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A Customer Relationship Management Case Study – Critical Success Factors in Action.

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Abstract

Critical success factors (CSFs) are seen as a way of identifying those elements of an information systems project that are critical for the success of that project. However, existing research about CSFs has been largely derivative in nature. Many researchers use the existing literature to derive their lists of CSFs for industries, IS domains (such as: EIS, ERP, CRM) and case studies. Moreover, these lists have come from only one targeted group of people, senior management. There is a need for a new perspective and fresh primary sources. This paper argues that after 27 years of CSF method application little theoretical development has occurred. Firstly, CSFs are not easily deciphered or compiled; and secondly, hierarchical (multiple) lists of CSFs may present a better representation of the position. Using a case study in CRM adoption and implementation, this paper discusses research undertaken to determine the nature of CSFs and highlights the issues, and problems in CSFs thinking over the past two decades, while providing a new interpretation of CSFs in use.

Keywords: Critical Success Factors, Customer Relationship Management, Implementation, Case Study, Higher Education

1. Introduction

This paper reports and draws upon results from a case study into CSFs for CRM adoption in an attempt to understand the richness of data previously overlooked by CSF researchers. We argue that the employment of CSFs derived from secondary data sources, overlooks or fails to appreciate the richness of the reasons for success or failure. The paper recommends that the acceptance of multiple lists of CSFs at multiple levels in the organisation might provide a better understanding of the many perspectives of CSFs in IS adoption and implementation failure, or success. We shall explore this view through the example of the implementation of Customer Relationship Management (CRM). This paper goes part of the way to demonstrate that CSF method needs to be tackled in a more case specific manner. The findings, discussed later, show the difficulty of truly identifying CSFs. One list of CSF might be convenient or even appealing. However, it does not tell both researcher and others the true situation that needs to be understood in order to achieve a measure of success. We determine that the CSF method is best used when applied to a single case study, where it can be guaranteed that what factors are found are applicable to that organisation adopting and/or implementing a CRM [IS] system.

2. Critical Success Factors

Critical success factor method is used to identify those factors that are critical to a project and need to be addressed in order to achieve some level of success (Rockart, 1979). From the

early development of the concept of CSF method, IS implementers have attempted to identify CSFs in specific IS implementation areas, such as CSF for: information systems executives (Martin, 1982; Poon and Wagner, 2001); total quality management (Sila and Ebrahimpour, 2003); IS downsizing (Udo and Kick, 1997); requirements gathering (Havelka and Lee, 2002); software maintenance (Sneed and Brossier, 2003); decision support systems in South Africa (Averweg and Erwin, 1999), and client relationship management (CRM) (Croteau and Li, 2003).

CSF research findings regarding the number of CSFs range from five for ERP systems in the higher education industry (Allen et al., 2002) to 35 in information technology implementation (Pollalis et al., 1993). Rockart (1979) and Dickinson et al. (1984) identified between three to six generic factors in industry generally. Bender et al. (2000) identified a list of 26 CSFs for process innovation, and Pollalis et al. (1993) found an exhaustive list of 35 CSFs for information technology. Khandelwal and Ferguson (1999) researched CSFs in IT across four geographical regions identifying seven factors for each region with some variation amongst each region. Research by Khandelwal and Ferguson (1999), Averweg and Erwin (1999) and Zhang et al. (2003), Holland and Light (1999, 2001) demonstrate that managers need to consider regional difference that influence CSFs, which is fundamentally important for IS systems operating globally.

Critical success factors can be events, circumstance, conditions or activities requiring special attention for they have significance to the corporation with positive or negative influences (Dickinson et al., 1984). Depending on the IS project, CSFs can have both an internal and an external focus (Croteau and Li, 2003). CSFs can also be elements of trust and effective communication (Hartman and Ashrafi, 2002). Human factors can make up CSFs such as: top management support, a project champion, and competent project teams (Somers and Nelson, 2001). Also having appropriate IS staff, with skills for the project and empathy for supporting users (Teo and Ang, 1999) in addition to the level of user involvement, training, commitment and overall acceptance (Somers and Nelson, 2001).

Technology factors also make up CSFs including: information technology (IT) infrastructure choice (Somers and Nelson, 2001; Akkermans and van Helden, 2002), as well as, data, information and knowledge management (Bender et al., 2000). It is important to realise the size of the investment in information technology and systems relating to IS. With the unstoppable move towards e-commerce making long term infrastructure investment decisions critical (Weill and Broadbent 1998), therefore the Internet and World Wide Web become integral to IS initiatives (Korner and Zimmermann 2000).

