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The Practitioners of Web Information Architecture in Small and Medium Enterprises

ABSTRACT

This paper reports an investigation of the practice of web information architecture (IA) in small and medium enterprises (SMEs). As information delivery via the web becomes a mainstream activity in all organisations, research and practical attention to Web IA remains focused on larger organisations and a new profession of information architect. The practice of web IA in SMEs has not been widely considered. This research collects the narratives of those who practice Web IA in the smaller enterprise and reveals that the dominant voice is that of a communication and marketing practitioner, rather than information professional. The outcomes of practice in this context suffer from a lack of knowledge and expertise.

INTRODUCTION

As in many countries, all sectors of Australian society – from government and private enterprise to education and community – use the web for information delivery. The increasing importance of information and the growing prominence of the web as a platform for information provision are current and universal phenomena. Coupled with a strong competitive impetus to provide and effectively structure online information (Evernden & Evernden 2003), is the rising expectation of an organisation's client base to find information on the web to support varied interactions with the organisation (Gunter 2008). However, web information seekers do not always encounter optimal design and presentation of digital information.

Dissatisfaction and anxiety with the quality of information and its structures continue to be part of the experience. A disconnection between the desire to inform effectively using the web and the demonstrated ability of organisations to achieve this outcome is claimed by Wodtke and Govella (2009, p. xiv).

The ubiquitous web and its simple hypertext protocol have created a novel, inclusive and disruptive information environment. Enabled by open technology and ready access, the design of information on the web is as likely to be in the hands of the novice as the expert. Morrogh (2002, p. 99) writes that the enterprise website is frequently outside the control of information professionals. In this environment, information and its structures are provisional, demanding of rapid response when change is required (Burford 2011a).

SMEs (defined by the Australian Bureau of Statistics as organisations with less than 200 employees) are a dominant form of business in Australia and around the world. These organisations exist in an intricate coalition with larger enterprises. Economies of scale mean that smaller organisations are frequently challenged to innovate and flourish in the information economy and in the use of the internet for communicating and informing (Burgess 2008; Rathi & Given 2011).

This research focuses its enquiry on the activity of web information organisation in SMEs. The formalisation of the practice of web IA and the documenting of that practice have largely been driven by practitioners in the area (Fast 2006; Surla 2006; Campbell 2007). An abundance of short papers supporting and reporting the work of IA are published in online magazines such as Boxes and Arrows, Digital Web Magazine and the IA Institute library.

In 2006, Fast (para. 2) considered “that IA is characterised by its practice: not by its research”. Research literature is beginning to emerge, but is piecemeal and often devoted to aspects of the IA components and processes (see for example, Cunliffe et al. 2002; Sinha & Boutelle 2004; Yu & Roh 2002) rather than an organisation’s ability to enable it. This study focuses on the practice environment and activity in organisational context.

Professional information architects are more likely to find full-time employment or consultancy in large organisations, thereby privileging that context as theoretical stances emerge from practice. Burford (2011a, 2011b) has examined the practice of web IA in large organisations and Morville and Rosenfeld (1998, 2006) propose a methodology for web IA in large organisations; SMEs have not received the same scrutiny. Little is known about the use and usefulness of generalised design methods and best practice guidelines for web IA within the situated realities of SMEs. The extent to which the internal environment may deter or contribute to success in

effectively structuring online information remains unclear. This research project pays attention to the genuine realities, needs and practices of SMEs and creates new understandings that SMEs can utilise in approaching and improving capability to build effective online information-rich environments.

THE LITERATURE

Web IA is a term that is used to describe both the information design process and its outcomes. Dillon (2002, p. 821) proposes a broad definition: “IA is the term used to describe the process of designing, implementing and evaluating information spaces that are humanly and socially acceptable to their intended stakeholders”.

In its focus on the needs of the user, web IA draws on the philosophies of user-centred design to “help maximise the value of new technologies and minimise the negative effects” (Morrogh 2002, p. 97). The practice of IA, according to Dillon (2002) and Morville (2004), is a value-based craft discipline and as such has its weaknesses. Consistent results and outcomes are not assured in a predictable timeframe. Yet evolving and maturing representations of best practice are proposed to guide the work of web IA.

