community web portal. This framework will be transferable to other community web portals as well. However, even without a formal measure, members of the Wollongong community are already seen to be displaying an increase in social interaction and participation on the web portal. An example of this is a recent local high school reunion whose organisers approached Empower Australia to host the event online by posting photos from the reunion on the web portal. The organiser learnt about the web portal through her daughter who is a regular NightLive user. These types of social networks are typical of the

activities that take place on the web portal and contribute to an overall improvement in the quality of the local lifestyle.

Contributions Made by Each Partner

Empower Australia and the University of Wollongong have both made equal contributions to the partnership. Our relationship is based on mutual trust and a commitment to the local community and region at large. Empower Australia has invested considerable financial resources and support towards research studies aimed at developing a transferable body of knowledge about online communities and web portals that will be of direct benefit to other communities. Furthermore, the business is committed to funding a three-year PhD scholarship in the area of Community Informatics. In addition to a substantial financial contribution, Empower Australia is providing ongoing in-kind support by assisting directly with the research process. They have provided assistance and advice with the identifying community interest groups, and offered their marketing expertise in the development and distribution of research surveys. Empower Australia has also actively engaged the University's students in its activities through training and employment.

Researchers at the University of Wollongong have made a significant contribution in the form of generating research knowledge about community web portals. Although it is operated by Empower Australia, the Wollongong community web portal is underpinned by research carried out at the University. This research has been fed directly into the development of the web portal. For example, the elements of the S3 model have been built into the web portal and its' success is demonstrated by the increasing number of 'hits' and visits every day. The research has also contributed to an in-depth understanding of the needs of online communities, based on which several aspects of the Wollongong community web portal has been designed and developed. Researchers at the University have offered their expertise in the areas of Information Technology and Usability to evaluate the usefulness and ease of use of the web portal in order to ensure that it is accessible by a wide range of users. However, one of the most significant contributions that

the partners have made is their mutual willingness to learn from each other and share knowledge.

The outcome of the contributions made by the partners has been of direct and immediate benefit to our local community in Wollongong in a variety of ways, as described above. Our partnership is innovative and unique because it is grounded in promoting community interests. It is also unusual because of the size of our two organisations. Few small businesses have such productive and effective partnerships with large organisations. Yet the successful outcomes of our collaboration and partnership can be seen every day on the Internet at: www.wollongong.youronlinecommunity.com.au and through the direct benefits to the wider community.

APPENDIX B Masters Thesis, Connery, A. (2006)

From UOW online research repository – emphasis in bold



University of Wollongong

Research Online

[University of Wollongong Thesis Collection](#)

2006

An examination of the sustainability of online communities in Australia: including the findings of participatory action research undertaken on a Beta 3rd generation network type regional community portal in New South Wales.

Andrew Connery

University of Wollongong

ABSTRACT

This thesis examines the operations and viability of community portals (RCP) generally and within Australia specifically. It records and analyses, through participatory action research undertaken by the candidate, the development of a beta 3rd generation network type community portal (NCP).

The particular aspect of interest in this community portal is that it is a commercial venture aimed at achieving long-term economic sustainability.

The evolution of portals can be traced back to the origins of the internet. As a group they can be classified into three broad categories: internet, intranet and extranet. In this thesis it is assumed that a community portal is a further subgroup of the internet type portal, with a regional community portal has the added attribute of being geographically prescribed in essence. Whilst it is freely accessible to any web user, it is only of continuing interest or amenity to persons residing in a specific area or community.

The research presented here focuses on the development of communities that are essentially web-based but are situated in, and serve the needs of, a bounded local region. The capability of the Web to enable the creation and sustaining of communities is becoming increasingly more common for a wide range of activities, which can be in the commercial as well as non-profit or educational sectors.

The problem of the sustainability of web-based communities, and regional community portals in particular, is now a widespread phenomenon, and is capturing the interest of researchers in many disciplines in academia and the professions. There is an increasing need for these communities to be commercially viable and demonstrate return on investment in a pragmatic sense.

In conducting the research three models were investigated as a precursor to the development and design of the research method for this thesis. The alternatives reflect the researcher's business and academic background. The research approach also justifies a model of portal sustainability developed with colleagues at the University of Wollongong.

This study has found overwhelming evidence that the widespread introduction and on-going operation of 'not for profit' community portals in Australia has been universally

compromised by lack of skilled management, an absence of long term financial support and a scarcity of relevant technological expertise.

Even well funded government initiatives, both state and federal (2000 onwards), in line with the overseas experience (UK & Canada) have been mostly unsuccessful. The technical complexity and rate of change in technology has in many instances hidden more fundamental underlying structural problems inherent with the operation of regional community portals undertaken to date.

As in some other traditionally community based Services, most significantly after hours child care the introduction of a 'community' front end and 'corporate' backend business models seems to be the solution now being favoured by governments over more orthodox approaches in the 21st century. This is meeting a growing market need in a time of increasing pressure on dwindling public resources to maintain existing service levels.

The study identifies structure, ownership and the business model as the most critical issues for achieving sustainability. The research confirms that the emergence of regional community portals into the mainstream coincides with the most turbulent economic time the mass media and telecommunications companies have ever encountered in this country.

This context has severely hampered their introduction by diverting attention to the survival of the traditional forms of media rather than exploring inherently more efficient content delivery systems which have the potential to negatively impact the incumbent proprietors' older technologies and strong revenue streams.

This research points to a future in which numerous and as yet unimagined new technologies will be developed for the gathering and sharing of information using the internet platform. Web based communities or social networks are becoming the online phenomena of the early 21st century and regional community portals are the natural home for such activities.

APPENDIX C Australian & US Provisional Patent 2008

WEBSITE RANKING IMPROVEMENTS

5 Technical Field

The present invention relates to improvements to website rankings. In one particular form, the present invention relates to improvements to search engine rankings of geographically related websites.

10 Background

There are a wide variety of search engines available, also known as web search engines, which a user can operate to obtain search engine results which indicate websites which are relevant to a search query.

15 For example, a popular search engine currently available is Google. Generally, if a user would like to find websites that relate to hotels in Italy, the user would input the search query "Italian Hotel" into the search engine and in response to the search being completed, the search engine would return a list of websites that are considered by the search engine to be relevant to the search query.

20 Generally, the search engine results are listed in a descending order of relevance. However, other factors also account for the order which a website is listed in the search engine results. One such factor specific to the Google search engine is a website's "PageRank" which is used to determine the order which a website is listed in the search engine results. The "PageRank" of a website is calculated based on a number of factors.

25 However, there are significant problems when a user wishes to conduct a search in relation to a specific geographical region. For example, considering the above example, if the user wished to search for a family hotel located in Venice, the user may input the search query of "Family Hotel Venice" into the search engine. Although the search query is geographically specific, a large number of the early websites listed in the search results
30 relate to hotel group websites or travel search firms rather than a family hotel in Venice.

One solution to improve the ranking of a website has been to implement a technique known as search engine optimisation to the website so that the respective website may appear earlier in the search engine results. However, this technique has limited application to specific geographically related websites due to the specific nature of the content
5 provided.

Therefore, there is a need to improve the results of geographically related queries conducted using a search engine.

10 The reference in this specification to any prior publication (or information derived from it), or to any matter which is known, is not, and should not be taken as an acknowledgment or admission or any form of suggestion that that prior publication (or information derived from it) or known matter forms part of the common general knowledge in the field of endeavour to which this specification relates.

15

Summary

In one broad form there is provided a network of computer-implemented websites, wherein the network of websites includes:

a computer-implemented directory website having links to a plurality of geographically
20 related websites relating to a geographical region;

a computer-implemented authority website including content relating to an authority entity and a link to the directory website; and

a computer-implemented social network website including social content related to the geographical region and a link to the directory website;

25 wherein the links from the authority website and the social network website to the directory website improve a website ranking associated with each geographically related website for a geographically related search query in a search engine compared to when each geographically related website is unlinked to the directory website.

30 In another broad form there is provided a computer implemented directory website for use with a computer implemented network of websites, wherein the directory website includes links to a plurality of geographically related websites relating to a geographical region, the directory website being linked to a computer-implemented authority website and a

computer-implemented social network website, the authority website including content relating to an authority entity and a link to the directory website, the network website including social content related to the geographical region and a link to the directory website, wherein the links from the authority website and the social network website to the
5 directory website improves a website ranking associated with each geographically related website for a geographically related search query in a search engine compared to when each geographically related website is unlinked to the directory website.

In another form there is provided a method of implementing a network of computer-
10 implemented websites, wherein the method includes:

creating a link from a computer-implemented authority website to a computer-implemented directory website, wherein the directory website includes links to a plurality of geographically related websites relating to a geographical region, and wherein the authority website including content relating to an authority entity; and

15 creating a link from a computer-implemented social network website to the directory website, wherein the social network website includes social content related to the geographical region;

wherein the links from the authority website and the social network website to the directory website improves a website ranking associated with each geographically related
20 website for a geographically related search query in a search engine compared to when each geographically related website is unlinked to the directory website.

Other forms and embodiments are described in more detail below.

25 Brief Description Of Figures

Example embodiments should become apparent from the following description, which is given by way of example only, of a preferred but non-limiting embodiment, described in connection with the accompanying figures.

30 Figure 1 illustrates a functional block diagram of an example processing system that can be utilised to embody or give effect to a particular embodiment;

Figure 2A is block diagram illustrating an example of a network of websites for improving website rankings of geographically related websites;

Figure 2B is block diagram illustrating a further example of a network of websites for
5 improving website rankings of geographically related websites;

Figure 3 is a flow chart illustrating an example of a method for implementing a network of websites for improving website rankings of geographically related websites;

10 Figure 4 is a block diagram illustrating a further example of a network of websites for improving website rankings of a geographically related websites; and

Figure 5 is a block diagram illustrating results of a two keyword search.

15

Description of Preferred Embodiments

The following modes, given by way of example only, are described in order to provide a more precise understanding of the subject matter of a preferred embodiment or
20 embodiments.

In the figures, incorporated to illustrate features of an example embodiment, like reference numerals are used to identify like parts throughout the figures.

25 A particular embodiment of the present invention can be realised using a processing system, an example of which is shown in Fig. 1. In particular, the processing system 100 generally includes at least one processor 102, or processing unit or plurality of processors, memory 104, at least one input device 106 and at least one output device 108, coupled together via a bus or group of buses 110. In certain embodiments, input device 106 and
30 output device 108 could be the same device. An interface 112 can also be provided for coupling the processing system 100 to one or more peripheral devices, for example interface 112 could be a PCI card or PC card. At least one storage device 114 which houses at least one database 116 can also be provided. The memory 104 can be any form

of memory device, for example, volatile or non-volatile memory, solid state storage devices, magnetic devices, etc. The processor 102 could include more than one distinct processing device, for example to handle different functions within the processing system 100.

5

Input device 106 receives input data 118 and can include, for example, a keyboard, a pointer device such as a pen-like device or a mouse, audio receiving device for voice controlled activation such as a microphone, data receiver or antenna such as a modem or wireless data adaptor, data acquisition card, etc. Input data 118 could come from different sources, for example keyboard instructions in conjunction with data received via a network. Output device 108 produces or generates output data 120 and can include, for example, a display device or monitor in which case output data 120 is visual, a printer in which case output data 120 is printed, a port for example a USB port, a peripheral component adaptor, a data transmitter or antenna such as a modem or wireless network adaptor, etc. Output data 120 could be distinct and derived from different output devices, for example a visual display on a monitor in conjunction with data transmitted to a network. A user could view data output, or an interpretation of the data output, on, for example, a monitor or using a printer. The storage device 114 can be any form of data or information storage means, for example, volatile or non-volatile memory, solid state storage devices, magnetic devices, etc.

In a particular embodiment, input data 118 can be a downloaded file or entity and output data 120 can be the identified network location and the physical location of an entity of interest transmitted to a remote processing system.

25

In use, the processing system 100 is adapted to allow data or information to be stored in and/or retrieved from, via wired or wireless communication means, the at least one database 116. The interface 112 may allow wired and/or wireless communication between the processing unit 102 and peripheral components that may serve a specialised purpose. More than one input device 106 and/or output device 108 can be provided. It should be appreciated that the processing system 100 may be any form of terminal, server, specialised hardware, or the like.

The processing system 100 may be a part of a networked communications system. Processing system 100 could connect to a network, for example the Internet or a WAN. Input data 118 and output data 120 could be received from or communicated to other devices, such as a server, via the network. The network may form part of, or be connected to, the Internet, and may be or form part of other communication networks, such as LAN, WAN, ethernet, token ring, FDDI ring, star, etc., networks, or mobile telephone networks, such as GSM, CDMA or 3G, etc., networks, and may be wholly or partially wired, including for example optical fibre, or wireless networks, depending on a particular implementation.

10

Referring to Figure 2A there is shown a block diagram representing an example of a network of computer-implemented websites. In particular the network of websites 200 includes a computer-implemented directory website 230, a computer-implemented authority website 210, and a computer-implemented social network website 220. The computer-implemented directory website 230 includes links to a plurality of geographically related websites 240 relating to a geographical region 250. The authority website 210 includes content relating to an authority entity and a link to the directory website 230. The social network website 220 includes social content related to the geographical region 250 and a link to the directory website 230. The link between the authority website 210 and the directory website 230, and the link between the social network website 220 and the directory website 230 enable a website ranking associated with each geographically related website 240 to improve for a geographically related search query in a search engine compared to when each geographically related website 240 fails to be listed on or linked to the directory website 230.

25

In an optional form, a link may be provided from the authority website 210 to the social network profile 220 in order to further improve website rankings of the plurality of linked geographically related websites 240.

30 In an optional form, the authority website may be associated with the geographical region 250, as shown in Figure 2B.

Referring to Figure 3 there is shown a flow chart representing an example method of implementing a network of computer-implemented websites. In particular, at step 310, the method 300 includes creating a link from a computer-implemented authority website 210 to a computer-implemented directory website . At step 320, the method 300 includes
5 creating a link from a computer-implemented social network website 220 to a computer-implemented directory website 230. Creating the links between these websites enables a website ranking associated with each geographically related website 240 to be improved for a geographically related search query in a search engine compared to when each geographically related website 240 is unlinked to the directory website 230.

10

As the authority website 210 is generally considered to have a significant website ranking amongst search engines due to the credible nature of the authority entity, and as a social network website 220 is generally considered to have a significant website ranking amongst search engines due to the regular social content updates, the respective website ranking of
15 the directory website 230 is leveraged higher due to the link provided from the authority website 210 to the directory website 230, and the link provided from the social content website 220 and the directory website 230. As the plurality of geographically related websites 240 are linked to the directory website 230, an improvement of the website ranking for each geographically related website 240 occurs. This arrangement 200 thereby
20 allows a geographically specific search query to be performed using a search engine, wherein the geographically specific websites 240 linked via the directory website 230 can appear toward the beginning of the search engine results relevant to the specific search query.

25 In one form, the authority website 210 may be a website relating to a university located in the specific geographical region of interest, wherein the university is considered the authority entity. As a university website is generally considered credible by search engines, improved website rankings can be experienced for the plurality of linked geographically related websites for a geographically related search query in a search engine. In relation to
30 the exemplary search engine of Google, it is preferable that the authority website include a page rank value of at least seven.

In a specific form, the directory website 230 is a human edited directory website. The human edited nature of the directory website is perceived by search engine robots as being more credible than automated content, thereby enabling an improvement of the website rankings of each linked geographically related website 230 for a geographically related search query in a search engine.

In one form, the link from the authority website 210 to the directory website 230 is a hyperlink directly or indirectly defining the target as the directory website 230. Similarly, the link from the social network website 220 to the directory website 230 is a hyperlink directly or indirectly defining the target as the directory website.

Referring to Figure 4 there is shown a block diagram illustrating a more specific example of the network of websites.

In particular, a university server processing system 410 includes a university website 210. The university provides a first intermediate website 413 and a second intermediate website 416 which are sub-domain websites of the university website 210. The first and second intermediate website 413, 416 include one or more FTP (File Transfer Protocol) folders which allow images and dynamic scripts to be uploaded and edited by a directory entity associated with the directory website and a social network entity.

A directory server processing system 430 is provided in data communication with the university server processing system 410. One or more dynamic scripts of the first intermediate website 413 include one or more redirects to the directory server processing system 430 to retrieve or generate directory content. Upon receipt of a request from the first intermediary website 413 for directory content, the directory server processing system 430 retrieves and/or generates the directory related content indicative one or more of the plurality of geographically related websites 240. Upon return of the directory related data to the university server processing system 410, the first intermediate website 413 displays at least a portion of the geographically related directory.

A social network server processing system 420 is provided in data communication with the university server processing system 410. One or more dynamic scripts of the second

intermediate website 416 include one or more redirects to the social network server processing system 420. The social network server processing system 420 can include Content Management Server (CMS) software 425 which enables the second intermediate website scripts to transfer a content request to the CMS 425, wherein the CMS 425
5 retrieves social content which is transferred back to the second intermediary website 416.

As previously described, the university website 410 includes a link to the directory website 430 and the social network website 420 provides a link to the directory website 430. In this instance, as the URL of both the first and second intermediary websites 413, 416 acting as
10 the directory website 430 and the social network website 420 share a common domain name, search engine robots consider the link between these websites more credible, thereby enabling the website rankings of the geographically related websites 240 listed on the directory website 430 to be further leveraged by the linked relationship provided by the network.

15

In an optional form, as shown in Figure 4, there may be multiple links from more than one authority website 410 to the directory website 420 and/or the social network website 420. For example, the university website 410 may include a community website related to the geographical region which may include an additional link to the directory website 430
20 and/or social network website 420.

In another optional form, as shown by the double headed arrow in Figure 4, the directory website may include one or more links to the social network website.

25 It will be appreciated that the geographical region relates to a community-based geographical region. In this instance, it will be appreciated by those skilled in the art that a community-defined geographical region includes a population of approximately five-hundred thousand people or less.

30 It will be appreciated that although Figure 4 illustrates that the university server processing system 410, the directory website processing system 430 and the social network processing system 420 are distinct processing systems, this is only for clarity purposes only as it is

possible that a single processing system could serve as a server processing system hosting more than one of the above Services.

The following description is a mathematical model for representing the improvement to website rankings which can be enabled using the above arrangement.

6.9.1 Single Keyword Query

Most traditional tools for formal modeling, reasoning and computing are based on crisp, deterministic and precise function. In the case of black box systems and analysis conducted on closed functions the measurements are less crisp and rely on a level of uncertainty. In order to create a method by which to conduct localized searching, a degree of fuzziness is required. This fuzziness is defined as follows in a form of Discriminate Analysis Methods. To begin, a definition of Effective Pages Rank (EPR) is described as follows, using a variant value:

$$EPR_i^\alpha = w_1 PR_i + w_2 R_i^\alpha + w_3 C_i^\alpha + w_4 F_i$$

where

- EPR_i^α is the effective page rank for the page i within the context of α .
- α is the context based on a keyword provided for each effective page rank
- PR_i is the PageRank for the page i collected by the Mozilla Toolbar.
- R_i^α is the relevance of the page i based on URL and Title to the context α .
- C_i^α is the content rank of i collected using Keywords/SEO techniques in the context of α .
- F_i is the freshness of the page i based on the rate of change in content.
- w_i are categorical variables to be determined during research into SERPs

Variant linear combinations like EPR are variables with empirically determined weights combined with the use of discriminate analysis methods that builds on the relationship between categorical variables to be determined objectively by various testing means and known interrelated variables to form a rough understanding of Bi-variant Partial Correlations that make up the result set for a Google Query.

As an example the query Wollongong was searched for in Google with the following known variables: UOW PR7** and Wollongong Tourism PR 6**

In the resultant SERP Wollongong Tourism ranked above UOW – represented mathematically as follows:

$$(EPR_i^{TW}) = w_1 PR_i + w_2 R_i^{TW} + w_3 C_i^{TW} + w_4 F_i$$

5

Through testing it can be seen that the effective page rank (EPR_i^{TW}) of tourism Wollongong is 7, and the Mozilla toolbar given page rank (PR_i^{TW}) is 6.

$$\begin{aligned} (7) &= w_1 \times 6 + w_2 R_i^{TW} + w_3 C_i^{TW} + w_4 F_i \\ &w_1 \times 6 + (w_2 R_i^{TW} + w_3 C_i^{TW} + w_4 F_i) > 7 \\ \circ\circ &\quad (w_2 R_i^{TW} + w_3 C_i^{TW} + w_4 F_i) > 7 - (w_1 \times 6) \end{aligned}$$

10 6.9.2 Two or More Keyword Query

Where keywords are in the URL and/or Title and/or appear in proximity (but not necessarily in order) within the index files, then:

$$EPR_i^N = EPR_i^1 \oplus_i EPR_i^2 \oplus_i \dots \oplus_i EPR_i^j$$

15 When: $N = \{1, 2, \dots, j\}$

where we say:

- EPR_i^N is to be the effective page rank of the page i in the context of multiple words N. Here N can be j X k so the search is conducted for 'Wollongong' and 'Golf'.
- $EPR_i^j \oplus_i EPR_i^k$ is a means by which similar terms are combined together. The combination is placed within the \oplus operator. As yet the combination operator is not formally defined.

25 As an example if the \oplus operator is an average of the distribution then it would act in the following manner:

$$\oplus_{j=\alpha}^N EPR_i^j = \frac{(\sum_{j=\alpha}^N EPR_i^j)}{\|N\|}$$

where $\|N\|$ is the number of search results for all contexts and EPR_{ij} is the combined effective page rank for the page i in the context of j .

5 The result may further be visualized as illustrated in Figure 5. Within the universe of discourse there exists a set of results A for the search term ‘Wollongong’ there exists the set of results B for the search term ‘Golf’. At the point where A and B meet we mark as the intersection C . It will be appreciated that the Figure 5 is not to scale.

10 Using the \oplus operator we propose to formulate a metric for combining keywords and ranking over the search space of the key phrases (i.e. if the set A contains 6,190,000 results and the set B contains 613,000,000 results, then the EPR of the combination of A and B should not be formulated over the magnitude of 619,190,000 found by summing together the sets A and B). It will be appreciated that these search results were obtained using the Google search engine on 4 July 2008.

15

Where it is that only the results relevant to the intersection of A and B are to be considered (i.e. the results set for a query on A and B containing both A and B may consist of only 211,000 results).

20 Proof

Using Wikipedia – as a constant template - keywords must be linked:

Keyword ₁	(Wollongong)	=	PR 6
Keyword ₂	(Golf)	=	PR 7

25

Using both keywords, i.e. ‘Wollongong Golf’ there is a resulting SERP Page Rank of PR4.

30 The article found was about Coniston (a suburb of Wollongong) which included a reference in the body of the text to the Wollongong Golf Course. Therefore, it is clearly advantageous that pages are ranked for multiple key words based on the context by which the keywords exist.

Conclusion

Optional embodiments may also be said to broadly consist in the parts, elements and features referred to or indicated herein, individually or collectively, in any or all combinations of two or more of the parts, elements or features, and wherein specific
5 integers are mentioned herein which have known equivalents in the art to which the invention relates, such known equivalents are deemed to be incorporated herein as if individually set forth.

Although a preferred embodiment has been described in detail, it should be understood that
10 various changes, substitutions, and alterations can be made by one of ordinary skill in the art without departing from the scope of the present invention.

Claims

- 15 1. A network of computer-implemented websites, wherein the network of websites includes:
- a computer-implemented directory website having links to a plurality of geographically based websites relating to a geographical region;
 - a computer-implemented authority website including content relating to an authority entity
20 and a link to the directory website; and
 - a computer-implemented social network website including social content related to the geographical region and a link to the directory website;
- wherein the links from the authority website and the social network website to the directory website improves a website ranking associated with each geographically based
25 website for a geographically related search query in a search engine compared to when each geographically based website is unlinked to the directory website.

A computer implemented directory website for use with a computer implemented network of websites, wherein the directory website includes links to a plurality of geographically
30 based websites relating to a geographical region, the directory website being linked to a computer-implemented authority website and a computer-implemented social network website, the authority website including content relating to an authority entity and a link to the directory website, the network website including social content related to the

geographical region and a link to the directory website, wherein the links from the authority website and the social network website to the directory website improves a website ranking associated with each geographically based website for a geographically related search query in a search engine compared to when each geographically based
5 website is unlinked to the directory website.

3. A method of implementing a network of computer-implemented websites, wherein the method includes:
creating a link from a computer-implemented authority website to a computer-
10 implemented directory website, wherein the directory website includes links to a plurality of geographically based websites relating to a geographical region, and wherein the authority website includes content relating to an authority entity associated with the geographical region; and creating a link from a computer-implemented social network website to the directory website, wherein the social network website includes social
15 content related to the geographical region;

wherein the links from the authority website and the social network website to the directory website improves a website ranking associated with each geographically based website for a geographically related search query in a search engine compared to when
20 each geographically based website is unlinked to the directory website.