Businesses rarely do anything without a plan or reason especially when you are about to invest millions of dollars in computer systems and software and “if a particular information technology investment strategy hasn’t been associated with superior performance, this doesn’t mean that the strategy should be avoided” (Weill and Broadbent, 1998, p48) it simply means it is more risky and desired outcomes are less certain. Therefore having clear goals and objectives (Somers and Nelson, 2001; Poon and Wagner 2001), undertaking strategic planning, quality assurance (Sila and Ebrahimpour, 2003) and vision support (Bender et al. 2000) can make up strategic CSFs.

These findings suggest that IS project evolution of success will refer to a wide range and varying number of critical success factors relating to human factors, technology, and strategy to achieve IS implementation success. However, despite this apparent diversity there is a

somewhat regular consistency with in CSF research. The preliminary literature search shown in Table 1, found a list of 18 general CSFs for IS implementation identified consistently in 22 research papers. From 302 CSFs listed across the 22 research outcomes only 34 unique ('various') CSFs were identified.

These outcomes are not really surprising. A large number of research specifically on information systems CSFs have been using the same literature to develop a list of CSFs. For example, Somers and Nelson (2001), Akkerman and van Helden (2002), Eid et al. (2002) Hartman and Ashrafi (2002), Sila and Ebrahimpour (2003) and earlier Teo and Ang (1999), all draw on and use the same literature to find CSFs. Following the identification of CSF using the literature, surveys are constructed which ask participants to rank and re-rank what other researchers have already found. This appears to be tautological and there is little opportunity or potential to find alternative CSFs. It is self supporting and self referential. Since Rockart's (1979) introduction of the CSF method into use with in information systems there has been little apparent innovation in the methods used.

3. Customer Relationship Management

CRM systems emerged in the mid-to-late 1990's (Romano and Fjermestad, 2002). CRM understands the relationship between the organisations and its customers (Pine and Peppers 1995) to facilitate the inclusion of the customer as part of the organisation (Rigby et al., 2002) and is one of the core planks of CRM. CRM is also about technology and software, key components that are integral to CRM (Korner and Zimmermann 2000; Fjermestad and Romano 2003) especially the integration with enterprise resource planning (ERP). It is wrong to think CRM is simply about technology or software it is also about process and organisational change (Fjermestad and Romano 2003; Rigby et al., 2002). CRM therefore becomes a strategy, philosophy (Coffey 2001; Buehrer and Mueller 2002) and vision dependent on organisational objectives (Fjermestad and Romano 2003).

Identifying the CSFs for CRM adoption is important and critical for business success. In 2003 it was estimated that the CRM market was worth \$US26 billion with the expectation for 2004 the CRM market would substantially increase in spending to a record \$US46 Billion (Patton, 2001). CRM, like Executive Information Systems (EIS) and Enterprise Resource Planning (ERP) systems, are multi-stage, multi-functional, multi-dimensional and multi-discipline information systems that are costly in terms of money, time and resources to implement. However, 70-80% of CRM adoption and implementation projects fail (Patton, 2001) a ratio known to be consistent with overall high IS adoption and implementation failure. This is obviously a major problem of IS implementation, with the resounding question - why is success so low?

4. Case Study

The University of the Southern Hemisphere (USH) is a higher education provider with several metropolitan and regional campuses. USH was an amalgamation of several higher education institutions, and included all the divergent interests, establishments, and IS systems each institution had in their own rights. The USH now supports well over 50,000 students with over 3,000 staff in a number of academic faculties and administrative departments, with the majority of administrative departments having some face-to-face student focus.

Table 1: Critical Success Factors in Adoption and/or Implementation of Information Systems in the Literature, adapted from Boon, Corbitt and Peszynski, 2004.

