

Design Management Methodology to Strengthen Firm and Industry Competitiveness in the Construction Design Services Export sector

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Abstract

The aim of this research was to investigate strategies deployed by successful construction design-related firms towards achieving high levels of firm competitiveness in international markets. A reflexive capability model, developed through a critical analysis of related internationalisation literature, is composed of three key areas; internationalisation process, market knowledge and design management. Firm reflexive capability is explored through the management of social, cultural and intellectual capital. The concept of reflexivity is borrowed from sociology. Reflexivity is reinterpreted as the 'firm's' ability to be aware, responsive and adaptable to self, market and project needs assessment. A cross case analysis explored the barriers and success factors through three constructs; internationalisation process, design management and market knowledge of three firms. This paper demonstrates that international firm competitiveness is dependent upon the strategic inter-relational management of social, cultural and intellectual capital for maximum advantage of the utilisation and leverage of one form of capital to gain another. This leads to the development of increasing reflexive capability to support internationalisation. An outcome of this research is the identification of the central relation between a level of reflexive capability within the firm and the firm's level of success in international markets. This research is part of an ongoing program of research on international collaborative practice. A Reflexive Capability Matrix was developed from the findings of one research project and then validated through a second research project (only the capability matrix is presented in this paper though). The reflexive capability approach is appropriate to all firms but what is speculated upon is that the reflexive capability is particularly intrinsic to small to medium sized construction design firms who work globally. A reflexive capability is a characteristic of successful and innovative firms internationalising and working within global models of practice.

Keywords: reflexivity, internationalisation, case studies, design management

1. Background

Firms in the construction industry have demonstrated an increasing involvement in international markets, however, there is still significant opportunity for further growth in the export of these particular services (London, 2008). Notwithstanding assistance provided for firms through international trade missions, export firm support networks and information packages by government agencies, evidence suggests that there are still perceived barriers to market entry and long term economic sustainability for firms. Furthermore, exporting firms are generally not as well known as the local firms in international markets and thus there is an increased need to gain access into client networks through adaptability and flexibility. Firms who achieve competitive advantage in international markets and thus long term sustainability are constantly adapting their business practices to achieve client satisfaction by a combination of self, market and project needs assessment (London and Chen, 2007). The need for flexibility, adaptability and continual reassessment is enhanced as the market evolves in various localities. This paper reports the empirical results and findings of a study which aimed to assess the investigate strategies used by three Australian firms who work internationally and were involved in design management. This study has opened new research territory by developing through detailed case study investigation and analysis a qualitative methodology specifically related to design management which relies upon the concept of reflexivity and social, cultural and intellectual capital. The general research question addressed in this research project was: “How do construction sector design firms internationalise and develop sustainable business models?” The paper outline is a) Brief overview of the proposed conceptual model, b) Description of the research methodology employed c) Discussion of results and findings and d) Description of concluding remarks and outline of the Reflexive Capability Matrix. The theory underpinning the conceptual model has been reported elsewhere (London, 2010).

1.1 Conceptual model

The concept of capital has been extensively researched based on empirical evidence by Bourdieu (1991) from sociology research and has been applied in many different fields. The types of capital that have been adopted for this study include financial, social, cultural and intellectual capital and these are now discussed. Social capital is the creation of personal relationships and networks based on trust built over time. Working in a network helps spread risks and marketing costs and has relevance for project team networks and firm and client networks. According to Cohen and Prusak (2001, p4), ‘Social capital consists of the stock of active connections among people: the trust, mutual understanding, and shared values and behaviours that bind the members of human networks and communities and make cooperative action possible’. Skaates et al (2002) further defined social capital as recognition by other actors within the construction industry that the firm is a member of ‘their inner circle due to one’s dispositions...or one’s way of working and ‘tacit knowledge’. Cultural capital entails physical ‘dispositions’ such as ‘building visible buildings, winning design competitions, or obtaining important tenders’ (Skaates et al, 2002). These concepts are premised on the reputation of the firm, in that the success of marketing architectural services ‘depends upon the firm’s ability to sell and deliver a credible promise’ (Lowendahl, 2000). It differs from social capital in that it is the high