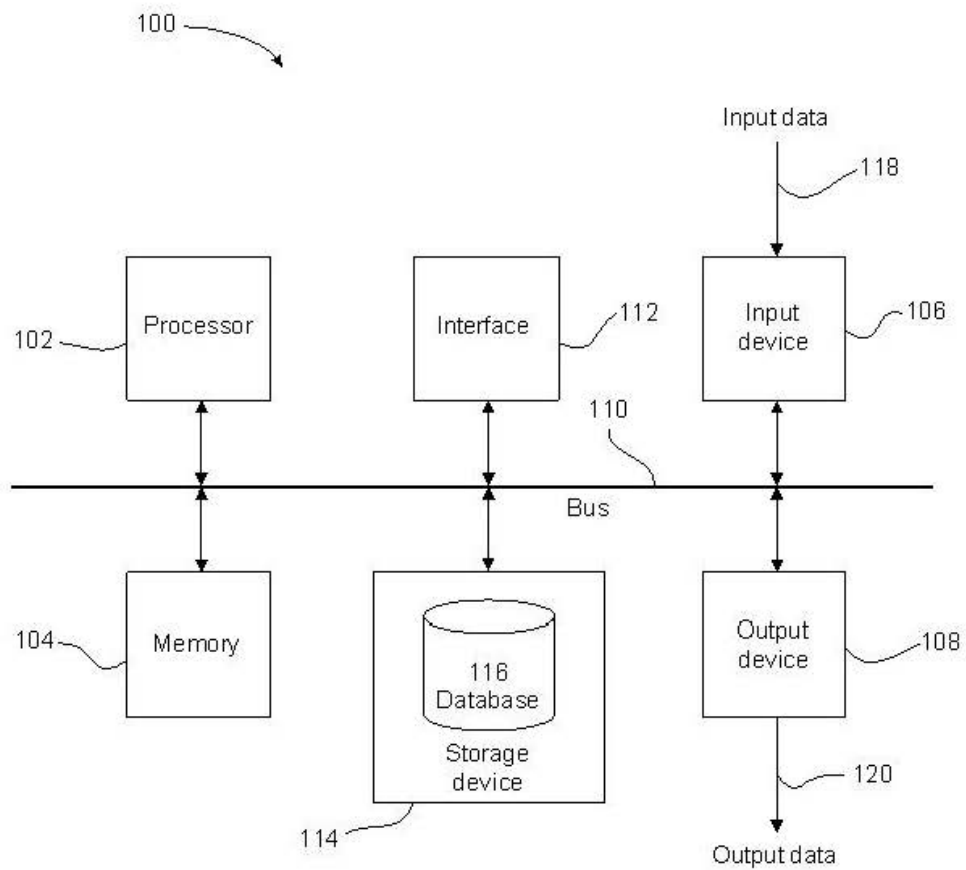


FIGURE 1

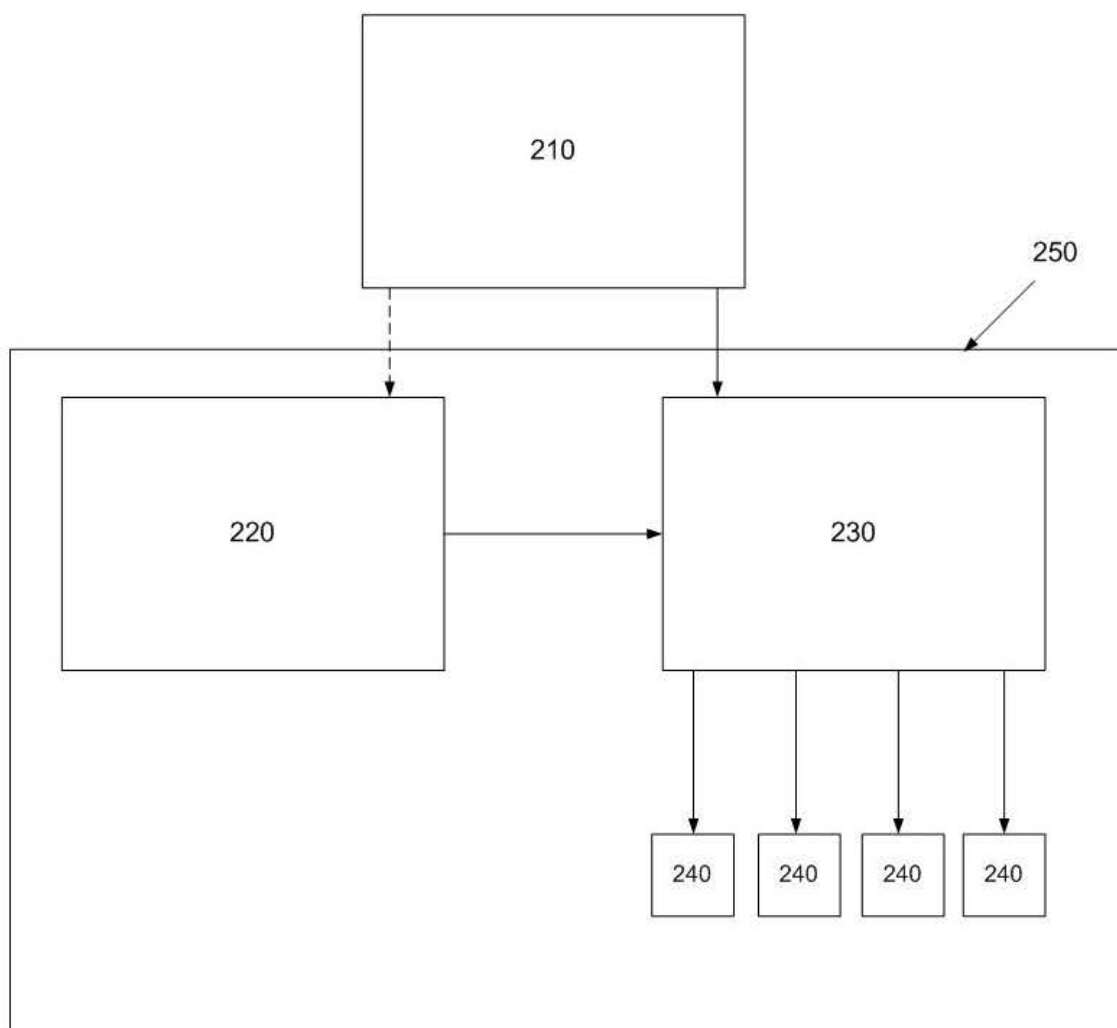


FIGURE 2A

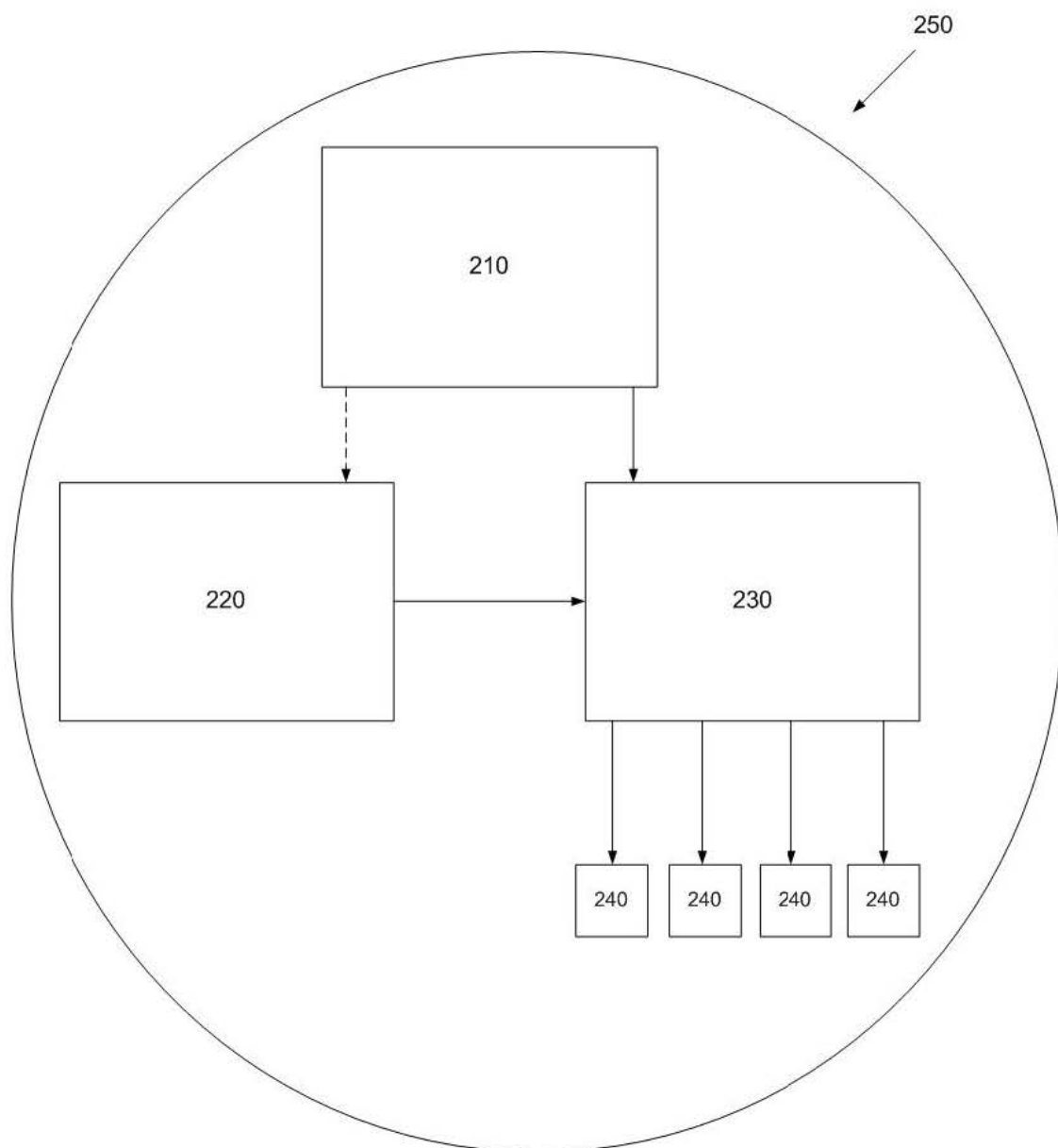


FIGURE 2B

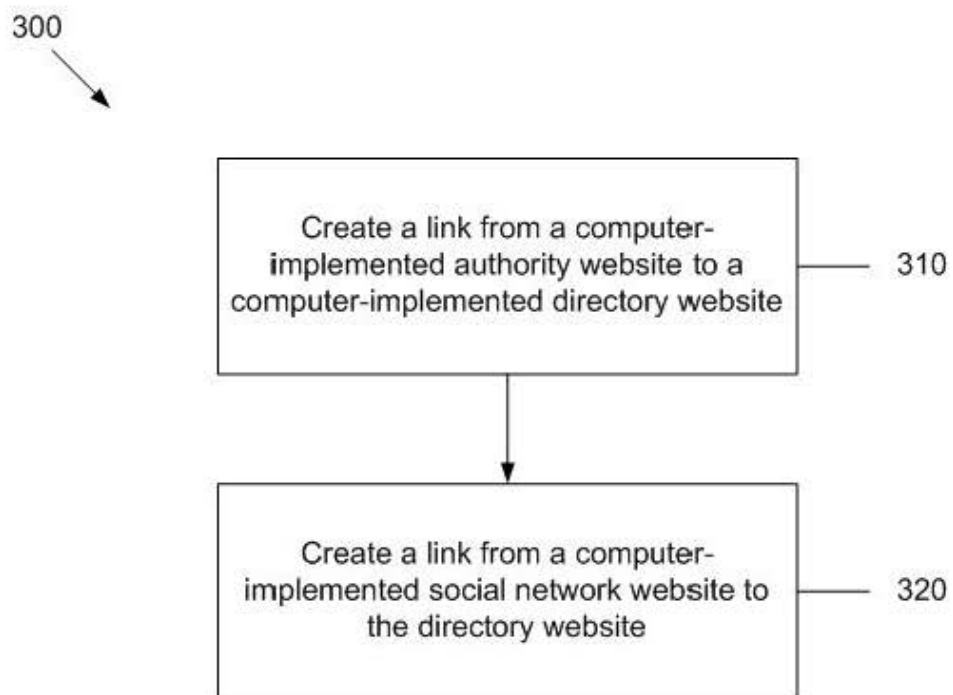


FIGURE 3

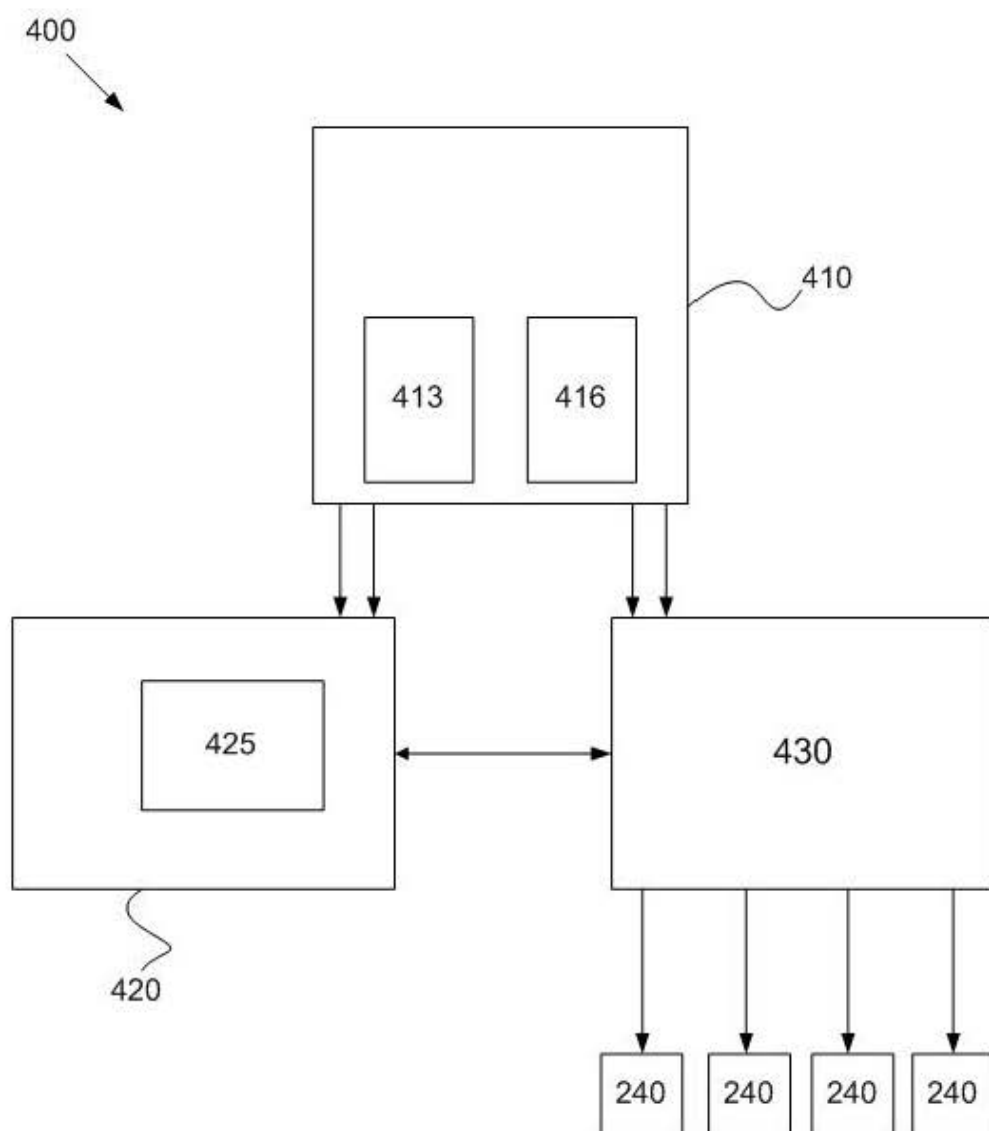


FIGURE 4

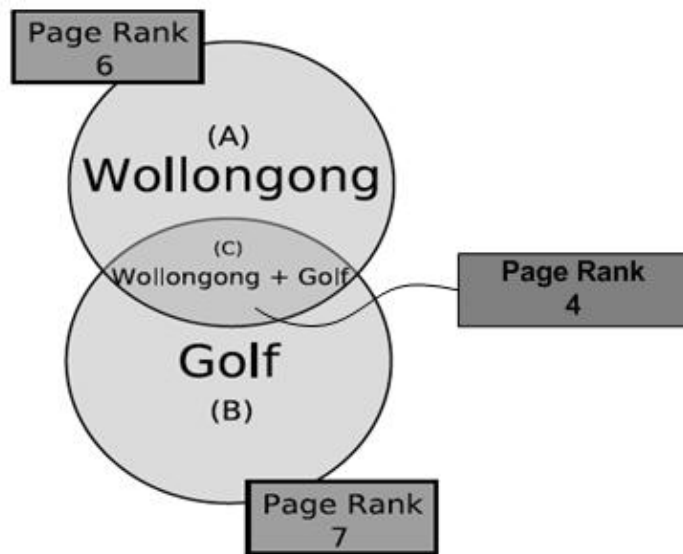


FIGURE 5

APPENDIX D PhD Application 2008

RESEARCH PROPOSAL

Thesis Title: The examination of an invention to increase website rankings in a network type community portal in NSW by hyperlinking to a geographically related authority website including the findings of participatory action research concerning the improvement in quality of local internet search.

The intended action research can be considered under two separate headings :

- Importance as a web tool
- Universities as gate-keepers of knowledge

Firstly, its importance as a web tool:

SOLD (Search Optimizing Local Directory) Technology, developed and patented by the writer, relates to the improvement in Local Search (utilising a search engine) and the enhanced web presence of locally based entities.

ICT practitioners have been aware for a number of years that the massive growth in the

number of web-pages world-wide coupled with the widespread use of Search Engine Optimization techniques has effectively hidden locally based web-pages when local search is undertaken.

For example, it has become uncommon for many, if any, local websites to be served on the important first page of SERPs (Search Engine Results Pages) for most products and Services.

Unlike hard copy directories it is critical to appear in the first 10 results since approximately half of all searchers do not progress to the second page of SERPs – only a small minority bother checking p.3 or later.

This bias to large (read non-local companies) has two major negative consequences:

1. It reduces the quality of search results by not displaying relevant content thereby lowering the effectiveness of the search tool and discouraging potential customers from using what should be a very useful means of information retrieval.

2. It removes the competitive advantage of local companies viz: their proximity to the point of purchase. Historically, for community members, it has not only been more convenient to support their local businesses but it has created local jobs and built social capital.

For the past fifty years hard copy directories adequately handled the advertising needs for local businesses however in the 21st century the online equivalents have very significant deficiencies which SOLD Technology addresses.

Secondly the importance of Universities, as gate-keepers of knowledge:

Prior to the advent of search engines Universities and Libraries were responsible for compiling, indexing, storing and access of most advanced of knowledge,

When Google was launched it reserved a very important for universities which initially built on their historic role viz they were all allocated very high PRs (Page Ranks). For example, in Australia G8 universities have PR8s and UOW has a PR7 - world leading universities such as Cambridge, Oxford, Stanford etc have PR9s. \ now PR9.

The web landscape has changed dramatically in the 10 years since the ubiquitous search engine was launched on campus at Stanford - of particular relevance has been the emergence of social networks such as MySpace, FaceBook and YouTube plus human-edited directories such as Wikipedia and ODP - all of which have very high PRs (8&9).

Of major concern, for local search, many leading Australian media groups now enjoy high page ranks and online directories such as and TrueLocal now have the same PRs as UOW! PR8 PR7

SOLD Technology utilises the web framework as originally intended, by Google founders (Larry Page & Serge Brin), and enshrines the local university as the centrepiece of local online content.

The potential to dramatically improve web based local search world-wide, here in Wollongong, is very exciting and certainly if successful would be in keeping with the UOW's stated goal of becoming recognised internationally as a University sponsoring R&D of the highest quality.

Signed:

Andrew Connery
14 October 2008

STEP	HYPERLINKING RESEARCH METHODOLOGY
1	<p>INITIAL UOW TEST SITE</p> <p>Two links on Informatics Faculty SCSSE Page (YOC Wollongong community portal & SmartPages Local Business Directory) http://www.uow.edu.au/informatics/scsse/ - to be utilised for minimum of 6 weeks prior to formal UOW IT supervised trials on Directory Services and Community & Partnerships web-pages</p>
2	<p>PART A FORMAL UOW IT SIX WEEK TRIAL:</p> <p>Implement after satisfactory completion of six week initial trial on SSCE page: http://www.uow.edu.au/directory/</p> <p>PART B</p> <p>Implement after satisfactory completion of six week initial trial on SSCE page: http://www.uow.edu.au/about/community/index.html</p>
3	<p>UOW MAIN PAGE TRIAL</p> <p><u>ESTIMATED DURATION</u>: 6 WEEKS - but NO LESS than the ACTUAL TIME required for link to be both indexed and ranked by Google crawler http://www.uow.edu.au/ Only to be instituted after successful completion of 12 weeks controlled and staged implementation - initially 6 weeks on Informatics Faculty SCSSE webpage and then a further 6 weeks of formal UOW IT supervised trials on both Directory</p>
	Prepared: Andrew Connery 14 October 2008

RESEARCH PUBLICATIONS

Vrazalic L. Hyland P. McGregor R. and Connery A (2003)

Regional Community Portals: Analysing the current state of play using the s3 model,
Proceedings of the 5th International IT in Regional Areas Conference, December Caloundra, Queensland

Connery A, Hasan H (2004)

Sustaining a Locally-based Virtual Community,
Proceeding of IADIS04, Lisbon, Portugal

Connery A. and Hasan H, (2005)

Social and Commercial Sustainability of Regional Web-based Communities,
Journal of Web based Communities 1/3 246-261

Connery A.

Masters Thesis UOW (2006)

An examination of the Sustainability of Online Communities in Australia including the Findings of
Participatory Action Research undertaken on a Beta 3rd Generation Network type Regional Community
Portal in New South Wales

Curriculum Vitae

ANDREW MARTIN CONNERY

DETAILS IN BRIEF		
1	Age	62 years
2	Marital Status	Married with two daughters
3	Tertiary Education	Master of Information Systems 2006
4	Nationality /Citizenship	Australian Citizen Born in New Zealand
5	Current Position	Managing Director
6	Company	Your Online Community Pty Ltd

Current Position:

Andrew is the Managing Director of Your Online Community Pty Ltd (YOC).

YOC is an online publisher of three weekly e-magazines and the operator of a network of community portals and associated websites in Wollongong, Parramatta and Sutherland Shire, within New South Wales, Australia.

Related Interest:

Andrew has personally developed an invention and holds Australian and US Patent Applications for SOLD technology – which improves the web rankings of websites and improves the quality of local internet search.

Background to YOC:

Andrew was a co-founder of Empower Australia The Marketing Group (the fore runner to YOC) and originally established the Wollongong based print media and B2B market research consultancy with two Australian Marketing Institute colleagues in 1989.

Andrew and his wife Margaret bought out the partners in 1993 and commenced to widen the group's activities on a fulltime basis.

Andrew founded Your Online Community in early 2001 and with wife Margaret major shareholders with non-executive partner Dr Colin Seaborn – YOC became a Pty Limited company in February 2007 - it is venture capital funded internet start up and is currently capitalized at \$3m.

APPENDIX E Excerpt from Hansard September 2009

HANSARD - HOUSE OF REPRESENTATIVES

Monday, 14 September 2009 - Pages 8 & 9

Speaker - Hon Sharon Bird MP

Federal Member for Cunningham, NSW

Finally, at the other end, I want to highlight another organisation run by Andrew Connery. He is the managing director of Your Online Community Pty Ltd and in 2004 was the winner of the Prime Minister's Community Business Partnership Award for his development of community portals in New South Wales. At that point in time he had a local amateur sports website sponsored by the University of Wollongong that was very well regarded and contributed to his winning of that award.

Andrew is an absolutely passionate advocate for online community portals and enabling the internet to provide much better information and engagement of communities of common interest not only in sport but also in business and broader conversations. He runs a great online newsletter as well. Andrew is also constantly knocking on my door, saying: 'I want to be part of the rollout of the National Broadband Network. It is critically important to regions like ours.'

Those are examples of local companies who are so keen to be part of the National Broadband Network— companies who have the experience and the capacity to identify where the future is going, who are innovative, who are enthusiastic and who are part of the new breed that will drive a lot of growth in regions like mine. They are really keen to be part of this and they see great potential in the National Broadband Network that we intend to roll out. The bill before us today is an important part of that, but the overall agenda of rolling out this fast-speed National Broadband Network is critically important to the economic growth of regions.

I put on the record the evidence of those participants in my own local region as to why it is so important that we commit to this and why the bill before us today should be supported.

APPENDIX F Annual Progress Report – 2009

WITHHELD FOR CONFIDENTIALITY

REMINDER

15 June 2009

Andrew Martin Connery
18 Koombala Grove
Courdeaux Heights
Wollongong New South Wales 2526

Attention:

Your Ref:

Our Ref: 20429472/AJC/SPR

Re: Andrew Martin Connery
United States Provisional Patent Application No. 61/089278
"Website ranking improvements"

Dear Sir/Madam(s)

The first anniversary of this United States provisional patent application falls on **15 August 2009**. If you would like to obtain patents in Australia or overseas relying on the priority date set by this provisional application it will be necessary to file one or more complete patent applications by this anniversary date. Since the preparation of such applications can take considerable time, we ask that you contact the writer immediately to discuss your specific requirements and the options available.

Where have you have already disclosed your invention

If you have disclosed your invention freely to others or commercialised your invention, filing of the applications by **15 August 2009** is essential in many countries if patents there are to be valid. If the disclosure occurred prior to the filing of the United States provisional application then you may only be able to proceed in select countries which provide a 12 month grace period from any public disclosure within which to file a complete application. If this applies to your invention, and you have not yet filed complete applications relying on the grace period, please contact the writer immediately to discuss whether any saving action is available to you.

Individual national/regional patent applications

One option is to file patent applications in each individual country or region of interest before **15 August 2009**. Our charges for filing the

6027



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In association with:
Davies Collison Cave Solicitors
Intellectual Property Law

national/regional applications will depend on the size of the specification and the number of claims. They are generally in the order of AU\$2,200 to AU\$2,700 for each of Australia and New Zealand, and vary from AU\$4,500 to AU\$7,500 each for other countries where no translation is required and AU\$8,000 to AU\$11,000 each where a translation is required. The cost of a European regional application may be in the order of AU\$17,500, depending on the number of countries it covers. This last amount includes substantial costs associated with designation and examination request fees payable during the first 12 months of filing. Additional costs, generally between AU\$2,500 to AU\$3,500, may be incurred in drafting the complete specification required for these filings. The drafting costs may be substantially greater for lengthy specifications or complex inventions. If you contemplate substantial expenditure we strongly recommend that searching be carried out first. Any such searching should be instructed now. A search generally costs between AU\$2,000 to AU\$4,000.

International patent application

Another option is to file, before 15 August 2009, an "International application" covering a large number of countries, including most major industrialised nations. This application may also cover Australia. The International application must still be divided up into separate national and regional applications, but not until up to two and a half years from the filing date of your provisional application, by which time you will have received a non-binding International Preliminary Report on Patentability. The cost for an International application is typically around AU\$10,000 to AU\$15,000, including our charges for drafting the complete specification. The cost may be substantially greater for lengthy specifications or complex inventions. Costs close to those quoted above for national/regional applications are still incurred when it is divided into separate national and regional applications. Essentially the filing of an International application provides you with a patentability report and extends the time for deciding on countries and regions for patent protection. Depending on your countries of interest, you may need to file some national applications as well as an International application. Significant countries not currently covered by an International application include Argentina, Taiwan and Thailand. We would be pleased to recommend the option most appropriate to your specific circumstances.

Non-priority patent applications

Please note that if you do not lodge Australian or overseas patent applications, or an International application, before the anniversary date it will only be possible to lodge complete applications in most countries if there has been no publication or disclosure of the invention. Such publication will certainly occur after a further six months if you now file an International application or any national/regional applications.

Payment

Please note that we require advance payment for filing overseas patent applications.

We look forward to receiving your early instructions.

Yours faithfully,
DAVIES COLLISON CAVE



PATENT RECORDS for
ANTHONY J COWLE

APPENDIX H YOC Business Plan – Feb'10

STRICTLY CONFIDENTIAL NOT FOR RE-DISTRIBUTION



BUSINESS PLAN

February 2010

STAGE I

YOC NATIONAL NETWORK ROLL-OUT



SmartPages.com.au

Your Online Community Pty Limited

ABN 24 124 091 425

Andrew Connery

MANAGING DIRECTOR

Phone : (02) 4271 8453

Mobile: 0408 193831

Email: andrewmconnery@gmail.com

THIS IS A BUSINESS PLAN – IT DOES NOT IMPLY AN OFFERING OF SECURITIES

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Executive Summary

The Business:

Your Online Community Pty Limited (YOC) plans to establish a national network of thirty-eight (38) community portals and SMARTPAGES (SP) directories to deliver targeted and cost effective online marketing Services to small to medium sized businesses (SMEs) throughout the country.

Stage I relates to the initial rollout in Greater Sydney (9 extra portals) building on the existing Wollongong, Parramatta and Sutherland Shire communities creating a mini-network of 12 YOC branded portals.

The YOC business model largely replicates the YELP ‘bottom-up’ approach, but to a further degree of granularity – i.e. geographic dataset is not predicated on a ‘whole of city’ approach but rather utilizes discrete geographically defined communities/areas with populations of at least 250,000 persons.

YOC have recently prototyped a unique and potentially extremely valuable Pay Per Keyword online marketing tool (SMARTPAGES PPK) similar to Google AdWords but for organic listings ...not sponsored ones.

YOC has exclusive Australian rights to the relevant Search Optimizing Local Directory (SOLD) technology which optimizes local online directory results and, when configured appropriately, delivers the No.1 organic/natural position on Google (and other search engine) results pages (SERPs) for all indexed local listings.

Andrew Connery (YOC’s MD) personally holds related Patents Pending in Australia and the US and is currently undertaking doctoral research at the School of Computer Science & Software Engineering - University of Wollongong to prove them.

SMARTPAGES directories and SMARTPAGES Pay Per Keyword (PPK) are native online tools with none of the expensive legacy issues that weigh down the current major players in the local advertising/search space.

They are the only purely Australian offerings that can truly compete head on with local search market leader Google and together also have the potential to replace both YELLOWPAGES and networked suburban newspapers as the preferred provider of local online marketing Services in this country.

Capital requirement:

A \$1 million commitment is sought to finance Stage I of the planned YOC national network rollout – nine extra portals as detailed in Annexure H.

25% of YOC's capital (\$4m cap) is offered to secure the Stage I financing together with a first option to purchase further shares in subsequent raisings.

A further \$2m (\$8m cap) will be required to fund Stage II i.e. establishing a Victorian state office and the roll-out of 12 community portals and associated directories throughout Melbourne.

Funding for the balance of the network (total 38 YOC portals and SP directories nationally) will be internally financed from cashflow.

Community Locations	Portals	Capital Required
Sydney (Wollongong, Parramatta & Sutherland Shire in place)	9	\$1m
Melbourne	12	\$2m
Brisbane & Adelaide	12	Nil
Other - tbc	2	Nil
TOTAL:	38	\$3m

How revenue builds:

The plan is based on promoting the three existing YOC portals (Wollongong, Parramatta & Sutherland Shire) immediately and adding one new portal in the first six months.

In the second six month period of Stage I a further eight portals in the Greater Sydney area will be rolled out – see Annexures H

****Most Likely Scenario: 2014 Forecast 12 portals only in NSW**
see Annexure A - i.e. in case Stage II finance is not forthcoming

Forecast Network Revenue	Portals	Revenue Per Portal	Total Revenue	Total Profit	ROI
By December 2010	4	\$135,000	\$540,000	\$100,000	2.5%
By December 2011	12	\$270,000	\$3,240,000	\$648,000	16.2%
By December 2014	12**	\$468,000	\$5,616,000	\$2,246,000	56.2%
By December 2014	38	\$400,000	\$15,200,000	\$3,040,000	38.0%

Revenue calculations:

BASIC DIRECTORY:

Category Openers (CO) at \$475 + GST per annum plus Sponsored Listings (SL) at \$175.00 + GST have been used as a simple means to show how income can be grown over time.

In the first year of a portal's life a target of selling four (4) COs plus 4 SLs each week is set which given promotion and full time sales attention is deemed very achievable – revenue is lagged for three months with no income booked in the first quarter projections as each new community is established.

In the second year after a portal's establishment weekly sales are set at 8 COs plus SLs per week and income is projected to rise to \$270,000 per year per portal. All systems and staff should be in place and product awareness greatly enhanced.

In year three and thereafter sales targets are set at twelve (12) COs plus SLs per week and given that a substantial number of sales are rollovers and with greater market penetration more unsolicited leads should be generated and the reliance on cold calling by call centre/ sales representatives should be reduced. It is forecast that the per portal sales for the Basic Directories in year 3 after a portal has been launched could exceed \$400,000.

There are also at least three (six without CO) premium positioned Sponsored Listings in each category (currently SMARTPAGES directories have over 500 categories but Yellow Pages has over double that figure) which have a card rate of \$175.00+GST per annum or unlimited numbers at \$87.50 if sold over the phone. In addition there is no allowance for any e-zine advertisements, video sales or most significantly SMARTPAGES PPK.

SMARTPAGES PPK (PPK):

This brand new product is designed as a direct competitor to Google AdWords. The price point is \$1,000 per month including GST which is typical for an AdWords campaign in this country.

YOC has the advantage of a direct salesforce (as per YELP model) and the ability to provide top ranking Organic Listings which have substantially better conversion rates than Sponsored Listings (Google) and hence an improved ROI which SMEs should find very attractive.

Anecdotal evidence suggest penetration of the SME market by YELP in the US is approximately 5.0% i.e. there are four free YELP listings to each paying customer – it is assumed Australia will closely follow this figure.

.

Forecast market penetration:

YOC products are designed primarily for small business.

There are over 2 million small businesses (less than 20 employees) in Australia and of these 1.3m are Sole Traders i.e. there are approximately 700k SMEs with the potential to purchase a PPK package in addition to a Basic Directory listing.

We estimate an average YOC portal Services approx 250,000 people and by calculation based on the overall Australian population they would include over 25,000 small businesses of which nearly 9,000 are prospects for a PPK package although they may not always be evenly spread.

To date most research on 'hyper-local' online marketing has focused on suburbs – this format has already been trialled by YOC in Wollongong (DaptoOnline circa 2005) and proven unviable in both standalone and networked configurations.

In the US YELP achieves a 5% penetration in the city markets it operates in.

This would equate here in Australia to 1,250 Basic Directory Listings (1 CO for every 3 SL ie av \$250 sale) or \$312,500 paper portal.

Note: at \$10,000 pa for a PPK package it would only take 30 sales (2.5 per month) to double projected portal annual turnover.

No PPK related income has been included in YOC revenue forecasts

PPK greatly increases the potential market size since most businesses have a number of different products and Services and hence related keywords.

YELP derives roughly 75% of its web traffic from search engines – SOLD has better ranking abilities than YELP which means SMARTPAGES advertisers will achieve better results.

How YOC intends spending the Stage I funds:

First \$300K

Jun – Dec 10:

Commence promotion

Recruit a high level Media Sales Executive

Business Development Costs

Increase phone & direct sales force

Populate fourth portal

Business Development Costs

Second \$700K

Jan – Jun 11

Establish 4 new portals – admin/IT

Populate 4 new portals

Ongoing promotion

Increase phone & direct sales force

Recruit second high level Media Sales Executive

Capitalisation:

As the YOC national network grows the cost of rolling out additional portals reduces significantly and ROI increases – see Table below:

	YOC Capitalisation	No. of Portals	Capital per Portal	Total Profit	ROI
As at February 2010	\$3,000,000	3	\$1,000,000	\$100,000	3.3%
As at December 2011	\$4,000,000	12	\$333,333	\$648,000	16.2%
As at December 2014	\$8,000,000	38	\$210,526	\$3,040,000	38.0%

Business Plan

Mission

To establish a network of thirty-eight YOC branded communities throughout the country and within 4 years become the preferred promotional vehicle for advertisers seeking a well targeted inexpensive localised online exposure.

The primary focus is on significant population centres with Stage I roll-out in Greater Sydney being the initial target followed by Melbourne in Stage II.

Company

Your Online Community Pty Limited (YOC) ABN 24 124 091 425 is a Wollongong based private company incorporated 22 February 2007.

The core personnel and assets of YOC were originally part of Empower Australia The Marketing Group (Empower) established in 1989.

Empower had been active in the development of online communities (social networks) since the beginning of 2001 and acted as media representatives in regional NSW for John Fairfax for nearly 13 years.

Following sponsorship by the University of Wollongong, in July 2004, Empower was awarded The Prime Minister's Award for Excellence in Community Business Partnerships – NSW Small Business Category for its work with and support of local amateur sporting groups.

Business

YOC is committed to the development of its network of community portals and directories and since 2004 has been piloting satellite communities in Parramatta and the Sutherland Shire linked to its hub in Wollongong.

YOC portals will be attractive to:

local advertisers seeking exposure to local purchasers

major brands after local exposure for a local store/franchise

major brands who want cost effective broad exposure across a network of community based portals.

The Wollongong community portal was launched in 2001 and now has four major components – www.wollongong.youronlinecommunity.com.au

– including:

a free weekly community based e-magazine (WollongongOnline) emailed to over 10,000 business addresses, and

a local business directory (SMARTPAGES) with over 9,000 listings - www.WollongongSmartPages.com, and

a free community sports service which averages over 250 visitors each day 7 days a week www.wollongong.sportslive.com.au, and

a video sharing portal (www.yoctv.com)

Wollongongonline

Privacy Contact us Add bookmark

Posted 09-12-2008



FRONT PAGE

Profile

GET CONNECTED

Bottomline

Small Business

Ideas & Innovations

SMARTPAGES

Your Lifestyle

Your Food

Mindset

WalkThruLife

Clipboard

Seeing Stars

YoY

Serving the Illawarra exclusively since 1999

THEMED PROMOTIONAL PRODUCTS

Business Finance

Specialising in...

interflora

Profile

By John Bown



Bikes on the rise ...

While motor vehicle sales are showing a definite decline motor cycles are becoming increasingly popular with people of all ages

MORE

GET CONNECTED

By Andrew Connery

Your brother's keeper

A time to reach out



MORE

Bottomline

By John Bown

We lose a superstar

Memorial a must for Kerry McCann



MORE

Small Business

By Virginia Wren

Small Business Club raises \$3,700 for local charity

Members of the Wollongong Small Business Club dug deep at their annual Christmas meeting to raise over \$3700 for the South Coast School for Children with Autism



MORE

Ideas & Innovations

By Colin Seaborn

What's new here and overseas

Electric automobiles coming? / Heart without a pulse / Miners may swap diesel for solar / Bank on tyre bales / Believe it or not? Use snow for cooling in summer!





canvas & framed prints



corporate gifts



greeting cards dvds



The SMART way to find a local business

These online tools provide advertisers with a high level of exposure to the local community at very competitive prices compared to other media outlets.

It also enables a variety of impactful distribution options which traditional electronic media (eg major national portals such as NineMSN or television) and print cannot deliver e.g. video on demand delivered by email.

A satellite operation was launched in Parramatta in May 2004 to test the logistics of centrally managing a satellite YOC portal from the Wollongong based hub - this has been successfully demonstrated.

A local weekly e-magazine ParramattaOnline has been published weekly since that date with a locally based freelance journalist. A new section was also created within the SportsLive website to service the region and links have been established with a number of local sports codes/contributors which are ongoing.

YOC is just concluding the R&D phase and entering the commercialisation stage of this new media category (LI - Local Internet) and Empower/YOC has largely discontinued its traditional offline business activities.

Due to the recent implementation of a 3rd generation Content Management System the planned YOC portals in Greater Sydney and other capitals, as part of the financing contemplated, will be significantly more economic to establish and operate than the pilot hub and first two satellites.

Products / New Products

The SMARTPAGES directory, local community portal, weekly e-magazine, SportsLive website and yocTV.com online formats which YOC have developed enable a range of innovative and cost effective advertising approaches to be offered:

SMARTPAGES Category Openers (\$475 plus GST) and Sponsored Listings (\$175 plus GST) are the two primary revenue generators for each YOC portal (over 500 categories currently available)

TOWER banner adverts are available within all YOC weekly B2B e-magazines - linked to advertiser website or video



Video-on demand clips (SmartVideos) linked to directory listings will be a future product (not included in revenue calculations) – now being rolled out by Yellow Pages in USA (paid monthly).

The PPK offering requires SMARTPAGES to utilize static and coded URLs and for both the YOC portal and the SMARTPAGES directory (in each community) to be hyperlinked to a locally-based authority website with a Page Rank of at least PR7 (refer Andrew Connery's SOLD patents for configuration) to consistently deliver superior SERP results.

The Market

YOC's market comprises companies wishing to promote products at a grass roots level on a community by community basis. With the exception of community newspapers traditional mass media is unable to effectively deliver in this geographically targeted fashion in major population centres.

The rapid increase of total online advertising, post the dot com crash, commenced in 2003-04 with a hike of 41% in year on year sales - the only mass media in Australia to record growth in volume terms that year and revenue has continued to grow year on year at over 50%.

The online market leader NineMSN predicted at the time its gross online banner type advertising revenue would exceed \$100 million in 2006 - pro rata \$35 million in NSW (mainly Sydney) – this figure was in fact exceeded and has continued to grow significantly ever since.

The overall size of the online market in Sydney, including all existing media players together with specialist pure online players and search engines (but not including offline directories), in the period 05/06, exceeded \$150 million.

In addition, there is a significant opportunity to capture a share of the current community newspaper advertising market because of YOC's low cost/high exposure community model. The community newspaper market is a major portion of all newspaper advertising which is approximately 28% of the total advertising spend of \$10.0 billion annually (05/06). Based on population, and deleting \$800 million (for metropolitan newspapers) it is estimated up to \$500 million would be spent with community newspapers in the Greater Sydney area each year.

The Australian offline directory market is approx \$1.25 billion annually and by proportion nearly \$500 million would be within NSW and of that at least \$300 million would be within the Sydney metropolitan area.

Whilst penetration of various market segments will differ the fact is YOC will participate in a total Sydney advertising market of nearly \$2 billion comprising:

\$100 million Online Advertising

\$500 million Community Newspapers

\$300 million Yellow Pages etc

\$50 million Online Directories

\$1 billion TV and radio

Given there are limited opportunities within the total online market for small to medium sized businesses to utilise current internet traffic generators, and with minimum campaigns of \$5-10,000 per week being imposed by the major players, there is a significant niche opportunity.

Competition

YOC has limited 'pure online' competition (new entrant www.ourpatch.com.au is a top down model and focuses on regional areas) – see ANNEXURE C and the closest existing alternative is a network of community newspaper websites see Fairfax Digital Media Network (www.yourguide.com.au).

Other potential competitors are major news portals such as NineMSN and NEWS Interactive if they can develop a localised model which works. NEWS Ltd has a chain of community newspapers and have trialled pilots in SE Queensland. Rural Press experimented in 2000 with YourGuide.com.au which has now been absorbed into the John Fairfax model – but it is 'top down' in orientation, lacks paid directories and has limited banner advertising opportunities.

SENSIS are aggressively launching new sports and entertainment 'top down' websites, developing Trading Post online and rolling out video content delivered by mobile phone but at the moment appear to be avoiding branded 'community' models – they were in fact early pioneers in community portals (Telstra Labs – Tasmania - now defunct).

SENSIS retains a close interest in community portals and as a Foundation Partner of an auDA (Australian Domain Name Authority) initiative provides free search tools for a growing network of non-profit community websites utilising Second Level Domain Names e.g. www.wollongong.nsw.au

US based Craig's List (classies only) commenced operation in Sydney in September 2004 but has not become a major player downunder. US market leader YELP has also set up in Sydney.

Search engines GOOGLE, YAHOO and MSN MICROSOFT are beginning to enter this market however their success adapting a 'top down' model to suit the local space is not assured since based on our research it has not been achieved anywhere else in the world and only SENSIS actually has a sales force on the ground.

Much media attention was given to a US start up online community (with indirect links to the Washington Post) in February 2005 - www.backfence.com which was closest to YOC in design approach although it lacked the essential ingredients for success being the ability to generate revenue with 'push type' activities and to host paid directories. These deficiencies have proven to be fatal flaws in all standalone community portals and newspaper linked initiatives researched to date – and Back Fence appears to have disappeared.

YOC believe its 'bottom up' approach together with its e-magazines, sports websites, video sharing, and local directory modules uniquely address the issues that have hindered all other players wishing to grasp this massive opportunity.

However it is the PPK package which holds the most potential since it actually produces better search results than all other known competitors. SOLD Technology could ultimately have an international impact in the field of local search and directly compete with Google AdWords.

After nine years of R&D YOC consider its business approach will create a genuine low cost producer model and as a prime mover in this local space will, if suitably resourced, also maintain a sustainable competitive advantage.

Opportunities/Risks

The local online advertising/search market is seen as the ‘holy grail’ of internet advertising in the US with estimates ranging between \$90-130b pa spend being quoted there in the trade press.

Virtually all leading online players such as Google, Yahoo, Facebook and Groupon have attempted to establish themselves in the local space however to date it appears that YELP is the only pure online player that is totally committed to this market (since 2005) and is gaining traction. YELP is the only operator employing a ‘bottom up’ sales driven approach – following the traditional hard copy YELLOWPAGES model and also utilized by YOC.

The opportunities are seemingly unlimited - locally, nationally and internationally. The scale of the opportunity can be seen when one imagines ultimately, perhaps in less than 4 years (with baby boomers turning 70), the replacement of virtually every community newspaper and direct mail catalogue in the world with a much more effective and efficient mode of distribution better suited to younger (Gen X & Y) more computer and web literate users and at the same time being more environmentally friendly i.e. saving the trees.

This is the size of the opportunity and the major risk to YOC is for a major media, online player or social network to launch a ‘me too’ community based portal network. YOC activities are being continually monitored online and some IT experts have estimated that even without permission but with access to ample funding our model would take at least a 12-24 month period to be reverse engineered.