Pioneered by information professionals Rosenfeld and Morville (1998), an evolving methodology for web IA is widely acknowledged in the literature, in education and by practitioners in the field. Morville and Rosenfeld (2006, p. 231) deconstruct an IA into component systems of organisation, labelling, navigation and search, as well as any controlled vocabulary and metadata that may be used and provide generalised “structured development processes” for practice in large organisations.

They draw on the expertise and theories of prior information traditions in an attempt to take control of this emergent information space (Dillon & Turnbull 2005). Burford (2011a, 2011b) examines the practice of web IA in large organisational contexts. However, studies of web IA as situated practice in SMEs do not exist.

In contrast to methodological recommendations, some scholars and practitioners prefer to steer the development of effective web IA by providing guidelines. The value of guidelines remains contentious. Spool (2003) believes that they are limited in their effectiveness because they fail to deliver a consideration of the context in which they are applied. Milne et al. (2005) claim that adherence to published guidelines does not ensure a high quality outcome for creative work, which should be undertaken with deeper understanding of practice.

Discrete websites and hypertext environments have been and remain an important locale for the activity of IA. Yet, Resmini and Rosati (2011a) report a new era in IA which acknowledges a cross-channel context for information and its user. The multiple

and mobile channels of web, tablet devices, smart phones, print and physical spaces invite an information architect to take responsibility for a pervasive information layer that retains meaning when a user changes channels (Resmini & Rosati 2011b).

Burgess (2008, p. 129) notes that the smaller business has particular difficulty in “the setup and maintenance of websites”. He offers a model that provides “assistance with determining website content that matches the overall business strategy” (p. 129). However, Burgess’ (2008) model stops short of any advice on the organisation of this information.

Sinkovics and Penz (2006, p. 303) introduce the construct of “web empowerment” in SMEs. They describe it as “a multidimensional construct comprising of consumer views on various dimensions of relevant and successful websites” (p. 303) and propose a significant set of items that represent the concerns of users and thus of SMEs as they strive for an effective and successful online presence.

Random aspects of web IA are included in Sinkovics and Penz’s (2006) list but methods and processes are absent. Rathi and Given (2011) discuss the importance of integrating design principles, web usability and search engine optimisation on the websites of SMEs. They acknowledge navigation and content organisation in a list of important design elements, but do not isolate information architecture from other aspects of design.

After much introspection about the role of an information architect (for example, Morville 2011) and even more attention to definitions of IA itself (Madsen 2009), it is noteworthy that Davis (2011) now calls for the focus of scholars and professionals to shift to the practitioner of IA. This research heeds that challenge and examines the situated activity of practitioners of IA in SMEs.

RESEARCH DESIGN

The activity of online information design in SMEs is described by the research participants in this investigation, with the aim of developing a deeper understanding of the practice and its localised demands. The issues and obstacles that SME’s encounter in achieving effective web IA are explored. The web as an information space and an interaction space is multi-faceted: it is attended to aesthetically by graphic design; it is used to reveal applications or transaction systems; and, it provides a springboard for dialogue using social media. These highly visible aspects of a website are acknowledged, as this study focuses on the web as a hypertext information space and a platform for information delivery. This research considers the “invisible” work of organising information that is “severely underrepresented in the theoretical literature” (Bowker & Star 2000, p. 9).

This research was designed as a particularistic, (Merriam 1998, p. 29) multiple, case study – i.e. it examined a particular phenomenon across five SME contexts. Each case was important for what it revealed about the conduct of web IA in organisations. It was purposely designed to find trends and patterns across the practices, rather than describe how IA is practiced in any particular organisation. Eisenhardt (2007, p. 25) writes that the analysis of multiple case studies enables “recognizing patterns of relationships among constructs within and across cases and their underlying logical arguments”.

Yin (2009) defines the case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context and Hartley (2004, p. 323) claims that “case studies can be useful for exploring new or emerging processes or behaviours” and understanding “how behaviour and/or processes are influenced by, and influence context”. A case study approach to knowing more about how organisations are designing online information structures is applicable because contextual insights and patterns will be revealed only by examining situated practice.