profile of a firm's projects that marks the firm as having acquired a level of cultural capital. Therefore, cultural capital is the firm's highly regarded past achievements that create trust and credibility; which is different from trust that is formed through relationships or networks. A firm acquires cultural capital through building successful buildings, thus creating a presence in the foreign market. More and more clients are relying on instantaneous recognition when selecting suitable design firms and such recognition is gained through the creation of reputation. A firm's reputation is earned through a high level of cultural capital. Intellectual capital is a firm's collective skills, experience, competences and knowledge and is critical to the sustainability of firms, particularly in international markets. According to Stewart (1998), the strength of a firm lies within its intangible assets, where he proposes that intellectual capital of a firm is 'the talents of its people, the efficacy of its management systems and the character of its relationships to its customers'. A firm can acquire its intellectual capital through establishing skills and niche expertise by employing specific skilled staff members, which would enable the firm to respond to client's requirements more efficiently. A firm's skill specialisation which is accumulated through its involvement in previous projects and employment can contribute to winning further projects as clients typically value a firm's expertise to deliver satisfying results. Whilst the internationalisation process is often viewed as one of which necessitates extensive country-specific knowledge and significant financial resources (Eriksson et al, 1997), long-term perspective afforded by the capital acquisition approach may provide advantages to firms attempting to internationalise into foreign markets. It is suggested that the dynamics of capital acquisition allows for a firm to build upon initial resources to achieve sustainability in foreign markets and to understand and contextualise the value of various forms of capital to a firm's internationalisation strategy. This is of particular importance to SME's who have fewer resources available. An example of how a firm strategically manages its capital acquisition is the firm's conscious decision to penetrate a foreign market through heavy financial investments into that market without immediate return. Such investments may not lead to immediate financial success but may initiate the firm's acquisition of social, cultural and intellectual capital. As such the firm may build up its acquisition of capital by creating networks, gaining reputation and developing skills. This would in turn translate to financial success in the long term. This poses problems for firms but it highlights two key questions, that if 'softer' capital is key to long-term sustainability then to what extent they are and through this understanding can develop greater clarity on strategies to manage social, cultural and intellectual capital? And is there any inter-relationship between social, cultural and intellectual capital that underpins such strategies? The notion that "economic capital is at the root of all other types of capital" and that these other types are in fact "transformed, disguised and forms of economic capital" is not a new concept at all (Bourdieu, 1991). For example, economic capital makes possible the investment in cultural capital by making possible the investment of time needed to accumulate cultural capital. The relationships between cultural, social and intellectual capital are complex (Bourdieu, 1992). Capital exists in a variety of forms or states. Bourdieu (1992) suggested that these primary relationships are guided by an understanding of three concepts; investment, exchange and accumulation of capital. The investment of a particular type of capital can be aimed at the exchange of capital in order to accumulate capital (London et al, 2005b). Alternatively the accumulation of a particular type of capital may be so that an exchange of another type of capital can take place. The other important concept underpinning this research is that of reflexivity. Reflexivity has its derivation in sociological research (Giddens, 1991). According to Giddens (1991), "modernity's reflexivity refers to the susceptibility of most aspects of social activity, and material relations with nature, to

chronic revision in the light of new information and knowledge” (Giddens, 1991, p20). To be able to chronically revise means a continual responsiveness to change by participants in the system. Participants need to have some sense of self-awareness about what practices they are embedded within and be conscious of that constantly changing environment. Participants not only need this openness to change but also the skills and culture or mechanisms that allow change.

2. Methodology

The case study approach was chosen for this study because of the desire to understand cases of firms who had developed sustainable business models by virtue of being successful in market entry and then by a degree of longevity in particular market(s). Three instrumental case study firms were selected to provide insights into ideas about business sustainability and the role of cultural, social and intellectual capital in relation to firm sustainability in international markets. The main method for data collection was in-depth interviews conducted across three firms between one and three hours duration (refer to Table 2). Two interview instruments were developed; one was developed for Senior Managers and one for Design Team Staff. The major topic areas and some example questions are included in the following Table 1. The analytical methodology was drawn from the perspective of grounded theory (Strauss and Corbin, 1990). Grounded theory was used as a means of data organisation and theory generation, particularly useful in its capacity to provide structured guidelines for conceptual relationships and explanatory frameworks. Each case study was analysed as an independent unit of analysis and subjected to two stages of analysis. Open coding: involved the loose association of themes and concepts revealed by individual transcripts. At this stage, theory was considered as a general outline that served to organise the indicators that emerged from the data. Axial coding: involved the arrangement of data according to dominant themes that emerged. At this stage a comparative analysis was conducted to ascertain common themes and irregularities and to enhance the potential for generalisation of resultant theory.

Table 1: Interview Schedule

Part 1: Participants role.	What is your role in the organisation? What is your role in relation to international work?
Part 2: Policies, procedures and performance management (Senior Managers)	Is internationalisation a part of the organisation’s objective? Can you tell me which countries you work in and how you came to work in those countries? How is the brief developed? How are consultants managed?
Part 2: Project processes (Design Team Staff)	Of the projects you have been involved in do you know how they came about? How were you assigned to the projects and did you receive any training? Have you been involved in any project performance reviews?
Part 3: Successful strategies and inhibitors to success	What do you think has worked well in the past? Why do you think you don’t do as well in some markets as others?