However, IT is only part of the concept with YOC’s key competitive advantage being the knowledge built up in factors such as system architecture, low cost operating and staffing model,

harvesting email addresses, obtaining local content and providers suitable for an online publication, selling a variety of community based advertising products and supporting amateur sports codes on SportsLive.

The development of robust and scalable Content Management and Sales Management Systems are also essential for the daily operation of a network and all the other associated online publishing activities.

Management Team

ROLE	COMMENTS
CEO	Andrew Connery will continue his current role as Managing Director. He completed his Masters thesis on The Sustainability of Community Portals at the University of Wollongong in 2006. Major shareholder and SportsLive Moderator Dr Colin Seaborn would take over this role if Andrew was unavailable for any reason.
ADMINISTRATION	Financial Controller to be appointed.
PRODUCTION	Currently Michael Seaborn performs the fulltime Production Coordinator role. As the number of Portals grows in Sydney, an Assistant will need to be appointed.
IT SERVICES	Outsourced to Net for Business (N4B)
EDITORIAL	To be appointed as Melbourne comes on-line. The role will be to support e-magazine journalists in each portal. In short term, John Bown (WOL editor) and Margaret Connery (WOL sub-editor) will fill this role.
ADVERTISING SALES	Two sales managers to be appointed in 2010/11 to manage sales personnel in communities and in the interim Andrew Connery is filling this role.
TRAINING & HR	In 2011 a Training Specialist will be appointed to support the existing Sydney portals & the Melbourne roll-out.

SPORTSLIVE	Colin Seaborn to continue to fill his role to support the rollout to Sydney & Melbourne – with a sports contributor appointed in each community
MANAGEMENT MELBOURNE	This role will be filled to provide a senior management and representation presence in Melbourne to coincide with the Melbourne rollout. It will be supported by a PA based in a Melbourne office.

A total of twenty six freelance journalists (for Greater Sydney and Melbourne) will ultimately be required for copy and photos for weekly Your Community and Business Beat/Bottomline columns – 2 days per week has been budgeted based on the ParramattaOnline experience.

In addition, each portal will have a part-time SportsLive contributor to supply material weekly to SportsLive central Moderator for sub-editing and placement on SportsLive website and dedicated SportsLive columns on all e-magazines.

Each YOC portal will have its own locally based advertising sales representative / Franchisee supported by a YOC advertising sales manager. (Each YOC sales manager will be responsible for four portals.)

As the number of portals and e-magazines expands there will be a progressive increase in pre-production staff based at the Wollongong office. It was previously anticipated that an additional pre-production employee would be required for each four (4) portals – although the recent 3rd generation CMS implementation by N4B may significantly improve on this ratio.

Capital Requirements

Using base case revenue assumptions – there is a capital requirement for \$1.0 million in Year One as indicated in the table below.

Financials	2010	2011	2012
Revenue	\$591,500	\$2,197,000	\$3,718,000
EBIT	-\$647,500	-\$129,500	\$1,386,000
Capital required	\$1,000,000	\$2,000,000	NIL

More detailed information on the Financial Data is contained in APPENDIX B

In addition about \$150k will also be required to pay out early stage investors – it is proposed to pay them out of cash flow.

Amount	Owing to	Services provided
\$65,000	DMW Group	Initial financial support
\$55,000	Internetrix Pty Ltd	Initial software development
\$25,000	Ian Ryan	Sutherland portal start up
\$145,000	Total	

Financial Plan

This Business Plan relates to Stage I funding of the launch of the network community portal model concept (complete with weekly e-magazines, ‘SportsLive’ results website, ‘SMARTPAGES’ business directory and linked to ‘yocTV’ video sharing portal)

onto the Sydney metropolitan market by December 2011 (extra 9)

Stage II – subject to further funding but planned

onto the Melbourne metropolitan market by June 2012 (another 12)

onto Brisbane and Adelaide metropolitan market by June 2013 (another 12)

And to become the dominant provider of online content in the Local Internet (LI) space in those markets – total YOC network 38 communities.

The Funding of \$1.0 million is sought at this time to finance the base case Year One.

Additional \$2m in capital will be required to fund expansion into Melbourne, Brisbane and Adelaide – dependant on timing and speed of rollout.

The primary strategic goal is to establish the YOC Network as Sydney and Melbourne's premier local online marketing vehicle within 4 years. Milestones considered necessary to achieve this target will include:

Network traffic to exceed 40,000,000 hits per month

Network to average 150,000 local visitors per week

Related financial objectives include attaining \$600,000 monthly network revenue within four years.

This will require a concerted effort of a management team (as outlined in the table above) who will operate from the existing YOC office in Wollongong CBD.

A small Melbourne office /home office will be set up to initiate the Melbourne rollout.

Promotion/media costs have been assumed in the budget in addition to all email capture related expenses.

Once the 20 site network is fully established by June 2012 YOC should not only be financially viable but performing strongly – KPIs identified to achieve these aims being:

Revenue running in excess of \$600,000 per month

Gross Margin >40%

Most importantly YOC will have demonstrably created a mass media platform. In addition the business will be well positioned to raise the additional funds necessary to proceed with the forecast roll out of the proven 'commercialised' network pilot throughout Australia/overseas.

Exit Strategy

Within two to three years there will likely be an opportunity for exit by means of a trade sale to an existing media player, stock exchange listing and/or agree to a merger to proceed to the next step of the business plan

YOC has a long association with local/senior management at publisher John Fairfax (through Empower Australia) and the online activities are also well known to Cumberland Press (NEWS Ltd) and regional television broadcaster WIN Corporation.

Company Description and Background

Description

YOC is a new media platform offering local and national businesses localised permission-based email and search based advertising products at competitive rates. It operates in the fast growing local internet (LI) space and the business currently operates three community portals (hub in Wollongong and satellites in Parramatta and Sutherland Shire). The Wollongong operation has been generating some revenue since August 2005 – without the benefit of full time sales staff or any form of major promotion. With the logistical platform and business model now proven with three pilots, YOC is seeking an initial \$1m (of a total \$3 million) of funding required to rollout a further 11 community portals across Sydney (by Dec 11) and 12 portals across Melbourne (by Jun 12). The platform used by YOC will also allow delivery of its advertising products to mobile devices (being developed) and is thus well positioned for future technology advances. The model can be applied both Australia-wide and globally.

Background

YOC originally operated as Empower Australia The Marketing Group ABN 65 219 865 485 which commenced operations in 1989 and was a family owned, Wollongong based partnership comprising three business units: EmpowerB2B (advertising & market research), Empower ADS (print media representation) and EmpowerOZ (publishing and distribution).

The concept of a prototype Community Portal URL: www.wollongongonline.com (WOL) was developed by the principal of Empower Australia, Andrew Connery in early 2001 – with locally based organisations the DMW Group and Internetrix agreeing to provide seed capital (in the form of software development and rent subsidies) for the first 2 years of the planned experiment.

WOL was officially launched during Innovation Week in May 2001 and continues to operate from the Empower offices in Wollongong CBD – since february 2007 under the banner of YourOnlineCommunity (YOC).

The prototype WOL standalone portal was not successful in demonstrating the viability of an online community in terms of attracting traffic and/or advertising revenue during the intial 2 year trial period.

However another related initiative, funded solely by Empower Australia, was critical in finally creating a business model with demonstrable long term prospects and significant competitive advantage – this related primarily to the publishing of HTML compiled newsletters (prototype weekly B2B e-magazine utilised the original portal name WOL together with Empower's in-house databases and its supportive B2B client base).

As part of Andrew Connery's ongoing research and development of online communities, he completed a Masters Degree with the Department of Information Systems at the University of Wollongong the basis of his thesis being action and theoretical research into the sustainability of Regional Community Portals.

Product Offering

A range of advertising products are hosted within YOC's local business e-zines and on the local community portals. Subscribers and visitors are attracted by the hyper-local information, personal/lifestyle columns and opinion pieces contained in the e-magazines and portals. The principal content items are:

a free weekly local business oriented e-magazine delivered by email to subscribers - in Wollongong it is distributed to 10,226 local business email addresses – Parramatta/Blacktown 9,549 & Sutherland Shire 2,068

a local business directory called SMARTPAGES

(www.SmartPages.com.au)

a national award winning amateur sports website (2004)

(www.sportslive.com.au) (in Wollongong SportsLive averaged over 250 visitors each day seven days per week in 2007)

a local community portal e.g. in Wollongong

(www.wollongong.youonlinecommunity.com.au) with the articles from the e-magazine archived together with navigation to SMARTPAGES, SportsLive and video on demand

a VIDEO sharing portal (www.yocTV.com)

The primary advertising products sold are:

Major products in SMARTPAGES Local Business Directories comprise:

Category Openers (1 CO per category) – linked to client website are priced at \$475.00 plus GST per annum

Sponsored Listings (no limit on SLs) – linked to client website are priced at \$175.00 plus GST per annum

General Listings are free (email only) - not linked to a website

Video-on demand (SmartVideo – 12 month package \$1,997 plus GST)

Tower & Island advertisements on e-magazines which link either to an advertiser's own website, or a larger information page hosted on the YOC portal, or pre-addressed email (currently used primarily to promote SMARTPAGES). Islands also available as high impact JACK HAMMER single advertiser campaigns.

Traditionally, these activities have been undertaken by Empower Australia however, the advent of the WollongongOnline/YOC portal is drawing a commitment from a range of community internet users.

Permission based subscriptions amongst the business community currently run at over 10,049 and SMARTPAGES has 8,571 companies listed.

With an estimated 8,000 SMEs in the geographic area. YOC already has a very significant awareness in its home town.

YOC has the following characteristics:

YOC's business is primarily an online publisher that will operate in much the same manner as newspapers - content will be shared amongst its network of community portals wherever possible enabling YOC to capitalise on economies of scale².

SMARTPAGES listings make up the major product offerings – Category Openers at \$475 plus GST per annum and Sponsored Listings at \$175 – over 500 categories available which can be offered all year round ie not once a year like hard copy directories

YourOnlineCommunity (YOC) will be the overarching brand with each geographic portal carrying its local brand extension

e.g. in Parramatta the URL:

www.parramatta.youronlinecommunity.com.au

YOC Portals will take advantage of standard templates and operating processes to rollout operations quickly, transmit a uniform brand identity and provide resource economies.

YOC will develop a rollout plan for the geographic portals that encompasses the most strategic regions in Australia. Strategic regions will be identified based on the following characteristics:

Initially, capital cities with high online use amongst their population (Sydney in 010/11, Melbourne in 11/12 – Brisbane & Adelaide 12/13)

Then regional centers with significant residential populations - no less than Wollongong and with a University near by

² “Empirical research shows that it is content, above all, that lures consumers to any World Wide Web site and persuades them to return. To woo them successfully, a B2C – horizontal portal, mass marketer, and on-line community alike – must use tools that can anticipate customers’ future needs, even without a complete picture of their tastes and circumstances...(On-line niche players, by definition, have a better idea of their audience, through it is bound to be smaller). Simplifying Web segmentation, McKinsey quarterly.

YOC geographic portals will offer the following Services:

- SportLive: a sport information website with associated links.
- B2B news: a local business e-magazine.
- SMARTPAGES: a localised B2B directory.
- yocTV video sharing portal

Product Development

The following are part of on-going reserach and development:

Modify dynamic URLs to static / SEO of all YOC portals

Improve portal statistics reporting / user tracking etc

Upgrade SMARTPAGES search tool for mobile phones

As the geographic portal sites grow and contribution to content and advertising increases, new e-magazines (e-newsletters), and new advertising offerings will be developed to meet growth demands and capture new revenue streams.

VIDEO-on demand, delivered by e-magazine, is currently available. It is anticipated this form of distribution (linked to a SMARTPAGES listing) will become the basis for a significant future revenue stream. Currently being rolled out in USA by Yellow Pages.

e-Commerce Factors

Several important aspects of eCommerce are recognised as critical to the new YOC business:

Content must be desirable and unique to drive consumers to that site rather than another.

Campaigns must be developed and ongoing to continue the growth of permission-based marketing. This in turn provides target markets for future revenue and future campaigns.

Ease of site use: easy to find site; easy to remember site name; clear web page layout and design; good instructions for all aspects of the site's use, and easy-to-use subscription form. YOC will continue to maintain usability standards.

Security: quality security technology is essential

Privacy notices and Anti-spam legislation will be supported by the business operations.

All YOC online properties are moderated – this human edited feature overcomes a major privacy/quality issue for all traditional top down portal operators such as YouTube/MySpace et al

Competitive Advantage

YOC will gain a competitive advantage through the following:

The SMARTPAGES local domain name (SmartPages.com.au) is considered extremely valuable for several reasons. The name is an established global brand (SmartPages.com) part of Yellow Pages in the US and suggests major Australian player Yellow Pages but also incorporates SMART which links neatly to Smart Phones – the important emerging market segment. YOC also has control of Universal Domain Name ... fyi-SmartPages.com

Content will be desirable and unique with community focus to drive a region's people to the site as a first preference choice when seeking local information.

The standardised format and template will ensure good web-site design and ease of use principles to make the site easy to use and navigate.

Strategies that improve community involvement such as free links like junior soccer and netball. This will build recognition and increase subscriptions. By allowing local sport clubs to update their own information, traffic will increase on the site and naturally flow into other channels of the Portal

YOC was started to take advantage of the current window of opportunity to roll out community portals quickly in strategically targeted areas to capture mind share. Community portals are of massive interest overseas and the number of local portals in prospect locally is increasing making a speedy rollout essential to YOC's success (see Annexure D).

Being the first online website to offer businesses advertising that directly targets their micro-market cost effectively so that small business will be able to list their offerings on a uniquely focused channel not available elsewhere in a cost effective form.

Proven ability to replicate and network multiple portals.

Key Benefit for Customers: For advertisers, YOC allows reach to targeted local community level consumers with innovative products at competitive rates versus other media. When completed, the YOC network will allow advertisers to select target communities or advertise across the entire network. For Readers / Browsers, YOC provides a one-stop shop for interesting local information, news, events and sports results.

Business Strategy

YOC has proven the logistics of its business (Hub & Satellite) model with demonstrated reliability in Wollongong, Parramatta and Sutherland Shire and will roll out a network of similarly styled community portals with tailored local content to access Sydney (9 additional by Dec 11), Melbourne (12 portals in Jun 13) and Brisbane & Adelaide (12 portals by Jun 14) for a

209

total network of 38. These community portals will be attractive not only to local advertisers, but once networked, will also attract larger metro/national advertisers as well.

To enable this strategy the business requires \$1 million of committed capital by or before July 2010. This will enable completion of the Sydney and Melbourne network by June 2012, with breakeven forecast for the second half of 2011. Strategically, this business is being built with an exit by trade sale/IPO anytime from one year after Stage I funding is secured.

Industry and Market Analysis

Industry Description and Outlook

Since 2004 the online market has always exceeded forecasts see below. Full financial year revenue and year on year growth over the past five years together with estimates for next year is tabled below:

	2003	2004	2005	2006	2007	2008	2009
National	\$236 m	\$326 m	\$488m	\$588m	\$710m	\$855 m	\$1,032m
Online			***	##	##	##	##
Revenue							
Increase	41%	38%	49.7%	20.6%	20.6%	20.6%	20.6%

SOURCES: *** Audited figures 2004-2005 Financial Year ## Fast growth sector (20.6% forecast CAGR to 2009 per PwC)

MARKET SHARE	2005	2006	2007	2008	2009
Online Revenue	\$488m	\$588 m	\$710 m	\$855 m	\$1,032m
Total	\$10,336 m	\$11,293 m	\$11,779m	\$12,285m	\$12,.813m

Advertising Spend	##	**	**	**	**
Online Percentage	4.7%	5.2%	6.0%	6.9%	8.1%

SOURCES: ## Steve Allen, Fusion Strategy – The Australian 17 Nov 05

** Extrapolated from comments by Harold Mitchel, Mitchell & Partners

- The Australian 17 Nov 05

Steve Allen, managing director Fusion Strategy forecast in Nov '05 a total media spend online in 2006 of a record \$1 billion (including online search and classics) and most media analysts predicted that annual online advertising expenditure would exceed that of both radio and magazines in 2008 (currently about \$850m each).

NB: this actually happened in 2007

With growth in the past 3 years averaging over 50% year on year the percentage of total online advertising (marketshare) only increased to 4.7% in 2005. This suggests a further correction in coming years since PBL Chairman James Packer is on the record as claiming the internet secured 12% of all consumers' media consumption time as early as 2004 (NineMSN Digital Summit 2004).

James Packer speculated at the time that there seemed no foreseeable impediment to the continuation of strong growth for at least the next 3 years. As a consequence the PwC projections of 20.6% CAGR we have used through to 2009 are shown to be overly conservative.

Key Market Trends

Home internet connection penetration rates have reached critical mass.

The access Australian's have to a home computer is amongst the highest in the World at 67% (Digital media in Australian home study ACMA July 05) Broadband connections grew 108% in FY05 and have doubled every year since 2002. Now in excess of 90%.

Broadband Usage

Moving from dial-up to broadband has been shown to increase household usage patterns by at least 50%. With 70% of households now having broadband installed surfers will also be more inclined to use rich media such as our VIDEO- on demand products.

Media Fragmentation

The internet and mobile devices are fragmenting mass media audiences although the tradition media still dominate the space. The well established growth pattern has reached a point where traditional publishers are now very attracted to emerging online players which can, or have the potential to, both offset their audience losses and also utilise inhouse legacy content.

Newspapers

National and metro newspapers have been steadily losing circulation for at least five years in virtually all major cities (world-wide) since many other sources (particularly news portals) are readily available to satisfy readers needs. However many community newspapers have reversed this trend although much local material which used to be published is no longer covered in these publications and many forms of information are better suited to online delivery.

Large portals/search browsers don't deliver local audiences. Existing major sites such as Yahoo, NineMSN and City Search are are not well positioned to deliver a localised audience to prospective advertisers. Locally based 'bottom up' portals such as YOC can tailor content offerings to meet local consumption patterns.

Community and family focus

There is a trend amongst baby boomers to "cocoon" (an increasing focus on family and community). Activities, Services and online sites focusing on this sector will meet the demands of this segment.

X and Y generations

This audience is becoming very difficult for marketers to reach. 8% of 16-39 year olds have stopped watching free to air television in Australia this year and almost 40% watch TV and surf the Internet at the same time³

Trends in direct marketing

Direct marketers and large retailers can benefit from electronic delivery methods by cutting costs massively – however this activity is non-core and can be counterproductive if issues such as customer privacy are not handled well.

M & A activity

In CY 2004 there were 18 M&A transactions in E-mail marketing worth \$US240 million versus \$US101 million in 2003 in the US.

In addition there were 48 deals in Interactive Advertising worth \$US2.5 billion**

SOURCE: PETSKY PRUNIER 2004 Direct Marketing and Marketing Services and Technology Deal Notes.

Activity continues there and at least 20 potential trade buyers have been identified within Australia – see Table below:

COMPANY	CATEGORY
Text Publishing	Online Publishers
John Fairfax	Newspaper/Online Media
News Limited	Newspaper/Online Media
Nine MSN	Newspaper/Online Media
Cumberland Newspapers	Newspaper/Online Media
APN	Newspaper/Online Media
Macquarie Media	Cross Media Fund

³ “Too busy to watch TV” - AFR Marketing & Media 11 August 2003

WIN Television	Television
OzEmail	ISP
Telstra/Sensis	Telco
Optus	Telco
Vodafone	Telco
Australia Post	Mail distribution
Salmat	Direct Mailhouse
Harvey Norman	Retailer
Coles	Retailer
Woolworths	Retailer
Google	Search Engine
Yahoo/Geo Cities	Search Engine/communities

Spam and online publishing

Permission based marketing is being driven by privacy issues and Anti-spam regulations that have been applied in most western countries. This means that people will be able to reduce their level of bombardment and be in a position to focus on what they nominate to receive.

Market Segments

YOC will directly target market segments in the geographic areas where it develops a Portal offering.

- Businesses via weekly e-magazine
- General public through SMARTPAGES Business Directory & PPK
- The youth market through SportsLive website .
- The general public via yocTV video sharing portal

The offerings for each geographic Portal market are basically the same, however localisation of content will occur in local market segments e.g. differences arise with SportsLive results where different local sports might be supported.

YOC will ensure each area's special needs are met.

Market Size and Profitability

Market size – Wollongong

The size of the Wollongong market comprises all businesses/Services listing in the Yellow Pages. Currently all businesses are entitled to a Yellow Pages basic line listing but extra advertising space is charged at a premium.

Total revenue for Wollongong advertising has been estimated as follows:

Regional advertising (TV, radio, newspaper ⁴)	\$ 66.5 million
Yellow Pages and other directory advertising	\$ 12.5 million
Total advertising revenue	\$79 million

With many businesses paying premium Telstra Yellow Pages rates, some will take advantage of the new marketing vehicle to move part of their Yellow Pages dollars into one of YOC's Portals. Medium and larger businesses may also want to advertise on specific e-magazine columns and take advantage of specific marketing campaigns. Some smaller businesses will likely take advantage of the opportunity to target local customers at a local advertising rate.

However, the exact percentage of current advertisers willing to swap part or all of their advertising dollars from other vehicles to YOC in the short term is difficult to estimate accurately.

⁴ Data from A C Nielsen

The 'incremental' cost for placing advertising on YOC network is extremely low, profitability will be around 50% of advertising revenue once the base Wollongong, Parramatta and Sutherland Shire overheads are covered – est \$30K per month.

Market size – Sydney and Melbourne

Historically these markets have been shown to be less cost sensitive and more accepting of new technology. All modeling for this business plan is predicated on the results actually achieved in Wollongong with no allowances for the networking effect of a major rollout or any beneficial consequences or synergies associated with increased scale apart from an allowance for the greater population size.

ADVERTISING MARKET SIZE	2008 - 2009
Wollongong	\$79m
Greater Sydney	\$2.098 b
Greater Melbourne	\$1.573 b
TOTAL:	\$3.75b

SOURCE: By calculation Andrew Connery

Product Background

Weekly e-magazines

Currently distributed each Tuesday to 10,727 Wollongong based B2B subscribers with local news and commentary – titled WollongongOnline COMMUNITY NEWS & VIEWS. Parramatta version published each Wednesday since May 2004 – circulation 9,580.

The average population base of YOC portals within metropolitan areas will be 300,000 people. This is over 50% greater than the pilot portal in Wollongong.

This weekly e-magazine also defines most of the content that is replicated on the YOC portal and the content for viewers is made up of the following sections

Regular Editorial Columns

Profile – local business personality written by freelance journalist

GET CONNECTED – local observations and comment by Publisher

BottomLine – controversial commentary on local events also by freelance journalist

TopLine – A positive comment on local affairs by inhouse writer

Mindset/Spin, Your Lifestyle, Your Health – observations on work/life balance

Spin – observations on work/life balance

YOY – Jokes, funny videos section

Regular Advertorial Columns

Small Business – ITEC Illawarra Business Advisory Service

Your Mortgage – finance issues by Paul Wright

Your Travel – John Blair freelance journalist

Your Business - business trainer,content by Paul Wright

Mindset – content by NLP practitioner David Stanton

Marketing Mix – marketing issues by Paul Chad & others

Sample e-magazine & columns– see Annexure B

WollongongOnline carries two differing categories of advertisements:

TAGZ dynamic banner adverts scroll through the bottom of each page viewed in the browser – ALL YOC properties

TOWER adverts which appear in the Right Hand column of the front page and all column pages.

The TOWER is equivalent to a stack of 8 TAGZ

Localised Search - SMARTPAGES

This tool was specifically designed as an in-house marketing device to harvest email addresses in the start up phase of the YOC portal network and complies with the provisions of the Spam Act 2003.

Local businesses are offered a free online listing providing they agree to receive their local YOC weekly e-magazine.

Alphabetical General Listings include product categories, street address, contact phone number and email however a Hyperlink to an advertiser's website is only available with a Sponsored Listing (\$175.00 + GST per anum) or a Category Opener \$475 + GST).

The selling strategy is based on a proven phone selling formula, comprising:

STEP 1 : Prospects are phoned (at work in business hours) to sign up for a paid SMARTPAGES online business directory listing.

STEP 2: If they accept the offer their email address is captured as part of the sign up process (creating a commercial relationship - Spam Act 2003) and they get a free weekly e-magazine subscription as part of the deal.

STEP 3 : If they decline they are then offered a 'free listing' as an alternative subject to them agreeing to receive the free weekly e-magazine (granting permission - Spam Act 2003).

In most instances, based on Empower Australia's outbound telemarketing experience over many years, (>75%) of prospects will take the free option when offered.

Initially this free directory service would be accessed through the YOC portal by browser and promoted within the weekly e-magazine although ultimately it would also be accessible via 3G mobile phones.

SportsLive.com.au

See Annexure B

SportsLive is an important part of each YOC portal and provides a much needed forum for local amateur sports results and reviews. We call it Your Online Sports community.

The pilot web site in Wollongong is now in its 9th year of successful operation and it is universally praised by participating sports. In the Illawarra Junior Cricket Association handbook (2005-06 season) the following is included in the foreword from the President:

“Most of you will have seen the SportsLive website, which hosts our results pages. What you may not know is that the Wollongong Online and Sportslive web sites have won a Prime Minister's Award for 'Excellence in Community Business Partnerships NSW Small Business – 2004'. Congratulations to Andrew Connery and the team at Empower Australia, who run these web sites. The use of SportsLive makes our Associations' life easier, and I would encourage all coaches & managers to enter match reports. The recognition & encouragement that our players get from seeing their names on the web is invaluable – as well as the smile it puts on their faces.”

SportsLive is moderated by chosen gate-keepers from within participating sports (who have password access to their own sites), it enables the local sporting community to keep updated as to the results of a range of different amateur and junior sporting leagues.

It has proven to be a major attractor of traffic to the YOC portal without the need for expensive complementary media support and is very economical to operate since all data is input by

participating sports at their expense. It should be noted that other than training moderators to input data there are few other expenses involved.

This is a feature unique to YOC and (NEDI – non-expensive data input) has been a major finding of our on-going research into the sustainability of community portals.

Traffic to the Wollongong SportsLive website ebbs and flows with the winter and summer sports seasons with highs at the end of seasons (September in winter) and lows being in between seasons.

Daily traffic of 5-600 visitors is common in season and YOC has not actively sought to build up the number of participating sports to date although this will become an imperative in the network roll out.

Whilst SportsLive currently provides traffic to the YOC portal and views for TAGZ advertisers it does not carry much local display/TOWER advertising.

YOC anticipate that most future income will be in the form of corporate sponsorship which will only become attractive to national buyers when they can secure network-wide coverage.

Sport of all kinds is at the core of Australian life and in the 21st century it binds communities more tightly than any other single factor. Paradoxically no other community portals operating in this country currently incorporate sport into their portals and even world-wide it is not a significant component in most formats researched. The ability to link all amateur sports at the local level under a single umbrella website is seen as major competitive advantage for YOC. In Wollongong, a number of sports with their own web sites have requested to be listed on Sportslive with links to their own web site. The advantage of this to the sports is that often their own URL is not known or obvious.

TAGZ

YOC online has developed this unique method of advertising to satisfy many customers' desire to place their advert on the front page of the website in preference to placing adverts within a specific area of the portal or on a specific page.

TAGZ are visible wherever the viewer happens to be within the portal or e-magazine and are downloaded in batches of 10 which are served randomly.

A new batch is served with each physical refresh of a page which means each time a user visits a new area within the portal /e-magazine they will see a different batch of advertisements.

Specifics

TAGZ are 160 pixel wide x 56 pixel deep banner adverts which scroll across the bottom of the PC screen when a viewer visits the community portal.

The TAGZ randomly served in batches of 10

Each TAGZ takes 25 seconds** to scroll (in full view) from the bottom right, to the bottom left of the computer screen - partially exposed up to 30 seconds.

** Internal Usability Studies EmpowerB2B - 2004 & 2005

Five (5) TAGZ are in full view at all times anywhere within a YOC portal or related websites and e-magazine.

Each batch will continue to scroll, until a new page is clicked or the screen refreshed.



While in theory there is no limit to the number of different TAGZ a portal can carry it is our objective to maintain an extremely economical advertising medium (based on 1 cent per view).

To that end we intend to control each portal's capacity to provide value based on \$10 per 1000 impressions (ie a \$10.00 CPM in large media buyer language).

This offer is currently marketed at the local level as \$40.00 pw casual (plus artwork) or more commonly \$20.00 pw with a minimum 6 week contract period.

However at the present time TAGZ are predominantly used as part of a free Introductory Package for SMARTPAGES paid listings.

A Category Opener entitles advertisers to a 12 month campaign.

A Sponsored Listing buyer receives a 3 month campaign.

Product Status

Other than identified enhancements (see Section 13, R & D Plan) the technology to operate YOC portals is virtually complete and the 3rd Generation Content Management System (CMS) supplied by Strategic Partner Net for Business has been in daily use since implementation in March 2007 without major difficulties or significant on-going downtime. It is envisaged YOC will be able to rollout its planned network of portals without further major software upgrades.

Window of Opportunity

YOC geographic community portals will prosper if rolled-out and branded well before other significant players or print incumbents enter the new market space. The success of other classified advertising based portals (verticals) in the major categories of cars, property and jobs clearly establishes that specialist start-ups are the norm for achieving and maintaining market leadership. YOC intends to achieve the targets established in its rollout plan, to secure mind share and capture revenue quickly.

CUSTOMERS

Portal traffic and advertising influences

Readership is driven by content. In some cases, newspaper readers are attracted by advertising⁵. To influence B2B advertisers to advertise, content must increase reader and subscriber numbers or at the very least provide the 'right' type of audience. In the case of YOC Portals, content must be locally focused and adopt current marketing campaigns and strategic partnerships to ensure that the success of the WOL trialing to date is replicated elsewhere.

The campaigns and content used to-date to attract readers and subscribers are:

Youth sports, sporting club information posted free and managed by local sports groups - SportsLive.com.au

Weekly B2B e-magazines

Videos on yocTV.com

YOC will continue to target a number of key cohort segments in every region to meet a wide range of advertisers' needs.

These cohorts include:

Generation X and Y cohorts

Baby boomer cohorts

Each local business community including SME's and large organisations

Community influencers

Regional communities are traditionally loyal to local providers. By providing a local directory search local users will be able to find local providers.

There is also a growing trend "cocooning". People are becoming more interested in family and community. This trend is growing with an increasing number of people moving out of larger

⁵ Local newspapers are largely comprised of local advertising about local services (e.g. plumbers, shops etc). Many local newspaper readers find this content useful.

cities. It is likely that a community focused Portal will provide old and new local residents with information that is both useful and has lifestyle appeal.

Content appeal

Niche providers of web content are likely to have strong niche appeal and YOC will focus on delivering this unique and interesting offering.

For detailed breakdown of factors involved and ‘stickability’ of portals generally refer Masters Thesis on the Sustainability of Community Portals (2005 Connery, A)

Reader/subscribers

As early as 2006 the YOC Wollongong portal attracted over 1,500 visitors to its site each day of the week ie over 1,500,000 hits per month. Including up to 500 users who visit associated website www.wollongong.sportslive.com.au each day in season.

Subscriber breakdown

The weekly business to business e-magazine of the pilot portal in Wollongong now has 10,186 subscribers.

These subscribers comprise a wide spectrum including:

Approx 1,600 Small Business Club Members (16%)

450 members of the Illawarra Business Chamber (5%)

2,200 SMEs who have either advertised with Empower

and/or are active prospects (22%)

Approx 1,200 from non-profit sector (12%)

4,736 Senior & Middle Managers (45%)

Stickiness

According to server logs in 2006 the average WOL reader visited twice each week and spends up to 6 minutes per session – see Visitor Trends – Annexure.

These figures indicate that the YOC portal is very ‘sticky’ and exceeds the amount of time the average US search engine user spends on their favourite search engine (43 minutes per month commonly on Google or Yahoo) – see US Pew Research Center Report 2004.

Readers

Considerable anecdotal evidence (and limited formal feedback) strongly suggests that middle to senior managers are avid readers of WOL. And the e-magazine is also popular with company owners and the self-employed.

Independence

The editorial is perceived as being an independent voice (politically to the right in Wollongong and Sutherland Shire and more left wing in Parramatta) in the sense it is not aligned with elite power groups such as local government, councils and employer peak bodies.

Perhaps unsurprisingly lower management ranks in the local council also are regular readers and are a continuing source of informed content (whistle blowers) about their ‘superiors’.

The editorial stance adopted is to stress ‘connectedness’ with the community and to articulate a distinct willingness to stand up for the ‘battler’ in their on-going battle with entrenched monopolies and intransigent bureaucracies.

Bloggers/ Citizen Journalists

The widespread use of citizen-journalists / bloggers within the publication provides a range of views on topics of local interest.

The personality driven approach akin to ‘talk-back’ radio in Australia (and FOX NEWS television in the US) resonates with regulars who know where each columnist is coming from.

Editorial bias

This ‘populist’ editorial policy is also in line with numerous similar community e-newsletters and ‘grass roots’ newspapers through out the western world and particularly in the US.

Content Providers

Many professionals, ranging from therapists of all kinds through to management consultants, are attracted to the idea of raising their profile in their local communities. Most have access to suitable editorial copy and/or are reasonably literate so that a steady supply of citizen-journalists and free editorial copy is assured.

Some retired journalists are also tempted to stay involved on a purely voluntary basis since they can pursue the aspects of their profession that they always liked and avoid the factory mentality and drudgery of repetitive space filling which is now a firmly entrenched characteristic of mainstream media.

Feedback

A steady flow of feedback emails indicates that this approach has successfully tapped into a vein and engenders great loyalty to the publication which loses less than 0.1% of subscribers each week.

Sessions/Visit Duration

A 2006 report showed the time spent reading articles is steadily increasing in line with the introduction of new columns – there are currently about 16 regular columns (not all weekly).

The duration of visits suggested that the anecdotal evidence, about readers skimming the publication early in the week and returning later when convenient to read more fully, is correct and further suggested that there is no practical limit to the number of columns which can be posted.

New Media

The introduction of Video-on demand (yocTV.com) advertorials linked to SMARTPAGES and/or e-magazines could ultimately become a major contributor with massive growth potential. No allowance has been for additional revenue in modeling.

Appeal

We expect that local readers and subscribers will be attracted to the other YOC portals as they are rolled out with content of local interest. Since all the planned YOC portals will have a potential audience of 250,000+ persons as opposed to the pilot's 200,000 this 25% increase in size should ensure that participation rates used in the financial model are met or exceeded.

Business advertisers

There are two distinct groups of potential buyers: Local SMEs and Metro/National Buyers.

Local SMEs

These buyers are relatively unsophisticated which often translates into a prospect with little experience of media placement and usually means they also have unrealistic expectations of the effectiveness of all media advertising – particularly when running short campaigns with small budgets.

As a consequence, considerable time is expended at the outset to establish realistic goals and to encourage prospects to develop attractive offerings and inducements to improve click-thru rates and wherever possible to run lengthy campaigns with a modest but sustainable weekly commitment.

This approach has been adopted successfully for over a decade with print based B2B products and to date seems to apply equally online. Note: this is the proven YELLOWPAGES and YELP sales approach.

It has been clearly established that most of local advertisers prefer the ‘push’ characteristic of e-magazines (as for other traditional mass media forms and direct marketing) as opposed to the ‘pull’ of a standalone website/blog/portal.

In fact the e-magazine is now being deliberately sold as a direct marketing tool to this group since the price per contact is significantly less than other direct marketing techniques. It is too early to judge actual results in terms of sales achieved however the projected reach and cost offering is extremely competitive.

Amongst this group are franchisees of national operators. Given the structure, and the top down branding usually undertaken by the franchisors nationally on TV/newspapers, the ability to access a geographically targeted audience online and secure traffic direct through special web pages, YOC hosted pages and/or pre-addressed email messages is very attractive to them.