Critical success factor	Authors
Top management support	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Croteau and Li (2003); Havelka and Lee (2002); Sila and Ebrahimpour (2003); Wali et al. (2003); Wilson et al. (2002); Martin (1982); Yusof and Aspinwall (2000); Zhang et al. (2003); Averweg and Erwin (1999); Hartman and Ashrafi (2002); Teo and Ang (1999); Pollalis et al. (1993); Eid et al. (2002)
Clear goals and objectives	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Havelka and Lee (2002); Wilson et al. (2002); Bender et al. (2000); Martin (1982); Udo and Kick (1997); Averweg and Erwin (1999); Khandelwal and Ferguson (1999); Hartman and Ashrafi (2002); Teo and Ang (1999); Pollalis et al. (1993); Eid et al. (2002)
Business process reengineering (BPR)	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Sila and Ebrahimpour (2003); Wali et al. (2003); Bender, Cedeno, Cirone, Klaus, Leahey and Menyhert (2000); Yusof and Aspinwall (2000); Zhang et al. (2003); Averweg and Erwin (1999); Khandelwal and Ferguson (1999); Sneed and Brossler (2003); Allen et al. (2002); Pollalis et al. (1993)
Project management	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Havelka and Lee (2002); Sila and Ebrahimpour (2003); Wilson et al. (2002); Bender et al. (2000); Martin (1982); Zhang et al. (2003); Khandelwal and Ferguson (1999); Hartman and Ashrafi (2002); Teo and Ang (1999); Pollalis et al. (1993); Eid et al. (2002)
Information technology	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Croteau and Li (2003); Wilson et al. (2002); Bender et al. (2000); Yusof and Aspinwall (2000); Zhang et al. (2003); Khandelwal and Ferguson (1999); Allen et al. (2002); Hartman and Ashrafi (2002); Teo and Ang (1999); Pollalis et al. (1993); Eid et al. (2002)
Data, information and knowledge management	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Croteau and Li (2003); Sila and Ebrahimpour (2003); Wali et al. (2003); Bender et al. (2000); Martin (1982); Zhang et al. (2003); Averweg and Erwin (1999); Khandelwal and Ferguson (1999); Pollalis et al. (1993);
Outcomes	Sila and Ebrahimpour (2003); Wali et al. (2003); Bender et al. (2000); Yusof and Aspinwall (2000); Averweg and Erwin (1999); Khandelwal and Ferguson (1999); Sneed and Brossler (2003); Hartman and Ashrafi (2002); Pollalis et al. (1993); Eid et al. (2002)
Users	Havelka and Lee (2002); Sila and Ebrahimpour (2003); Wali et al. (2003); Wilson et al. (2002); Udo and Kick (1997); Zhang et al. (2003); Averweg and Erwin (1999); Khandelwal and Ferguson (1999); Sneed and Brossler (2003); Teo and Ang (1999); Pollalis et al. (1993)
Resources	Somers and Nelson (2001); Akkermans and van Helden (2002); Sila and Ebrahimpour (2003); Bender et al. (2000); Yusof and Aspinwall (2000); Udo and Kick (1997); Khandelwal and Ferguson (1999); Teo and Ang (1999); Pollalis et al. (1993); Eid et al. (2002)
Project team competence	Somers and Nelson (2001); Akkermans and van Helden (2002); Havelka and Lee (2002); Sila and Ebrahimpour (2003); Wali et al. (2003); Bender et al. (2000); Udo and Kick (1997); Zhang et al. (2003); Hartman and Ashrafi (2002)
Interdepartmental cooperation	Somers and Nelson (2001); Akkermans and van Helden (2002); Havelka and Lee (2002); Wali et al. (2003); Bender et al. (2000); Udo and Kick (1997); Teo and Ang (1999); Pollalis et al. (1993); Eid et al. (2002)
Management of expectations	Somers and Nelson (2001); Akkermans and van Helden (2002); Poon and Wagner (2001); Croteau and Li (2003); Wilson et al. (2002); Martin (1982); Udo and Kick (1997); Hartman and Ashrafi (2002)
Vendors	Somers and Nelson (2001); Akkermans and van Helden (2002); Sila and Ebrahimpour (2003); Yusof and Aspinwall (2000); Zhang et al. (2003); Allen et al. (2002); Pollalis et al. (1993)
Culture, social	Sila and Ebrahimpour (2003); Wali et al. (2003); Wilson et al. (2002); Yusof and Aspinwall (2000); Udo and Kick (1997); Zhang et al. (2003); Eid et al. (2002)
Training (education)	Somers and Nelson (2001); Akkermans and van Helden (2002); Sila and Ebrahimpour (2003); Yusof and Aspinwall (2000); Averweg and Erwin (1999); Eid et al. (2002)
IS managers, staff and department	Poon and Wagner (2001); Martin (1982); Khandelwal and Ferguson (1999); Teo and Ang (1999); Pollalis et al. (1993);
Interdepartmental communications	Somers and Nelson (2001); Akkermans and van Helden (2002); Wali et al. (2003)
Customers	Croteau and Li (2003); Wali et al. (2003)
Various	
	'minimal customization' Somers and Nelson (2001) & Akkermans and van Helden (2002); 'product and service design' Sila & Ebrahimpour (2003); 'delegation and empowerment' Wali et al (2003); 'design for flexibility' , 'rapid strategy/action loop' , 'ensure market orientation' , 'leverage models of best practice' , 'prototype new processes, not just IT' Wilson et al (2002); 'information dissemination' , 'co-location' , 'filing' , 'recording' , 'prototyping' ; 'data centre reduction' , 'distributed IS' Udo & Kick (1997); 'IT for competitive of significant advantage' , 'linkage with external organisations' Khandelwal & Ferguson (1999); 'controlling complexity' , 'covering costs' Sneed & Brossler (2003); 'service' , 'communication' , 'human resources' Rockart (1982); 'effective marketing of Web site' , 'security' , 'multi-language Web sites' , 'sales force role' Eid et al (2002); 'delivery of quality IS service' , 'Is service evolution' , 'good response time for system' , 'plan and design for labour saving' , 'MIS executive knowledge of IT impact of competitive position' , 'help improve political strength' , 'competitors perceptions of your IS' , extensive testing and prototyping' Pollalis et al (1993);