Table 2: Case study firm/participant overview

<i>Firm</i>	<i>Firm type</i>	<i>Markets, longevity & organisational structure</i>	<i>Interview participants</i>
1	Architectural	China; 10 years; 1 office in Aust capital city	7; 4 Senior staff, 3

	design		Design team staff
2	Architectural design	Multinational; 20 years; offices in all major Aust cities & 6 offices in Asia, Europe & Middle East	11; 4 Senior staff, 5 Design team staff
3	Design & Construct contractor	Primarily China; also Asia, Eastern Europe, South America, South Pacific; 30 years; 1 office in Aust capital city & 3 offices in China	5; 3 Senior staff, 2 Design team staff

3. Results and discussion

The first stage of analysis identified the firms' internationalisation and project processes including market entry strategies and factors influencing choice of entry mode, motivations for internationalising, design management policy and practices and level of market knowledge as well as barriers to internationalisation but it is not the intention of this paper to present this part of the results in detail. However, a brief description of the key barriers serves to provide some context to the discussion which follows in relation to the successful strategies used by firms to develop sustainable business models in international markets. Despite quite different entry modes and organisational strategies, analysis revealed a high level of comparison between the three firms in relation to what they defined as being barriers to internationalisation. Predominantly these can be grouped under three categories, which were barriers relating to financial issues, market knowledge, and cross-cultural communication. Barriers relating to cross-cultural communication was seen as by far the most influential barrier facing design firms in international contexts. Somewhat surprisingly, there was a reticence to identify purely financial issues as the primary barriers. This is not to say that firms did not discuss financial considerations, but rather they were not discussed in terms of being the dominant barrier. This demonstrates that financial impacts are the product of barriers that have their underlying causes in more subtle and complex factors. Significantly the firms generally considered financial barriers to be a product of a lack of market knowledge and the barriers concerned access at the level of informational knowledge and the formalisation and utilisation of experiential knowledge as a resource for the firm. Therefore, underlying both these groups of barriers to understanding is the theme of communication between cultures. Cross cultural communication was identified as the primary barrier by the firms and also as the underlying cause of many of the surface level manifestations of barriers. Results demonstrated the field of cross-cultural communication to be a much more complex site than previously addressed in the literature. Barriers in cross cultural communication are usually seen as revolving around translation between languages and personal interpretations of meanings, and this is certainly an important element. Yet, gaps in cultural understanding can also often be the product of differentiated cultural values, and of limits in conceptual continuity and compatibility between niche areas of expertise. Whilst issues of cross-cultural communication appear to be obvious, there is a relative lack of understanding of the complexities related to such difficulties. There is also a relative absence of explicit measures such as policies, processes and procedures formally designed to manage these potential problems. This study has identified that communication between cultures occurs in three different contexts; (a) between national cultures (language differences, cultural understandings and social customs), (b) between corporate business cultures (management styles, processes and procedures), and (c) between project

cultures (fields of expertise, niche specialisation and conceptual compatibility). These three contexts regularly overlap and interpenetrate to create the complex field that is cross-cultural communication. The interpenetration of the three contexts produces certain dynamics that must be negotiated and managed strategically. The predominant cross cultural communication dynamics outlined by the firms were geographic and cultural distance from the host country, the interrelation of project and business cultures impacting the way a firm does internal business and its relations with external businesses, and the dissociation from local contexts that especially impacts the function of design teams. Accordingly, the means through which the firms managed cross-cultural communication issues largely determined the extent of their successful business practices. There was an overwhelming correlation between the extent to which firms utilised social, cultural and intellectual capital to overcome cross cultural communication challenges and what firms identified as the predominant success factors in their internationalisation experiences. As we proceeded to the next stage of analysis, key themes were identified in relation to how the firms utilised each type of non-economic capital to develop sustainable business models in different international markets, which in turn lead to the firms' increased flexibility and adaptivity in those markets (London et al, 2005; London & Chen, 2007). There was a high level of comparison between the three firms in relation to what they defined as being success factors to internationalisation and export of design. Predominantly these can be grouped under three categories, which were success factors relating to a) social capital in relation to creating social networks, development of informal interaction, management of internal organizational trust and overcoming dislocation from local contexts; b) cultural capital in relation to development of firm reputation and also cultural understanding and c) intellectual capital in relation to niche specialization and cultural understanding and bilingual capacity and development of 'deep' cultural understanding. The following discussion draws together many of the key themes that demonstrate the central relationship between the firms' strategic management of social, cultural and intellectual capital and it's level of reflexive capability. In order to illuminate what is meant by reflexive capability the discussion centres on three themes. Firstly; the need to understand at a detailed level the social, cultural and intellectual requirements of any given role in a firm's organisational practice. Secondly; the development of an understanding that a firms' procedures are adaptable, enabled through the increased levels of social, cultural and intellectual capital. Thirdly, reflexive capability occurs in response to information, and thus the depth of information that the firm can utilise is of great importance. The importance of social, cultural and intellectual capital at this level lies in their ability to increase the amount of accessible information and to provide a more accurate grounding for its interpretation.