Recognising a continuum between “telling” and “selling”, Orna (2005, p. 14) distinguishes between organisations that create information products such as websites to “support the products and/or services which they are in business to offer” and that “embody substantial information content which aims to allow users to do something they need/want to do” and those that evoke feelings in order to market or advertise. This research focused on the use of the web for “telling” or informing to support business goals, rather than to persuade, advertise or sell.

Three criteria for the selection of SMEs were established; staff numbers less than 200; websites that are publicly accessible; and a website that is information-rich. The researchers scrutinised the websites of a number of SMEs known to them, to confirm that they were information-rich and that the organisation could be classified as a SME. A person in a leadership position within each SME was contacted by phone to invite the SME to participate in the research. Six organisations were approached and five agreed to participate.

With that agreement in place, a dialogue between the researcher and the person in authority pinpointed the individual/s that had most input to the creation of the information structures of the website and could contribute to the research. They were then invited to participate by the researchers in writing.

Organisations were not drawn from a particular sector; rather, they were selected to establish a diverse range of purpose and business model. The profiles of the participating SMEs are outlined in Table 1, as is the profile of the person with greatest input to the practice of web IA. All other conditions and circumstances within the organisations studied were considered context for this situated study.

Table 1: Summary data for the studied SMEs

Org	Business Model	Approximate staff numbers	Practitioners of Web IA		
			Length of service	Role in the organisation	Disciplinary qualifications
A	Private	20	9 months	Head of Education	Graphic design
B	Semi- autonomous and semi self-funded	15	6 months	Marketing Manager	Marketing
C	Members Society	110	1 year	Web Master	Journalism
D	Government funded	15	6 months	Marketing Manager	Marketing Communication
E	Private	15	6 years	Director of Business Development	Business Administration

A qualitative approach to data collection was used. Unstructured interviews were conducted with either one person or a small group of people in each SME, depending on their availability and the context of each SME. The data, resultant of the unstructured interviews, was captured in digital audio format, and was transcribed using a professional transcription company. In an inductive approach to analysis, the data were coded using NVivo as a supporting analytic tool to reveal patterns and themes across SMEs.

Thematic analysis captures some level of patterned meaning within the data (Braun & Clarke 2006), and provides a theoretical freedom to approach a complex body of data and reveal themes and insights without pre-existing expectations or existing coding frames.

The researchers scrutinised the information architecture of the websites of all studied SMEs using expert heuristic evaluation. Expert heuristic evaluation is traditionally a step in the development process, when expert opinion, according to a pre-agreed set of principles, is sought (Pearrow 2007). In this situation, Morville and Rosenfeld's (2006) organisation, labelling, navigation and search systems were isolated by the researchers as criteria for expert review.

The outcome of these evaluations was not communicated to the SMEs. Weaknesses in the information architectures were found in all websites but two stood out as having significant and deep seated structural problems. The results of practice evidenced by the information structures of the websites of two SMEs, are described in light of the processes and activities that surrounded its creation and maintenance.

FINDINGS

Research participants from each of the five SMEs agreed that the website of their organisation had a primary purpose of providing information. ‘At the moment it’s informing’ (Org C) was the typical response. There were ambitions embedded in the stated purpose; for the website to become more communicative, participatory and engaging. However, that goal was for the future. The main preoccupation of all SMEs was to establish ‘a professional outward looking website that tells as much information that needs be – to give people a proper understanding of what it is that we do’ (Org B). The websites were not designed for active marketing or selling. As one web manager noted,

The website is not really written in such a way to communicate and persuade, it’s written as just here’s the information, take it as you wish. So it doesn’t quite have that same marketing speak of call to action. At the moment it’s really just, it’s just information sitting there online. (Org D)

Thus a primary concern and activity in the studied SMEs was the organisation of online information to serve their clients. The findings of this research are embedded in an endeavour to inform. With this in mind, this paper reports the key findings of the research: first, that communications professionals are typically the practitioners of web IA in SMEs; and, second, that they base their practice on negligible education in information architecture. In reality, expert information architects have minimal involvement in the practice in SMEs and those who practice have little knowledge or expertise in web IA.