Metro/National Buyers

YOC estimate at least 60-70% of all local retail advertising is placed remotely on a network basis and as a consequence YOC, like all standalone media players, does not have ready access to this major source of revenue. This will be addressed with the YOC rollout in Australia's two largest metropolitan markets Sydney and Melbourne and the appointment of a National Sales Manager. Historically the card rates for national buys is substantially higher than that achieved locally. This premium has not been factored into any rates used in the financial modeling component of the business plan.

Competitors

Geographic and Community Portals are direct category competitors to YOC - see Annexure D.

Australian Portals that can compete are:

City Search

Community Technology Centres (CTCs) provide free listings as part of regional assistance programs – usually situated in towns and smaller population areas

SydneySearch and Pink Pages online directory

Special interest portals eg Seek.com.au (jobs), Realestate.com.au (housing) and carsales.com.au (cars), cracker.com.au (free classies) etc.

Other global or national players competing with YOC are content providers and come from a number of segments:

Newspaper Websites – Fairfax Digital, News Corp

National portals eg NineMSN

Search directories (Yellow Pages, TrueLocal, CitySearch etc)

YOC must capture local readership mind share quickly or advertising attractiveness will be lost and directly impact revenue. By moving quickly, any competitive action by a new entrant will force them into a 'me-too', runner-up place. It seems unlikely Telstra will attempt to regain

advertising market share through its Yellow Pages Online and SENSIS 123 web sites, since YOC's pricing strategy undercuts their traditional price positioning. It is considered that this strategy will make price competition an unattractive option for them.

YOC's disruptive business model has been called an 'atomiser' since the new player (YOC) has no existing market to lose where as the incumbents have everything including shareholder value.

Barriers to entry

Barriers to market entry are based on funding capabilities, core competencies of potential competitors and technology infrastructure.

Any organisations with an online business can enter the market. For example, a recent entrant to the local search directory space in Australia is Sydneysearch (currently under-subscribed by advertisers). Any new entrant with a similar offering or chasing Community Portals needs to possess the following competencies to have a chance at success:

Understand online and/or media advertising sales.

Knowledge of publishing and on and offline.

Have online IT capabilities to support: IT risk management strategies (e.g. security, privacy and storage, retrieval and backup); IT infrastructure for 24 X 7 X 365 business; content, search and subscription capabilities, and database management skills.

Strong marketing skills to build brand share quickly and the funding to match.

Funding to develop a business on a national scale.

A knowledge of regional issues

An understanding of regional business drivers affecting advertising expenditure.

Impact of Technology

YOC has acquired all necessary Domain Names for the rollout

- see Annexure G.

Each portal will have its own sub-domain eg

www.wollongong.youronlinecommunity.com.au

Plus a universal directory version eg Wollongong SmartPages.com

Associated e-magazines hosted on YOC portals will operate under the relevant geographic name with 'online' suffix with the tagline LOCAL NEWS & VIEWS e.g. WollongongOnline LOCAL NEWS & VIEWS

.Au domain names for all potential and strategic websites such as SMARTPAGES, FindtheBest, SportsLive and MyOnlineCommunity etc have been secured by Empower Australia/YOC.

The .com version of YourOnlineCommunity has also been secured.

Regulation is hampering the early introduction of a converging technology that could potentially impact YOC portals. Digital television will ultimately lead to interactive media appearing in the lounge room of most Australian homes but Digital TV is currently limited to SMS based interaction and although the Howard Federal Government's digital legislation stated that at the end of 2008 analogue TV signals will cease most free-to-air broadcasters are expecting an extension to this date⁶. (Recently revised to 2011). These regulatory delays effectively create a substantial barrier to entry for Digital TV and create a window of opportunity of 3+ years for the introduction of our technology platform at a national level.

3G mobile phones can directly access the internet and wireless broadband is now available in most large Australian cities. Many organisations are investigating their direct marketing and SMS capabilities. YOC portals are well placed to benefit by the introduction of these new technologies since their portals can be upgraded to render web-pages for mobile delivery. This would mean search tools such as SMARTPAGES could be accessed on the run and local news and views will also be accessible 24/7 for only the cost of a call (SENSIS currently charge 40 cents flagfall and 4 cent per second for mobile directory enquiries).

The provision of local online content should become a major traffic generator to YOC portals since all telcos will benefit and the service will be costless to them (initially anyway).

New Product Developments

⁶ "A digital end" The Australian June 5-11 2003

With a trend towards an increasing number of local Portals, YOC will continually update the channel content and look of the site to keep it relevant and interesting. In order to extend or revitalise the product lifecycle, YOC will look to develop new offerings and campaigns.

New offerings already considered and likely to revitalise the product if required are:

Online competitions to stimulate traffic from existing users.

Campaigns to target the collection of new emails.

Sponsorship of junior level rugby league, basketball, soccer and other junior sports and link them to code websites to generate greater traffic (therefore increase the interest in advertising investment).

Enhanced local search tools & apps

e.g. fyi-fyi.com – electronic business card

Development of additional demographically targeted websites

e.g. newslive.com.au/nightlive.com.au

Regulatory issues

Privacy

Most importantly YOC currently does not use Cookies and does not hire or lease its Opt-In customer files.

The major regulatory impact is likely to come from the Government in relation to privacy. This issue has already been dealt with by YOC as all emails provide an 'Opt out' link for those who have subscribed. Anyone who is not a subscriber and who has received information is given that option

Security

Security is another area the Government might seek to regulate. With fraud and transactional compliance now an element in the Basel II Accord for financial institutions, it is possible that some level of monitoring of identity may be required on sites where money/financial transactions can be permitted.

At this stage, YOC does not seek to provide online shopping capabilities so its perceived impact on the future business is negligible.

A tightening of online security however may be regulated. With hackers creating Denial of Service attacks on web sites, security must be considered. Security will be maintained by YOC using the latest and most appropriate security technology to protect the business and will be an important component of the vendor support contract.

Marketing and Sales Plan

Marketing/Sales Overview

The marketing and sales plans needs to address the following major issues:

Building brand awareness for YOC Portals at a national and local level to help drive consumers to YOC sites.

The selling of advertising to local and national advertisers

Creating demand for local content that can be translated into channels of interest to local consumers

Developing alliances that will help build Opt-in email and subscription lists

Product Positioning

YOC enhances the most attractive features of an online publisher by combining the offerings to give a uniquely local perspective.

Advertisers are able to select differing web options, sponsor channels or simply add their offering in one or several suburban locations.

The Portal's direct competitors are local newspapers and regional online directories and to an increasing degree search engines.

Pricing also aims to position YOC as a provider that understands regional constraints and is a true 'low cost' model.

Alliances

Alliances are sought with local business, education and sporting groups (such as junior sports) to promote the Portals and to drive members/players to the site to view club/game information.

The Wollongong alliance examples are:

Junior & senior cricket, senior hockey, rugby, netball and junior soccer

Educational institutions – primary and secondary schools, Universities and TAFE (still under development) The Parramatta alliance example is: Parramatta Business Chamber

These relationships will be replicated geographically with similar local employer bodies, educational institutions and sporting clubs.

Distribution

Distribution will be directed to local communities in the various strategic geographic areas where the YOC portals are launched.

Delivery will be primarily via the web.

E-magazines that target specific lists/groups and are grown out of YOC marketing campaigns. These campaigns will be part of a new portal's roll-out to raise initial readership rates, gain local mind share and obtain new subscriptions and advertising.

Links to local sporting groups with SportsLive and any other channels available to group members will help drive local distribution.

The widespread adoption of Broadband will assist delivery in regional areas and the additional bandwidth will contribute to the ease of use and access⁷.

⁷ Issues with the mass commercialisation of Broadband currently rest between the Government and Commerce for example in Korea, "the South Korean government's philosophy towards high-speed (broadband) Internet could be

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Apart from the technology carriers, other likely distribution channels are through alliances with key sporting clubs, chambers of commerce and educational institutions where alliances are formed.

By using alliances for local information, YOC portals will be able to reinforce local links and overcome fears of the portal being run by outside interests.

YOC portals will also be able to capture mind share, content and likely influence advertising spending amongst the most active and connected groups/target segments in a regional community.

Target Markets

Prospective sites for the rollout phase of YOC geographic portals are:

Initially, Sydney (extra 9) and Melbourne (12).

Then, other capital cities Brisbane (6) and Adelaide (6).

Lastly, larger regional areas with strategic characteristics: sound tourism, resident population no smaller than the Wollongong region and location of significant educational institutions.

Target markets within each segment are based on the successful capture of those segments through the WOL trial:

Geographic youth (X & Y generation cohorts)

Local businesses and Services including national or large entities

Sports supporters

Baby boomers and regional cocooners

Advertising will be captured initially by YOC focusing all its sales resources strategically on early adopters/early majority in one area at a time. This tactic will increase content and fill classified and directory space quickly and in turn make offerings more attractive to late majority/followers/laggards.

summed up as, "Build it, and they will come." The Australian government's attitude, by contract, seems to be, "You build it, and we will come." New Scientist, 31st May 2003, pp 53.

Product Lifecycle

Online advertising products are well past the early adoption phase here in Australia and have clearly entered a period of strong growth.

Web based advertising and the use of associated search technologies are now mainstream and the medium is an increasingly important component of the media mix for all major marketers.

There are however limited practical options for SMEs and locally based advertisers to utilise this new media particularly in the local space and the major Australian players NineMSN and Fairfax Digital are imposing significant financial hurdles (minimum campaigns of \$5-10,000pw).

These conditions should provide a fertile market for new entrants such YOC.

Pricing Strategies

YOC will develop competitive pricing strategies to win market share from regional papers and other competitors such as the Telstra Yellow Pages, Truelocal and Seek.com.au. This strategy will provide a unique low wastage offering, especially to small local operators.

By continually seeking to increase search directory listings, the directory will become useful to readers and local Internet users. This in turn will generate demand for more listings and drive further revenue. Once the full network is established YOC portal advertising margins will be >40% as running costs are low.

Key Customers

To-date the WOL/YOC trial has not been operated on a commercial ROI basis (bulk of expenses met from capital and/or R&D grants) and most of the focus has been directed towards technical delivery and testing however approximately 30% of total costs have usually been recovered by sales during this phase.

The first six months of publishing from August 2003 were underwritten by Barnetts Couriers at \$11,000 p.m (including GST).

In kind assistance was also provided by Endeavour Communications and the DMW Group valued at approx \$2,000 per month – this income and support was sufficient to cover all operating costs at that time. There has been an emphasis on engaging market leaders (early adopters) in the early R&D phase.

Marketing Plans

Marketing Plans will be developed in conjunction with the new National Sales Director. The plans will include:

An overall plan for the YOC brand Australia-wide. This will include PR copy being published in regional, national business, national and focused IT press and magazines. It will also encompass promotions in schools (Smart Technology), limited TV, radio and newspaper plus some poster/billboard advertising.

Ensuring that all regional media report the development of geographic Portals favourably.

Developing special campaigns to drive email list development and subscription up-take in geographic portal areas.

Establishing local alliances and driving cross-branding opportunities.

Investigating sponsorship opportunities with local alliances.

Investigating other local sponsorship opportunities that would create awareness and establish local portal offerings in a given geography.

Promoting advertising rates and benefits to key markets and developing a database of potential advertisers (including being able to substantiate and supply details about readership frequency and reach).

Developing local competitions to increase readership and subscription rates.

Developing a detailed marketing and sales plan for each region including locally branded collateral, special introductory offers, and feedback mechanisms to measure success and targeting prospects.

The strategy will be to quickly ramp up revenue in Wollongong, then Parramatta, and then Sutherland Shire. This tactic also creates an opportunity to train sales and telemarketing staff for other geographical areas on the ground (before they become fully operational) and focuses all management and marketing resources on the three existing operational portals.

Product Support and Guarantees

YOC will endeavour to keep its portal sites running 24/7 365 days per year through its vendor agreements.

Outsourced remote shared hosting has been the preferred strategy in the past however increasing visitor traffic, downloads etc has meant that dedicated servers must be deployed to uphold quality standards and cater for increased loads from additional planned portals. This is currently being implemented.

YOC servers are Australian based however hosting of videos (yocTV) may have to be relocated to the USA at some stage i.e. unless storage costs become substantially more competitive in this country.

If site 'downtime' occurs, advertisers will receive replacement advertising time until the advertising time specified in their contract is spent.

Other support services encompass: advertising assistance, list hosting, graphic, photographic and copy services, marketing campaign design, execution and reporting

All service will be provided for free or for an agreed cost depending on a customer's contract.

Market Share Targets

	2008/2009	2009/2010	2010/2011	2011/2012
YOC	\$0.7m	\$2.5m	\$5.5m	\$11.2m
EST NATIONAL Online Spend	\$1,000m	\$1,200m	\$1,400m	\$1,600m
YOC Market Share	0.07%	0.21%	0.4%	0.7%

Margin Analysis

YOC is a low cost media model. With virtually free distribution, minimal hosting costs and relatively low editorial content costs, relative to other electronic media margins, will be primarily dictated by sales volume once establishment costs are expensed.

It is projected that margins will hit 30% from the end of 2011 and rise over time and will eventually exceed 40% even allowing for the on-going cost of harvesting email addresses to boost subscriber numbers and to ensure increasing penetration within target audiences.

Contract Terms

Advertising card rates and terms will be uniform in all YOC portals and specifically designed to meet geographic considerations of reach and frequency. They will be developed in conjunction with the new National Sales Manager. Competitive discounts for long term or high volume advertising clients will be reviewed regularly.

Technology Platform

Overview

The Your Online Community technology platform utilises the Net for Business Pty Ltd [N4B] TurnKey Enterprise Distributed Content Management System [TurnKey CMS] and Application Programming Interface [TurnKey API].

The application utilises Adobe ColdFusion, the well known open source database MYSQL running on a Windows Web platform.

The standard TurnKey elements have been augmented with a Directory module for SMARTPAGES, a specialised ezine publishing module for Your Online Community and a Web 2.0 focused Video module for YOCTV.

The TurnKey API is used to develop these modules to allow rapid development and the reuse and customisation of existing pre written code. This speeds up development to improve the speed to market of new initiatives and also reduces development costs.

The TurnKey CMS is in its tenth iteration over eleven years and was chosen because of its robust architecture and long history of evolutionary releases, generally eight to twelve each year. The platform currently utilises the very latest version of all software.

YOC receives maintenance upgrades as a part of the ongoing relationship with N4B. A close partner relationship also ensures that YOC's future requirements are always at the top of the N4B development agenda.

The platform is easy to administer with low training overhead and is very search engine friendly. Rolling out new communities requires little more than a few mouse clicks and negligible fixed cost from the technology perspective.

The platform is extremely scalable and were the load or number of communities to increase substantially other servers could be added.

The application is hosted on its own web server and shared database server in the state of the art Global Switch location facility in Darling Harbour. YOC receives daily back up of modified files and a weekly full back up of the all files.

Skill Requirements

Pre-production staff and IT personnel must be proficient in HTML and Photoshop. Based on our experience these skills are readily available - utilising undergraduates from the University of Wollongong and TAFE computer science students – at fairly low casual rates.

The major skill/training challenge is advertising sales.

A comprehensive manual has been developed and is circulated in soft copy and amended as required.

Regular inhouse sales training is required to hone employees and franchisees lead generation and selling skills.

Other personnel including community journalists, editors, and administration staff must be able to use common office software

(MS Word & Excel) and know how to surf the internet and send email. Limited training is sometimes required but this is not a major or costly problem to resolve.

Risks and Critical Success Factors

Risk strategies

The following major risks have been identified:

RISKS	CAUSE	LIKELIHOOD (Next 12 mths)	CONSEQUENCE	YOC RISK MITIGANTS
Competition	Me Too Entrant	Unlikely	Decline in expected Revenue	1st Mover
Sales Activity	Poor Execution	Unlikely	Decline in expected Revenue	Mgmt skills & experience in advertising & sales
Reduced Visitor Numbers	Lack of emails	Unlikely	Decline in expected Revenue	Several options for acquiring emails
Loss of Readers	Non-relevant Content	Unlikely	Decline in expected Revenue	Use local Editors & Columnists

Barriers to entry in online media are relatively low, however, the ability to compete will depend on the importance of regional advertising to the strategic direction or market of each competitor.

Of equal importance is the competitor's ability to:

Develop its technology infrastructure

Invest in funding the development of its infrastructure

Understand regional advertising drivers

Critical Success Factors

The critical success factors that have been identified are:

Success Factors	Strategies to Support Success
Quick early rollout of YOC geographic Portals to key strategic regions.	<ul style="list-style-type: none">- Target markets of highest potential for success
Regional promotion and marketing to capture mind share in local communities, drive brand awareness and capture advertising revenue.	<ul style="list-style-type: none">- Use national and regional PR, mass media and outdoor advertising on high visibility sites to promote YOC Portals- Rollout campaigns to drive site traffic, build subscriptions & raise awareness of YOC by potential advertisers
Ensuring acceptance of YOC geographic Portals as a service provider to the local regions.	<ul style="list-style-type: none">- Respond to market feedback quickly and conduct research if necessary to identify and respond to issues- Build alliances in local areas quickly to assist with the acceptance process- Work to generate positive local PR
Staying ahead of the competition –	<ul style="list-style-type: none">- Add new product offerings to stay ahead of

being first to market and delivering value at an affordable rate	competitive offerings <ul style="list-style-type: none"> - Adopt and promote the benefits of YOC strategic product offerings - Identify new alliances and content to enhance current product offerings
--	--

R&D Plan

The company's operational platforms are substantially complete and are fully operational.

The R&D Plan sets out the identified enhancements that will drive further cost efficiencies as the portal network is rolled out. There are no major new R&D software initiatives included in the Business Plan however various minor improvements and cosmetic adjustments will be implemented by YOC personnel (already included in direct costs) however an allowance of \$75,000 has been included for a number of upgrades or improvements necessary to optimise the existing infrastructure and which must be undertaken without delay, they are:

PRIORITY	DESCRIPTION	RESOURCE	EXPENDITURE
1	Develop Web 2.0 functionality into existing N4B platforms to improve user experience.	N4B	\$20K
2	Upgrade SMARTPAGES website for mobile phone access	N4B	\$10K
3	The Ad Server software must be upgraded for network use to handle bulk national buys.	N4B	\$5K
4	Realtime access to YOC SMS Sales Management System for home based Franchisees	INTERNAL	\$20K

	– MS Windows server upgrade.		
5	The CMS photo gallery and FTP must be redesigned to archive network volumes of images	N4B	\$10K
6	YOC network archive and internal search tools to be improved	INTERNAL	\$10K
TOTAL			\$75K

R&D Plan Overview

Andrew Connery in conjunction with John Wooding MD of Net for Business will be wholly responsible for strategic IT direction and upgrade implementation in Year One. Part of his responsibilities during the this 12 month period will be to develop a suitable locally based replacement – probably recruited from researchers at the University of Wollongong.

Budget

The Budget for R & D includes not only the IT Services Manager Salary, on costs and expenses but also an allowance of \$75,000 for external contractors in 2010, plus \$5000 per portal ongoing IT developments.

Intellectual Property Strategy

Patents, Trademarks, Copyright and industrial know how

A suite of URLs have been secured to cover all existing and planned online activities – refer Domain Name Register in Annexure G.

YourOnlineCommunity is held in both the .com and .com.au. The Domain Name SmartPages.com.au is considered a major digital asset – universal version fyi-SmartPages.com has also been acquired.

All operational matters required to maintain YOC Portals and publishing e-magazines have been incorporated into YOC Procedures Manuals (2) - they are continually reviewed and updated.

Protecting IP

The concept of embedding a social network together with a human edited directory within an authority (UOW) website to improve page ranking is unique.

And other than Andrew Connery's patent pending Search Optimizing Local Directory technology there does not appear to be any other single development or innovation that is capable of securing patent or copyright protection.

The branded network 'concept' linked to electronic newsletters and localised search tools is certainly unique and no similar enterprise in the world has been located in over 3 years of post graduate research at the University of Wollongong.

Andrew Connery's thesis on The Sustainability of Community Portals details the majority of concepts, ideas and methodologies incorporated into the YOC network (NCP) approach.

The IP relating to Andrew Connery's Masters Thesis is the property of YOC. IP relating to local search is privately held by Andrew Connery.

Strategies

General publication of Andrew Connery's thesis on The Sustainability of Community Portals will be withheld although his doctoral research will continue and only a limited number of scientific papers or academic journals of non-strategic value will be released in the next 2 years.

Company Operations

Production

The weekly publication of e-magazines and the maintenance of community portals and related websites for the hub based in Wollongong and YOC's first satellite portal (Parramatta) has been undertaken continuously since the end of May 2004. All day to day practices, routines, techniques, know how, short cuts etc have been formalised and compiled into operational manuals. A dedicated PC based Sales Management System has been developed in-house to handle the unique ordering and art production requirements of the new media.

Most of the staff necessary to operate the central hub of the planned network have been employed, received the necessary training and are in place – all are remunerated on a casual basis.

Premises

All pre-production, local sales and overall network management will be conducted and/or arranged from the existing offices of Your Online Community Pty Limited, Level 2, 67-69 Market Street, Wollongong.

If necessary split shifts will be implemented to utilise existing space and facilities and to hold rental costs. Sydney and Melbourne telemarketing teams will be located offsite but within the Wollongong CBD.

Local portal staff will work from home or their own offices at their own expense.

Key Suppliers and Risks

Net for Business Pty Limited provides web hosting, email and consultancy Services to YOC on a preferred basis.

However the feasibility of hosting yocTV videos in the USA will be investigated since substantial savings in data costs are anticipated.

Software control

All N4B CMS and website modules are provided by N4B under a contract – at the conclusion of the contract period all IP involved will become the property of YOC.

If necessary any suitably qualified Cold Fusion programmer could manage all existing N4B properties.

Implementation costs/Licence fees to roll out additional YOC portals are strictly limited under the current agreement.

SportsLive sites (open source Perl over Linux based) are provided by Internetrix and \$12,500 in licence fees are applicable for each additional portal.

Future portals may utilise an N4B version of the SportsLive websites if current level of licence fees remains unchanged.

IT / Server Capacity

All software is web based and currently hosted on servers locally - via N4B and Internetrix (SportsLive only).

Storage is not considered to be problematic or potentially troublesome however the large volume of data associated with a rapidly expanding network will require continual close management.

Historically data costs drop both over time and with increases in volume.

The viability of self-hosting with a dedicated fibre-optic connection has been instigated and is presently under review.

Management and Ownership

The team is led by an energetic, experienced and well incentivised (via equity) CEO supported by a strong 2IC who is also incentivised through acquired equity ownership.

YOC's systems and processes allow the publishing and portal operations of the business to function with powerful head count efficiency.

Staffing to date for other positions has been filled by young people seeking challenges and mature people seeking interesting work that allows work - life balance.

Most staff are contract workers rather than permanent staff. Relatively new graduates and university students nearing graduation have brought significant energy and creativity to the team.

Several mature workers bring great experience and knowledge to the team. Both types have been sourced at reasonable cost. The people plan will continue to follow this approach where appropriate.

Key shareholders

As at 5 May 2008

SHAREHOLDER	%	BENEFICIAL OWNER
Andrew & Margaret Connery	54.2	Andrew & Margaret Connery
SOS Initiatives	45.8	Dr. Colin Seaborn

Track record of Key shareholders

ANDREW CONNERY

Managing Director, Your Online Community Pty Limited

Andrew was a co-founder and Principal of Empower Australia The Marketing Group and established the consultancy with two Australian Marketing Institute colleagues in 1989. Andrew and his wife Margaret bought out the partners in 1993 and commenced to widen the group's activities on a fulltime basis.

Empower Australia (YOC since 2007) is an online publisher of three weekly e-magazines and the operator of a network of community portals and associated websites in Wollongong, Parramatta and Sutherland Shire, New South Wales, Australia.

Andrew has a Masters of Information Systems degree and is currently undertaking doctoral research to prove his patents. He has proven strengths and accomplishments in:

Multi-Media

Software Development

Operational Management

Direct Marketing

Project Management

Online Communities

Online Publishing

Advertising

Media Representation

B2B Sales & Marketing

Sales Training

Market Research

DR COLIN SEABORN

Principal, SOS Initiatives Pty Ltd (Solutions from outside the Square)

Dr Seaborn is a highly experienced manager, investor and consultant with more than 30 years experience. He has operational and consulting experience in mining, processing, manufacturing, engineering, waste management, tertiary education, retail and media and entertainment.

Dr Seaborn has a demonstrated ability for business development, innovation, strategic planning and early stage finance. He has been a major investor in Empower YOC since mid 2003 and is a key consultant to the business. Operationally he has responsibility for YOC's SportsLive business and is the current 2IC to the CEO. Dr Seaborn has proven strengths and accomplishments in:

Business Analysis	Strategic & Tactical Planning	Organisational Development
Business Start-ups	Business Expansion	Business Development
Early Stage Investment	Process Improvement	

Board of Directors

Andrew Connery	Founder & CEO
Dr. Colin Seaborn	2IC, Director & Shareholder
Margaret Connery	Director & Shareholder
Non-Executive Director	tbc
VC Representative	tbc

Voting and Control

To be proportional to shareholding.

Key Executives

ROLE	COMMENTS	SALARY **
CEO	Andrew Connery will continue to fill this role.	\$100K
FINANCIAL CONTROLLER	To be appointed in 2011.	\$70K
PRODUCTION CO- ORDINATOR	Currently Michael Seaborn performs full time Production Co-ordinator role. As the number of Portals grows additional assistant/s will be required to handle the increased workload	\$70K
IT SERVICES MGR	In 2010 this new role will be created	\$80K

MANAGING EDITOR	To be appointed in 2012 as Melbourne comes on-line in addition to Sydney. The role will be to support new part-time editors for each portal. In short term, John Bown (WOL editor) and Margaret Connery (WOL sub-editor) will fill this role.	\$80K
NAT SALES MGR	To be appointed in 2011 to drive National Advertising Sales. In the short term Andrew Connery will fill this role.	\$100K
TRAINING & HR MANAGER	To be appointed in 2011 a Training Specialist will be appointed to support the Sydney roll-out. In the interim Colin Seaborn will fulfil the HR/Org Development Role as needed (part-time)	\$70K
SPORTSLIVE MODERATOR	Colin Seaborn to continue to fill this role to support the rollout to Sydney & Melbourne	\$50K Part time
GENERAL MANAGER MELBOURNE	This role will be filled in early 2012 to provide a senior management and representation presence in Melbourne. It will be supported by a PA/Admin role in a Melbourne office.	\$100K
	** 40% ONCOSTS NOT INCLUDED IN SALARY	

Employee share purchase scheme

Consideration will be given to creating an Employee Share or Option Plan for the executive management team and possibly extending in some form to the other YOC staff.

All discussions and decisions on this will be left until the current round of financing is complete.

Organisation and Personnel

The business will involve, directly and indirectly, nearly 400 people when the YOC network roll out is complete.

- Wages will represent approx 31.0% of expected revenue.
- Structure
- See Organisation Chart – Annexure K
- Key Functional responsibilities
- CEO – line responsibility for all aspects of the venture.

NATIONAL SALES MANAGER - prime responsibility to manage all advertising sales and handle network sales negotiations with national media buyers

IT MANAGER - responsible to maintain network uptime, control costs and project manage all software and hardware upgrades

MANAGING EDITOR - to supervise all contributing editors, sub-editors and columnists in terms of timely delivery of material, the maintenance of editorial integrity and professional standards

FINANCIAL CONTROLLER - to undertake full responsibility for the integrity of all accounting systems and practices and to report to management on all matters as prescribed by the CEO and board from time to time.

If possible this role will also involve Company Secretary duties, alternatively a part time company secretary will be hired.

PRODUCTION MANAGER – to manage all the pre-production systems and personnel to ensure all e-magazines are delivered on-time.

TRAINING & HR MANAGER – to manage YOC's HR requirements and to prepare and deliver all production and sales training for the network including YOC staff based in portals

SPORTSLIVE MODERATOR – to train and develop portal SportsLive and community events personnel in portals plus provide ongoing support

GENERAL MANAGER MELBOURNE – to identify key portal areas and market YOC in Melbourne. Identify local issues and opportunities including National sales opportunities with Melbourne based head offices.

Staff numbers

25 full time staff at Head Office.

44 part time telemarketers and production assistants at HO

76 journalists for 2 days per week – through out network

38 sales staff – through out network

200 Citizen Journalists – Volunteers – through out network

Staff recruitment

Preferred Supplier for all external appointments is the DMW Group who are the largest executive recruitment firm in Wollongong and have a long relationship with Empower Australia/YOC as a supplier of quality staff - they were an early investor in the company.

DMW who have extensive HR experience with both national and international clients are well acquainted with the unique requirements of YOC's online publishing activities.

YOC may also utilise other recruiters for highly specific roles such as national media sales.

Training and Development

Ongoing training for all sales staff and call centre personnel will be delivered and/or supervised by a full time YOC staffer.

Sales training will be subject to regular auditing by SOS Initiatives.

All freelance journalists will require, as a minimum, journalistic qualifications or suitable industry experience to start.

Nominated supplier SOS Initiatives (Principal Dr C. Seaborn) will be responsible for training all portal SportsLive administrators.

Funding Plan

Total amounts and timing

A definite commitment to fund \$1m in a 12 month period commencing July 2010 is sought.

\$300,000 is required in July 2010 and balance by end of June 2011.

An additional \$2m tranches will be sought in a further Round to complete the network rollout – the provider of this round of funding will have first rights to subsequent funding rounds

Unsecured Debt

Amount	Owing to	Services provided
\$65,000	DMW Group	Initial financial support
\$55,000	Internetrix Pty Ltd	Initial software development
\$25,000	Ian Ryan	Sutherland portal start up
\$145,000	Total	

Expected source of funds

Institutional and Sophisticated Investors – as defined in the Corporations Act 2001 - are the expected providers

Terms of funding and milestones

YOC are open to discussing milestones and setting fixed targets for the release of funding

Capital expenditure requirements

The current shareholders have invested nearly \$2m in YOC during the R&D phase (\$1m cash & \$1m In Kind) and no further large capital items are envisaged

Working capital requirements

Virtually all the funds sought are for working capital:

- 1) to raise the awareness of YOC and its products and
- 2) to resource the supporting sales infrastructure

Potential exit strategies for investors

A trade sale is the most likely exit path based on the significant interest from major media players in online businesses. This interest and the level of M&A activity in the sector make this the most logical exit path.

Trade Sale

The most likely acquirers are those with the closest fit and need and/or that those that face the greatest threat from YOC.

These would include John Fairfax Holdings, News Limited, PBL, APN, Independent Print Media Group (publisher of the FPC Courier weekly local papers) and Nine MSN.

The M&A activity of several of the potential buyers are set out below. While not all the transactions below are directly comparable to YOC's business, they provide a flavor for activity in this sector.

News Limited

News Limited has been very acquisitive of online businesses, having purchased realestate.com.au and propertyfinder.com October 2005. Rupert Murdoch said in September 2005 that the fast growth in broadband had convinced him of the need to acquire internet assets and he had previously indicated his willingness to spend up to US\$2 billion on these assets.⁸ In July 2005, News had made an offer for Intermix Media, owner of a number of popular websites, including the fast growing MySpace.com. The News offer valued Intermix at 38.2 times forecast EBITDA.⁹ Earlier in the year News had paid US\$650 million to buy IGN Entertainment whose main business is internet gaming websites.

⁸ As reported by the Australian Financial Review on 26 September 2005

⁹ Lonergan Edwards and Associates Limited, Independent Expert's Report on realestate.com.au

PBL

PBL has had keen interest and success in online media, having backed listed Seek Limited and having merged ACP's online classifieds business with carsales.com.au in late October 2005. Seek Limited had a market capitalisation of \$696.7 million, valuing it at 16.6 times 2006 EBITA.¹⁰

John Fairfax Holdings

John Fairfax Holdings acquired RSVP.com.au in July for \$39 million, valuing the business at 9.7 times forecast EBITDA.¹¹ Fairfax have been criticized for their lack of a cohesive online strategy and poor online investments in the past. In October 2005 new CEO David Kirk acknowledged that Fairfax needs to keep investing in online businesses to secure its future. Fairfax have had a business relationship with Andrew Connery for several years and YOC would have the contacts and respect to make a transaction with them a real possibility.

International Activity

There has been significant investment, IPO and M&A activity internationally in online media, particularly in the US. For example, in 2004 America Online acquired Advertising.com for US\$553 million. Advertising.com conducts strategic direct-response and brand marketing campaigns for clients. In October, AOL agreed to buy Weblogs for circa US\$25 million. Weblogs has about 80 advertising supported sites published by over 100 bloggers. The New York Times acquired About.com for US\$410 million earlier this year, valuing the business at circa 23 times 2005 EBITDA. In September 2005, it was announced that Epsilon, a marketing Services and credit card transaction business, would acquire the large email marketing Bigfoot Interactive for US\$120 million or about 4 times its annual revenue of US\$30 million.

IPO

While an IPO of YOC is possible (its business model may appeal to small cap managers and its local focus may appeal to retail investors), a float does not always yield the complete clear exit

¹⁰ Lonergan Edwards and Associates Limited, Independent Expert's Report on realestate.com.au

¹¹ Lonergan Edwards and Associates Limited, Independent Expert's Report on realestate.com.au

most investors will desire. An IPO is also highly dependent on share market conditions, and while it will not be ruled out, it is not the most logical exit path.

Recapitalization

YOC's strong cash flow generation may permit a recapitalisation as an alternative exit path.

Dividend policy

The strong cash flow generated by the business could enable a dividend to be paid approximately four years after funding, subject to sufficient retained profits and cash at bank. No dividend payments are forecast however.