3.1 Client contact and the flow of information

This section highlights the importance of internal and external flows of information to enable effective delivery of services to clients. Furthermore it highlights the value in firms having an in-depth understanding of the interrelating forms of social, cultural and intellectual capital required in any given position within a firm's design management practice. Significant findings were that those individuals with client contact were responsible for delivering a brief to the design staff that would facilitate project delivery. On occasion this was made difficult by the skills of the individual responsible for meaningful interaction with both client and design team. The efficacy of each firm's design management practice is largely dependent on the establishment of effective flows of

information. The accumulation of intellectual capital and increasing niche specialisation of individuals within firms reinforces structural differentiations between the management level of the firm and design staff. It is primarily senior managers who have the initial contact with clients, and usually senior niche-specialised individuals who maintain that contact. Design staff are predominantly disassociated from direct client contact. There were two distinct information flows recognisable within all three firms analysed: the external, which links the firm to clients, partners, third parties and other institutions of the market, consisting of information moving into the firm. Alongside this, and within the firm, the internal flow dictates the efficiency with which information is made available and accessible.

Analysis revealed that the primary points of relation between these otherwise separate circuits of information flow are through the briefing process and feedback gathering procedures. The individual who has the contact with clients occupies a central position as the linking interface between design team networks and clients. Such a position has a great amount of responsibility in regard to managing the briefing process and ensuring that design teams are accurately apprised of client's requirements. At the end of the day, sustainable business practice is determined by the design team's ability to produce design solutions that meet or exceed client's expectations. In turn, this is dependent on the accuracy and amount of detail delivered to design staff via the internal flow of information. Individual firm's organisational structure influences the manner in which information is conveyed, and the form in which it is transmitted. A common theme emerged where all three firms described the information flows experienced as 'difficult' (firm 1), 'tricky' (firm 2) and 'a challenge' (firm 3). The reliance on one staff member to be the key client contact as well as to act as the conduit for internal flows of information was felt to be a difficulty because an individual's interpretations were 'slightly different' with 'slightly different nuances', and were affected by both personal interpretation and linguistic limits. The fact that only one person had 'been over there and liaised with the client' makes the briefing process potentially more difficult because culturally specific values and interpretations are the textures that give language its richness and determine the level of detail supplied to the design staff. While it is to be expected that client contact is considered a crucially important niche specialisation requiring a particular set of skills, it appears that it was less often taken into account that the same individual would be the primary source of information concerning the brief for the design staff. The ability to interact efficiently with clients and to overcome cross cultural difficulties is not a guarantee of the capacity to transmit relevant information within the briefing process, and in some cases could even work against it. This is particularly so if the niche expertise that makes the individual suitable for that role is a high degree of familiarity with a foreign language as a product of extensive education. The implication is that the more narrowly focused the individuals expertise is on a particular area, the more likely to adequately fulfil the needs of that role yet also more likely to be less than adequate in filling other niches. Design as a niche expertise comprises a unique terminology and a specific set of concepts that are not immediately transparent to an outsider – to an extent communication between a non-designer and design teams is a cross-cultural scenario. A disparity can occur between accessing the details of the brief from the client and transmitting those details to the design team:

Some people aren't as good conveying the client's requests as much as others. Some people pick it up really well and they're able to convey it and other people don't pick it up that well and therefore can't convey it to the people who are going to work on the project' (Design Staff – case 1).

The two elements of this process are thus made clear as firstly 'picking it up' and secondly 'conveying it', which require different areas of skill. Also, between client contact and design team briefing is a third element to the process – interpretation – that brings the individual staff member's personal perception into play. In international contexts, interpretation potentially involves translation between languages, but certainly the translation of client information into *relevant detail* for design staff. Cultural understanding is a valuable resource in providing the capacity for 'deep' rather than simply 'surface' level communication through awareness of culturally specific nuance and subtlety. A lack of cultural understanding can create a situation that can 'end up in disaster' (Senior manager firm 1). While this is readily acknowledged in regard to client interaction, it is less often perceived as a potential problem regarding transmission of detail to design staff. Designers identified the combination of dissociation from clients and project sites coupled with a poor level of available detail as exerting influence on their ability to design:

It was so abstract. I had no idea where it was. It was very disjointed...it was very fast. It was a lake with all the surrounding areas were going to be different styles of housing and landscaping...it was constant that they wanted a lot of detail & not much information was coming from them (Design Staff – Case 1)