Under the Communication Banner

Website management was undertaken by marketing or public relations departments or teams, in four of the five SMEs. In the fifth, it was managed by a Director of Business Development. Only one SME, with 110 employees, employed a person whose role was dedicated to the website and its management. In the other four organisations, responsibility for the website was clustered with other duties of particular individuals (e.g., marketing and public relations). The website was mostly a component of a SME’s public communication endeavour. One research participant, for example, outlined how the web fits with her other communication responsibilities.

My role is Marketing Manager. So I look after the communications, primarily external communications, and coordinate advertising, P.R., design work, the website, the whole mix, this whole organisation. (Org D)

In the studied SMEs, professionals from various backgrounds were responsible and actively engaged in web IA. The majority of practitioners of IA were from a professional communication background such as marketing, public relations or journalism, and held qualifications in that field. They spoke of workplace experiences in political media and public relations, radio journalism, and marketing. There was also a teacher of graphic design and a business director who were directly responsible for web IA. The career history of one practitioner of web IA was as follows:

My career is actually in communication. I'm a journalist by training and I've done a lot of public affairs work in various government agencies and more recently in the community sector. (Org C)

One research participant, a Marketing Manager, had recently developed and documented an IA for implementation by external web developers. She 'worked closely with them and actually established the site map on what we wanted, and the functionality that I wanted to have' (Org B). In this SME, web IA is practiced by a marketing communication professional with little experience or theoretical underpinning in information organisation. She is quick to affirm that her work in the SME is underpinned by principles of communication:

My perception is more about communicating messages and outward appearances. I kind of moved toward more that corporate communications kind of role and so kind of morphed from very much the journo through into the PR and now I'm kind of morphing into PR marketing now. So I think I've developed my approach just having experienced all of that stuff like the importance of a message was obviously very important. (Org B)

Thus, website management in SMEs is most likely to be housed in professional communication environments and to be a component of any individual's responsibility in the workplace. Likewise, the practitioners of information architecture in SMEs work within a communication unit and disciplinary base.

A Confident Approach

In all five SMEs, the website development was outsourced to an external company. However, this was a technical project rather than one that attended to information and its structure. The SME was required to complete an IA design to signal the enterprise information requirements for the website that was to be developed. As one participant noted:

The agency that we went to, they're very much a 'tell us what you need and we'll build it for you but you have to tell us what you want, where you want it and why you want it'. And so I had to go to them with a brief that was pretty comprehensive

saying ‘OK this is the look and feel that we want, this is the site menu, this is what I want each page to be able to do’. (Org B)

One SME, in the process of developing a new site, had recruited an outside agency to take the lead and responsibility for web IA. The agency was described as being ‘pretty highly regarded in Australia as being the leaders of digital strategy, digital advertising and marketing’ (Org D). The website of the outside agency claimed the emphasis of its capability to be “powerful thinking that allows us to connect brands and people like never before”. It was not an agency that claimed any capability in web IA. Even when outsourced, the work of web IA is typically in the hands of communication professionals, rather than specialists trained in web IA.

Four of the studied organisations had recently or were currently developing an IA for a new website. They would develop the ‘site map’ and hand it to the web development company. In one case, an information architect had been involved in the provision of an IA blueprint to the SME, but it was rejected by a new incumbent web manager with academic qualifications in journalism. On his arrival, he decided that he would develop the IA for the website of the SME. Thus in the studied SMEs, information professionals were not part of the planning, design and implementation of new websites whose stated purpose was to inform. Information expertise was not sought by any of the SMEs studied in this research. One research participant listed the skills that she would require in a new website development; notably the expertise of an information architect is absent in her description:

So we’re looking at who do we need to be involved, so the list was... there’s the designer, the developer, the copywriter, the editing – and I’m really fussy about the editing, but that’s more in terms of the copy really. The imagery sourcing, the videographer, the photographer, the e-commerce specialist, the systems analyst, a social media expert. And to be led and overseen by the Sales and Marketing Manager, and we sort of put of the word Creative Director in there. (Org A)