USH has a very well established, resilient and scaleable student management system (SMS), in addition to administration, finance and human resource systems (Corbitt et al., 2004). The SMS provides the foundation and benchmark for all other system development. Before any new system is developed and integrated it must firstly conform to the SMS rules for integration, data integrity and security. Currently there is a university wide push to have all student based services, such as: course selection; tutorial enrolment; course material delivery; course delivery; through to results, delivered on-line.

USH has a strong position in the Australian, South East Asia and sub-continent markets, as well attracting students from Southern Africa and South America. The current system of acquiring international students is labour intensive, with on-ground recruitment drives, responding to on-line enquiries by email, or use of agents. Information, materials and offers are forwarded via postal mail. Some of the initial enquiry details are entered on to a stand-alone, localised departmental contact management system. When the student finalises enrolment their details are re-keyed into the core university SMS data base, as the two systems are not integrated. Extending the student product lifecycle, via Alumni is non-existent, and offerings of future study options are almost non-existent.

Most universities have become reliant on the global student market, due to national political budget constraints and competitive global policies. In response to competition the USH international student department decided it needed to find a new way of converting international student enquiries to enrolments. This department strategy fits with the university-wide on-line strategy. Initial functional specifications were drawn up as early as 2001. However, it was not until early 2004 that the international student department was given approval to pursue a new CRM system as part of the university's strategic agenda. Towards the end of 2004, the IT department allocated a project manager and scoping analysis is to be undertaken in early 2005. Data was collected prior to the announcement of budget and allocation of a project manager, who was also interviewed, therefore the data reflects a level of apprehension about the project proceeding. This case study focuses on the pre-implementation stage of CRM and perceptions of success.

5. Research Methodology

The research involved interviewing the twelve key people involved in the USH CRM project, including those on the executive and key users, using semi-structured interview questions. After establishing the domain of the interview, the interviewees were then asked to state what they believed were the issues critical to the success of the project. A list of factors was generated during the interview, with an opportunity given to review and make additions to the details at the end. The interviewer refrained from suggesting CSFs, only asking for elaboration or clarification on obscure statements, as the research sought to have no influence from the literature or researcher bias. Twelve lists of CSFs were generated, with three distinct groups emerging: the executive (USH senior management); the operational (those in the main departments initiating the project); and externals (consultants, vendors; other project managers, other departments).

To determine the best method of analysis of data collected various proposed methods were discussed (Miles and Huberman, 1994; Kvale, 1996) including the use of computer-based quantitative analysis tool such as Nudist (Davis et al, 1997). It was decided to develop a unique coding and cataloguing method for data analysis (Miles and Huberman, 1997; Kvale, 1996). Bias inherent would be reduced by two factors: firstly, the context in which the data

was collected – the case study. Secondly, the size, with only twelve interviews it was determined it would be relatively easy enough to visualize trends and code the data. On this latter point, it was determined that twelve interviews were sufficient as the data started to show repetition (Kvale, 1996; Yin, 1993).