We had another project and that was a lot better. We knew where that was on a map and our director went over a couple of times... to look at the site. So we had a lot more information and photographs and personal involvement. There was a lot clearer direction in that one, we knew what we had to produce and it wasn't so abstract. That was mainly because the briefing was better. (Design Staff – case 1)

Although clearly identifying the singular nature of the source of information, the second quote highlights the correlation between the level of design-relevant detail and the degree of 'personal involvement' as opposed to dislocation experienced from a project perceived as 'abstract'. It also serves to reinforce the uniqueness of design projects and that different forms of management approaches are required in response to individual projects. This high level of interactivity and need for responsiveness to changed circumstances is rarely found in other sectors and rarely appreciated by other researchers who are associated with international business environments in long run manufacturing and non-project based industries. Therefore, the reflexive capability model is perhaps more suited to sectors that are project based and where changes to work processes and client requirements occur on a weekly if not daily basis. This analysis has demonstrated the level of awareness that is necessary regarding the different positions within the firm's information flows and processes. However, each position within the firm has a similar array of needs and requirements, albeit a different set of functions requiring a precise combination of forms of social, cultural and intellectual capital. The extent to which these forms of capital can be efficiently and strategically managed is a primary indicator of a firm's potential for a reflexive capability and this is now discussed.

3.2 Developing reflexive capability

All firms demonstrated an implicit understanding in relation to the value of reflexive capability. Alongside an understanding of social, cultural and intellectual capital, the firms discussed terms such as ‘versatility’ and ‘adaptability’ as being highly valued qualities of staff. The following discussion identifies the interest that firms have in fostering reflexive capability:

The most important thing for the business...is the project being established and set-up properly. It's a process of staffing correctly, getting the brief from the client correctly. Then at the end of the project giving the client feedback ... and then giving those results back into the system so you can maybe do things better next time. So it's a whole continuous improvement by the end. (Senior Manager – case2)

Clients frequently hold a privileged position regarding what was done particularly well and what could be improved. Accessing this source of information about the firm's performance is a central aspect of reflexive capability. However, the above quote also highlights an aspect of the predominant perception of ‘feedback’ and performance improvement in that it states that such phases can only occur at the end of a project. Thus a central premise of reflexive capability is that the ‘continuous improvement’ system can be maximised so that benefits are felt within the life of a project. The rigid nature of linear development based on the premise of improving processes in response to lessons learned from past projects is a useful tool of reflection and we are not advocating the elimination of project reviews, however, strict reliance on this process alone can prevent the maximisation of reflexive capability. For many years the research and industry communities alike have emphatically advocated the advantages of feedback systems from project to project. The post occupancy evaluation literature is well documented and has a long tradition in academia and facilities management. However, it remains a largely ad-hoc approach to project, process and design evaluation despite this heritage – and is considered a luxury by most. It is possible that a reason for this is the ‘after the fact’ nature of any insights gained from such evaluations, and the inherent difficulty in applying lessons learned at the end of one unique project to another. It is suggested that a more immediate approach to appraisal would be likely to be followed more readily and benefits accrued in relation to immediate financial considerations rather than future situations. The advantages of this approach should be obvious, and to a degree this is the model practiced by successful firms on this study. The reflexive capability model implies that lessons learned from each project are applied within that project to immediately adjust the functional parameters. Furthermore, lessons learned – as effective responses to a specific problem encountered – are collected as resources to be used in future projects according to the situational need. A process is *constructed* for the specific project in question that fulfils its requirements, and as new requirements come to light the potential exists for the process to be altered to accommodate new needs. The material for constructing adequate processes are individuals with particular forms of social, cultural and intellectual capital, placed in certain relationships with one another. These individuals and relationships are organised according to the desire to maximise interactive information flows. Adjustments to processes and procedures as projects develop occur through individuals recognising change and adapting their roles accordingly. Therefore, the reflexive response by individuals within processes enables more effective project delivery. The firms demonstrated differing degrees of concern with fostering a reflexive capability at an individual level.

The most explicit in this desire was firm 3 who by virtue of its size, had the least formulaic procedures:

We try and train our guys to think outside the square. If there is a problem on site before coming back to me they must try and think about how they can solve that. If the way it was supposed to be done wasn't done, if that path doesn't work well what do you do? You've got to think laterally...you've got to be versatile, every jobs different and you know it's not text book stuff". (Design Manager – case 3)

This quote highlights the value placed on a 'lateral' problem solving ability and also illustrates two important points regarding reflexive capability. First, it is considered a form of intellectual capital – a set of skills, or a particular way of perceiving problems, that can be learnt, 'we try and *train* our guys to think outside the square'. The importance of this is that this form of training is entrenched as part of the firm's business culture and thus goes a long way to ensuring another of the central parameters of reflexive capability: a culture that adopts a positive interpretation of the value of change. The second point of interest is the capability of individuals to make decisions without referring to a higher authority thus creating a laterally organised firm where individuals are empowered to make decisions rather than a hierarchically constructed firm where decisions are made centrally. Interestingly, the senior partner in firm 3 has a similar disdain for formalised procedures such as quality assurance manuals which encourage staff members to think only about fulfilling a 'checklist' rather than the totality of jobs that need to be addressed within a project:

**** [senior manager] does not believe in a quality assurance manual. The reason being is that *** [senior manager]'s worse fear is that it stops people thinking. You get the quality assurance manual and tick the boxes, have you done this have you done that and people think yes – so the jobs perfect. It's not the case. You've got to think, to read between the lines and what is not on the list gets missed and you can't checklist the amount of things on a building. (Design Manager – case 3)*

Projects continually undergo change and this change needs to be accepted as an inevitable outcome of design practice and embraced rather than merely limited through control of the situation. Perceiving that the same procedures will produce equally positive outcomes in all situations is problematic because 'every job is different'. The need to 'read between the lines' can be understood as vernacular for understanding that positive outcomes are dependent on meeting the needs of the *situation*, not a concern with 'ticking the boxes' which implies meeting the particulars of a given *procedure* that may not be relevant to the situation at hand. To maximise reflexive capability participants need self-awareness about what practices they are embedded within and to be conscious of constantly changing environments. Elements of the process are considered as components of a malleable system that are evaluated according to their function and on the basis of their contribution to the overall efficiency of the process. The extent to which experiential knowledge is accumulated, formalised and disseminated plays a role in the management of social, cultural and intellectual capital and the development of reflexive capability. Thus the importance of developing in staff a capacity for seeing the issues related to projects and a willingness to change behaviours in order to achieve a more positive outcome. Another important example to illustrate reflexivity is the discussion whereby firms readily acknowledged face-to-face interaction as the preferred form of information transfer. While it is accepted that this form of interaction is potentially difficult to achieve in the context of

internationalisation this discussion attempts to make clear what is meant by the term interactive two-way information flow and how this can increase a firm's reflexive capability. Both senior and design staff placed great emphasis on face-to-face communication as the preferred means of attaining and delivering accurate and detailed information. This is the case whether dealing with the client group (external information flow) or dealing with other individuals and departments within the firm (internal information flow), or in the case of firm 2, offices of the firm's global group. There are two sides to the preference for face-to-face communication. One concerns the advantages for the briefing process, the other the barriers created by infrequent communication. The two levels of senior and design staff have different perceptions of the advantages and disadvantages involved determined by their position in the structures of information flows. For firm 2, the global model means that both these flows of information are international, and therefore potentially involve elements of cross-cultural communication that must be managed. The preference for face-to-face communication is identified through discussions by both senior management and design staff of idealised briefing process scenarios. For the senior staff, this ideal relates to briefing processes on 'traditional' (non-international) projects, whilst for the design team member it is an imagined solution to many of the difficulties that arise from briefing processes in international cross-cultural projects.

'On a traditional project done here...down the street, our consultancy team would meet once a week, the client would more than likely be involved in those consultancy meetings, we'd sit around a table like this & pull out a roll of drawings and everyone would go through everyone's role every week & sort through the issues...It's a face-to-face discussion & there's nothing quite like a face-to-face discussion' (Senior Staff – case 2).

'If I could do it again I'd like to pick up the team & go there & spend two- three weeks solid with the client group, what happens then is the whole team has a sense of ownership on the project, there's a level of importance of going over, getting an environmental understanding of the place, getting an acknowledgement of the client & then coming back & then we could do teleconferences after that, but I think there ideally would be nice to have a timeframe where you actually dealt with the client face to face. (Design Staff – case2)

For senior staff with the responsibility of client interaction, the problem is not a complete lack of face-to-face communication, but rather its sporadic nature. This pattern of client interaction in 'concentrated spurts' means the workload within these periods of face-to-face contact is intensely demanding with a high degree of information passing between the two parties. Outside of this period of face-to-face contact, communication is mediated by information technology, response time is elongated and the capacity to ensure ideas are being conveyed accurately is diminished.

'It's very difficult working with a client when you actually only communicate relatively infrequently. We don't have weekly hook-ups with the client group, they expect when we have contact with them it is very concentrated, you know workshop three or four days face to face grinding out the issues. We've always communicated on very concentrated spurts and then you know there might be a month that goes past before we actually communicate with them again on a face-to-face basis. (Senior Staff – case 2).