The rationale for allocating the work of web IA to its practitioners appeared to be based on the prevailing disciplinary perspectives, and was readily forthcoming from the research participants. The reason for locating the work of web IA is shaped to fit the context of the practitioner. In one SME, an educational institution teaching design, the practitioner of web IA is qualified in design and is described as a very good designer and colourist. In this SME a rationale is offered for the in-house, innate ability to practice IA:

Well, probably the nice thing is that being a design school, we’re already aware of; perhaps more than if you’re a finance company, in terms of the design and the

communication, and getting the message across. It's like a design project for us anyway. (Org A)

Equally, there is a confident rationale when the practice of web IA is located in professional communication and informing via the web is included in the spectrum of communication activities within an SME. It is positioned to be one platform among many for the delivery of the organisational message to its clients. This practitioner of web IA relates the synergy in her work:

The position has kind of morphed a little bit from pure marketing to public relations, media, web development and basically that broad spectrum of communication with our clients. Yeah, so anything to do with communicating anything in any way is my responsibility, so it's quite broad. (Org B)

Independence and confidence in organising information on the web was apparent in all studied SMEs. One research participant, recently employed to manage the website, had inherited an information design, which he reported had been constructed by a consultant information architect prior to his arrival. Although lacking in expertise himself, he dismissed this design and attended to the IA himself. He noted:

There had been some work done before I got here and there had been, some consultant had come in and said 'oh we think is a suitable information architecture and my view was well hang on, we didn't sort of take it as gospel. (Org C)

There was a naïve confidence in this approach. When research participants were asked if they felt they were sufficiently skilled and resourced to accomplish an information design for the website of the organisation, they affirmed that theirs was the best approach for the size of the business. Perhaps due to an independent spirit, acquired and inherent in many aspects of organisational work in SMEs, research participants were keen to achieve the IA of the website independently. They welcomed the opportunity to use their initiative and ingenuity and the ability to make decisions without the bureaucracy and committee structures of larger organisations. One practitioner of web IA welcomes her autonomy saying 'it's awesome, I feel like I've got my own little empire that I can control' (Org B).

From the Brochure

SMEs expressed a cross-channel intention to developing branding, identity, and information for the multiple channels that would inform clients. The contracted work of external communication agencies was used for print, web and other channels. The website is bundled with all other means of communicating with clients:

So we're also looking at rebranding with a new logo, and a new image, that's going to go right across the board in prospectuses and everywhere, so it's a great opportunity for us to...I think it's really important to work holistically. So the website's not in isolation, you know it's everything, it's the logo rebranding, it's the way we present ourselves all the way through. (Org A)

With a dominant marketing and communication perspective and theoretical background, the narrative of web IA was grounded in brochures, copy and branding. Brochures and prospectuses were an important vehicle for informing clients and they were developed first when a new branding and messaging initiative was undertaken. The brochure then served as a springboard for the content and structure of the website. From the brochure, the website takes its shape.

The demand for a new prospectus is higher than the website, so the interesting thing is that Xxx is working on the prospectus now... well she has to produce that prospectus by September, so come September she will actually have a graphic image and organisation of data that will probably be the forerunner for the website. But it may not have... it won't have as much deep, rich content, because the website allows you to add so much more. I think this is the sort of... it's the informal method we've used. (Org A)

Information is of great concern to the practitioners of web IA in SMEs. However, expertise in the arrangement of information resides in the printed brochure, which then informs the information structures of the website.

Expertise versus Digital Experience

The practitioners of IA in SMEs had not undertaken any formal training or education in their craft. They brought little experience and knowledge of information organisation to their practice. Largely, they had no knowledge of the theory, methodology or literature in this field. One practitioner of web IA reports 'no formal or no high degree of sophistication or you know knowledge perspective' (Org E). Just one research participant was aware of the recommendations of some authors, naming Jakob Nielsen and James Robertson as experts that had been read and emulated. Yet confidence based on 'organic' learning was evident. When asked if he had done any training in web IA, one research participant replied:

I've been in this business for nearly 20 years. Basically before all the content management systems and that sort of stuff so a lot of it's been organic. So I've worked just so closely with web developers so...I've picked it up yeah. (Org D)