Prospective Investors

Pref	Company	Category
1	Text Publishing	Online Publishers
2	John Fairfax	Newspaper/Online Media
3	News Limited	Newspaper/Online Media
4	Nine MSN	Newspaper/Online Media
5	Cumberland Newspapers	Newspaper/Online Media
6	APN	Newspaper/Online Media
7	Macquarie Media	Cross Media Fund
8	WIN Television	Television
9	OzEmail	ISP
10	Telstra/Sensis	Telco
11	Optus	Telco
12	Vodafone	Telco
13	Australia Post	Mail distribution
14	Salmat	Direct Mailhouse
15	Harvey Norman	Retailer

16	Coles Myer	Retailer
17	Woolworths	Retailer
18	Google	Search Engine
19	Yahoo/Geo Cities	Search Engine/communities

Financial data

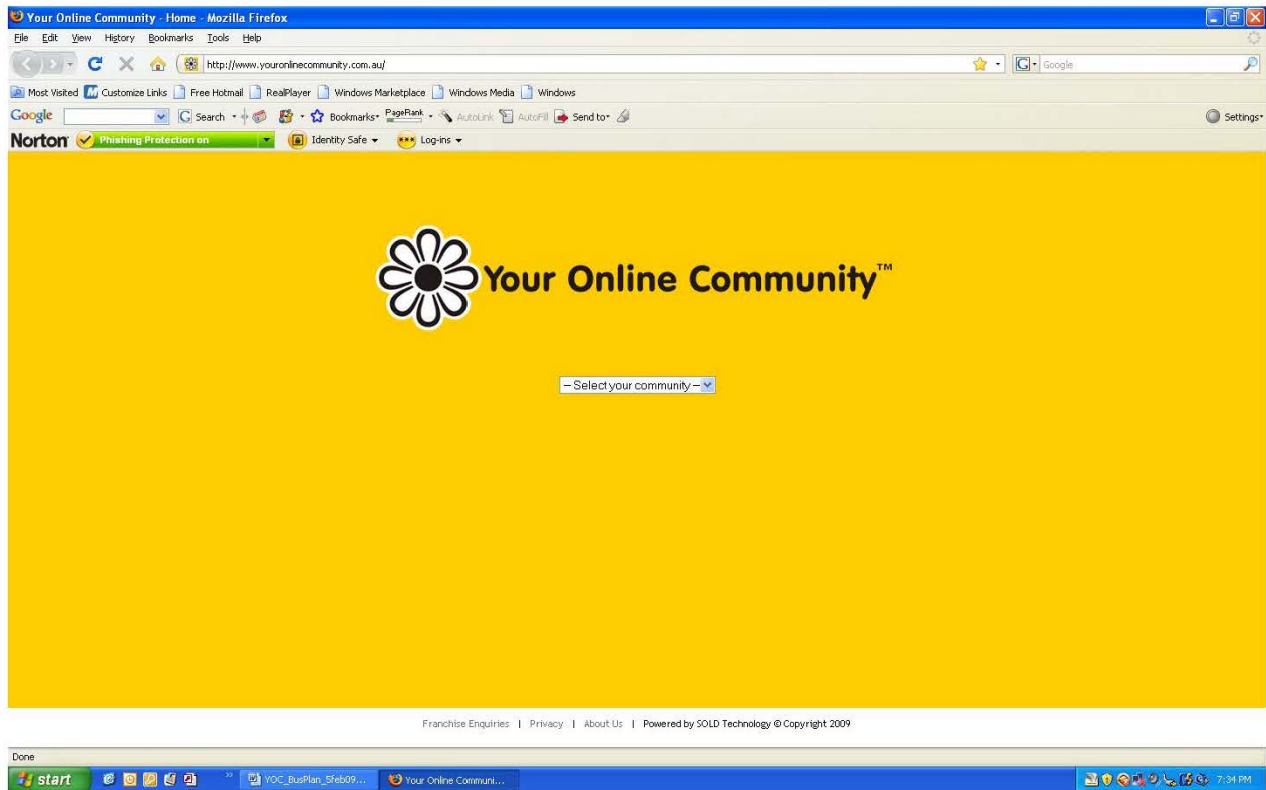
The current shareholders have invested nearly \$2m dollars personally into the venture to date.

The company has no secured debt or long term leasing commitments - and its early equity investors (shown as unsecured debtors – see 18.2) are scheduled to be settled in Q3 2012.

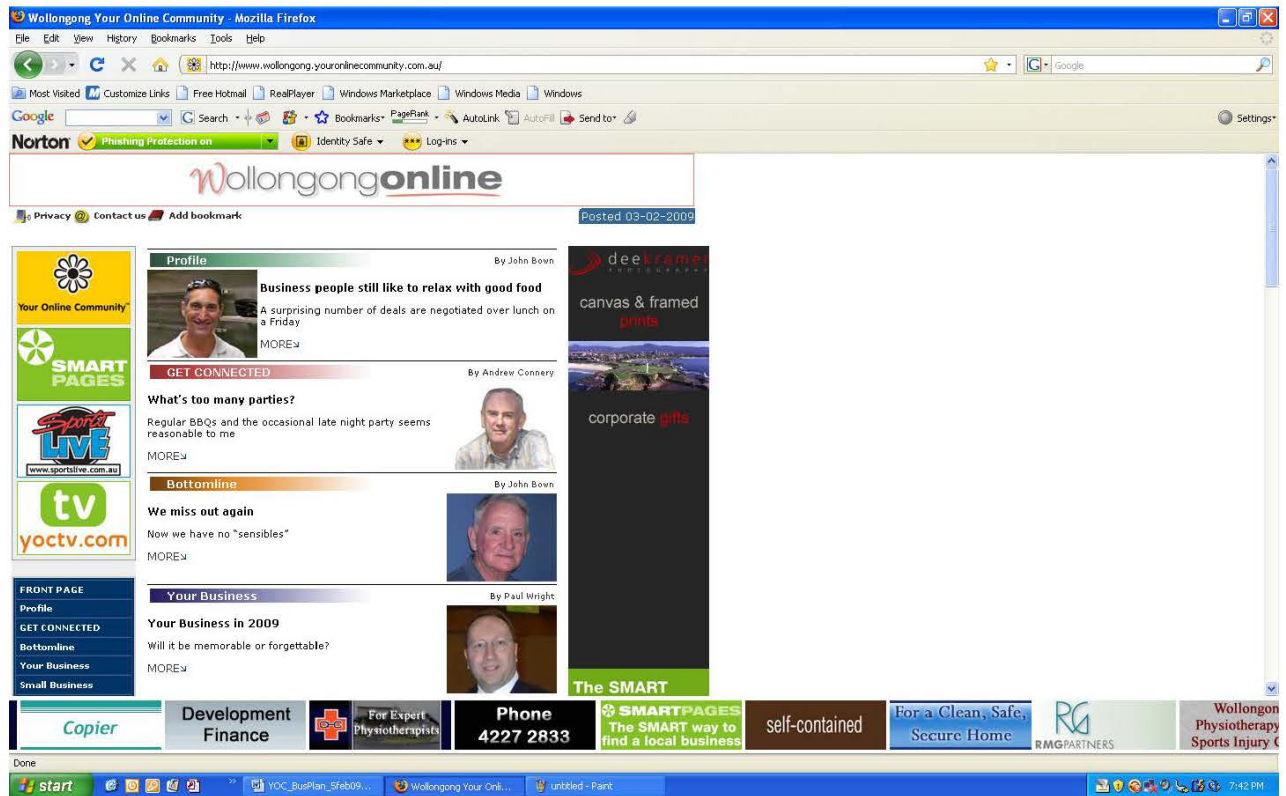
See ANNEXURE A (DELETED) for:

- Revenue v Costs Q3 2010 to Q4 2014
- Operating & set up costs
- YOC Revenue Calculations

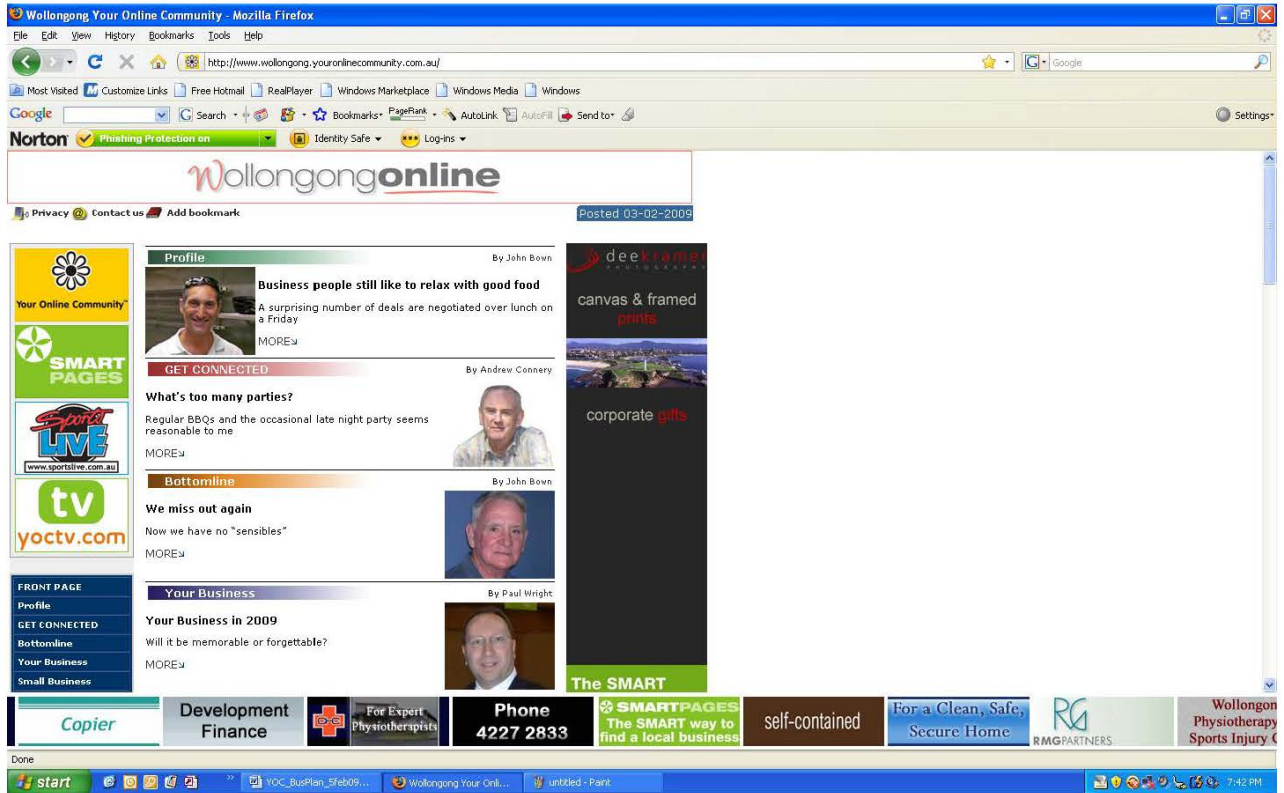
Your Online Community Navigation Page



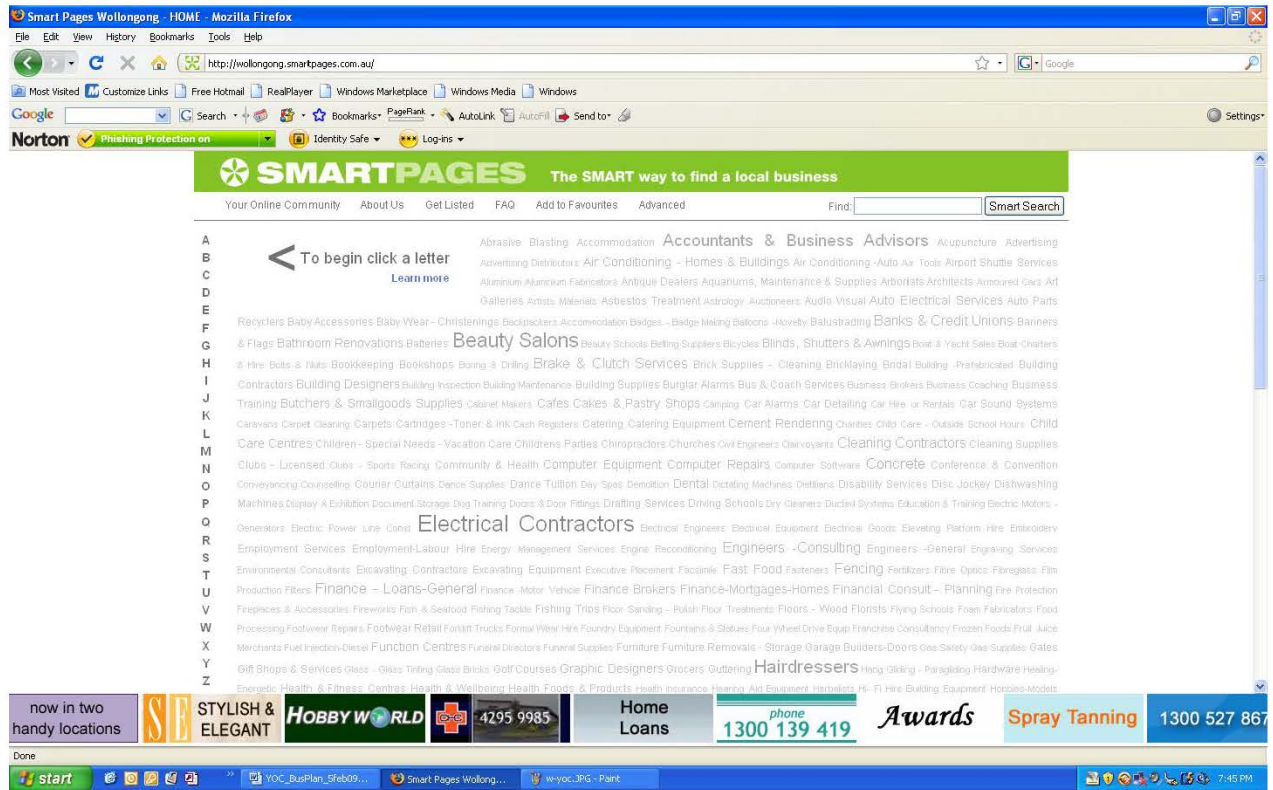
Wollongong Your Online Community Portal



WollongongOnline weekly e-magazine



SMARTPAGES Business Directory



SportsLive Wollongong Portal

Welcome to Sportslive - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://wollongong.sportslive.com.au/

Most Visited Customize Links Free Hotmail RealPlayer Windows Marketplace Windows Media Windows

Google Search

Norton Phishing Protection on Identity Safe Log-Ins

Home Select Sport Pics Forum

Home - Illawarra - Wollongong

return to your online community

Section Links

- AFL - Junior
- AFL - Senior
- Basketball
- Basketball - Wheelchair
- Cricket - Bradman Cup
- Cricket - Junior
- Cricket - Senior
- Cricket - Womens
- Dancing - Dapto
- Physical Culture Club
- Football - Amateur
- Football - Junior
- Football - Sydney FC
- 2007 Season
- Football - Wolves
- Seniors
- Futsal - Illawarra
- Gaelic Football - UOW
- Fighting Leprechauns
- Hang Gliding
- Hockey - Indoor
- Hockey - Mens

Corrimal
ph 4285 2522

Hens, Bucks
Night Gifts

PHONE
1300 661 457

Proven 8-10% Fuel Savings
Reduced Emissions
Increased Horsepower
Reduced Diesel Bug

1300 527 867

Slick
Computer?

PHONE
4821 9088

For Expert
Physiotherapists

Lashes, Hair
and Nails

LATEST SPORTS NEWS
Brought to you by...
YOC The SMART way to find a local business

- Cricket - Big totals and tons in junior cricket: [CLICK HERE](#) - For Illawarra and South Coast Junior Cricket stories and results
- Cricket - Phil Jaques to hold batting seminar in Wollongong on Feb 9: [CLICK HERE](#) for details
- Soccer - Illawarra Junior Football Registrations now on for 2009 season: [CLICK HERE](#) for details
- Cricket - Want to play cricket in the West Indies? Seeking boys aged 15 - 19 for tour in 2009: [CLICK HERE](#) for details
- Surf Life Saving - Cream of the Crop; Junior Life Savers of the year: [CLICK HERE](#) for story and photo.
- Cricket - Junior DMW tournaments underway: [CLICK HERE](#) for details of Illawarra junior cricket's ten/10 tournaments.
- Baseball - Illawarra players in NSW squad which rolled Vics 2 - 1 in Claxton Shield Semi - to face Perth in final: [CLICK HERE](#) for stories and details of semi-final series between NSW and Victoria; all games and final details against Perth.
- Basketball - Wollongong Hawks break New Zealand in NBL; Last home game on Black Friday 13th: Wollongong maybe on way out but knocked over finals bound Breakers by 103-98 [CLICK HERE](#) for more
- Basketball - Hawk in Aussie Girls team which wins gold in Youth Olympics: [CLICK HERE](#) for story and photos
- Soccer - Czech Lavicka to take reins as Kosmina parts way with Sydney FC; Youth side on top of table: For reports of Sydney FC's Games in A-League, Youth League, Women's League and other news: [Click Here](#)
- Masters Games - Participate or volunteer in the World's largest multi-sport event [CLICK HERE](#) for details

Indoor Cricket
North Wollongong
Indoor Sports

More Videos >>

VIDEO PRIVACY ISSUES: To find out the rules that govern the filming and display of videos [CLICK HERE](#).

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Ph 1300 139 419

The SMART
way to find a
local business

start


YOC_BusPlan_SFeb09... Welcome to Sportsliv... untitled - Paint

7:49 PM

yocTV VIDEO Sharing Portal



Competitor community website

www.ourpatch.com.au

Community DirectoryBusiness DirectoryClassifiedsArticlesForumsEventsMy Profile

Welcome to OurPatch

Find local businesses. Be part of your community.


Patches: Orange | Bathurst | Blayney | [More Patches](#)

All of Australia	Albury-Wodonga	Bathurst
Blayney	Boorowa	Byron Bay
Canberra	Central Coast	Coffs Harbour

[More Patches](#)

Search for:

Where? [Go](#)



We love regional Australia. Recognising that small businesses are the lifeblood of every regional community, we decided to build a network of websites that will help regional Australians develop their businesses while also providing the people in these towns the tools to grow their own online community.

Business listings are free of charge. Add yours now. Add your community group, sporting club, church and use the site to keep up with what's on in the events calendar, build and share your own profile page, rate a local business or restaurant. Read or contribute local

[Please log-in](#) | [Forgot your password?](#)

[Go!](#)

Join OurPatch, it's free

If it's in our community, it's in OurPatch. Join now - our free membership gives you all this:

- [List your business](#)
- [Add your community group](#)
- [Review a business](#)
- [Take part in blogs and forums](#)

ANNEXURE D

Main Competitors

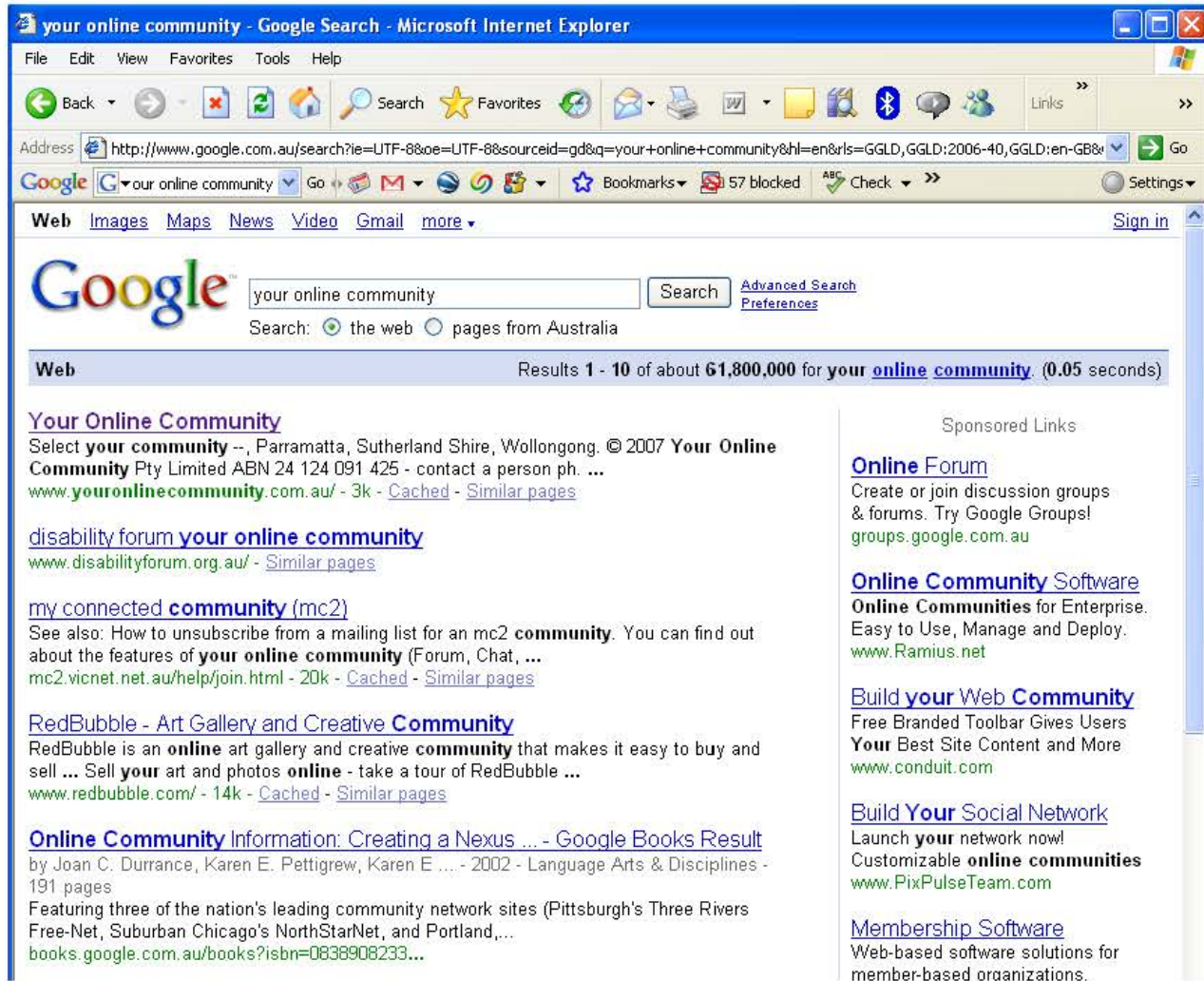
Segments	Revenue	No of competitors	Details
Local e-newsletters		A growing number of B2B e-newsletters (not quantified)	Special business weekly newsletter produced for peak body Australian Business and also less frequently for independents e.g. Kells Report and PCL Money
Regional web sites		Many per region	Wollongong Council web site Tourism Illawarra Wollongong Mall site
Newspapers			National papers: The Age, The Sydney Morning Herald etc.
Local community newspapers		2	The Advertiser Lake Times Targets local advertisers (especially retail and trade advertisers)
Local daily newspapers		1	The Illawarra Mercury Targets local advertisers (especially retail and trade advertisers)
Search directories		3	Telstra Yellow Pages Online Offers national listings searchable by suburb. Is also

			<p>the provider of hard copy listings to every home with a telephone. Listings are all businesses but advertising is priced too high.</p> <p>CitySearch</p> <p>Provides information by larger locality searched. Makes more information available on its site than the Yellow Pages</p> <p>SydneySearch</p> <p>Is run by</p> <p>Findabusiness.com.au Pty Ltd..</p> <p>The domain addresses help customers to specific</p> <p>Keywords or Categories or Services they want.</p> <p>Findabusiness.com.au is the first and only directory of its kind in Australia e.g,</p> <p>www.FindaBricklayer.com.au</p>
CTC – Community Portals		74 in NSW	<p>Community technology centers</p> <p>A project of the NSW OIT funded by the NSW Government and Networking the nation, CTCs have their own gateway. The aim of CTC's is to help small rural NSW towns develop CTC's to provide Services and programs</p>

			and facilities to support the social, economic, cultural and educational life of those communities. The focus of these projects is underprivileged, or minority segments. At this stage funding for this project has halted.
Portals and Gateways See www.community.gov.au		44 in NSW 19 in SA 30 in QLD 11 in ACT 43 in VIC 7 in NT 16 in TAS 18 in WA	These are run by individuals, newspapers, business groups, newspapers and commercial Portal providers working with councils e.g. Stralia Web and Internova

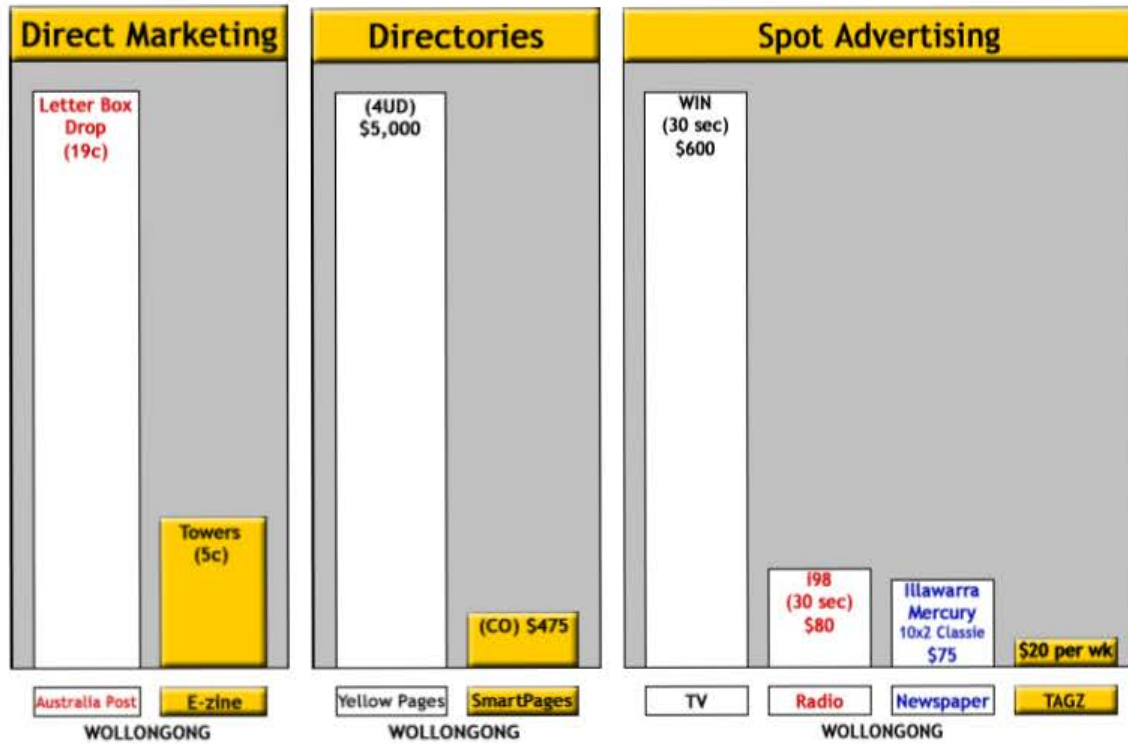
ANNEXURE E

YOC No.1 on the web for Online Communities



ANNEXURE F

Wollongong Region is shown but costs are expected to be similar in other geographic areas.



ANNEXURE G

DOMAIN NAME REGISTER

GEOGRAPHICAL

youronlinecommunity.com	(Global)
youronlinecommunity.com.au	(Australia)
wollongongonline.com.au	(Local)
parramattaonline.com.au	(Local)
myonlinecommunity.com.au	(Defensive)

LOCALISED DIRECTORY / SEARCH

SmartPages.com.au
Wollongong SmartPages.com
fyi-SmartPages.com
fyi-fyi.com

3. THEMED / INTEREST

sportslive.com.au	
nightlive.com.au	(Not active)
newslive.com.au	(RSS feed)

VIDEO – ON DEMAND

yoctv.com	(Global)
yoctv.com.au	(Australia)

COMPARISON

findthebest.com.au	(not active)
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ANNEXURE H

GREATER SYDNEY ROLLOUT

No.	Proposed YOC Network by LGA *	Population (03/04)	Status
1	Wollongong – Head Office (Hub)	253,172	Existing since 2001
2	Parramatta / Blacktown (pilot Satellite)	422,283	Existing since 2004
3	Sutherland Shire (first Franchise)	215,084	Existing since 2007
4	Hurstville / Rockdale / Kogarah	223,160	tbc
5	Canterbury / Bankstown	310,086	tbc
6	Botany Bay / Randwick / Waverley	225,756	tbc
7	Woollahra / Sydney City	194,705	Planned – early 2011
8	Leichardt / Ashfield / Marrickville / Burwood	198,258	Planned – early 2011
9	Hornsby / Baulkham Hills / Kur-ing-gai	419,227	Planned – early 2011
10	Penrith / Blue Mountains	255,703	Planned – early 2011
11	Hunters Hill / Lane Cove / Willoughby / North Sydney / Mosman	197,348	Planned – late 2011
12	Manly / Warringah / Pittwater	233,349	Planned – late 2011
13	Camden / Wollindilly / Campbelltown	239,883	Planned – late 2011
14	Fairfield / Liverpool	354,111	Planned – late 2011

YOC MELBOURNE COMMUNITIES **	STATUS
Inner North	Planned
Outer North	Planned
Inner East	Planned
Outer East	Planned
Inner West	Planned
Outer West	Planned
Outer South East	Planned
Inner South East	Planned
Inner South	Planned

** Localities to be finalised with VIC

YOC PORTAL ROLLOUT TIMING (To be confirmed)

Quarter

beginning Pre Jul-Sep
10 1/10/2010 1/01/2011 1/04/2011 1/07/2011 1/10/2011 1/01/2012

Community

Developed

&

Launched

Wollongong,

Parramatta,

Sutherland

C4

C5 & C6

C7 & C8

C9 & C10

C11 &

C12

C13

Sales

begin

Wollongong,

Parramatta,

Sutherland

C4

C5 & C6

C7 & C8

C9 &

C10

C11 &

C12

APPENDIX I Annual Progress Report – 2010

WITHHELD FOR CONFIDENTIALITY

APPENDIX J Researcher's Statement – 30 July 2013

I, **Andrew Martin Connery** of 18 Koombala Grove, Cordeaux Heights, New South Wales affirm that:

- 1 I am the Managing Director Your Online Community Pty Ltd (YOC) and have held this position from 22 February 2007.
- 2 I make this statement from my own knowledge, information and belief.

Background

- 3 I am a civil engineer by trade. My work history is briefly described below.
- 4 In 1965, I joined Green & McCahill Limited Contractors and undertook a correspondence course for the NZ Certificate in Engineering and in 1968 I became a construction manager supervising numerous civil engineering projects in the Wellington area.
- 5 Between 1969 and 1978, I worked for my own civil engineering partnership known as Stenberg & Connery (during which I became the local chairman of the New Zealand Contractors Federation.)
- 6 In 1979 I established a hire centre in Browns Bay near Auckland.
- 7 In 1981 I was employed by Abignano Ltd (now AbiGroup) and transferred to its Brisbane office as the Business Development Manager for Queensland.
- 8 Between October 1982 to December 1983, I was employed as the Queensland State Marketing Manager for Brambles Industrial Services (Brambles Industries) based in Hendra, Brisbane. A significant part of the role at Brambles involved the contract management of hired plant on major mining and infrastructure projects throughout North, Central and South Eastern Queensland. I was also sent to Brambles in Port Kembla on a

regular basis to assist manage their civil engineering projects spread throughout New South Wales.

- 9 On 3 January 1984, I transferred to Port Kembla as the Engineering Services Manager. In mid-1984 I was appointed Plant Manager in charge of Brambles' national earthmoving fleet of 200 pieces of heavy earthmoving equipment. I had responsibility for more than 200 employees and over 400 items of large capital equipment.
- 10 In 1986, as part of a Brambles' senior management development initiative, I undertook a 12-month Graduate Diploma in Business Management developed by the Australian Graduate School of Management, commonly known as the Executive Development Year, supervised by the Institute of Chartered Secretaries and Administrators.
- 11 The course work prompted me to take an interest in the discipline of B2B (business-to-business) marketing and I subsequently joined both the Australian Marketing Institute (AMI) and the Australian Direct Marketing Association.
- 12 In 1987, I co-founded the AMI chapter in Wollongong and subsequently in 1988, I become an AMI NSW Councillor and AMI Federal Vice-President the following year.
- 13 Between 1991 to 1992, I was appointed Wollongong Branch Manager of Gardner Perrott (a subsidiary of Brambles Industries). Gardner Perrott specialised in vacuum loading hazardous material removal and water jetting on industrial projects. As a part of my role at Gardner Perrott, I became responsible for overseeing the product development of a new Gardner Perrott product in underground vacuuming and was responsible for the design and manufacture of other specialised equipment.
- 14 In January 1993, I was appointed National Marketing Manager of CHEP Australia (a subsidiary of Brambles Industries) based in Sydney. CHEP Australia was the largest division of a global network of CHEP offices and is the leading provider of pallet, container and crate pooling Services for many of the world's largest supply chains. I reported directly to the

Brambles Board of Directors on a monthly basis in respect of CHEP Australia budgets and identified possible acquisitions where required.

Empower Australia

- 15 I have also had extensive experience in marketing and market research field, for over 30 years. In 1989, I established a partnership known as Empower Australia The Marketing Group (Empower Australia). Empower Australia was a business consultancy initially focusing on marketing issues, market research and conducting feasibility studies solely in the Wollongong area.
- 16 On 4 April 1991, my wife and I purchased the shareholdings of my two partners in Empower Australia in the name of In-house Computer Services. One third of the shareholdings was transferred to me and the other to my wife. By December 1993, when I resigned my position as National Marketing Manager for CHEP Australia, I was focussed solely on the business of Empower Australia.
- 17 In May 1994, Empower Australia negotiated a contract with Illawarra Newspapers, a subsidiary of Fairfax Holdings Limited, to provide media representation Services for specialist B2B print products initially the Illawarra Business magazine. This unit subsequently became empowerADS.
- 18 On 17 October 1996, the print media Services unit of Empower Australia obtained a large-scale contract with EPS Press Pty Ltd the publishers of national trade magazine The Earthmover & Civil Contractor (E&CC). The E&CC was the official journal of the Civil Contractors Federation and involved national distribution. Empower Australia's contract involved regular interstate travel to secure media sales and attendance at related national and international conferences.
- 19 In 2001, my wife and I decided to extend the scope of Empower Australia's business operations to include an advertising and public relations unit known as "empowerB2B" and a publishing and distribution unit titled

- 20 “empowerOZ”. A copy of the Illawarra Business magazine dated 4 September 2001 on page 29 describes Empower Australia’s loss of the EPS Press Pty Ltd contract caused by a change of ownership at the E&CC and relates how Empower Australia sought to expand its marketing portfolio by creating three additional operating units.
- 21 By the end of 2001, the most important initiative for Empower Australia was to pursue online opportunities since it closely followed the Dot Com crash in 2000, and to move away from print based media products which had been a traditional reliable source of revenue for Empower Australia. Empower Australia cross-subsidised the online research with funds from its regular print media income and marketing assignments.
- 22 To assist with the search for online opportunities Empower Australia formed an alliance with Wollongong-based HR consultancy and a local software developer and was also engaged to provide web development skills, on-going support and hosting facilities.
- 23 On 16 August 2002, Empower Australia launched a regional HTML e-Newsletter which was called “WollongongOnline”.

Master of Information Systems

- 24 I have also undertaken formal research in the field of Information Systems.
- 25 On 12 March 2003, I enrolled in a part-time post graduate research degree in the field of Information Systems at the Institution A. I undertook this research degree to expand my knowledge in website and web portal development and possible areas for improvement in the regional sustainability of local businesses online.
- 26 Between 2003 to 2004, Empower Australia had entered into a partnership agreement as an industry partner with the Institution A whereby Empower Australia would fund an Institution A graduate student to study in the field of the sustainability of community portals. In return, the Institution A would provide research information that it had collected on the sustainability of community portals and helped develop Empower

Australia's amateur sports website "SportsLive.com.au", which at the time I observed was becoming a very popular product for Empower Australia.

- 27 On 15 April 2004, my Masters tutor and an Associate at Institution A sponsored Empower Australia for a Prime Minister's Award for Excellence in the category for "Excellence in Community Business Partnerships" for the partnership between Empower Australia and the Institution A concerning the development of regional community portals.
- 28 On 22 July 2004, Empower Australia was announced as the winner in the NSW Small Business section at an awards presentation in Sydney. It later received recognition at the national awards ceremony in Brisbane.
- 29 This successful partnership between Empower Australia and the Institution A was also recorded in the House of Representatives by the Member for Cunningham the Honourable Sharon Bird MP on 14 September 2009.
- 30 On 14 December 2006, I graduated with a Master of Information Systems by Research. My thesis was titled "An examination of the sustainability of online communities in Australia including the findings of participatory action research undertaken on a beta 3rd generation network type regional community portal in New South Wales" (the Research Thesis). Copies of the Research Thesis were lodged in the Institution A library.
- 31 The opportunity I identified in the major findings of the Research Thesis was that virtually all regional community portals (RCPs) in Australia, existing or findable by online search as at May 2006, would not be considered sustainable since all of the RCPs receive substantial funding support from their sponsoring parent organisations and/or had heavy reliance on obtaining State and Federal government grants to cover their costs of operating and maintaining the RCPs.
- 32 It was found that this traditional business model for operating RCPs was particularly fragile in nature given that there was very little if any revenue derived from subscribers or local advertising and as a consequence once the initial seed funding obtained through sponsorship from their parent organisation or government grant was expended, the RCPs usually curtailed their activities and in most cases ceased operations altogether.