For design staff, who are perpetually communicating with the client group through mediated situations, both IT communications such as email or web-cam and traditional ones such as teleconferencing, there are technical difficulties. The disparity between levels and system types of information technology between the client group and firm were discussed, and the impact on the briefing process in terms of gaining a connection should be obvious. However, certain challenges also arise simply through the mediated nature of the communications, where the IT mediated situation implies the lack of face-to-face communication. The problem lies in the comparative amounts of information conveyed through the spoken word as compared to non-verbal aspects of communication. Meanings between cultures vary substantially even though those meanings may be signified by the same verbalised word-sound. This is the difference between 'surface' level communication, and a 'deeper' culturally informed understanding of meanings supplied by appropriate types of cultural capital. Designers are dealing with complex ideas, and the non-verbal elements of communication such as facial expression, body language and gesture, as well as the use of props, drawings and demonstrations may be vital in getting ideas across accurately. These methods of communicating are absent in the mediated communication, and are the reason why face-to-face contact is the preferred mode. These problems are made even more acute in the cross-cultural communication context, even when the client groups speak reasonable English. These are issues encountered by all three firms:

'The whole technical implications, getting echoes and all that, and people, they've got accents and sometimes you can't pick up from the accents what people are saying. You know South African, English, Pakistan...all these different accents and over a phone it's harder sometimes...you miss a few words and you miss the essence of the whole sentence It's very, very difficult to deal with people when you don't understand the subliminal messages that are coming back or the body language or just how they're likely to interpret things' (Design Staff- case 2).

You can't just send the graphic and trust someone else to explain it. It's a lot more difficult. Even in the age of technology and internet and all that sort of stuff, you've got to have a face, you have got to have a presence. (Design staff- case1)

...since email came in it has probably increased the amount of discussion we have by two, and then phone calls are just on important issues or initial introductions. But I've been on two and a half hour phone calls with our Australian design manager, our Chinese translator, our Chinese project manager and us trying to convince them that we know what we've done. It's different; it's very difficult because through Chinese language there must be a fair bit of presence of the person. (Design Staff- case 3)

The dependence on IT is ever more important in internationalisation. Geographic distance and cross-cultural communication difficulties are unavoidable elements of doing business in international markets. The issue is the lack of reflexive capability in the communication process. At its simplest manifestation this concerns the inability to ask for, or give, clarification on a point of issue – whether it is a client's requirement, or a greater explanation of some element of design. At a more complex level, it concerns the capacity of staff to adapt procedure or behaviour in order to more efficiently meet the needs of the situation because the needs of the situation are partially concealed by a reduced level of communicative interaction. This raises an important area of future research which is the way in which IT with its non verbal and visual cues can support reflexivity.

4. Reflexive capability tool & concluding remarks

The reflexive capability maturity assessment tool is the product of research into the barriers and success factors encountered by design firm's when internationalising (London et al, 2005). It was developed out of insights gained into the underlying causes behind prominent barriers, and the themes common to the successful approaches used by firm's to overcome those barriers. The reflexive capability tool is at present specific to the management of international design projects and will need to be adapted for application in other contexts. It is a conceptual device for the measurement and management of a firm's levels of reflexive capability within any specific firm practice or activity. For example, these may include; market entry strategies, training practices, design management practices, knowledge management practices, communication practices, client management, briefing practices, feedback gathering processes, etc. The tool has been developed to allow firms the means to gain a more detailed understanding and appreciation of an activity, practice or process within the firm. By providing a tool for self-management rather than a series of recommendations, it is anticipated that a greater and more useful level of reflective practice can be achieved by the firms. An overview of the reflexive capability tool in terms of its key elements and how it can be used is now provided including a set of qualitative dimensions and levels relating to the primary characteristics of reflexive capability:

Awareness:

- of the need to create, use and maintain social, cultural and intellectual capital for internationalisation practices and processes
- of key strategies needed to create, use and maintain social, cultural and intellectual capital to support internationalisation practices/processes
- of key strategies as changeable depending on project scenarios or market requirements

Responsiveness:

- Staff members within a firm, both individually and collectively openness to change in the firm's international practices and processes
- Staff equipped with adequate skills and capacity and empowered to make changes and supported by firm business culture

Adaptability

- Defining core principles to be maintained and adapt accordingly practices and procedures based on firm values and staff members skills
- Change strategies clearly and consistently communicated within the firm