Research participants claimed that approaching the information design of the websites of SMEs using their various digital marketing experiences was adequate. 'Being more

digitally focussed in my marketing efforts' (Org B) was qualification enough for one practitioner. No greater expertise was needed. Rather, the practitioners of web IA in SMEs brought digital experience to the practice. Some supported their practice by close scrutiny of other websites:

So a lot of exposure to websites and part of the process was looking at websites that he liked and trying to draw some inspiration from that. (Org E)

Alongside experience and involvement in the information design of websites, common sense and intuition were cited as valuable attributes in the work of web IA in SMEs. One practitioner of web IA claimed that being a user of the web over a number of years provided significant insight. She described her approach to practice:

Intuitive definitely. I think it helps if you're a regular web user obviously. I think it's really just something that's developed over time, like as we're moved more and more into the online world, the digital age; you kind of get a feeling for what you as a user want from a site. And then you need to balance that with your business need, what the business needs to have on a site. (Org B)

Immersion in the online environment was considered essential in the acquisition of the skill to lead a SME in the construction of information structures for the website.

There was a concentration of activity and reflection when a new website was being developed and launched. A clearly expressed requirement in all SMEs was that, once launched, they be able to update the content of the website from within the organisation. Some had previously been unable to maintain the content of the websites themselves. The sites were updated by an external company and research participants determined that this was not a workable arrangement and one to be avoided in new site developments and infrastructures. Solutions, whereby information could be edited or added to an existing category of information, were created. 'Simple but regular changes' (Org E) were enabled. As one participant said:

All I need to do is go in, log on, bring up the edit function, it asks me what I want to do, do I want to create featured research, do I want to create a news item, do I want to add a staff member, do I want to add a Board member? You know it comes up... (Org B)

Whilst the maintenance of content was front of mind, a number of SMEs had not considered the ongoing maintenance of the IA of the site, including the addition or deletion of sections of information on the website. They were content with the arrangement that 'they can edit things within certain areas but they can't, no-one can muck around with the structure' (Org C). Changes to the information structures were

not foreseen or readily provisioned. When asked how the organisation might accomplish this, one research participant responded:

Probably easier to go to a specialist, go back to the developer. Because, you know, it's important to do what you're good at, your core business – you know, that's not our core business. I don't think we're in a situation where we can have someone on deck doing that, when you might as well have a project that gets done outside, and pulled in. (Org A)

The practitioners of web IA in SMEs value digital experience in general and long-term engagement with the web as a user, as grounding for their practice. They do not have formal knowledge or learning of information organisation on the web, but draw on their common sense and intuition. Their foresight and strategy in web IA is minimal.

The Websites of Two SMEs

There are significant consequences, resulting from the absence of information expertise. Potential problems and obstacles lurk in the unknown. To illustrate, the section that follows describes the outcomes of practice in two of the SMEs with recent website launches that the organisations believed to be successful. Without expertise in IA and a broad vision of what is possible and how to achieve it, small and reactive initiatives are undertaken to solve pressing problems. Organisations B and E are discussed as case studies to illustrate this reality.

Organisation B: This SME of 15 employees reported an inability to progress much needed improvements to the IA of its website because of the parent organisation's cumbersome web infrastructure, especially its content management system (CMS). A decision was made by the SME to carve its current website into five business areas: the corporate information section and four specific business service areas. An outsourced CMS and hosting arrangement was initiated for the web presence for the four areas of service. Four different websites with unique URLs, one for each service area were developed, albeit with similar structures. As the participant noted:

So to get around that, [the CEO] decided 'OK let's see what we can do externally' and engaged a digital company to actually create some sub-sites, so focussing on our four areas, our four focus areas. And so we had four different domains; so four different websites, four different domain names not interlinked.

The rationale for this approach was to enable easy, in-house access to populate, improve and maintain the information conveyed about these four service areas within a very small organisation. This was considered a great success for the SME because at least four areas of the overall web could be successfully maintained. The fifth, corporate

area of the SME's web presence remained within the infrastructure of the parent organisation.