Coding and sorting CSFs proved a challenge, brought on by the multitude of descriptive terms used by each interviewee to list a CSF. Table 2a lists all the instances of the various derivatives of ‘inter-organisational commitment’ as mentioned by interviewees. Table 2b does the same for the CSF ‘scope’. The limitation of meaning of each CSF was the context of the case study. All instances of a CSF raised by interviewees were listed, then duplicates of a single CSF were removed. Repeating this process in concert with all twelve interviews proved difficult. However in attempting to do so, we discovered three distinct groups of CSFs in the case study.

Table 2a: example of CSF synthesis, derivatives of ‘inter-organisational commitment’

Interviewee #1: organisational commitment, organisational agreement
Interviewee #2: departmental support, organisational support
Interviewee #3: commitment of stakeholders
Interviewee #5: interdepartmental relationships
Interviewee #6: department involvement
Interviewee #8: department buy in
Interviewee #10: department collaboration
Interviewee #12: interdepartmental cooperation
‘Inter-organisational commitment’ variations: organisational commitment, agreement or support; department involvement, buy-in, collaboration; interdepartmental relationships, cooperation; stakeholders.

The second stage of developing a CSF list was to renew the coding process using the three identified groups: executive, operational or external. Table 3 is the result of repeating the process described in Tables 2a and 2b, showing the CSFs differences between executive, operational and external interviewees. At the time of writing this paper the CRM project had not entered implementation or adoption stages. Because the data was collected prior to any implementation or adoption of the CRM system the factors are perceptions of success.

Table 2b: example of CSF synthesis, derivatives of ‘scope’

Interviewee #1: Business perspective, scope, shared vision
Interviewee #2: Identification of specifications
Interviewee #3: Guidelines, policies, procedures; fit to corporate profile
Interviewee #4: Strategy
Interviewee #5: Analysis of problem
Interviewee #6: Documentation
Interviewee #8: Scoping, understanding the problem to solve, requirements, minimal overlap
Interviewee #9: Business process understanding, scope, set of objectives
Interviewee #10: Business requirement, Scope
Interviewee #11: Common scope, common view/awareness
Interviewee #12: Business case, clear understanding of want/need, specifications, fit
‘Scope’ variations: business perspective, case, process understanding, fit; scope; shared vision; specifications, guidelines, documentation; strategy; problem analysis; requirements.

As discussed earlier, we suspected that CSF research has become self referential with researchers using the same literature to derive a list of CSFs, then using questionnaire surveys to confirm what they have found. Lists of single word CSFs lose their richness and meaning as shown in Table 1. Where as, the depth of meaning of each CSF is shown in Table 2a and 2b. Table 3 demonstrates the richness of different perspectives. Table 3 ranks

by the number of instances each CSF as discussed by each group. For example, ‘system capability/design’ and ‘interdepartmental commitment’ had the same number of mentions, in various derivatives, by the operational interviewees. It highlights the importance of CSFs amongst the executive, operational and external groups with in a case study. Table 3 also highlights those CSFs of lesser importance, as well those of seemingly no importance to each group.

This leads to four observations:

- CSFs cannot be described simply;
- groups within organisations hold different perspectives on what are CSFs;
- the relationship and dependencies between CSFs are rarely explored in the literature; and,
- different CSFs are important to different groups. This is possibly most the significant finding.

The next section will address these four observations and highlight the differences with the literature.

Table 3. Critical Success Factors by groups with in USH, factors ranked according to instances discussed.

Executive group CSFs	Operational group CSFs	External group CSFs
Critical Success Factors listed and discussed - 2 or more instances.		
Measurable outcomes	System capability/design	Scope
Scope	Interdepartmental commitment	Measurable outcomes
Management of project	Measurable outcomes	Users
System capability/design	Scope	Interdepartmental commitment
Interdepartmental commitment	Users	Management of project
Leadership/Project champion	Integration	Leadership/Project champion
Budget	Post implementation	System capability/design
Users	Expectations	Post implementation
Integration	Training	Budget
Training	IT department involvement	Hardware platform/technology
Commitment	Budget	Change management
Software	Commitment	Privacy
	Risk management	
	Competition	
Critical success factors discussed in only one instance by only one interviewee in their group:		
Communications, risk management, vendor, development team, timing, management of students, culture, politics, resources	Leadership/project champion, management of project, development team, hardware platform/technology, timing, management of students, competition, culture, resources	Integration, software, communications, vendor, development team, timing, management of students, culture, politics, privacy.
Critical success factors not discussed by each group:		
Expectations, IT department involvement, Hardware platform/technology, change management, post implementation	Communications, change management, politics	Commitment, training, risk management, resources.