- 33 The new RCPs business model suggested in the Research Thesis was the development of an alternative network model or a beta 3rd generation portal in a regional community which was aimed at utilising a self-supporting business model to achieve sustainability. This new RCPs business model would achieve sustainability through operating as an advertising based (privately owned and operated) company offering a variety of online community based products thereby generating various revenue streams to cross-subsidise the ongoing community portal operations which unlike traditional for of RCPs could be self-supporting and potentially viable commercial ventures.
- 34 I also found that an area of great promise for the RCPs was to offer the local community “an enhanced localised search tool which could confine its domain to a specific community and as a consequence deliver very fast search results” which could ultimately derive it by having local businesses placing advertisements for their products and Services on the RCPs run websites.
- 35 The Research Thesis also identified the fundamental importance of the new RCPs business model in strictly providing locally-based editorial content to achieve sustainability as such a business model required the active engagement and involvement of local members of the community to embrace the content delivered by the RCPs as being truly local.

YOC

- 36 On 22 February 2007, Your Online Community Pty Ltd (YOC) was incorporated as a proprietary limited company intended to exploit and develop the opportunity which was contained in the Research Thesis that I wrote which I refer to at paragraphs 30 to 35 above and to apply for research and development grants offered by the Federal Government.
- 37 In order to apply for research and development grants, and be identified as a research and development company, YOC was required to lodge a research and development project plan at the time of incorporation. YOC

acquired all of the business and assets of Empower Australia and any and all intellectual property rights that existed in the Research Thesis.

- 38 Prior to the incorporation of YOC, Empower Australia's business operations were extensive and comprised of several different categories of promotional material ranging from banner adverts linked to a number of different eZines located in Wollongong, Parramatta and Sutherland to a product called TAGZ which was a combination of moving banner adverts on all Empower Australia's websites which were replicated in the daily newspaper in print.
- 39 Upon incorporation of YOC, several products that were offered by Empower Australia including TAGZ effectively ceased to operate and YOC narrowed down the product offerings to the most profitable products that I believed would be best able to subsidise its research and development costs into the SOLD technology described in paragraphs 41 to 48 below. Revenue generated through YOC's product offerings from that point onwards was reinvested in the research and development of the SOLD technology (described in paragraphs 41 to 48 below).
- 40 Since its incorporation, YOC has been focused on research and development of the SOLD technology (described in paragraphs 41 to 48 below), by utilising the directory service known as "SMARTPAGES" to prove its viability of the SOLD technology to build a sustainable community portal. SMARTPAGES was established by Empower Australia in 2003 to be a localised online directory service offering local listings to businesses operating in a local geographic area.

SOLD Technology

- 41 The SOLD technology refers to an algorithm known as "Search Optimizing Local Directory" that calculates the effective Page Rank (ePR) of any website, which I developed in late 2007.
- 42 It is related to the operation of search engines. A search engine is a software system designed to locate specific information on the internet for

the end user and listings are generated in a line of results often referred to as search engine results page (SERPs). The major operators of search engines include Google, Yahoo and Bing and advertisers wish to present their products or Services on the first page of the SERPs to maximise exposure to the end user or potential customer.

- 43 Page rank is the terminology used to measure the importance of a web page and effects the position of the listings of the SERPs. Page ranks vary from 0 to 10 with 0 being an indexed website with no back-links and 10 being the search engine operator themselves i.e. Google.com. Back-links are a form of hyperlink embedded in the HTML of a website code pointed to another website to direct that user to the other website and increases the page rank of the receiving website.
- 44 The effective Page Rank (ePR) is an analysis algorithm developed by me which I refer to as the “Search Optimizing Local Directory” technology (SOLD technology) for predicting where a natural listing of a particular website will appear on the first page of Google SERP for multiple keyword or local search through utilising an appropriately configured directory service.
- 45 The fundamental difference between a normal Page Rank and an ePR is that the ePR analysis algorithm estimates the weighted importance of geographically located hyperlinks to increase the exposure of local businesses as opposed to a universal search which effectively ignores the geographical location of a user of a search engine. By enabling local businesses to market their products and Services locally through the benefit of obtaining a higher ePR on Google SERPS, it effectively overcomes the traditional search engine bias whereby large non-local companies dominate local search listings and introduces the local user with the local business.
- 46 To achieve a higher Page Rank, a particular website must undergo a forensic evaluation by Google which carries out what is known in the search engine optimization industry as the “Google Web Crawler” (Google Web Crawler). Google Web Crawler is a system whereby Google systemically browses the world wide web to rebuild its Page Rank index by

reviewing each website on its index and renumbering their page ranks using its own formula which dictates the websites position on a Google SERP.

- 47 The SOLD technology's hypothesis is that it would take a number of weeks for Google to review and forensically evaluate the directory website during its Google Web Crawler and update its index, with the consequence that the Page Rank of not only the local business directory but all of the websites listed on the business directory would be raised into the first organic search results displayed on the Google SERP. In other words, a local business would appear to be listed before non-local but high ranking websites on Google SERP due to its affiliation on the locally established business directory as a result of the effects of the ePR.
- 48 On 17 August 2008, I caused to be filed provisional patent applications in Australia and the United States for the SOLD technology and its ePR analysis algorithm. A copy of the bibliographic data for Australian Provisional Patent Application No.2009903850 and the filing receipt for the United States Provisional Patent No. 61/234575 Research required to prove SOLD technology
- 49 In order to prove the SOLD technology and the ePR algorithm in raising the ePR of local SERP results, YOC needed to carry out detailed research in the sustainability of community portals which was outlined in the Research Thesis and established a business model Entity 27 similar to that which is identified in the findings of the Research Thesis outlined at paragraphs 30 to 35 above. The requirements that I identified for proving the SOLD technology included the following:
- (a) A backlink from a high ranking geographically located authority website which has a page rank of at least PR7. A PR7 is usually the highest page rank of any website in a regional or non-metropolitan area and are commonly given to university Institutions. Whilst the geographical component of the authority website was not a fundamental element, it was highly desirable in order to assess the maximum effectiveness the ePR algorithm on Google SERPs;

- (b) The high ranking geographically located website required a back link and Anchor Text which included a geographical name ie *Wollongong Business Directory*. The geographical name in the domain name and anchor text are essential to the ePR as all searches are text based and therefore are weighted in Google's SERP algorithm;
- (c) An established and indexed geographically located directory with a Page Rank of at least PR3. A secondary geographically named directory such as SMARTPAGES Wollongong would ensure all listings are indexed by Google to optimise the ePR for local businesses;
- (d) The directory to be configured with Static URLs which for all categories included key words and reverse key words e.g. if a directory is configured and its URL lists 'Wollongong' & 'plumber' and 'plumber' & 'Wollongong' Google's Page Rank algorithm counts this as 2 Wollongongs and 2 plumbers as whereas if the URL stated Wollongong Wollongong and plumber plumber this would have a negative impact on ePR;
- (e) The domain name of the directory to have a geographically specific Top Level Domain name (TLD) i.e. the domain name for a Wollongong directory should be expressed as www.wollongong.SmartPages.com.au or www.Wollongong SmartPages.com and since most directories use the TLD as branding not geographical identification Google SERP ignores the geographical location of the listings on the directory;
- (f) The domain to be a .com (not a .com.au) and not a sub-domain. Dot com domains always rank higher than .com.au and not using sub-domains also improves the ePR of a particular business listing on the directory;
- (g) The directory main page source code has to have a geographically described HTML meta tag title which is of the geographical location of the particular directory i.e. "Wollongong Business Directory" which would need to appear on the title bar of the browser window which improves the ePR;
- (h) The directory needed to include a well distributed variety of long established local businesses on its portal directory which would be located in the particular regional suburb to improve the ePR. There would need to

be at least several hundred websites located in the geographical location i.e. Wollongong or Parramatta. YOC had portals in Wollongong and in Parramatta.

- (i) A replica directory would need to be established and configured in exactly the same way as the test site under research but without the temporary research hyperlinks to monitor the differences in the ePR when adjustments or modifications were applied to the test site; and
- (j) Forward and back-links from the geographically located directory to the geographically located community portal which would be situated locally. The Anchor Text must also display the geographical name because this has a positive impact on the ePR.

50 The directory service that YOC proposed for its research was called “SMARTPAGES”. It was established in both Wollongong and Parramatta to form part of an online geographically specific directory. In order to partially fund the research it was undertaking, YOC continued to offer the premium listing service that existed when the SMARTPAGES directory was launched by Empower Australia. There were premium listings by way of Category Openers (\$475 plus GST) and Sponsored Listings (\$175 plus GST) with both the Wollongong and Parramatta directories growing within 18 months to over 500 categories and over 6,000 listings in both communities.

51 Applying the process described in paragraph 49 to the SMARTPAGES directory service, not only would paid Category Openers and Sponsored Listings benefit from appearing in the organic search results displayed on the Google SERP, free listings would also benefit. As a result over 5,000 local businesses with free listings would increase in the organic listing on the Google SERP relative to universal search results which would not be geographically specific.

52 Once the effectiveness of the ePR algorithm was demonstrated, the patents in the SOLD technology would be proven and the temporary research hyperlinks to the SMARTPAGES directory from the high ranking geographically located website could be removed.

YOC's Initial Research Project

- 53 In order to undertake its proposed research YOC needed to identify a high page ranking geographically localised website in either of the two regions in which YOC had its SMARTPAGES service, being Wollongong or Parramatta.
- 54 I decided to approach the Universities in each of those locations, the Institution A and the Institution B. I decided that a University website was the most likely candidate to be used for the research because they not only had the highest page rank in the areas that they operated but also were geographically located in terms of their meta tag title which would also have had a positive effect on the ePR Entity similar to that of the effect identified at paragraph 49 item (g). Not knowing which University might be interested in the project I decided to contact both of them.
- 55 In early February 2008, I contacted Entity 1, the then head of the Institution A's Corporate Relations Department, by telephone regarding the possibility of YOC conducting its proposed research at Institution A.
- 56 During our conversation words, including those to the following effect, were spoken:
- I said: "I'd like to conduct a commercial research project at the Innovation Campus of the Institution A which involves linking my research company Your Online Community's websites with the Institution A websites."
- Entity 1: "Entity 2 is in charge of the Innovation Campus and you should speak with him at first instance to commence any commercial research project."
- I said: "I am trying to raise funds to occupy some space at the Innovation Campus and need the commercial research project approved by the university before I can secure the finance to do so."
- Entity 1: "You should send a research project proposal to Entity 2 about this and we can talk after this has been done."
- 57 In parallel I also communicated with the Institution B about the project. On 19 February 2008, I attended an Information Communications Technology

Workshop at the Department of State & Regional Development in Parramatta and met Entity 3, the Head of Mathematics at the Institution B.

58 There we briefly discussed the commercial research project that could be conducted jointly by YOC with Institution B. Entity 3 appeared to be interested and mentioned that we should arrange a formal meeting at the Institution B to discuss this further.

59 On or about 29 February 2008, I met with a potential YOC investor with experience in dealing with both the Institution A and Institution B on research matters to discuss the feasibility of a research project at one of the Institutions. During the conversation, the investor spoke words including those to the following effect:

60 “I’ve had various dealings with both the Institution A and the Institution B. I remember one commercial research project that I had which I initially took to the Institution A but because of the administrative delays in getting the project finalised and approved by the appropriate people, I ended up undertaking it at Institution B. I think you might be better off approaching Institution B on this. They’d be a good fit”.

61 Based on his information, I was persuaded to concentrate YOC’s efforts on discussions with Institution B to undertake the commercial research project, however I also decided to maintain discussions with the Institution A.

62 Later that same day, 29 February 2008, I met Entity 3 at the Institution B and discussed the feasibility of conducting YOC’s commercial research at the Institution stressing that YOC operated an identical portal and directory set up in Parramatta which could be used as controls instead of Wollongong. During that conversation words, including those to the following effect were spoken:

I said: “I’d like to conduct a commercial research project at the Institution B which involves linking my research company Your Online Community’s websites with the Institution B website. I’ve approached Institution A but considering YOC has an identical portal and directory set up in Parramatta, we could bring it to Institution B. I’m open to suggestions on how to move this research project forward.”

Entity 3: “What specifically would be necessary and what is this for exactly?”

I said: “Well without disclosing too much as I’m yet to have obtained a patent for this technology, I’ve developed a particular algorithm which predicts where a natural listing of a particular website will appear on the first page of Google SERP for multiple keyword or local search through utilising an appropriately configured directory service which my company owns. In essence, it will allow regional businesses to have the same if not a better internet presence than that of other big operators in their industry which do have a big internet presence in that particular regional area but not a physical one. It attempts to reduce internet bias favoured towards the bigger corporations.

Entity 3: “This sounds interesting. I’m keen to learn more, but I think something like this might be best approached through you enrolling as a PhD candidate with the Institution B or even better yet, approach the proposal to Institution B in a way which comes through as a joint proposal between YOC and you being a PhD candidate and what YOC would bring to the table and what we need to offer you/YOC in return to complete this research project.”

I said: “That sounds like a great idea! Can I send you a first draft of the MOU containing your thoughts that we would ultimately agree to in the future? I want to get the template right so that I can show my investors once we agree.”

Entity 3: “Sure.”

63 On or about 3 March 2008, at the request of Entity 4, a Director of the Decision Systems Lab (DSL) and at the School of Computer Science and Software Engineering (SCSSE) in the Informatics Faculty at the Institution A, I made a presentation to a regular weekly meeting, known as “Café DSL”, at which research students and academic staff discuss ongoing research projects and engage in feedback on possible improvements, papers that can be presented and/or conferences that can be attended to progress research.

64 The presentation I made was in respect of the research I had undertaken as a part of the Research Thesis on the sustainability of community portals and the possibility of my research and development company YOC forming a research team preferably based at the Institution A's Innovation Campus. In the course of that presentation:

(a) I explained the structure of YOC and the hypothesis that search engine bias towards non-local businesses trying to operate in a local market where it had no physical presence would be overcome by creating a local network configuration utilising structured data and by linking a local directory linked to a local high page ranking authority website such as a university website;

(b) I explained automated search engines are increasingly unable to turn up useful or complete results to local search queries and the human-edited Open Directory and Wikipedia already power the core directory Services for global search on most major search engines; and

(c) I identified the possibility of YOC building a team at the Innovation Campus to undertake action research aimed at developing a prototype, by embedding the existing YOC network of regional community portals and associated intellectual property with the Institution A's online presence, which will ultimately play a similar role in the local internet space.

65 At the conclusion of the presentation, Entity 4 and I discussed the feasibility of conducting the commercial research project at the Institution A. During the discussion, we had a conversation in which words including those to the following effect were spoken:

Entity 4: "Your presentation sounds like an excellent opportunity for Institution A."

I said: "It certainly is. I've also been in talks with Institution B regarding the research and I'm going to send them a draft MOU to proceed with discussions. However, Institution B thinks that it might be best to approach it in a way which effectively makes me a PhD student and with YOC to support me with the infrastructure to conduct the research there."

Entity 4: “I think you should send me one as well. Discussions like this always helps if you have the support of academic staff at the University. I’ll help you to bring the research here.”

I said: “Sure! That would be fantastic. Thanks Entity 4”

66 At this meeting, Entity 4 also introduced me to Entity 5, a graduate student who had studied computer science and stated that Entity 5 could be of great use to YOC at a later stage.

67 On 6 March 2008, I emailed Entity 3 the draft Memorandum of Understanding between YOC and the Institution B, referred to at paragraph 62 above, outlining possible funding models to conduct research at Institution B and included a table which encompassed ownership of patentable intellectual property at conclusion of the research. In parallel to this, on the same day, I also emailed Entity 4 attaching a draft of a proposal to the Institution A regarding my proposed commercial research project. In this document, I referred to the fact that I may ultimately decide to commence a PhD to undergo the commercial research project however *“this approach is not considered optimal”*. Later that day, I received an email response from Entity 4 who indicated that there was a need for a compelling value proposition for the Institution A to agree to conduct the commercial research project.

68 On 7 March 2008, I emailed Entity 4 with a second draft of the proposed commercial research project which attempted to address Entity 4’s concerns. I received a response later that day from Entity 4 who indicated that I should recast the commercial research project entirely as a business case to Institution A for hosting YOC within its domain as YOC’s tenancy at Institution A to conduct the commercial research project and my PhD would be secondary value propositions.

69 On or about 12 March 2008, I had a meeting with Entity 3 regarding the Institution B approach. Entity 3 indicated to me that he was still in the process of reviewing the documents and that we would need to meet later to discuss this further and make some necessary adjustments to the

proposal. I also mentioned at this meeting I was in talks with Institution A about conducting the commercial research project at Institution A.

70 On 13 March 2008, I sent Entity 4 a copy of a third draft of the commercial research project proposal which attempted to address the problems outlined by Entity 4 in his email of 7 March 2008 discussed at paragraph 67 above.

71 On 13 March 2008, I sent Entity 3 an email attaching the third draft of the commercial research proposal that I had prepared for the Institution A. I did this with the intention of maintaining transparency in the discussions with both the Institution A and the Institution B and to see whether the Institution B were willing to negotiate to terms similar to those that I was preparing for the Institution A. Between 13 and 14 March 2008, I prepared three further drafts of the commercial research proposal and emailed these to Entity 4.

72 On 14 March 2008, I forwarded the latest version of the commercial research proposal to Entity 3.

73 On or about 17 March 2008, I attended a Café DSL meeting during which Entity 4 and I had a discussion with him regarding YOC's proposed research during the course of which words including those to the following effect were spoken:

I said: "Did you get a chance to read the latest draft of the commercial research project? What do you think?"

Entity 4: "It was good. I think it would be best to send it off to Entity 2's secretary for her to show and then we can proceed from there I guess. I'm sure he'll have some more comments for you."

I said: "Great! Thanks Entity 4 for your support. I really appreciate it."

74 On 18 March 2008, I sent an email to Entity 2's personal assistant attaching a copy of the proposal for a commercial research project to be conducted at the Institution A for Entity 2's review.

75 On or about 19 March 2008, I met with Entity 3 at the Institution B and discussed the proposal for the commercial research project, during the

course of which words, including those to the following effect, were spoken:

I said: “Did you have a chance read the latest draft MOU and my draft submissions to the Institution A?”

Entity 3: “I have and I think it’s in the final process of being drafted. We just need to tidy up some information and specifically identify what benefit Institution B gets out of this research if you aren’t a PhD research student.”

I said: “To be quite honest with you, I would’ve preferred not have been PhD student but if it did come down to that I am prepared to sign on to do whatever it takes to progress the research.”

Entity 3: “I see, that’s perfectly fine Andrew. So what other benefits would we receive as a university under this research project proposal?”

I said: “My company YOC has capacity to fund up to fourteen full and part time graduates and undergraduates as a part of an integrated research team and would also be bringing a lot of infrastructure to the table.”

Entity 3: “That’s very interesting. Institution B might be keen considering you will employ our graduates which see like a pretty sensible approach. I don’t think I have your finalised proposal to us yet, so why don’t you send me a finalised version that you’re happy with and we can progress it from there.”

I said: “Thank you very much. I’ll try to send something to you tomorrow.”

76 On 20 March 2008, I emailed Entity 3 with a final version of the commercial project proposal between YOC and Institution B.

77 On or about 25 March 2008, I met with Entity 2 at the Institution A, and during the meeting words including those to the following effect were spoken:

I said: “Entity 1 and Entity 4 both indicated to me that you would be able to help YOC get this research project established at the Innovation Campus. Is this true?”

Entity 2: “Yes of course. I can put your research project proposal to the right people and if necessary to the Vice Chancellor because I report directly to him. He is probably the final decision maker.”

I said: “Have you had a chance to read the proposal I sent your secretary? I prepared that document with Entity 4”

Entity 2: “I have and I think it shouldn’t be a problem insofar as the content goes. You’ve both done a great job! However, can you prepare a brief letter on exactly what you’re asking the Institution A for which is a trimmed down version of your current proposal. I just want to simplify things for the people reading your proposal so that they understand precisely what is required by the Institution A to fulfil its end of the agreement and why they should agree to it. This shouldn’t be a complete variation from what you’ve already got, but more so a refined version if you will.

I said: “Sure I think I can do that quite easily.”

Entity 2: “Good. I also will need a letter of support from Entity 4 stating that he is 100% behind this proposal.”

I said: “That shouldn’t be a problem at all. Entity 4 has been very supportive and really wants this project here at Institution A. I can also ask Entity 6 who was my Masters supervisor for a letter of support if it helps?”

Entity 2: “Excellent! A letter from Entity 6 would also be good. Once you’ve done that, send it through to me and we can discuss any additional information that we require from there.”

78 Following this discussion with Entity 2, I immediately emailed Entity 4 referring to the positive reception of the commercial project proposal from Entity 2. I also requested that he write a letter of support for the commercial research project to be undertaken at the Institution A.

79 On the same day, I also sent an email to Dr Helen Hasan, who was the research supervisor for my Research Thesis, for a letter of support for the commercial research project proposal and she subsequently responded by agreeing to write the letter of support.

- 80 On 26 March 2008, I had a brief meeting with Entity 2 as I was unsure of the additional material Entity 2 required from me apart from that already contained in the commercial research project proposal. Entity 2 indicated that it would be a condensed version of the information already contained in the commercial research project proposal and that it should address the precise infrastructure required from the Institution A. Following this discussion, I sent Entity 2 a copy of a draft letter addressing the Institution A facilities that the commercial research project required and the YOC infrastructure and resources that YOC would provide in return (Ask Letter).
- 81 On 27 March 2008, Entity 6 provided me with her draft letter of support for the commercial research project.
- 82 On 31 March 2008, I was also conscious of YOC's submission to the Institution B regarding the commercial research project. I emailed Entity 3 to discuss whether there was any additional material I needed to provide.
- 83 On 1 April 2008, I emailed Entity 2's personal assistant attaching the final version of the Ask Letter indicating that I would deliver hard copies of the Ask Letter and the letters of support to Entity 2 by 3 April 2008.
- 84 On 3 April 2008, I hand delivered to Entity 2 the Ask Letter which indicated that YOC wished to undertake commercial research at the Innovation Campus (Initial Research Project) along with letters of support from both Entity 4 and Entity 6. The Initial Research Project included the embedding of the SOLD technology and associated local search tools within the Institution A's servers and the use of Institution A's sub-domain URL: www.yoc.edu.au and also requested a range of assistance from the INSTITUTION A.
- 85 On 4 April 2008, Entity 2 acknowledged receipt of the Initial Research Project and requested that I prepare a technology impact statement which identifies any potential impact that the Initial Research Project might have to the Institution A website's functionality, performance and aesthetics.
- 86 On 7 April 2008, I emailed Entity 4 a draft copy a document titled "Technology Impact Assessment" (TIA Document) which described the potential impacts upon the Institution A's website in undertaking the Initial

Research Proposal. The TIA Document identified that there would be no negative impact of any kind to the functionality of the Institution A's website and that no prospects of degradation of website performance exist by undertaking the Initial Research Project.

87 On 8 April 2008, I emailed Entity 2 an updated draft of the TIA Document which slightly amended the Initial Research Project to include some additional hyperlinks that were required.

88 On the same day, Entity 2 responded and requested an "*elevator pitch*" written statement which encapsulates the idea contained in the Initial Research Project and reasons as to why Institution A should be involved.

89 On 9 April 2008, I responded to Entity 2 with a document titled "The Internet According to Google" which was designed to be the "*elevator pitch*" requested by Entity 2.

90 On 17 April 2008, in order to expedite the Initial Research Project, I emailed Entity 2's personal assistant and confirmed a meeting for 22 April 2008 in the Vice-Chancellor's meeting room at the Institution A. This meeting was scheduled to give Entity 2 and Entity 1 the benefit of better understanding the logistics of the Initial Research Project.

91 On or about 22 April 2008, I attended a meeting with Entity 2 and Entity 1 at the Vice-Chancellor's meeting room of the Institution A to discuss the Initial Research Project. During the meeting words including those to the following effect were spoken:

I said: "How is the Initial Research Project progressing? I'm very keen to start on the research at the Innovation Campus right away."

Entity 2: "The proposal is progressing well. Entity 1 and I think that there is a potential opportunity for YOC and Institution A to collaborate together on this research. We want to run it past a couple of more people for it to be approved and then you should be able to."

I said: "Who else do you need to run it past before it gets approved?"

Entity 2: "Entity 8, who is our Financial Services department of Institution A and possibly Entity 7 our Vice-Principal of Administration."

I said: "How long do you think this will take?"

Entity 2: “Not very long, I’ll get on it soon and let you know.”

I said: “Great! That’s fantastic news.”

92 On 13 May 2008, I received an email from Entity 2 who indicated the he had spoken to Entity 8, the then Deputy Vice Principal (Finance & IT) at the Institution A, who had no real objections to the proposal on technical grounds. However, Entity 7, the Vice Principal of Administration at the Institution A, sought a review of the Initial Research Project by the Institution A Web Management Committee. Consequently, Entity 2 stated that Entity 9, the Chair of the Web Management Committee would have to review the Initial Research Project and that Entity 4 would be called upon to provide his opinion.

93 On 13 May 2008, I emailed Entity 4 and indicated that Entity 4 should be expecting a call from Entity 9.

94 Due to the positive reception given by Entity 2, Entity 1 and Entity 8 to the Initial Research Proposal along with Entity 4’s continual support for YOC to conduct the Initial Research Proposal at the Institution A, I was confident that the Initial Research Proposal would be approved without any complications.

95 On 15 May 2008, I emailed Entity 2 and indicated that Entity 4 should be willing to speak with Entity 9 considering that *“he has gone out of his way to help in the past”*. In this email, I also volunteered to speak with Entity 7 in the meantime if this would expedite the process of receiving a response for the Initial Research Project in any way.

96 On or about 15 May 2008, I met with Entity 10 a Wollongong-based share broker and financier about securing venture capital for YOC’s research project at his office in Wollongong. In the course of our meeting, words including those to the following effect were spoken:

I said: “YOC is looking at doing research at the Innovation Campus at the Institution A which has exciting possibilities.”

Entity 10: “How much are you after?”

I said: “We’re looking at around \$1.5 million dollars for our third round of venture capital.”

Entity 10: “What exactly does the technology involve?”

I said: “It involves what we call local search that means a local person can find local businesses when they search on Google. Local search is the holy grail on the internet and all the major operators have all been trying to come up with a means to conduct local search for years now. I have developed an algorithm which enables the user to conduct local search and I need the Institution A to help me prove the algorithm.”

Entity 10: “Well, that sounds interesting, will it be patented? What’s my ROI and how do I get my money back?”

I said: “We’ll have to patent the technology first after proving the algorithm that I’ve developed and then the game plan is to roll it out immediately to YOC’s three existing portals located in Sutherland, Parramatta and Wollongong and expand to all regional in NSW and Victoria from there onwards or even licence the technology to a large Australian or US company because we wouldn’t be able to defend the patents if they were replicated by other competitors.”

Entity 10: “Well, how much of YOC do I get for my \$1.5 million?”

I said: “Well, we’re talking about 25% of a proposed \$6 million capitalisation for the third round of venture capital.”

Entity 10: “Well what about the Institution A’s involvement? Are they on board with helping YOC?”

I said: “Well, we’ve submitted the research project proposal and have already received very positive feedback. It should be finalised within a matter of weeks.”

Entity 10: “I would be definitely interested but at this stage need a firm commitment that Institution A is willing to get involved before I start investing. Let me know if you get this and we’ll talk then.”

97 On or about 23 May 2008, I had a telephone conversation with Entity 4 who advised me that he had arranged a meeting that day with Entity 9 at the Institution A to discuss the Initial Research Project and undertook to contact me following this meeting.

98 On or about 26 May 2008, I attended Café DSL to follow-up on whether Entity 4 met with Entity 9 to discuss the progress of the Initial Research

Proposal. During our conversation words including those to the following effect were spoken:

I said: "How'd you go with Entity 9?"

Entity 4: "Very good. I had meeting with him and we discussed the research project and its logistics. He seemed to be very interested with the research project which is a good sign."

I said: "That's great! So when do we get the formal approval to start?"

Entity 4: "Entity 9 would have to raise it at the next Web Management Committee meeting in order for it to be reviewed and formally approved and then we should receive a response in due course there after."

I said: "Do you think that I should arrange a meeting with Entity 9 or the Web Management Committee to try to speed the process up? I think I can best describe the content of the Initial Research Project."

Entity 4: "No not really. I think if he or the committee want to speak with you, they'll contact you so you'll have an opportunity to present your case if need be. You should be fine so let's just wait and see what happens."

I said: "Thanks very much Entity 4. I really appreciate all your effort."

99 On 27 May 2008, I emailed Entity 2 indicating that I had discussed the Web Management Committee's review of the Initial Research Project with Entity 4 and noted that I would not be contacting Entity 9. I noted that I would be happy to oblige to any questions that the Web Management Committee or Entity 9 may have in respect of the Initial Research Project.

100 On 3 June 2008, I emailed Entity 4 indicating that I had still not received a response from the Web Management Committee. In my email, I noted that despite my preference to undertake the Initial Research Project at the Institution A, due to the delay in receiving a response I will have to revisit my discussions with the Institution B.

101 On the same day, I emailed Entity 3 to re-engage in discussions regarding the Initial Research Project being undertaken at Institution B. However, Entity 3 responded to me indicating that he was in Barcelona, Spain until the end of June and therefore was not in a position to discuss the Initial Research Project. Consequently, I decided to wait for a formal response

from the Web Management Committee and to re-engage discussions with Institution B in July upon Entity 3's return.

- 102 On 6 June 2008, I received an email from Entity 2 indicating that Entity 11, who effectively runs the Web Management Committee, had prepared a recommendation which did not support the Initial Research Project. Entity 2 indicated that YOC's appeal would have to be through Entity 4.
- 103 On the same day, I emailed Entity 2's response to Entity 4 who replied that it might be useful to indicate that if Institution A is not interested Institution B will "*earn all the kudos for being the first mover in this space*" which was an element that was missing from previous discussions.
- 104 On or about 10 June 2008, I contacted Entity 11 to request the formal reasons for the Web Management Committee's adverse assessment of the Initial Research Project. Entity 11 indicated that she did not know the precise reason for the adverse assessment and that a letter could be forthcoming upon Entity 9's return from Paris. Subsequently on 11 June 2008, I emailed Entity 2 the content of the discussions I had with Entity 11.
- 105 On 11 June 2008, I emailed Entity 3 stating that in light of the negotiations with the Institution A at a standstill, I would like to discuss the Initial Research Project being undertaken at the Institution B as soon as possible. In my email, I expressed my surprise at receiving an adverse response from the Institution A regarding the Initial Research Project.
- 106 On 20 June 2008, I emailed Entity 4 to discuss the adverse finding by the Web Management Committee in its review of the Initial Research Project. Following this, Entity 4 called me and we had a telephone conversation during which words including those to the following effect were spoken:
- I said: "I just can't believe that the Web Management Committee knocked back the research project. They've put me in a very awkward position considering I've got investors lined up to invest in this as soon as Institution A signs up."
- "I guess the only real discussions to be had now are with the Institution B. Hopefully that discussion can be expedited and I can still get my investors on board."

Entity 4: “I understand you’re frustration. I don’t know what happened. The research project proposal seemed to have everyone’s blessing. I think rather than you making a swift decision to approach the Institution B, you should clearly indicate to Entity 2 that you’re going to take the research project to Institution B. This way, he’ll know the great opportunity Institution A is missing out on.”

“We can definitely appeal this decision, we just need to find out what was wrong with the first project proposal and fix it accordingly.”

107 Following this discussion, I emailed Entity 2 and indicated that I would like to discuss an appeal of the adverse finding and possibility of the Initial Research Project being undertaken at the Institution A. I also noted that despite entering into preliminary negotiations with the Institution B, my preference was always with the Institution A. Later that day, I received an email from Entity 2 indicating that Entity 11 would be the only person who can indicate the reason for the Web Management Committee’s adverse finding of the Initial Research Project.

108 On or about 23 June 2008, I attended Café DSL and spoke with Entity 4 regarding the Initial Research Proposal. During our discussion words including those to the following effect were spoken:

I said: “Have you read Entity 2’s response? I previously spoke to Entity 11 and she doesn’t know the official reason as well and says that I just have to wait until Entity 9 returns from Paris”

“I personally think we should be approaching Entity 7 considering he was the only one to equivocate before the Web Management Committee meeting”.

109 Entity 4: “I think you might be right. If we just knew the official reasons for the rejection, we could amend the research project and repropose it in a way that would definitely pass the Web Management Committee. Addressing their key concerns is the main issue and should be the priority”

I said: “Would you be able to arrange a meeting between Entity 11, yourself and me to discuss the research project? This may help considering we can explain what it is to him in more detail.”

110 Entity 4: “Maybe. I’ll see what I can do. However, I think the best approach is for you to set up a presentation on the SOLD technology to try and educate the Institution A staff on how it works and what you’re trying to prove. It would also be good to address the opportunities that exist for Institution A if it helps out in this process”.

I said: “That sounds like a great idea! Where would I hold it though? ”

111 Entity 4: “You’re able to hire a room for the day at the Institution A to conduct your presentation. Naturally YOC could sponsor this event and I can invite all the relevant people at the Institution A to the presentation and you can invite any investors that you might want to bring along. It would be a great opportunity to promote what you’re trying to prove and is the perfect platform for you to win some votes over so that you can conduct the research at the Institution A.”

I said: “Great! Thanks for your advice. I really appreciate it”.

112 On 24 June 2008, I emailed Entity 4 with a draft flyer for the event to discuss the SOLD technology and the research that would be undertaken at the Institution A (SOLD Technology Presentation).

113 On 30 June 2008, I emailed Entity 4 confirming the booking of the Ocean View Room at the Institution A for the SOLD Technology Presentation on 10 July 2008 for the full day.

114 However, due to the fact that many of the academic staff and s who would be speaking or attending the SOLD Technology Presentation were overseas, this event never eventuated and YOC ultimately cancelled the event.

115 On or about 4 July 2008, Entity 5 and I met with Entity 4 at his office at the Institution A to allow him to review the SOLD technology algorithm before the SOLD Technology Presentation. At the conclusion of the meeting, Entity 4 said words including those to the following effect:

116 “I think this is a viable research concept and I think Institution A will definitely want to see this technology being developed here and not Institution B.”

- 117 On 11 July 2008, I emailed Entity 4 indicating the possibility of YOC sponsoring Entity 5 as a graduate researcher to validate the SOLD Technology. I sent this email given that Empower Australia had entered a partnership arrangement with the Institution A with success as discussed at paragraphs 26 to 29 above.
- 118 On 15 July 2008, I contacted Entity 3 to arrange a time to discuss the technical requirements required for me to undertake the Initial Research Project at Institution B. I was aware that if Institution A would not be pursuing an opportunity for the SOLD technology, then I would need to re-engage in discussions with Institution B being the only viability alternative and it was best to ensure that I had this alternative available to YOC in the event that discussions with the Institution A did not proceed.
- 119 On or about 23 July 2008, I met with Entity 3 an IT technician at the Institution B, regarding the technical requirements required for me to complete the Initial Research Project and prove the SOLD technology. At the conclusion of the discussion, it was decided that I would forward Entity 3 with a draft copy of the proposed research and development in the SOLD technology and the precise research requirements. The plan was to then coordinate with Entity 3 in amending the document with assistance to approve the proposal to undertake the research Entity 27 similar to that of the Initial Research Project.
- 120 On 25 July 2008, I emailed Entity 3 with a copy of the draft Institution B research application which contained the requirements that YOC needed from the Institution B to prove the SOLD technology.
- 121 On 28 July 2008, I emailed Entity 4 a list of options that I could offer to the Institution A to undertake the Initial Research Project that arose during my discussions with the Institution B which ranged from funding a PhD student to a share in the intellectual property of the SOLD Technology.
- 122 On or about 28 July 2008, I attended a Café DSL meeting and after the main session had a conversation with Entity 4 during which words, including those to the following effect, were spoken:

I said: "Have you had a look at some of the options I sent you that I could possibly offer the Institution A?"