Eighteen months on, with the arrival of a new marketing manager who was intent on renewing the central (or corporate) website and its information, a similar redevelopment project was undertaken with the same web development company. The new marketing manager designed the information structures for the corporate area of the SMEs web presence and the means by which it would integrate with the four existing service area sites. This resulted in a small organisation with five entangled websites that produced significant challenges in accessing online information for its client.

Three substantial flaws in the IA implementation across the five integrated sites were determined by the researchers using expert heuristic evaluation (Pearrow 2007) and are described:

1. Each of the four themed sites contains general information about the SME, including the contact details. Thus this information is replicated five times in the overall web presence for the SME.
2. New windows are opened each time a user navigates from one of the five sites within the whole to another; within a very short time the user has opened myriad windows and is unable to backtrack or to make sense of an overall structure.
3. The four service area sites use inconsistent and unexpected navigation – e.g., a home link takes the user to the homepage of the same service area site. However the SME logo alongside the link directs the user to the homepage of the corporate site.

The actions and initiatives of this SME to improve its online information presence were piecemeal, reactive and lacking in expertise in big picture information organisation. Serial actions compounded to produce a flawed outcome. It is a sequence of survival, whereby individual staff members are called upon to organise information to the best of their ability and skill set. Nonetheless, this SME is pleased with the outcome. Feedback had been sought from within the organisation and consensus was that 'it was all looking good'. Usability assessments with clients were not completed and were not being planned at the time of the interview.

Organisation E: As with other of the studied SMEs, this organisation was intent on conveying a consistent corporate identity and message in all its communiqués with clients. The website was included as a key communications hub. An external agency had been commissioned to create branding and develop a brochure containing a linear

sequence of information that built a narrative of great importance to the business. A copywriter had been employed to write the content for the brochure. This valued story that had been produced for print was to be captured on the new website. Using the brochure as a blueprint, this intention was expressed to a web development company as follows:

So we walked them through the hard copy brochure and just saying 'look this is the content we have to work with, we don't want to really go outside of this so we don't need to generate new content'. We want to make sure that the message is consistent, we want to be able to tell the stories.

However in reviewing the website and the implementation of the narrative from the brochure, the researchers find that it has not been achieved effectively. The task was complex and required expertise in web IA. The ambiguous taxonomy used to organise the information in the narrative does not convey the sequence of the brochure. Steps in the linear story become nodes in a hierarchy that are clustered with other information, thereby losing all sense of sequential and discrete narrative. The parent node is not labelled to lead an audience to the narrative that is important to the business. Proudly, and naively, this research participant describes the SME's website as brochureware:

Yeah, it's interesting because we wanted to, we sort of reviewed why people would be using our website and it really is a little bit of, its brochureware.

This organisation is not aware of the specialised practice of organising information for the web and how this medium differs from printed information. Information for the web is not isolated as distinct from the general communications of the SME to clients and given specialist attention. Rather it is derivative of digital marketing agencies that produce corporate identity and messages in brochures with a belief that these skills and artefacts are transferable to the web, without modification.

DISCUSSION AND CONCLUSIONS

The expertise of the professional information architect was not an ingredient in the creation of information structures for the websites of the studied SMEs. A strong and dominant narrative is issued by the marketing communication professional, who claims expertise in digital marketing, involvement in website construction, and a background in communication qualifies them to organise online information for the smaller enterprise. Intuition and common sense replace the skills and theoretical underpinnings of the information professional within the smaller enterprise. The studied SMEs do not isolate and detail the information work that takes place, and information expertise, either in-house or externally commissioned, is not employed. A naïve confidence in this approach is evident in the data and what is not known about web IA does not

concern the organisation. In this study, information architecture is absorbed into the work of communication or visual design.

The website evaluations of two SMEs reveal that web IA, in the hands of those without knowledge and a theoretical base for their practice, can lead to significant flaws in the structure of online information. Whilst the methodologies and profession of web IA continue to develop and mature, they do not appear to be recognised and adopted in SMEs.