6. Findings

The first observation is that CSFs, such as ‘interdepartmental commitment’ in Table 2a or ‘Scope’ in Table 2b, could not be neatly described, by participants during the interviews, and later when sorted and categorised. Subtle nuances of meaning filter through in each instance of each CSF. For example, ‘interdepartmental commitment’ had a glossary of definitions like ‘buy in’, ‘involvement’, ‘collaboration’ and ‘cooperation’. Using this example, it can be argued that a CSF is made up of attributes, and these need to be addressed, or at the least considered, as part of an IS project adoption and implementation. The drive by CSF researchers to create a single definition of a CSF has served to reduce explanation with the resultant outcome of loss of meaning and understanding. For example, when describing

‘scope’, the executive discussed having: a clear business perspective; a strategy; a shared vision; and analysis of the problem. The operational group, when discussing scope were very articulate and referred back to their requirements documents. They knew what they had, needed to do and thus wanted, and were aware of the ultimate pressure their department faced, that is, getting results. Consistent across all the literature having ‘clear goals and objectives’ was identified to be, after ‘top management support’, a major critical success factor and included scope, goals, needs and time in its definition (Somers and Nelson, 2001). In broad terms ‘scope’ can be derived directly from the business need or purpose (Kelley and Loong, 2002) in specific terms it includes the breadth and complexity of a project (Shenhar et al., 2002) including having clear goals and objectives and determines what part of the project will receive the development efforts (Clark, 1989). We replace ‘clear goals and objectives’ and use the term ‘scope’ in this research, for we feel ‘scope’ is a more comprehensive description of an agglomerate of attributes. Scope includes the attribute having ‘clear goals and objectives’, in addition to having a better fit to the interpretation of the terms and definitions the interviewees used. At the USH ‘scope’ was first on each interviewee’s list as the most important CSF with the highest number of instances being mentioned. When asked to rank the CSFs interviewees had just given, ‘scope’ was persistently ranked number one.

The first observation presents a unique opportunity to explore deeper in to the differences between groups with in an organisation in future research. In summary, here we see that the executive have a broad overview perspective of the project so ‘scope’ is broad in definition, almost text book. Where as the operational group are particular, detailed and deliberate about the scope having articulated specific details in their specification documents. Each group identified the CSF but each was created with different attributes.

The second observation is that variations exist between perspectives about the CRM system held by different groups within the case study organisation. Table 3 shows differences in the CSF considered most significant and that this appears to depend upon their relationship to the CRM project. Table 3 ranks, in three columns, the CSF by groups, as well by the number of instances each was mentioned. This observation in particular governs how the CSFs during the analysis were coded and why having the three groups of CSFs persist as the best method to analysis this complex CRM project.

Externals, such as consultants, vendors and others have a critical a role in IS development as they are employed for their expertise. External interviewees also expressed many derivatives of ‘scope’, citing attributes such as: having a business case; understanding the problem; undertaking requirements gathering; having formal specifications; organisation perspective and strategic fit; as well, “having a clear understanding of want and need”. When asked to rank their list of CSFs, most externals did not hesitate and ranked ‘scope’ first.

‘Scope’ ranked highly in both the literature and all groups at the USH, however, ‘measurable outcomes’ is less favourably ranked in the literature as shown in Table 1. ‘Measurable outcomes’ has the second highest number of instances mentioned by interviewees in the USH as a CSF and was closely related to ‘scope’. There are three possible reasons for this close relationship. Firstly, the interviews were conducted while all parties were still determining the scope. Participants were entering the negotiating cycle of what outcomes are required and achievable. Therefore, once the project requirements have been scoped, these would evolve to become the ‘measurable outcomes’. Finally, this also suggests that the executive is highly tuned to seeking and achieving net benefit from any IS implementation. This is because of success previously achieved in IS implementation at the USH.