123 Entity 4: "I have. I think you also mentioned that this was raised during your discussions with Institution B?"

I said: "Yes, well if I can't conduct the research here, I might as well start looking elsewhere."

124 Entity 4: "Have you received your official response from Entity 9 yet?"

I said: "No! This is exactly why I'm very frustrated because I would prefer to do the research here at the Institution A."

125 Entity 4: "I completely agree with you. You would be better off doing it here at the Institution A considering you know most of the academic staff at the SCSSE and did your Masters here. How about you touch base with Entity 9 first and ask him for the reasons for rejecting the initial research proposal? This way you can plan ahead and prepare an amended version and repropose it."

I said: "Well, I've already starting talking with Institution B but I guess it won't hurt to keep the Institution A option alive if I can."

126 Entity 4: "Exactly! It would also be good to include possible alternative approaches to the initial research proposal within the email for him to consider as well. Send me a draft of the email later on in the week and I'll have a look."

I said: "Thanks Entity 4! I really appreciate it."

127 On 31 July 2008, I emailed Entity 4 a draft of the email to Entity 9 to ascertain the precise reason for the adverse decision to reject the Initial Research Project and provided alternative options in undertake the Initial Research Project at the Institution A. On or about 1 August 2008, I received a letter dated 30 July 2008 from Entity 9 on behalf of the Institution A rejecting the Initial Research Project proposed by YOC.

Immediately following receipt of this letter, I called Entity 4 who indicated to me that we should discuss the contents of the letter at the next DSL meeting

scheduled on Monday 4 August 2008 and to bring along a copy for the purposes of the discussion.

YOC's Revised Research Project

128 On or about 4 August 2008, I attended Café DSL and had a meeting with Entity 4 concerning content for the first draft letter in response to Entity 9. I recall that I had taken the letter with me, as instructed, to discuss its content with Entity 4. During our meeting, we had a conversation in which words, including those to the following effect, were spoken:

Entity 4: "Having read the letter, it appears to me that the Web Management Committee is paranoid about the risks of linking the YOC websites to the front page of the Institution A website. Considering that this is the essential problem you should create a new revised proposal for them to review indicating every element that's essential and non-essential to your research project.

The less you have direct contact with the Institution A website the better so try to exclude every element that you wouldn't necessarily need to complete the SOLD technology research."

I said: "Well have you seen my reply email? Do you think I can use that?"

Entity 4: "Yes I have, but I think you should be less abrasive. Remember you want to keep these people onside. "

I said: "Okay, thanks Entity 4, I'll see what I can draft up and send you a copy for your review."

129 On 13 August 2008, I sent Entity 4 an email attaching the first draft of the response letter to Entity 9.

130 On or about 14 August 2008, I received a telephone call from Entity 4 who had read the draft letter in response to Entity 9 during which we had a conversation in which words, including those to the following effect, were spoken:

I said: "What do you think of the first draft?"

Entity 4: “I think it’s good, but the problem with the letter is that it still doesn’t clearly articulate which areas of this revised version of the research proposal is different from your initial one.”

I said: “Okay, how best do you think I should set it out?”

Entity 4: “The best way is for you to table it as an attachment at the end clearly indicating which areas are different from the initial research proposal and the period in which you need the links up for. Remember it is best address that you don’t need the Institution A infrastructure for a very long time to prove the SOLD technology. That’s one of the key strengths of this proposal!”

I said: “Thanks Entity 4, I’ll do that and send you copy”

Entity 4: “It might be also best to address the new proposal to Entity 2 and not Entity 9 considering that he’s always been more supportive of your research proposal and convincing him first will earn you more points with Entity 9. He can always forward the document as is to Entity 9 in any event.”

I said: “Great! I’ll do that and finalise a copy for you to review. I should have it to you by tomorrow or first thing next Monday at the latest.”

131 On 15 August 2008, I sent Entity 4 a finalised copy of the revised version of the research project taking on board the comments and concerns that he raised in the discussion of 14 August 2008.

132 On 18 August 2008, I attended Café DSL and after the main session I had a brief discussion with Entity 4 during which Entity 4 spoke words including those to the following effect:

133 “I’ve read your revised proposal to Entity 2. It’s very good and addresses a majority of the concerns of the Web Management Committee. I think you can send it and it ought to do the trick.”

134 On 19 August 2008, I emailed Entity 2 with the letter in response to Entity 9’s letter of 30 July 2008 which detailed a revised research project from YOC (the Revised Research Project). The Revised Research Project was contained in the attachment titled “Table of Critical Research

Requirements” and substantially amended the Initial Research Project as follows:

- (a) two Institution A sub-domains were no longer required;
- (b) hosting two FTP folders on the Institution A servers were no longer required;
- (c) the hyperlinks that were now required for YOC to conduct its research would be dispensed to YOC in 3 Steps or Stages;
 - i. Step 1 would be for the hyperlinks from the SCSSE website for a period of six weeks;
 - ii. Step 2 would be for the hyperlinks from the Institution A’s Directory Services Page to the Wollongong SmartPages website and the Institution A’s Community & Partnerships Page to the YOC Wollongong website for of six weeks; and
 - iii. Step 3 links from the Institution A main page to Wollongong SmartPages and YOC Wollongong for six weeks.
- (d) the robot-readable hyperlinks on the Institution A main page were no longer essential.

135 I believed that the Revised Research Project would address the concerns raised in Entity 9’s letter of 30 July 2008 referred to at paragraphs 127 above. The distribution of the hyperlinks to YOC in the 3-Step process meant that the YOC websites being used to conduct the research were not hazardous to the Institution A’s website infrastructure and the links could have been deactivated at any time during the research process.

136 On 20 August 2008, I received an email forward from Entity 2 which displayed a chain of email correspondence between Entity 2, Entity 9, Entity 1, Entity 8 and Entity 4 where Entity 2 queried whether there was an *“opportunity for Andrew to present his revised proposal to the Web Management Committee”* to which Entity 9 responded that he had already met with Entity 4 *“who conveyed to us that the project proposal has limited ability to benefit Institution A significantly”*.

137 Upon receipt of Entity 2's email of 20 August 2008, I was naturally shocked and dismayed at reading the information in light of the fact that Entity 4 had always been very supportive of the SOLD technology from the Initial Research Project to the Revised Research Project and had continually tried to support the research being undertaken at Institution A.

138 Following this, I called Entity 4 and we had a conversation during which words including those to the following effect were spoken:

I said: "Entity 4, I've received an email chain which suggests that you indicated to Entity 9 and Entity 11 that there wouldn't be an opportunity for Institution A to benefit from YOC's research project. Is this true? Can you explain what they're talking about?"

Entity 4: "I didn't say anything like that!! All I said to Entity 9 during our meeting was that there was an opportunity to rent out space for Institution A if YOC conducts their research at the Innovation Campus. That's all I said, I think they might have misconstrued this to mean that limited opportunities exist. I'm sure there's a misunderstanding."

I said: "Well naturally, I'm quite disappointed considering I've always thought you were behind this research project 110%"

Entity 4: "I am Andrew. I will respond to Entity 9's misunderstanding regarding my perceived lack of support for your research project and copy Entity 2 in to that email."

I said: "Thanks Entity 4 for clearing that up. I'd appreciate it if you could get onto it as soon as possible."

139 On 27 August 2008, I was scheduled to meet Entity 3 regarding the draft of the Initial Research Project being conducted at the Institution B and YOC's research requirement that I had sent to her on 25 July 2008 which I discuss at paragraph 120, however, due to my wife's illness, I was unable to attend this meeting.

140 On or about 28 August 2008, I met with Malaysian-based venture capitalist Entity 12 and his local agent Entity 13 at the YOC office in Wollongong to discuss venture capital in the YOC for the SOLD technology. At the meeting, I explained the SOLD technology and the ePR algorithm. During

our meeting a conversation took place in which words including those to the following effect were spoken:

141 Entity 12: "I'm very interested in any IT technology that has patent protection because I know from experience I can get a quick return on my investment by licensing the technology."

142 I said: "Yes, we have filed provisional patents in the US and Australia in the SOLD technology and we're in the process of trying to prove our patent now. I'm in talks with the Institution A to facilitate this and can also arrange proving the patents at the Institution B facility in Parramatta."

143 Entity 12: "Well have any of the Universities agreed?"

144 I said: "It's not finalised yet but I'm very close. We've submitted a research proposal with the Institution A which is being considered as we speak."

145 Entity 12: "As soon as you get that organised with Institution A and the patents sorted out for this technology you get Entity 13 to get back to me because I want to invest. How long will this take?"

146 I said: "I'm thinking possibly a maximum period of 6 months from when we start our research with the Institution A"

147 Entity 12: "Great! Speak to you in 6 months' time."

148 Due to this discussion with Entity 12, I became aware of the urgency of obtaining standard patents over the SOLD technology and pressed forward with my discussions with the Institution A and with the Institution B.

149 On 1 September 2008, I emailed Entity 3 apologising for cancelling our meeting of 27 August 2008 and requested another meeting and in the interim to send me a response to the draft of YOC's proposal discussed at paragraph 120 above.

150 On 2 September 2008, I emailed Entity 2 indicating that Entity 4 had volunteered to respond to Entity 9's email of 20 August 2008 discussed at paragraph 136 above. In my email I also indicated that my patents were

officially registered and that I'd had talks with Entity 12 regarding financing of the YOC Revised Research Project.

151 Between 8 September 2008, I attended Café DSL and after the main session had a meeting with Entity 4 regarding the Revised Research Project during which a conversation took place in which words including those to the following effect were spoken:

I said: "Entity 4, have you had a chance to speak with Entity 9?"

Entity 4: "Yes I have Andrew and it's all sorted. Your revised proposal should be fine to proceed with the Institution A now. I'm sorry about the confusion."

I said: "Ah great! Thanks very much Entity 4, I really appreciate it. I was starting to get worried and reached out to Institution B to take the research proposal there."

Entity 4: "You shouldn't do that just yet Andrew. Wait for a response from Entity 9 first. I'm pretty sure it should be a positive one now! You just need to be patient because these things take time."

I said: "Thanks very much Entity 4! I know that my investors and potential investors would be very glad to hear this."

152 As a result of Entity 4's reassurances that a positive response by the Institution A was forthcoming, I patiently waited and subsequently delayed meeting with Entity 3 to discuss undertaking the research project at the Institution B.

153 On 23 September 2008, due to the overwhelming concern that potential investors would become disinterested in the SOLD technology, I emailed Entity 9 and discussed the opportunity that existed for Institution A and YOC to engage in the Revised Research Project. I also emphasised that the Step 3 direct hyperlink to the Institution A main page is only required for period of approximately six weeks to prove the SOLD technology. Following my email, Entity 9 responded by indicating that my Revised Research Project was currently being reviewed.

154 On 25 September 2008, I received a call from Entity 13 requesting an update on the discussions with the Institution A. I indicated to him that I

would follow up on this immediately and that the Institution A are still deliberating on reaching its decision but that a positive response was forthcoming.

155 On 7 October 2008, I emailed Entity 4 enquiring as to whether there was any way of expediting the Web Management Committee's decision on the Revised Research Project and that I would effectively need to prove the patents for the SOLD technology within a year.

156 Later that day, Entity 4 called me and we had a conversation during which words including those to the following effect were used:

I said: "Entity 4, I've waited and waited and the Web Management Committee still haven't gotten back to me regarding the Revised Research Project. I'm starting to become extremely anxious because I've got my provisional patents lodged for the SOLD technology and a Malaysian investor is interested in investing in YOC provided I can organise this with INSTITUTION A as soon as possible."

"I'm extremely desperate at this stage to get going because I really want to prove the SOLD technology."

Entity 4: "I completely understand Andrew. Unfortunately, the Web Management Committee aren't as efficient as one hopes."

I said: "Well are there any ways in which we can progress this forward?"

Entity 4: "What if you approached this as a PhD student? You might be able to get started immediately if you could somehow speak with Entity 14 because he'd have the authority to organise this for you. In any event we should meet him to discuss this immediately as a matter of urgency."

I said: "Does Entity 17 have the authority to provide me the links I need to conduct the research project?"

Entity 4: "He should considering that he is the Head of School at the SCSSE. I think you should first email Entity 14 and cc me into that email."

I said: "Thanks very much Entity 4! You don't understand how much I appreciate your help."

157 On 9 October 2008, at Entity 4's suggestion, I emailed Entity 14, the Head of School at the SCSSE at the Institution A and copied in Entity 4 about the

problems that YOC was encountering in obtaining approval for the Revised Research Project. I specifically asked whether he could “*personally authorise the (Step 1) hyperlinks from SCSSE if I commence a research degree?*” Also attached to this email was the letter that I sent to Entity 2 dated 19 August 2008 which included the Revised Research Project.

158 On 13 October 2008, I met with Entity 14 and Entity 4 at Entity 14’s office at the Institution A to discuss the Revised Research Project. During our meeting words including those to the following effect were spoken:

I said: “Entity 2 was always optimistic about gaining approval from the Web Management Committee but the Academic Registrar, Entity 9, had at the last minute turned down my first proposal which was largely based on how the founders of Google had undertaken their research at Stanford in 1995.”

Entity 14: “I think your problem in getting approval may have been that you were not enrolled with the Institution A and it was purely a commercial proposition.”

I said: “I would be happy to undertake a PhD to make this happen, that has never been an issue for me. My immediate problem is that I secured patents in August this year and have only 12 months to prove them. I have venture capital people interest in investing in my company, Your Online Community, so I am under pressure to progress the research quickly.”

Entity 14: “What can we do to help?”

I said: “Because of all the delays, I have also been talking to the Head of Mathematics at the Institution B, Entity 3, about conducting the planned research there. Your Online Community, my venture capital funded research company, has identical websites in Parramatta so we could use them instead of the Wollongong ones for our controls but naturally I would prefer to do the research at Wollongong where I completed my Research Masters if I possibly can.”

Entity 14: “Obviously we would prefer you to undertake the research here.”

I said: “Entity 4 has been working closely with me and I would definitely consider undertaking doctoral research at the SCSSE if I was confident I would get the hyperlinks I need to prove my thesis and patents.”

Entity 14: “Do we know exactly what you need?”

I said: "I forwarded you my revised research requirements last Thursday. It's really quite basic now. Just three steps of temporary research links each 6 weeks in duration. The first two steps are required to build our page rank to at least PR3 but are primarily to convince IT Services that there is no technical risk whatsoever in linking the Institution A main page with the YOC and SMARTPAGES sites. We need to do this to boost Wollongong SmartPages' page rank to PR6 for the short period which is needed to test my hypothesis and prove my SOLD technology patents. Step 1 is just links from the School of Computer Science & Software Engineering."

Entity 14: "Entity 4 can sort that out with the Faculty's IT People."

I said: "In due course we will need Step 2 links from the Institution A's Directory Services and Community & Institution A's Partnerships web pages. As I said before I particularly need the Step 3 hyperlinks from the front page of the University's website which are right now a PR7 to 8 because we have to achieve a Page Rank of PR6 to prove our theory."

Entity 14: "How long do you need them for?"

I said: "A maximum of eighteen weeks for Step 1, twelve weeks for Step 2 and only six weeks for Step 3. That's because they all have to stay in place for the whole trial period. Then they can be all removed at the same time. This will have no impact on the performance of Institution A's website."

Entity 14: "We can get the required hyperlinks for you because I think you have approached this the wrong way. You have been talking to the administration people when it is really an academic issue. The University has an obligation to provide the resources you require but only once you are signed up as a student. If you sign up for a PhD with the School Computer Science & Software Engineering, the faculty will need to obtain the necessary resources for you. The University has to provide the resources required for research students to complete their thesis."

I said: "If that's what I have to do, I will."

Entity 14: "You will need to liaise with Entity 4 on the methodology required to implement Steps 2 & 3 hyperlinks."

I said: "No problem, I can confirm the URLs and Anchor Text in the next few days."

Entity 14: “So there’s no real impediment to you starting on that straight away.”

I said: “In that case, I will apply for enrolment immediately and email you when I have lodged the PhD application. I will also talk to my colleague Entity 5 straight away about arranging the Step 1 hyperlinks from the various Informatics website under your control, probably starting with the SCSSE’s DSL website. He will be part of the research team.”

Entity 14: “Entity 4 will be responsible for contacting the appropriate people to secure the hyperlinks you need. As soon as you are enrolled for the PhD, you can embed your Step 1 hyperlinks to the SCSSE web pages. After the Step 1 trial period is completed, Entity 4 will arrange the Steps 2 and 3 hyperlinks that you need. If he has any problems with IT Services or the Web Management Committee, I will personally intervene to obtain the Step 2 and 3 hyperlinks for you.”

I said: “Great, thank you.”

159 On 14 October 2008, I emailed Entity 14, copying Entity 4, with a summary of the meeting and indicating my intention to enrol in a PhD with Institution A as agreed at our meeting and assemble a research team immediately to undertake the Revised Research Project. I also noted that YOC would be prepared to employ other SCSSE graduate students, other than Entity 5, on a casual or part-time basis as required for the Revised Research Project.

160 On 15 October 2008, I applied for enrolment with the Institution A to conduct a PhD by Research to undertake the Revised Research Project. The application included a document called “Hyperlinking Research Methodology” which contained the critical requirements necessary to perform the Revised Research Project. This document was a substantial reproduction of the “Table of Critical Research Requirements” included in the Revised Research Project that had been initially proposed to Entity 2 on 15 August 2008 which I discuss at paragraph 134 above.

161 In my enrolment application with the Institution A to undertake the Revised Research Project, I also included the research proposal which indicated that

it was a crucial element of the Revised Research Project to utilise the SOLD technology developed and patented by me.

162 I considered the enrolment of a PhD to be my fulfilment of what I had agreed to do in order to carry out the Revised Research Project at the Institution A.

163 On 16 October 2008, I emailed Entity 14 and copied in Entity 4 confirming that I had formally enrolled to undertake the PhD research and noted Entity 4 was to approve the research methodology before the implementation of the Step 1 hyperlinks on the SCSSE's website.

164 On 20 October 2008, I emailed Entity 5 and identified the precise hyperlinks and anchor text that was to be used for the Step 1 hyperlinks which were to be embedded on the SCSSE website. Entity 4 was copied into these emails.

165 On 23 October 2008, I sought confirmation that Entity 15, a Lecturer at the SCSSE at the Institution A, would be my PhD co-supervisor with Entity 4.

166 On 28 October 2008, I received a letter dated 16 October 2008 from Entity 9 on behalf of the Institution A advising me that my Revised Research Project was not among the "*strategic IT priorities*" listed for development in 2009 and that on this basis it had been rejected.

167 On 29 October 2008, I emailed Entity 4 in relation to Entity 9's letter. I wanted reassurance from Entity 4 that the agreement to proceed with the Revised Research Project would not be impeded by reason of Entity 9's letter.

168 On 3 November 2008, I attended Café DSL and after the main session had a meeting with Entity 4 regarding the letter from Entity 9 and whether this posed any impediment to the agreement we had to proceed with the Revised Research Project. During our meeting, a conversation took place in which words including those to the following effect were spoken:

I said: "Have you had a chance to read my email regarding Entity 9? Do you think it changes anything in terms of us carrying out the research project considering that [Entity 14] has already agreed to provide us with the links?"

Entity 4: “No I think Entity 14 is right. The University has to provide research students the necessary resources to complete their thesis and it’s an academic issue not an administrative one.”

I said: “In that case I guess we’ll just keep going then. I’ll make sure Entity 5 knows as he’s assisting in my research of the page ranks.”

Entity 4: “Sure.”

169 On 6 November 2008, I emailed Entity 5 and provided him with the page rank of the Wollongong SmartPages directory and the YOC portal that should be used as benchmark to begin monitoring the progress of the Revised Research Project in website page rank and the parallel non-tracked local websites that would be used to compare the increase in page rank of monitored websites to show the effect of the SOLD technology.

170 On 11 November 2008, I queried my enrolment progress with the Institution A to Entity 4 considering all of the enrolment papers were lodged and ready for approval.

171 On 21 November 2008, I contacted Entity 16, the Regional Export Adviser with AUSTRADE, regarding possible investors and licensing opportunities in the SOLD technology in the United States upon completion of Revised Research Project at the Institution A. During our conversation words including those to the following effect were spoken:

I said: “After considerable delay, I’ve finally been able to start researching the SOLD technology to prove the patent and the ePR algorithm. I want AUSTRADE to assist in finding possible investors and licensing companies to either roll the SOLD technology out to the market to YOC’s three existing portals located in Sutherland, Parramatta and Wollongong with the view of expanding it to all regional areas of Australia or even licence the SOLD technology because it will be very valuable for media, technology and marketing companies worldwide.”

Entity 16: “That is excellent news. Once the patents are finalised, we can look into prospective investors and licensing companies who will carry this technology. You should meet with me next week and we can discuss this further.”

- 172 On 26 November 2008, I met with Entity 16 at the AUSTRADE Wollongong office to explore opportunities for licensing patents and raising venture capital in the US. During our meeting, words including those to the following effect were spoken:
- I said: "I am in the process of undertaking a research project at the Institution A which would confirm the patent pending SOLD technology. My internet start-up company, YOC, would be involved in providing the appropriately configured directories and associated portals. Once this is done what are the opportunities available in the US to either license the patents or raise venture capital in the US to bring SOLD to the market?"
- Entity 16: "The SOLD technology sounds very promising. I have a couple of big companies that come to mind that might be interested but we will need to see that the technology works and that your patents will be validated before we progress further. How long do you need to get this technology confirmed and the patents approved?"
- I said: "A total of probably 18 weeks would be required without any delays."
- Entity 16: "Great! I will inform Entity 17 from the director of the US Market Development branch of AUSTRADE to get into touch with you about the SOLD technology. He will have more of an understanding of which companies might be interested."
- 173 On 11 December 2008, I met with both Entity 4 and Entity 15 at Entity 15's office located at the SCSSE to discuss the Revised Research Project. This meeting was intended to be a brainstorming session on how best to carry out the research methodology of the Revised Research Project. During this meeting, we had a conversation in which words including those to the following effect were spoken:
- I said: "YOC's hyperlinks to the Wollongong SmartPages business directory that we've been maintaining would need to be first embedded on to the SCSSE servers. As explained already, these aren't harmful links and we pay premium prices to make sure that YOC's portals and the SmartPages directory service is maintained properly to finish this research."

“The embedding must be done as quickly as possible. I’ve already employed Entity 5 to assist in monitoring the effects of the SOLD technology and have provided him with the relevant information but as I’ve indicated previously I’m inclined to hire more SCSSE grads at YOC if you guys need me to.”

Entity 4: “That won’t be necessary for the time being but if you need any help to conduct this research I can recommend a few names.

Embedding YOC’s hyperlinks onto the SCSSE servers should be easy enough. Entity 5 should be able to do that for you.

I said: “So I can assume you’re happy with the YOC links to be placed on the SCSSE in their current form?”

Entity 4: “Yes of course. It’s fine by me.”

Entity 15: “Do you need anything else from us?”

I said: “Well after we get the Step 1 links on the SCSSE website I need you, or Entity 4, to organise getting the Step 2 links for me. This is the YOC SmartPages directory links embedded on the Institution A Directory webpage and the Institution A Community and Partnership.”

Entity 4: “Sure. We can discuss this once the Step 1 links on the SCSSE website are up and then discuss next steps after that.”

Revised Research Project at SCSSE

174 On 23 December 2008, I received an “Offer of Admission” from the Institution A to carry out the Revised Research Project. I was particularly pleased at receiving this document as I could now formally proceed with the Revised Research Project at the Institution A as per the agreement of 13 October 2008, which I discuss at paragraph 157 above. I signed and returned the “Offer of Admission”.

175 On 24 December 2008, I emailed Entity 4 and Entity 15 informing them that my enrolment had finally come through. I also noted that the enrolment stipulated a commencement date of 2 March 2009 and queried whether this would be of issue. Entity 15 alleviated my concerns indicated

that the commencement date would not stop us from proceeding with the Revised Research Project.

176 On 24 December 2008, I emailed Entity 5 that my enrolment had been approved and indicated that the hyperlinks on the SCSSE website should be immediately embedded in the early part of the following year.

177 Following my enrolment, the Step 1 links were embedded onto the SCSSE website on or about mid-January 2009 due to the holiday break at the Institution A.

178 On 12 February 2009, Entity 17, a Director of US Market Development for AUSTRADE based in New York contacted me regarding the licensing and possible venture capital for patent protected SOLD local search technology. During this conversation words, including those to the following effect, were spoken:

Entity 17: "Andrew, I'm interested in hearing more about the SOLD technology. There are a couple of investors that I have in mind who might be interested in either a licensing agreement or outright purchase of the SOLD technology. How far are you from proving this technology?"

I said: "The SOLD technology should be ready within 6 months maximum including obtaining the patents for it. I am currently in the process of conducting my research at the Institution A and it is showing very promising signs."

Entity 17: "Great! I'll touch base with you over the next couple of months to arrange for you to pitch to some investors once the SOLD technology is finalised and the patents approved."

179 On 16 February 2009, the page rank of Wollongong SmartPages increased to PR2. The page rank as measured by the Mozilla Toolbar together with back-links from both Google and Yahoo were monitored continuously by Entity 5 on a daily basis and all of his time that was recorded to conduct the Revised Research Project was subsequently being paid by YOC.

180 On 19 February 2009, Entity 5 made an email request to the SCSSE IT technician to embed the Step 2 hyperlinks onto the Institution A Directory

Services and Community and Partnerships web-pages and provided the back link details and anchor text.

181 On 23 February 2009, I attended Café DSL and had a brief meeting with Entity 4. In this meeting, I indicated that the page rank of the Wollongong SmartPages website had increased to a page rank of PR2 and that the hypothesis of the Revised Research Project was already beginning to show signs of promise.

182 On 5 March 2009, I submitted my first assignment by email to my co-supervisors pursuant to the requirements of my PhD. The document was titled “An analysis of Local Web Search” and principally aimed at identifying search engine bias.

Step 2 links

183 On 9 March 2009, I emailed Entity 5 and queried whether any progress had been made to obtain the Step 2 links from the Institution A Directory Services website and the Institution A Community and Partners website.

184 Later that day, I attended Café DSL and after the main session had a meeting with Entity 5 concerning progress with securing Step 2 links which were to be embedded on the Institution A Directory Services website and the Institution A Community and Partners website. During this meeting, we had a conversation in which words, including those to the following effect, were spoken:

Entity 5: “I haven’t been able to get those Step 2 links you’re after for the research project.”

185 I said: “Who did you ask?”

Entity 5: “My friend “Ice”, the SCSSE IT Technician that embedded the Step 1 links for us. He told me that he needs to seek approval from people very far up the food chain in order to do it.”

186 I said: “Okay. I’ll ask Entity 14 to sort it out for us.”

- 187 On 11 March 2009, I emailed Entity 14 regarding the embedding of the Step 2 links for the successful continuation of the Revised Research Project. I informed him that requests had been made for the Step 2 links and that no action taken. I requested that Entity 14 intervene in order to expedite the matter and to authorise the embedding of the Step 2 links on the Institution A Directory Services website and the Institution A Community and Partners website.
- 188 On 19 March 2009, I emailed Entity 14 regarding a response for my email of 11 March 2009 requesting the embedding of the Step 2 links on the Institution A Directory Services website and the Institution A Community and Partners website.
- 189 On 24 March 2009, I emailed Entity 4 with a draft for Entity 14 which included images for where the Step 2 links needed to appear on the Institution A Directory Services website and also the Institution A Community and Partners website. In this email, I also advised that there was no known technical risk of embedding the YOC SMARTPAGES hyperlinks and it was emphasised that the links would be placed on the website for a strictly limited duration.
- 190 On 3 April 2009, the results of the Revised Research Project were beginning to confirm the viability of the SOLD technology as the page rank of YOC's Wollongong SmartPages improved to PR3 which had the effect of improving the ePR of Wollongong SmartPages and its directory listings. This page rank movement was duly recorded by Entity 5 on that date and the number of back-links as measured by Yahoo Explorer also increased dramatically from 15 to 223.
- 191 On 7 April 2009, I emailed Entity 14 and informed him of the positive effects of the Step 1 links from the SCSSE website and indicated the need for the Step 2 links. On 8 April 2009, Entity 14 responded by stating that he had requested the IT Services give us the permission to link the directory and that he was waiting to hear back from them.
- 192 On 27 April 2009, I emailed Entity 14 regarding the progress of the obtaining the Step 2 links. On the same day, Entity 14 responded and

indicated to me that he had received an interim response from IT Services and that they had *“matched our current request with your previous request”*. Entity 14 made a number of statements that I did not consider were correct.

193 Upon receiving this email, I subsequently emailed Entity 4 to seek his thoughts on the subject. I was very confused by Entity 14’s email considering I had always been transparent with him right from the start about YOC and its role and had even attached the Revised Research Project sent to Entity 2 in my email to him of 9 October 2008 discussed at paragraph 157 above.

194 Furthermore, in the 9 October 2008 email already discussed at paragraph 157 above, I indicated to Entity 14 that the research *“will be funded by my venture capital funded internet start up company – Wollongong based Your Online Community Pty Ltd”* and that there were *“significant imperatives to commence the planned research without any further delay”*. I even indicated the processes that I had undertaken with Entity 4 to progress the Revised Research Project and because of this delay I approached Entity 14. Therefore, this response by Entity 14 was without foundation and completely unexpected.

195 On 29 April 2009, I emailed Entity 4 with a response for Entity 14. In this draft response email, I indicated to Entity 14 my displeasure at his response which tended to suggest that I had misled him in a way. I emphasised that Entity 14 was the one who indicated that not being a student could have been an impediment and further if I enrolled Entity 14 would intervene if necessary to secure the requisite links to successfully complete the Revised Research Project. I also emphasised in this email that it was upon his personal assurance that I enrolled with the SCSSE to undertake the PhD at the Institution A.

196 Entity 4 responded to my email of 29 April 2009 indicating that he would call me in the afternoon and subsequently I received a phone call later that day from Entity 4. We had a conversation in which words including those to the following effect were spoken:

I said: "I'm very annoyed with Entity 17. I cannot believe what he is insinuating. Entity 4, you very well know that I only enrolled to do a PhD to undertake this research project on his personal assurance that he would get the links for us to successfully complete the Revised Research Project. He also knew all along that YOC infrastructure would be used to conduct the research!"

Entity 4: "Yes of course but Andrew, you need to calm down. Blowing up at Entity 14 like that isn't going to help anyone especially you! You need to remember that we need Entity 14 onside to progress the research."

I said: "Well how do you propose we keep Entity 14 onside?"

Entity 4: "You should first try to explain what happened again indicating that it has always been the IT Services fault for the considerable delay in getting a response the first time round"

"You should also mention that you've approached the research project as a PhD student and emphasise that there aren't any technical risks involved for the Institution A website and that the links would not be permanently displayed as to alleviate any concerns that he may have."

I said: "I'll send you a draft and we'll go from there."

- 197 Subsequently on 1 May 2009, I sent an amended draft email that I addressed to Entity 14 to Entity 4 seeking his comments.
- 198 On 4 May 2009, I sent the amended version of the email to Entity 14 and indicated that I would like to meet with him to discuss its contents.
- 199 On 4 May 2009, I had a meeting with Entity 14 at his office at the Institution A. I indicated to him at that meeting that I needed the Step 2 links in order to proceed with my Revised Research Project. Entity 14 stated that he would contact IT Services and follow up on my request for the Step 2 links.
- 200 On 11 May 2009, I sent an email to Entity 14 indicating whether I could come to meet him at his office. This meeting was to discuss whether he had made any progress with IT Services regarding securing the Step 2 links for the Revised Research Project. He indicated that I could come and subsequently at his office we had a discussion regarding the Revised

Research Project. He indicated to me that he had scheduled a meeting with IT Services regarding the Step 2 links and that he will discuss any further developments with me after he has had these discussions.

201 On 13 May 2009, I had a meeting with Entity 14 in the Dean's office of the SCSSE to discuss the Step 2 hyperlinks for the Revised Research Project and his subsequent discussions with IT Services. During this meeting, we had a conversation in which words including those to the following effect were spoken:

I said: "I need the Step 2 links urgently for the research project. Do you have any further development to report from your discussions with IT Services?"

202 Entity 14: "I'm afraid not, IT Services are still delaying their response and haven't gotten back to me yet with a definitive answer for me to intervene. I will just have to follow up at another stage."

203 Due to the significant delay by Entity 4, Entity 15 and also Entity 14 in obtaining the Step 2 links for the Revised Research Project, I decided to seek alternative websites in order to proceed with proving the effects of the Step 2 links in addition to consistently persisting with my supervisors, Entity 14 and the Institution A to intervene in securing the Step 2 links to continue the research. Whilst this was not a preferred decision for YOC to conduct the Revised Research Project, I decided to proceed with seeking alternatives websites for the Step 2 links as the delay in the Revised Research Project was exposing YOC to incur significant costs in trying to prove the SOLD technology which I did not anticipate would take this long.

204 On 12 August 2009, I contacted Entity 19, the General Manager of Sales and Marketing at IMB Banking & Financial Services (IMB), about the possibility of conducting the research involved in embedding the Step 2 links on the IMB website. This was because as at that period, IMB had a website page rank of PR6 which would have been comparably consistent with the research that was needed for the second phase of implementing the

Step 2 links. During this meeting, we had a conversation in which words including those to the following effect were spoken:

I said: “as you know I am conducting doctoral research at the School of Computer Science and Software Engineering on SEO related matters and I would be very appreciative if you would allow me to embed a hyperlink to the IMB website main page to see the effects that it has on the Google SERP listings for Wollongong based businesses such as the IMB. This would help me to prove my SOLD technology patents that I have applied for.”

Entity 19: “Would this negatively affect the page rank of IMB?”

I said: “No definitely not. The research that I am conducting proposes that with the correct algorithm, that has been developed by me, Wollongong SmartPages would increase its page rank and in turn have a domino effect on the page rank of all of the other websites that are linked to it. In essence, this would allow all of the geographically located websites to appear on the front page of a search engine like Google consistently every time. We have tested this already on the Institution A website and it will have absolutely no adverse effect on your page rank.

Entity 19: “That sounds very interesting. I would love to help on the proviso that it has no effect on the page rank of IMB. How long do you need the hyperlink up for?”

I said: “Great! I really appreciate it. I would need the website to display the hyperlink for no more than six months.”

Entity 19: “OK I will check with my web people and see what I can do.”

205 On 15 June 2009, I was made aware that the provisional patent applications were due to expire on 15 August 2009. As such, I renewed the provisional patent applications for a further 12 months on the advice of my patent attorneys, Davies Collision Cave.

206 On or about 24 August 2009, I met with Entity 4 and Entity 15 regarding the Revised Research Project after a Café DSL presentation during which words including those to the following effect were spoken:

Entity 4: “Andrew, I understand your frustration but we are trying the best we can to speed up the process. IT Services have delayed this

considerably and we need to find a way to properly convey what the research project is.”

I said: “As a marketing consultant for many years I am experienced at making presentations and I am sure if I could get in front of the decision-makers at IT Services or the Web Management committee I could answer any technical concerns they might have.”

Entity 4: “Unfortunately only academic staff are allowed to speak directly to IT Services, so you will have to leave it to Entity 15, Entity 17 and Entity 14 and me to handle all requests.”