Practitioners of web IA in the studied SMEs came from disciplinary backgrounds remote from those that compose the information field. Scholars give due attention to interdisciplinary collaboration in theory and practice within the various disciplines of the information field (Dillon & Rice-Lively 2006; Bruce, Richardson & Eisenberg 2006). Others (for example, Holland 2008; Madsen 2012), debate the distinctions between multi-, inter-, and transdisciplinary approaches to information. The outcomes of this research, however, establish the need for a wider reach; one that looks outside the information field and acknowledges that digital online information and its structure is in the hands of a wider society and disciplinary base.

Dillon and Rice-Lively (2006, p. 23) admit that “information is an open terrain”. Wilson (2006, p. 680) writes of a dispersed disciplinary interest in all aspects of information that has become the “life blood of society” (p. 682) and can no longer remain isolated with information researchers. Information issues have the full attention of a broad spectrum of society and, as the worldwide web continues to expand in its reach and relevance, it places responsibility for information in the hands of varied and multiple actors.

Significant challenges are suggested for information architecture as a discipline and knowledge base – a need to infuse the practice of web IA in SMEs with disciplinary expertise and theory. A stronger liaison between information theorists and practitioners and the confident, yet unknowing practitioner of web IA in SMEs is indicated. Web IA requires a stronger identity and stance in the website development process, one that signals the importance of information expertise. Knowledge of web IA must infiltrate the curriculum of professional communication and web design courses, and find its voice in a much wider interdisciplinary pool, in order to be heard by the practitioners of web IA in SMEs.

This investigation of situated practice of web information architecture in five SMEs reveals an absence of information expertise in the structuring of online information. This study exposes a dominant marketing and communication skill set in an information space devoid of the benefits that information architects could offer. This lack of expertise appears unnoticed by SMEs, who initiate varied approaches to

ensuring the existence of a website to inform the client. Whilst the work of web IA prevails in SMEs, practitioners in this context are rarely equipped with the necessary skills and knowledge of information organisation. Likely ourcomes are information structures that pose impediments to both the client and the business endeavour of the SME. This study with a small sample size is exploratory; yet, the emergent findings are demanding of further investigation.

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This paper focuses on the determinants of innovations in small and medium enterprises (SMEs). SMEs play a decisive role in economic transformation by creating additional workplaces and thence levelling the unemployment, contributing to the local budgets, or promoting innovations and economic growth. Moreover, they play a key role in the integrated development of formal and informal entrepreneurial institutions. Thence, innovations represent an important factor for fostering the growth and development of SMEs and are likely to contribute to their overall success and economic profits. In this pa Professional information architects are more likely to find full-time employment or consultancy in large organisations, thereby privileging that context as theoretical stances emerge from practice. This paper addresses this gap in the research literature by focusing its enquiry on the activity of web information architecture in SMEs.Â The Practitioners of Web Information Architecture in Small and Medium Enterprises. JOURNAL OF INFORMATION ARCHITECTURE VOLUME 5 ISSUES 1 2 PEER-REVIEWED Sally Burford University of Canberra Lisa M. Given Charles Stuart University The Practitioners of Web Information Architecture in Small. More information. The use of information architecture guidelines by Australian libraries. Small and Medium Enterprises. A Cross-Country Analysis with a New Data Set. Oya Pinar Ardic Nataliya Mylenko Valentina Saltane.Â Note that although a unique small and medium enterprise definition does not exist, differences in definitions across countries are not statistically significant in explaining the differences in small and medium enterprise lending volumes. This paper is a product of the Financial Access Team in Consultative Group to Assist the Poor, Financial and Private Sector Development.Â More than half of the countries in Asia and Africa report that they collect information on SME finance on a regular basis. These are also regions where regulators tend to identify access to finance as a priority. The Role of Small and Medium Size Enterprises in Economic Development. Selcuk Caner HSE Conference, Moscow. 1. Introduction. Improvements in the cost reducing industries, changes in the industrial structure and development of new markets renewed interest in the small and medium size enterprises (SME) as engines of growth and employment. Industrial development earlier believed to occur with large enterprises undertaking large investments and creating scale economies. Even Schumpeter proclaimed that the future growth would come from large enterprises. However, starting in the late 70s and early