The continuum of reflexive capability is designed to demonstrate the relationship between increasing levels of reflexive capability and a movement towards embeddedness of the principles of reflexive capability within the firm. The movement is from the implicit to the explicit; from practices which are often uncritically examined through procedural mechanisms for establishing new ways of thinking and efficient ways of doing things, to explicit definition of these values as central to reflexive capability formalised in firm policies and strategic objectives. Ideally practices are formalised and enshrined in policy to provide clear direction and purpose, which are clearly communicated to staff members. Individual staff members should therefore be clearly aware of both the nature of the firm's internationalisation process and their own role in the process. Such an understanding implies the ability to perceive that any given position in the internationalisation practice requires a specific yet interrelating mix of various forms of social, cultural and intellectual capital. Staff members should be aware of the various strategies needed to create, use and maintain social, intellectual and cultural capital for internationalisation practices and processes and that the strategies are changeable depending on project scenarios and market requirements. It has been a central theme of this research study, and therefore the reflexive capability maturity assessment tool, that change is dynamic and takes place along a continuum rather than a series of linear categories. This is aimed at a clear representation of firm practices in terms of its level of maturity compared to the ideal scenarios for reflexive capability. Firms can identify the different areas that require improvement in international contexts for maximum success. The matrix was developed for three themes; market entry, knowledge management and design management and the Table 2 is the market entry matrix. The analysis revealed that the strategies used to manage difficulties in international contexts revolved around the strategic management of social, cultural and intellectual capital. Key themes were identified in relation to how firms utilised each of these capital to achieve sustainability in different markets, which in turn lead to increased adaptivity in those markets. This paper has highlighted the variety and density of information moving along internal and external information flows and the high degree of interpretation required in international design practice. It is this need to remain constantly open to emerging information, to be continually processing and evaluating information from a variety of different sources, which enables firms to adjust firm procedures and processes accordingly. Through reflexive capability it is possible to become consciously aware of changes in market conditions and client requirements to absorb those changes in a manner that facilitates the firms' strategic objectives. Analysis across all three cases identified that barriers are primarily the result of a low degree of reflexive capability and that success factors are the product of increasing reflexive capability. Reflexivity is based in a positive interpretation of change and a continual responsiveness to change by participants in the system. The outcomes of reflexive capability in the firm's internationalisation process concern the notion that improvements in system function and individual performance can occur within the lifecycle of a project not simply between projects. Reflexive capability can be considered a conglomerate indicator of a firm's potential for international success.

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Table 3 Reflexive capability maturity assessment for market entry

	Awareness			Responsiveness		Adaptability	
	<i>Awareness of the need to create, use and maintain SCI capital for market entry</i>	<i>Awareness of key strategies needed to create, use and maintain SCI capital for market entry</i>	<i>Awareness of changeability of key market entry strategies for different markets</i>	<i>Responsiveness to changing approach to creating, using and maintaining SCI capital when entering different markets</i>	<i>Firm support to be responsive in the creation, use and maintenance of SCI capital for market entry at project level</i>	<i>Firm policies and systems in place which define what is adaptable in relation to market entry</i>	<i>Communication on how to re-strategise and adapt for selection of market entry strategy</i>
<i>Explicit</i>	<i>Comprehensive understanding of unique SCI capital needs for market entry</i>	<i>Consistent market entry strategies developed and aligned with firm SCI capital</i>	<i>Market entry strategies consistently optimised based on comprehensive understanding of SCI as fluid and inter-related/inter-changeable</i>	<i>Seamless application of market entry strategies aligned with market, project and firm requirements</i>	<i>Market entry strategies are well defined and communicated as open to immediate change and staff members are empowered to be responsive</i>	<i>Firm policies in relation to market entry clearly defined and expressed including what, why and when strategies are fixed/changeable</i>	<i>Fully effective adaptability of market entry strategies based upon clarity of communication and are an inherent part of 'how things are done'</i>
<i>Developing</i>	<i>Informal understanding of SCI capital needs for market entry</i>	<i>Seeking alignment of firm SCI capital and market entry strategies</i>	<i>Attempting optimisation in developing market entry strategies based on inter-changeability of SCI capital</i>	<i>Practices or systems being developed to encourage responsiveness in changing approach to market entry based on market, project and firm requirements</i>	<i>Recognition that responsive application of market entry strategies requires firm support</i>	<i>Market entry policies in place but yet to be fully applied</i>	<i>Market entry policies being communicated within firm</i>
<i>Implicit</i>	<i>The importance of SCI capital for market entry not appreciated</i>	<i>Inconsistent alignment of SCI capital for market entry</i>	<i>Inconsistent approach to market entry on a project by project basis</i>	<i>Fragmented approach to market entry in selected markets based on individual staff capability</i>	<i>Isolated cases of firm support to be responsive in adopting market entry strategies</i>	<i>Market entry policies being established</i>	<i>Fragmented market entry policies pieced together individually by staff</i>

<i>Lacking</i>	<i>No awareness of SCI capital needs for market entry strategies</i>	<i>No knowledge of staff levels of SCI capital for market entry</i>	<i>SCI capital needs for market entry not understood objectively</i>	<i>No alignment of SCI capital in relation to market entry strategies</i>	<i>No acknowledgement of</i>	<i>No attempt to define firm policies in relation to market entry</i>	<i>Strategies for market entry is not communicated or disseminated within firm</i>
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