I said: “Well I’m happy to attend any meeting with you if that helps. I am just worried because I need to get this show on the road and Entity 14’s discussions with IT Services don’t seem promising.”

207 On 3 September 2009, I again contacted Entity 19 regarding the Step 2 links being implemented on the IMB website. During this conversation, Entity 19 informed me that he had spoken with the IT technician at IMB and confirmed that given that the proposed research will have no effect on the page rank of the IMB website, he will authorise the hyperlinks to be displayed on the IMB website.

208 On 15 September 2009, I contacted Entity 20, the Chief Executive Officer of WEA Illawarra (WEA) and discussed the possibility of conducting the Revised Research Project by embedding the Step 2 links on the WEA main page website. During this meeting, we had a conversation in which words including those to the following effect were spoken:

I said: “you know that I’m conducting research at the Institution A on search engine bias but I’m experiencing some delays in embedding hyperlinks and the IMB have agreed to give me a link from their front page which is a great help but I need two links to do this research. WEA has a high enough page rank in order for me to do the research. Do you think you can help me out?”

Entity 19: “How long do you want it for?”

I said: “6 months should be plenty. I really appreciate your help.”

Entity 19: “Yeah sure thing. Not a problem. I’ll talk to Entity 21 from Cleverlink who look after our websites but it shouldn’t be a problem.”

- 209 On 1 October 2009, the Step 2 links were embedded on the IMB website and I instructed Entity 5 to continue to monitor the effects of the Step 2 links as per the Revised Research Project.
- 210 On or about early October 2009, the Step 2 links were embedded on the WEA main page website with the anchor text ‘Wollongong Business Directory’ at the middle bottom of the WEA main webpage. I have caused to be reproduced a copy of the WEA main page containing the Wollongong Business Directory recorded by the Wayback Machine website database www.archive.org as at 22 October 2009.
- 211 I am aware that the Wayback Machine website database www.archive.org is a free service that allows internet users to access archived versions of websites. The Wayback Machine contains an archived version of the website www.weaillawarra.com.au as at 22 October 2009.
- 212 On 12 October 2009, I attended Café DSL and had meeting with Entity 4 where I indicated to him that I had obtained the Step 2 links from external businesses including IMB and that now, all I needed to prove the SOLD technology and complete the Revised Research Project was the Step 3 links for a maximum period of 6 weeks on the Institution A website. During the meeting, we had a conversation in which words including those to the following effect were spoken:
- I said: “Entity 4, despite our hiccups along the way, I’ve managed to secure the Step 2 links from external sources through meeting with people at IMB and WEA. I am monitoring the effects of the Step 2 links as we speak and need to be in a position to complete the research of the Step 3 links in order for me to complete the research project.”
- Entity 4: “That’s great news. I’m sorry you’ve had to go through all this trouble with IT Services all over again.”
- I said: “Well, now that I’ve got the Step 2 links, when do you think you can secure the Step 3 links by? I really need you to have that discussion with IT Services so that I can inform IMB and WEA that they can pull their links upon completion of the research involved in monitoring the Step 3 links.”

Entity 4: “I’ll look into it and let you know. I’ll go and talk to IT Services again for the Step 3 links and considering that they didn’t provide you with the Step 2 links, hopefully we can ask them for the Step 3 links without a problem.”

Repeated Requests for Step 3 Links

213 From 19 October 2009 and continuously till November 2010, I attended a majority of the Café DSL weekly meetings to follow up on the progress of securing the Step 3 links from the Institution A website. After each main session that I attended, I had a meeting with Entity 4 and/or other parties including Entity 15 regarding the implementation of the Step 3 links.

214 The reasons I received for the delay from Entity 4 and Entity 15 was that there were considerable delays due to the administrative hurdles of having to explain the research hypothesis of the Revised Research Project to all of the relevant Institution A IT Services staff and that I needed to be patient during this process. The responses I received during this period included:

215 “I’ll follow it up and get back to you.”

216 “We just need to be patient.”

217 “It’s IT Services internal administrative issues, we have to just wait until they resolve it.”

218 “We need a bit more time to explain it to IT Services.”

219 At no point during this period was it conveyed to me by either Entity 4, Entity 15, Entity 14 or any other Institution A academic staff member that I should stop performing my obligations under the Revised Research Project because I could not obtain the necessary Step 3 hyperlinks from the Institution A to complete the Revised Research Project. For the sake of brevity, I have only identified in proceeding paragraphs below the key meetings that occurred during this period.

220 In addition to my queries to Entity 4 and Entity 15 about the significant delay in receiving any response from the Institution A, I took all possible

steps that I could in order to secure the Step 3 links from sources other than the Institution A which I also refer to in the paragraphs below.

221 On or about 10 December 2009, I met with Entity 22, the General Manager of Fairfax Media and discussed the Revised Research Project, the research data collected from the completion of the Step 1 and Step 2 links and the possible implementation of the Step 3 links from of the Sydney Morning Herald main page, which at the time had the same page rank as the Institution A main page being PR7. At the conclusion of the meeting, we had a conversation in which words including those to the following effect were spoken:

I said: “As you can see we clearly have a viable research product which if we can prove will be a valuable digital asset. I just need a back link for a 6 week window on the Sydney Morning Herald website to complete the research for the SOLD technology. Could you help us out?”

Entity 22: “I’d like to help you out and it does seem like an interesting piece of technology, but we already provide lots of back-links to our directory partner the Online Media Group. There would be a conflict of interest. I’m very sorry.”

222 On or about 15 December 2009, I spoke to Entity 23 of Dibbs Barker to ascertain the costings to prepare an international licensing agreement for SOLD technology. This enquiry was made to prepare the agreement in order seek a potential investor who would be able to help me secure the requisite Step 3 links of the Revised Research Project and to assist in the development of the SOLD technology in return for an exclusive licensing agreement upon completion of the research and patents approved.

223 On 19 January 2010, I submitted my 2009 Annual Progress Report (2009 APR) for my PhD thesis. This was a formal requirement under the Institution A’s PhD guidelines and I saw this as an opportunity to resolve the significant delay in obtaining the Step 3 links for the Revised Research Project. It was my understanding that this was the only formal channel available for a research student to communicate directly with the Institution A.

224 Under section 3 “Research Outcomes” of the 2009 APR, I provided an
overview of the Revised Research Project being undertaken and the
successful completion of the research hypothesis up until the significant
delay in obtaining the Step 3 hyperlinks which had caused a sudden halt to
all of the research effort.

225 Under section 4 “Relating to research progress being adversely affected”, I
discussed the difficulty in obtaining Step 2 links from the Institution A and
the burden of having to alternatively approach third parties to secure these
links.

226 Under section 5 “Have these issues been addressed”, I commented as
follows:

227 “No. Numerous approaches have been made to ITS by various faculty staff
about this issue over the past 2 years. Despite wishing to have the
opportunity to present my case personally to ITS I have been informed I am
not allowed to speak directly to the relevant staff members”.

228 Under section 7 “Other comments”, I noted the effects of the considerable
delay on the Revised Research Project and also the implications this has on
YOC’s business opportunities. In the 2009 APR I wrote the following:

229 “The delays since February 2008 have also severely hampered the
commercialisation prospects of this research and on-going viability of the
researcher’s internet start-up Your Online Community Pty Ltd which holds
the researcher’s IP.”

230 Under item 6 of the Supervisor’s section of 2009 APR, Entity 4 was asked
whether the comments on the goals/outcomes written by the candidate for
2010 were realistic and appropriate to which he wrote “Yes” and agreed
with my comments on the strategy to prevent reoccurrence and
continuation of the problems in 2010.

231 My comments and those of Entity 4 in the 2009 APR were accepted in
their entirety by Entity 14 in the “Deans Final Recommendation” section
of the 2009 APR where Entity 14 wrote the following:

232 “I agree with the recommendations of the supervisors and HPS. I would
also like to see the Research Office take up Andrew’s case with ITS. There
see to be a conflict between the requirements of ITS and those of Faculty of
Informatics where the core research is meddling with IT infrastructure and
testing the results in real life systems. It will be nice to see some
cooperation from ITS in helping Informatics perform its research without
breaking the University infrastructure”.

233 On or about 8 February 2010, I attended Café DSL and had a brief meeting
with Entity 6, my research supervisor during my Master’s degree at the
Institution A, regarding my lack of progress with the Revised Research
Project. However, she indicated to me that she could not intervene
considering she was not a part of the Informatics faculty.

234 On 9 March 2010, I emailed Entity 4 regarding Entity 14’s comments on
my 2009 APR indicating whether the next step is to formally lodge an
academic grievance with the Institution A. Entity 4 replied to my email
indicating that the academic grievance route was “*an extreme measure, to
be considered when all other avenues fail*”.

235 On 22 March 2010, I emailed Entity 24 at the IT Services department of
Institution A requesting the Step 3 links that I need in order to prove the
SOLD technology and complete the Revised Research Project. I
incorrectly stated in my email that we needed to test the hypothesis for a
“*period of six months*”, that should have been “*six weeks*”. I also stated that
my email that WEA and IMB had already provided the Step 2 links for
YOC.

236 On 13 May 2010, I met Entity 25, an internet consultant, at YOC’s office
in Wollongong to discuss acquiring the back links commercially through
other high page ranking websites that were under his control. During this
meeting, we have a conversation in which words including those to the
following effect were spoken:

I said: “Do you have any websites with a high page rank of 7 or above
which I can commercially use to conduct the last phase of the research we’re
doing at the Institution A?”

Entity 25: “Well I don’t have any page rank 7 websites but I can arrange hundreds or even thousands of low ranking websites if YOC is willing to do a swap in its links in return?”

I said: “No disrespect to you, but YOC has never swapped links and I’m not prepared to get involved with link farming or spam-dexing material which might jeopardise the integrity of the research that I’m undertaking.”

237 Entity 25’s proposition was effectively to swap the Wollongong SmartPages link with several thousands of low page ranking back links to effectively generate a “link farm” effect which is a form of spamming the index of a Google SERP to achieve higher page rank results. Google considered this behaviour to be ‘black hat’ behaviour and I did not want to be engaged in this behaviour because it would not have achieved the results required to complete the Revised Research Project.

238 On or about 17 May 2010, I had a meeting with Entity 4 at his office at the Institution A regarding other possible alternatives to obtain the Step 3 links for the Revised Research Project and the progress of the PhD. At the conclusion of the meeting, I was required to submit a research status report indicating the effects of the SOLD technology and the progress of the Revised Research Project for submission to IT Services to verify the Revised Research Project as being legitimate research.

239 On 17 June 2010, I submitted my second assignment titled “Research Status”. This effectively provided an overview of the Revised Research Project up until that date and the effect of the SOLD technology on ePR of Wollongong business listings on Google SERP. I also provided a copy of the graphs showing the Revised Research Project findings up until that date.

240 It is my understanding that Entity 15 forwarded my paper to Entity 26 of IT Services at the Institution A shortly there after to indicate to IT Services that the Revised Research Project being undertaken is a legitimate one.

241 On 21 June 2010, I enquired as to whether Entity 15 had time to discuss obtaining the Step 3 links for the Revised Research Project after Café DSL. On the same day, Entity 15 replied indicating that he had forwarded my

second assignment “Research Status” to Entity 26 of IT Services however he was waiting to receive a response.

242 On 16 July 2010, I emailed Entity 4 and Entity 15 indicating my dissatisfaction with lack of progress of obtaining the Step 3 links for the Revised Research Project and the significant delay of well over two years to progress to this stage. I wanted an answer as to whether I could realistically conduct the Revised Research Project at the Institution A

243 On 26 July 2010, I received an email from Entity 15 who had received a response from IT Services indicating that it was not the position of IT Services to be involved in matters relating to Enterprise Content Management (ECM) and that enquires should be addressed to ECM and not IT Services. The reason provided by IT Services on behalf the ECM was that *“the request was reject on the basis that it involved promotion of corporate website in which the researcher had commercial interests”*. Entity 15 suggested that we meet to alter the project goals of the Revised Research Project.

244 On 9 August 2010, I had a brief meeting with Entity 15 concerning progress with securing Step 3 links as by this stage the Revised Research Project was at a standstill. To the best of my recollection, during the meeting, a discussion took place in which words including those to the following effect were spoken:

I said: “I’m really starting to become impatient with IT Services. What should I do, I cannot alter the Revised Research Project because I need the specific websites to prove the SOLD technology for the patents. You should know that Entity 15.”

Entity 15: “I understand your frustration Andrew, IT Services are impacting the process by which the SCSSE conducts its research. IT Services are imposing new standards all the time attempting to centralise control over the DSL servers and other links to the outside world which is truly concerning.”

I said: “I know, tell me about it. At this rate, I’ll never get my research done!! 6 weeks is all I bloody need!!”

Entity 15: “IT Services imposition of its ‘policies’ are becoming a problem faced by some of my other students as well. I think we just need to be a bit more patient with IT Services. Moving forward, I’ll put in another enquiry to IT Services on behalf of Entity 4 and myself and we’ll see how we go.”

245 On 6 September 2010, Entity 15 forwarded an email he had received from Entity 26, Senior Manager of the Business Services Unit at the IT Services department of the Institution A responding to an enquiry from Entity 15 which he raised with Entity 24 about the significant delays in securing the Step 3 links for the Revised Research Project. Entity 15’s email contained a number of false and/or misleading allegations and displayed a limited knowledge of the relevant technical issues involved in the completion of the Revised Research Project.

246 On 8 September 2010, Entity 15, Entity 4 and I had a meeting at Entity 4’s office concerning the 6 September email from IT Services rejecting the Step 3 links. It was decided that I would create draft response and it would ultimately be sent on behalf of “the Research Team” for the Revised Research Project which included Entity 15, Entity 4 and me.

247 On 9 September 2010, I forwarded a draft version of the response to Entity 15 and Entity 4 addressing all the issues raised by Entity 26 in her email. Subsequent amendments were made by Entity 4 and Entity 15 and a Revised Reply was sent by Entity 15 to Entity 26.

248 On 11 October 2010, I emailed Entity 4 and Entity 15 and queried whether a response had been received from IT Services regarding the Revised Reply. Later that day at Café DSL, Entity 15 indicated to me that no response had been received and that he will “*follow them up*”.

Step 1 hyperlinks removed

249 On 3 November 2010, the Step 1 links were disconnected from the Institution A website without notice by the Academic Registrar’s Division

of the Institution A which I understand to impose the guidelines that the Institution A students should follow. Entity 4 forwarded an email containing correspondence between Entity 27, Acting Senior Manager Enterprise Content of the Academic Registrar's Division of the Institution A and Entity 30 on 3 November 2010 in which Entity 27 ordered the Step 1 links to be removed from the Institution A website as *"The Wollongong Business Directory link does not comply with the Institution A Web Management Policy on use of external links"*.

250 On 9 November 2010, I emailed Entity 4 copying in Entity 15 requesting an urgent meeting to discuss the Revised Research Project and following my email, Entity 4 called to and arranged a meeting after the Café DSL that was scheduled for that evening.

251 On the same day, Entity 15 replied to my email indicating that the Institution A had *"tightened their policy by adding a clause that limits external links to destinations related to education and government"* and noted that the difficulty to pursue work in the area of research on not only the Revised Research Project but also on other research being conducted by Entity 15.

252 Later that day, I met with Entity 4 regarding the removal of the Step 1 links. We had a conversation in which words including those to the following effect were spoken:

I said: "I cannot believe that the Academic Registrar has pulled the Step 1 links. What authority do they have to pull a research link off the website!? Entity 4 this has major ramifications to not only my research project but the Wollongong SmartPages directory operated by YOC.

If I don't resolve this soon, I might not even have a research company to continue the bloody research. I need you fix this immediately and make them reverse their decision."

Entity 4: "This is completely unexpected Andrew. I apologise for this. I had no idea that they would go through such lengths to object to us using the links. I suggest that we meet with Entity 14 right away to have this matter resolved. He should be able to fix this and intervene."

- 253 On 10 November 2010, I emailed Entity 14 requesting an urgent meeting and echoed the concerns and issues raised by Entity 15. I also stated the following:
- (a) that the removal of the three Informatics hyper-links to URL www.wollongong.smartpages.com.au (Anchor Text: Wollongong Business Directory) has put on hold the continued monitoring of the Page Ranks and puts the proof of the hypothesis contained in the Revised Research Project at risk;
 - (b) that despite repeated requests, at no time in the past two years was I granted the opportunity to personally present my case to any relevant person at the Institution A as I was informed that the appropriate course of action for the application for hyperlinks was to be progressed entirely by the supervisor and/or co-supervisor of the PhD research project; and
 - (c) that the failure to provide the links in the Revised Research Project has major ramifications for YOC to operate as a research and development company.
- 254 My email of 10 November 2010 was supported by both Entity 15 and Entity 4 who both indicated that these policies were being inappropriately applied.
- 255 On the same day, Entity 14 scheduled an urgent meeting to come up with an alternative solution that the Institution A can support and at the same time fulfil the requirements the Revised Research Project.
- 256 On 23 November 2010, Entity 15 and I met with Entity 14 at his office at the Institution A to discuss the immediate retrieval of the Step 1 links and the implementation of the Step 3 links on the Institution A website. During our meeting, a conversation took place in which words including those to the following effect were spoken:
- Entity 14: "I've been on to IT Services many times about these links but the Academic Registrar's Division is able to impose their requirements on the SCSSE and I am not prepared to keep banging my head up against the wall.

We need to think of some creative solution to the problem that satisfies the IT Services requirements. Can we link it to another website other than Wollongong SmartPages if this particular page is the problem?”

I said: “You didn’t indicate any problem like this to me when I first decided to enrol and as I’ve already said to Entity 4 the Wollongong SmartPages is the only website which contains all of the controls that have been in place for several years now.

There is no practical alternative to the links which is outlined in my initial application to be a PhD student here.”

Entity 14: “Well, are you able to change the scope of your PhD thesis?”

I said: “No I can’t. I’ve been researching this topic since the beginning of 2001 and up until now and I’ve never been told that I’m unable to obtain the links for my research by you or any other academic staff member nor have I been able to personally present my case to the relevant IT Services people to explain the situation and scope of my research.

This is no reflection on the staff here at the Informatics department. Entity 4, Entity 15 and you have all been very supportive but I have investors and employees who are relying on me to conclude my research and prove the patents to develop the SOLD technology.

All I’m seeking from the Institution A are the resources that were promised to me when I started my PhD.”

Entity 14: “Entity 15, what are your thoughts?”

Entity 15: “I think the problem is how IT Services is interpreting its own policies. The new rules are changing how we conduct our research at Informatics.

Andrew only needs the main page links for 6 weeks to complete his research hypothesis and it is legitimate research. The admin people are not qualified to make a decision as on whether a research links should or should not remain on the Institution A website and what’s worse is that they are completely ignoring academic staff’s recommendations on this issue.

I think that the supervisor and co-supervisor are an ideal people to discuss whether research is appropriate or not and Entity 4 and I have made it quite

clear to IT Services on several occasions that we consider Andrew's research to be of high value and one which should be supported by the Institution A."

I said: "I've prepared a letter to you which indicates the substantive ramifications that the delay and subsequent disconnection of the Step 1 links has had on the operation of my business Your Online Community Pty Ltd. Would you like to see it?"

Entity 14: (Entity 14 reads letter) "Thank you for preparing this letter, I'll send it off to the relevant people and hopefully we can resolve this as quickly as possible. I'll have another discussion with IT Services in the meantime to see if I can speed things along."

257 On 1 December 2010, I received a letter from Entity 28, the Dean of Research at the Institution A, who was authorised to send the letter on behalf of the Institution A. In his letter, Entity 28 indicated that the Step 1 links of the Revised Research Project had been disconnected as it was in contravention of the "*Institution A Web Management Policy of 2007*" which had been in operation before the commencement of my PhD studies in 2008. Entity 28 also indicated that I should meet with Entity 14 to refocus the scope of my research to complete my PhD.

258 On 3 December 2010, I sent a letter to Entity 28 in response to his letter of 1 December 2010. In my letter to Entity 28, I copied an email I had sent to Entity 8, the Deputy Vice-Principal of Finance and IT, which indicated the precise steps of requiring the return of the Step 1 links and the links off the front Institution A website for a maximum period of 6 weeks.

259 On 14 December 2010, I emailed Entity 28 to arrange a meeting to discuss Institution A's response to my Revised Research Project and also to request a copy of the "*2007 Institution A Web Management Policy*" to review. Later that day, I received a response from Entity 28's Administrative Assistant who had scheduled a meeting on 22 December 2010.

260 On 22 December 2010, I met with Entity 28 and Entity 14 regarding the Revised Research Project. During this meeting, we had a conversation in which words including those to the following effect were spoken:

Entity 14: “I thought I should attend to see if I can assist Andrew getting his links back and to help finish his thesis.”

Entity 28: “As you know we think the links do not comply with the Institution A’s Web Management Policy in place since 2007.”

I said: “I was told when I enrolled that the links required for my PhD would be provided and the most important link off the main page is only required for six weeks maximum.”

Entity 28: “I like the idea that you only need it for a period of 6 weeks but I don’t think IT Services will change its mind since it’s official policy.”

I said: “Well I want to know how they interpret them and since I have never seen the policy despite having requested a copy of the policy twice. Entity 26 told me when I asked her that you could give it to me.

Entity 28: “I’m not sure how we can get IT Services to change their position. I am not in a position to be handing you their policy. It’s a confidential document.”

I said: “Why don’t we get ITPAC the Institution A’s IT policy setting committee to make my research a ‘strategic priority’ for 2011 and this way I will be able to continue my research project without any obstacles.”

Entity 28: “That might be a way around it considering Entity 14 and I sit on the ITPAC committee.”

Entity 14: “Well, if we’re going to do it, we will need a briefing paper for the committee. I can work with Andrew to prepare a 1 pager in simple language. We can get that back to you before the Christmas break.”

Entity 28: “I will get it to the committee by middle of January next year.”

261 Upon the conclusion of the meeting, I wrote an aide memoire.

262 As per the discussions that took place during our meeting of 22 December 2010, I drafted a document titled “Major breakthrough in Hyper-Local Search” (Requirements Document) which highlighted the elements of the SOLD technology and the requirements of the Revised Research Project. The Requirements Document would be delivered to the members of the Information Technology Policy Advisory Committee (ITPAC) who decide on *inter alia* major policy issues related to the use of IT at the Institution A.

263 In the Requirements Document, I emphasised that the Revised Research
Project only required a hyperlink to be embedded on the Institution A's
front page for a maximum period of 6 weeks. I delivered this document to
Entity 14 on 23 December 2010.

264 Between January 2011 to February 2011 I tried to contact Entity 28 and
Entity 14 however I was unable to reach them.

265 By March 2011, I had not heard a response from either Entity 28 or Entity
14 for at least 8 weeks and the reinstatement of the Step 1 links and the
implementation of the Step 3 links in order to finalise the Revised Research
Project did not look promising.

266 On 28 March 2011, I was reviewing the Institution A website and noticed
that the Institution A Alumni Benefits page was effectively providing free
links to non-University related businesses which were similar in page rank
to the Step 1 links that were disconnected from the SCSSE website.

267 On the same day, I emailed Entity 28 and raised this issue with him
indicating that I did not understand why the Institution A were providing
these links to external parties non-related to the Institution A. I also raised
whether there had been any response from ITPAC about the Revised
Research Project.

268 On 28 March 2011, I received an email from Entity 28 who indicated that
there would be "*no chance*" for the YOC SMARTPAGES link to appear on
the front page of the Institution A website. This was the last
correspondence I had with Entity 28 about the subject matter of the Revised
Research Project.

Your Institution A Community

269 On 13 May 2013, I became aware of what appears to me to be a directory
listing service being offered by the Institution A. On that day, I received an
email from the Institution A Alumni Relations Office which launched the
Institution A Alumni Business Directory, which *inter alia* "*will help to
optimise the online presence of your business in search engine rankings.*"

270 Upon receiving this email, I reviewed the Institution A Alumni website and further discovered that the Institution A would be launching a new website called “Your Institution A Community” and that this project had been on foot since 13 July 2011. On 30 July 2013, I caused to be reproduced a copy of the Institution A Alumni website displaying the “Your Institution A Community – Coming Soon”.

271 There are a number of distinct similarities between the Institution A service and the service operated by YOC utilising the SOLD technology. Firstly, the “Your Institution A Community” retains a very similar name to YourOnlineCommunity” and appears to be the platform which would inevitably drive the Institution A Alumni Business Directory. Secondly, the Institution A Alumni Business Directory appears to have a similar functionality of the SOLD technology in that it involves search engine optimisation. Like the SOLD technology, the Institution A Alumni Business Directory has a class limitation in that the service offered by the Institution A is restricted to the class of people utilising the Institution A Alumni Business Directory to promote their business which in this case would be the alumni of the Institution A as opposed to, in YOC’s case, the restricted class of people being the advertisers of regional or local businesses.

272 These distinct similarities have led me to believe that this service being offered by the Institution A is not just a coincidence. To date, no one from the Institution A has explained to me why the Institution A has decided to pursue such a project nor have I received an explanation for the similarities that I have identified above.

Agreement with the Institution A and assurances given

273 I always intended in my dealings with the Institution A to enter into a binding agreement with the Institution A to pursue the commercial research project to research & develop the SOLD technology.

- 274 Prior to enrolling in the PhD I submitted proposals on behalf of YOC
which contemplated entry into an agreement to facilitate the commercial
research project.
- 275 I only enrolled in a PhD with the Institution A based on the assurances
given to me by Entity 14 and Entity 4 (referred to above in paragraph 157)
that this was the way that I could and YOC could pursue the same
proposals as I had submitted from YOC. I would not have enrolled in the
PhD on any other basis.
- 276 I relied on the assurances given to me by representatives of the Institution
A in conversations and other communications to take the steps described
above including:
- (a) to pursue the research project with the Institution A;
 - (b) to decide not to pursue the project with the Institution B;
 - (c) to enrol in the PhD with the Institution A;
 - (d) to pursue the PhD and the Revised Research Project;
 - (e) to continue to provide my time to the Revised Research Project;
 - (f) to continue to cause YOC to provide its financial and other resources
(including maintaining its Wollongong portal and SMARTPAGES listing
business)
- 277 Had I not been given those assurances by representatives of the Institution
A, such as Entity 14 and Entity 4, I would not have taken those actions.

APPENDIX K Communication instances - by Media-type

DATABASE COMPILED FROM RESEARCHER'S STATEMENT – DATED 30 JUL 13 – SEE APPENDIX A

#	DATE	TYPE	DETAILS	SENDER	RECEIVER
NOTE: All communication instances relate to Institution A					
1	Feb-08	PHONE	Corporate & Student	Andrew Connery	Entity #1
2	3-Mar-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
3	6-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
4	6-Mar-08	EMAIL	Supervisor to Student	Entity #4	Andrew Connery
5	7-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
6	13-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
7	13-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
8	14-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
9	14-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
10	17-Mar-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
11	18-Mar-08	EMAIL	Student to Dept	Andrew Connery	Entity #2 (PA)
12	25-Mar-08	F2F	Dept & Student	Andrew Connery	Entity #2
13	25-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
14	25-Mar-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #6
15	26-Mar-08	F2F	Dept & Student	Andrew Connery	Entity #2
16	26-Mar-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
17	27-Mar-08	EMAIL	Supervisor to Student	Entity #6	Andrew Connery
18	1-Apr-08	EMAIL	Student to Dept	Andrew Connery	Entity #2 (PA)
19	4-Apr-08	EMAIL	Dept to student	Entity #2	Andrew Connery
20	7-Apr-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
21	8-Apr-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
22	8-Apr-08	EMAIL	Dept to student	Entity #2	Andrew Connery
23	9-Apr-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
24	17-Apr-08	EMAIL	Student to Dept	Andrew Connery	Entity #2 (PA)
25	22-Apr-08	EMAIL	Dept & Student	Andrew Connery	Entity #1 & #2

26	13-May-08	EMAIL	Dept to student	Entity #2	Andrew Connery
27	13-May-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
28	15-May-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
29	23-May-08	PHONE	Supervisor & Student	Andrew Connery	Entity #4
30	26-May-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
31	27-May-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
32	3-Jun-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
33	6-Jun-08	EMAIL	Dept to student	Entity #2	Andrew Connery
34	6-Jun-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
35	10-Jun-08	EMAIL	Student to Dept	Andrew Connery	Entity #11
36	11-Jun-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
37	20-Jun-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
38	20-Jun-08	PHONE	Supervisor & Student	Andrew Connery	Entity #4
39	20-Jun-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
40	23-Jun-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
41	24-Jun-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
42	30-Jun-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
43	4-Jul-08	F2F	Supervisor & Student	Andrew Connery & Entity #5	Entity #4
44	11-Jul-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
45	28-Jul-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
46	28-Jul-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
47	31-Jul-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
48	1-Aug-08	LETTER	Dept to student	Entity #9	Andrew Connery
49	1-Aug-08	PHONE	Supervisor & Student	Andrew Connery	Entity #4
50	4-Aug-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
51	13-Aug-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
52	14-Aug-08	PHONE	Supervisor & Student	Entity #4	Andrew Connery
53	15-Aug-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
54	18-Aug-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
55	19-Aug-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
56	20-Aug-08	EMAIL	Dept to student	Entity #2	Andrew Connery

57	20-Aug-08	PHONE	Supervisor & Student	Andrew Connery	Entity #4
58	2-Sep-08	EMAIL	Student to Dept	Andrew Connery	Entity #2
59	8-Sep-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
60	23-Sep-08	EMAIL	Student to Dept	Andrew Connery	Entity #9
61	7-Oct-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
62	7-Oct-08	PHONE	Supervisor & Student	Entity #4	Andrew Connery
63	9-Oct-08	EMAIL	Dean & Student	Andrew Connery	Entity #14
64	13-Oct-08	F2F	Dean & Student	Andrew Connery	Entity #14
65	14-Oct-08	EMAIL	Dean & Student	Andrew Connery	Entity #14
66	14-Oct-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
67	15-Oct-08	ENROLMENT	Student to Dept	Andrew Connery	Entity #14
68	16-Oct-08	EMAIL	Dean & Student	Andrew Connery	Entity #14
69	16-Oct-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
70	20-Oct-08	EMAIL	Student to student	Andrew Connery	Entity #5
71	23-Oct-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
72	28-Oct-08	EMAIL	Dept to student	Entity #9	Andrew Connery
73	29-Oct-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
74	3-Nov-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
75	6-Nov-08	EMAIL	Student to student	Andrew Connery	Entity #5
76	11-Nov-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
77	11-Dec-08	F2F	Supervisor & Student	Andrew Connery	Entity #4
78	23-Dec-08	ENROLMENT	Dept to student	Offer of Admission	Andrew Connery
79	24-Dec-08	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
80	24-Dec-08	EMAIL	Student - Co-Supervisor	Andrew Connery	Entity #15
81	24-Dec-08	EMAIL	Student to student	Andrew Connery	Entity #5
82	16-Feb-09	EMAIL	Student to student	Andrew Connery	Entity #5
83	19-Feb-09	EMAIL	Student to Dept	Entity #5	IT Dept
84	23-Feb-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
85	5-Mar-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
86	5-Mar-09	EMAIL	Student - Co-Supervisor	Andrew Connery	Entity #15
87	9-Mar-09	EMAIL	Student to student	Andrew Connery	Entity #5
88	9-Mar-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
89	11-Mar-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4

90	19-Mar-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
91	24-Mar-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
92	3-Apr-09	EMAIL	Student to student	Entity #5	Andrew Connery
93	7-Apr-09	EMAIL	Student to Dean	Andrew Connery	Entity #14
94	27-Apr-09	EMAIL	Student to Dean	Andrew Connery	Entity #14
95	27-Apr-09	EMAIL	Dean to Student	Entity #14	Andrew Connery
96	27-Apr-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
97	29-Apr-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
98	29-Apr-09	EMAIL	Supervisor to Student	Entity #4	Andrew Connery
99	29-Apr-09	PHONE	Supervisor & Student	Entity #4	Andrew Connery
100	1-May-09	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
101	4-May-09	EMAIL	Student to Dean	Andrew Connery	Entity #14
102	11-May-09	EMAIL	Student to Dean	Andrew Connery	Entity #14
103	13-May-09	F2F	Dean & Student	Andrew Connery	Entity #14
104	24-Aug-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
105	12-Oct-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
106	19-Oct-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
107	26-Oct-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
108	9-Nov-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
109	16-Nov-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
110	23-Nov-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
111	30-Nov-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
112	7-Dec-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
113	14-Dec-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
114	21-Dec-09	F2F	Supervisor & Student	Andrew Connery	Entity #4
115	19-Jan-10	APR	Student to Dept	Andrew Connery	Faculty
116	1-Mar-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
117	8-Mar-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
118	9-Mar-10	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
119	15-Mar-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
120	22-Mar-10	EMAIL	Student - Co-Supervisor	Andrew Connery	Entity #15
121	22-Mar-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
122	29-Mar-10	F2F	Supervisor & Student	Andrew Connery	Entity #4

123	19-Apr-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
124	3-May-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
125	17-May-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
126	17-Jun-10	F2F	Student to student	Andrew Connery	Entity #5
127	17-Jun-10	EMAIL	Student - Co-Supervisor	Andrew Connery	Entity #15
128	21-Jun-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
129	21-Jun-10	EMAIL	Student - Co-Supervisor	Andrew Connery	Entity #15
130	28-Jun-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
131	16-Jul-10	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
132	16-Jul-10	EMAIL	Student - Co-Supervisor	Andrew Connery	Entity #15
133	26-Jul-10	EMAIL	Co-Supervisor - Student	Entity #15	Andrew Connery
134	9-Aug-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
135	9-Aug-10	F2F	Co-Supervisor - Student	Entity #15	Andrew Connery
136	16-Aug-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
137	30-Aug-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
138	6-Sep-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
139	6-Sep-10	EMAIL	Co-Supervisor - Student	Entity #15	Andrew Connery
140	8-Sep-10	F2F	Supervisor & Student	Andrew Connery	Entity #15
141	9-Sep-10	EMAIL	Co-Supervisor - Student	Entity #15	Andrew Connery
142	9-Sep-10	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
143	13-Sep-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
144	20-Sep-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
145	27-Sep-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
146	11-Oct-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
147	11-Oct-10	EMAIL	Student to Supervisor	Andrew Connery	Entity #4
			Student to Co		
148	11-Oct-10	EMAIL	Supervisor	Andrew Connery	Entity #15
149	20-Oct-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
150	25-Oct-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
151	1-Nov-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
152	3-Nov-10	EMAIL	Supervisor to Student	Andrew Connery	Entity #4
153	9-Nov-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
154	9-Nov-10	EMAIL	Supervisor to Student	Andrew Connery	Entity #4

155	9-Nov-10	EMAIL	Co-Supervisor - Student	Entity #15	Andrew Connery
156	9-Nov-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
157	10-Nov-10	EMAIL	Student to Dean	Andrew Connery	Entity #14
158	23-Nov-10	F2F	Dean & Student	Andrew Connery	Entity #14
159	1-Dec-10	LETTER	Dean to Student	Entity #28	Andrew Connery
160	3-Dec-10	LETTER	Student to Dean	Andrew Connery	Entity #28
161	7-Dec-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
162	13-Dec-10	F2F	Supervisor & Student	Andrew Connery	Entity #4
163	14-Dec-10	EMAIL	Student to Dean	Andrew Connery	Entity #28
164	22-Dec-10	F2F	Dean & Student	Andrew Connery	Entity #14 & #28
165	23-Dec-10	LETTER	Student to Dean	Andrew Connery	Entity #28
166	28-Mar-11	EMAIL	Dean to Student	Entity #28	Andrew Connery