After 'scope' and 'measurable outcomes', 'system capability and design' and 'interdepartmental commitment' were the next two CSF identified as major CSF. The existing literature does not include a CSF 'systems capability and design' (refer to Table 3). Having worked on requirements specification documentation for over two years the operational staff were well aware of what they required and wanted, discussing in detail 'system capability and design' factors. The executive position was more of an overview; being aware the CRM system must do something and must have a capability of meeting future requirements. The executive group were keen to allow the other groups determine design and capability. On the other hand, the external group mentioned 'system capability and design' in only one instance. Here the divergent perspectives between different groups in this CRM project emerge. The prime focus in the literature on CSFs has been on either: senior executives of a specific organisation; or, a holistic view of a specific industry.

The findings show that the perspective of senior management is not the only view that should be taken into consideration. This is not surprising as CRM systems are very complex IS and IT systems requiring the integration of many components as well systems across the whole organisation. Therefore the perspectives and involvement of all stakeholders becomes critical. What the CRM system, or any complex IS and IT system, is designed to do is important, and users of any system are acutely aware of these factors. Therefore requiring a defined project scope becomes essential. This is the situation at the USH, where the existing international student management system is still in use, but is to be replaced by the new CRM system. The functional specifications that the International Department have developed help to reduce overall concerns about 'system capability and design' for it provides the users with a measure of scope. The operational group, representing the 'users' shared a common apprehension about those who are developing both the structure and front-end of the CRM system. Fearing the external group do not have a full understanding of what are both required and wanted. This made the relationship between 'system capability and design' and 'users' noticeable from the operational group perspective. The operational group tied 'system capability and design' closely to 'users', essentially themselves, as they were aware that the system needs to support them. The external group, although aware of 'users', ranked 'system capability and design' much lower. This might reflect a confidence in the proposed system. Overall, 'users' were rated third as a CSF for the USH CRM project.

The literature does reveal some identification of 'users' as a factor, however, the instances of 'users' as a CSF is relatively low. Understanding these attributes of CSFs helps to develop a more detailed understanding of what drives success. Such an observation is less possible using the traditional CSF method as that focuses on creating one list of CSFs for a specific IS domain, as well persistent reuse of CSFs representing the perspective of senior management. Such an approach, it can be argued, has failed those who would stand to benefit the most from using the CSF method in order to achieve IS success, the users.

Another CSF typically rated lower down in importance as a CSF in the existing literature is 'interdepartmental commitment' (Boon et al., 2004). This was significant at USH (refer Table 3). The USH, formed through the amalgamation of several higher education institutions, acquired diverse groups, departments and systems, to be integrated on many levels. The development of a central student management system, accounting and human resource systems established a culture of cooperation amongst the administration departments and set the standard for any system integration. This heightened awareness amongst all interviewees, mainly by the operational group and to a lesser extent by the external group, of having a

requirement to involve, discuss with, and work with the central administration departments who dictate the conditions of any systems integration with the central SMS. The operational group, representing two of the main departments to use and benefit from any new CRM system, discussed 'interdepartmental commitment' in detail. They highlighted numerous attributes of this CSF as shown in Table 2a. The Executive were also acutely aware of the requirement to ensure that all departments cooperate. This identification of the importance of this CSF in this case study highlights that 'interdepartmental commitment' is necessary for this CRM project, and perhaps for many other projects which are multi-functional, multi-stage and multi-dimensional, to be successful.

Existing research is persistent in identifying 'top management support' as the key CSF (Boon et al., 2004), with 'project management' not far behind. The interviews revealed a lesser concern for a project champion overall. Again, the particular context and a finer grained analysis are called for. In this case, the project was already on the university's strategic agenda by the time interviews were conducted. Therefore, the appointment of a project champion seems to be less relevant once the politics has been dealt with, and the budget and commitment has been given by the executive. The executive and external groups gave more consideration to the CSF 'leadership/project champion', yet this CSF did not seem to be of importance to the operational group. One executive interviewee summed up the need for a project champion: "once the project has gone through the channels of the executive, it should be up to the department heads to ensure it progresses through the other stages. They should champion the project".

The third observation suggests that relationships and dependencies between CSFs are not demonstrated in the literature. Whilst the CSFs identified in this case study looked like they supported existing literature there are important subtle variations and relationships between factors. As well those factors undiscovered or overlooked by the CSF literature giving a new perspective on the application of CSF method and interpretation of factors identified. Table 1 demonstrates how a single list of CSFs is void of observable depth of understanding. They are void of CSF attributes or dependencies. This is especially so when CSFs are not viewed from multiple perspectives. For example, in an almost symbiotic relationship 'measurable outcomes' was tied to having a clear 'scope' by both the executive and operational groups. To give a quantitative perspective on how important 'scope' and 'measurable outcomes' dominate the CSF list they incurred 27 and 22 respectively of the 201 derivatives of all CSFs listed. The operational group were articulate in their design of 'measurable outcomes'. Their focus was on specifics, such as: conversion increase (enquires-to-enrolments); seamless enrolments; unit [student] tracking (from enquiry to alumni and beyond); as well having a number of general system performance and evaluation mechanisms. Where as, the executive group saw 'measurable outcomes' as: return-on-investment; tracking students and alumni; general evaluation mechanisms; and ultimately more students. The surprise was the externals, who made little mention of 'measurable outcomes', and when discussed these tended to be superfluous in the interview, mentioned only when asked to elaborate a point of discussion. Other relationships exist such as those between: 'users' and 'system capability and design', discussed earlier, where design is influenced by users and therefore the systems capability and usage. As well relationship exist between: 'interdepartmental commitment and 'system capability and design', reflective of the influence of other departments have in the integration of any new system with the existing SMS. This observation, requiring more investigation, highlighting that a single list of CSFs losses its richness of meaning.

Finally, it is those CSFs that were not discussed by individuals or groups, in Table 3, that offers another insight into the different perspectives of groups. As well many CSFs are only mentioned in one instance by one person. Having an understanding of what people and groups are not aware of, or not thinking, will help all parties to understand what CSFs are important to each other. This may be especially important for external participants as they are in many cases central in bringing a diverse CRM system together. For example, the executive group were not interested in the technology, hardware, or who is ultimately involved and the post implementation issues. 'Risk management' appeared to be of little significance to the executive. We suspect this was related to 'management of project' being the third significant CSF for the executive group. Once executives have put the IS project onto the organisation's strategic agenda they are not concerned with the details. This is delegated to other groups. This is where the perspectives of the operational and external groups of participants become important. The CSFs 'training' and 'risk management' rate as major concerns amongst the operational group, the key stakeholders and eventual users of the new CRM system. In stark contrast the external group did not mention 'training' or 'risk management'. This reflects some apprehension by the operational group, which was dominated by the future users of the system who were aware of the critical impact the new system on their work practises. This highlights their level of awareness of processes and systems. Whereas the external group focusing on 'scope' might indicate here they are less aware of intrinsic risks the operational group are apprehensive about, their emphasis was on how much should be done. It is the level of detail of CSF attributes that such an understanding emerges.

The members of the operational group do not see 'change management' as CSFs, yet 'change management' is considered by the external group. Does this then reflect a higher degree of concern about the future by the external group, where as the operational group are not phased by change? Or does the perspectives on 'training' and 'risk management' by the operational group, and 'change management' by the externals, give a clue to the differences in language and understanding between distinct groups, and on further investigation these three CSFs are the same thing, however from different pools of perspectives? Therefore, it is apparent that the operational and external groups needed to find more synchronization with, or understanding of, each other's position. The focus in the existing literature is not on seeking this differentiation. This then weakens CSF method application at understanding IS projects in detail. This fourth observation highlights the key difference this research brings and suggests further research is required to seek out the differences.

7. Conclusion

In observing the difference between executive, operation and external groups and the CSFs they discuss and rank, highlights the differentiation in providing answers to the research question 'what are the CSFs for CRM [IS] success?'. There are divergent perspectives on CSFs between the groups. There are also differences at the level of the attributes of the CSF. Each group differentiates importance and that differentiation appears to be related to the differences in the way they define and create a success measure. These attributes related to the relationships of the group to the systems itself and appears to influence their perception of the actual CSF and its relative importance. This suggests that researchers need to question the general applicability of CSF research over the last 27 years, and why researchers have strived to show CSFs as a single master list derived simply from one source. The observations of the difference in CSFs between groups lays the foundation for future research to try and understand why these difference exist, and if a bridge or mechanism will allow for better understanding between participants in IS development. This paper, and the research behind it,

goes some way in achieving this by identifying some of the issues with the previous use of Rockart's (1979) CSF method. There also is scope to undertake longitudinal studies to observe the evolution of CSFs through the life of a IS project to understand if success can be determined early in a project life cycle.

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