The Role of Stakeholder Understanding in Aligning IT with Business Objectives

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ABSTRACT

This article reports a study of senior management experience and their opinions on the issues of effective stakeholder communication and the evolving understanding between business and IT. In particular, we explore the impact of modern business context and practices, the issues of trust, nomenclature and the main barriers to the mutual stakeholder understanding. We find that a lack of communication and a lack of understanding between stakeholders impacts negatively on good alignment as manifested by scope creep, the desire to outsource and a lack of trust.

"In order to be able to ask [a question], one must want to know, which involves knowing that one does not know." [1]

I. INTRODUCTION

In March 1991, the Software Engineering Institute (SEI) hosted the Requirements Engineering and Analysis Workshop in Pittsburgh, Pennsylvania [2]. The workshop's main objective was to explore and discuss issues concerning effective development of requirements for mission-critical systems. At the time, workshop participants were not surprised to find stakeholder communication to be a major problem in requirements engineering and in particular requirements elicitation - as stated quite unequivocally in the workshop report, *"communication is a major source of difficulty because elicitation is primarily a process of communication by its nature"* [2, p 2]. What was surprising to many, however, was the extent of communication problems leading to impaired understanding between project stakeholders and the degree of difficulty in removing the barriers to more effective communication practices. It was noted that unless properly dealt with communication deficiencies could result in a serious loss of software product quality right at the very beginning of its development cycle due to requirements omission, misinterpretation, over-specification or under-specification. Inadequate communication was also claimed to further propagate system flaws during the subsequent maintenance and the associated requirements evolution. In fact, a year later SEI researchers, Christel and Kang [3], reported some frightening statistics on the system error rates, reaching 56% and using up to 82% of the available staff time, due to poor communication and a considerable divide in understanding between users and requirements analysts. While recognising the seriousness of this situation, the organisers of the Requirements Engineering and Analysis Workshop issued a number of recommendations for improving the communication processes in requirements engineering [2, p 3 and 35-36], i.e.

> *"Improve communication by fostering contact between all stakeholders and removing management constraints. This can be achieved by educating managers and removing contractual, legal, and financial barriers between communicating groups, including modifications to the acquisition process."*

Fifteen years later, we can witness the ever-present awareness of communication issues in requirements elicitation. This awareness is clearly visible in organisational readiness to adopt stakeholder-oriented and participative system development methods, such as socio-technical design methods [4] and user-centred

development [5]. This awareness is quite transparent in developing quality standards, such as CMM, which recognise the importance of effective requirements elicitation in software projects and thus strive to improving approaches to stakeholder communication and collaboration with a view to create organisation's shared vision and promoting team's integrative behaviour [6, p 65]. This awareness should also positively impact management exploits in better aligning IT solutions with stakeholder and business objectives - the new and enlarged scope of requirements engineering effort [7, 8]. It should, but has it?

In fact, this very last point created unease in our initially informal discussions with some of our senior management colleagues, who struggle daily in their attempts to align the goals of their IT departments with the core of their business, to align IT infrastructures with business processes, and to align information system requirements with business needs. The obvious discrepancy between our intuition, as based on the promise of participative information systems development and improved stakeholder communication, with the hard facts of the currently adopted IT and business practice motivated our industry-wide inquiry into the impact of real gaps in IT and business stakeholders' communication and their mutual understanding.

In our pursuits of insights on the impact of stakeholder communication on alignment [9], we have taken a commonly accepted view of alignment as related to the business scope, being a collection of key business descriptors [10, p 143-151], i.e.

- Vision and its guiding theme;
- Mission or a high-level business objective;
- Values;
- Customer / markets;
- Products / services;
- Geography and the business location;
- Strategic intent as given by the long-term objectives;
- Driving force being the primary business determinant; and,
- Sustainable strategic advantage.

In this context, *alignment* can be viewed as the process of ensuring that business is in the state of strategic fit, i.e. all business functions operate in harmony with each other to support business scope via effective :-

- Coordination;
- Perseverance; and,
- Significant concentration of effort towards business objectives.

In terms of business / IT relationship, Ward and Peppard [11, p 45] offer a demand / supply model of alignment (see Figure 1), which emphasises strategic and functional fit of business and IT domains within a single organisation. In this model, the pursuit of successful alignment of IT with the business, relies on coordinated effort in gathering requirements to establish both business demand and the technological supply, and on the ability of all parties involved to effectively communicate the business mission and objectives, organisational values and culture, information about customers and products, the primary business circumstances and the driving forces to accomplish organisational strategic advantage.

Nevertheless, as noted by Dale [12], requirements definition processes are not straightforward and are often clouded by tensions between business stakeholders and the IT group. These tensions commonly create an "emotive complexity" making it difficult to manage stakeholder expectations, and thus colouring and politicising requirements determination process, and turning stakeholder communication into impassioned negotiations and consensus making [13].

This article therefore undertakes an in-depth exploration of executives' experience and their opinions on the issues of effective stakeholder communication and the evolving understanding between business and IT and how that impacts on alignment.

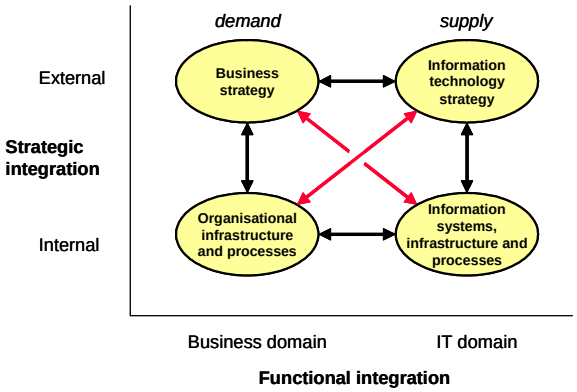

Figure 1: Business / IT Alignment Model

II. RESEARCH METHOD

The researchers conducted two focus groups [14] of senior business executives to talk about issues surrounding the alignment of business and Information Systems. The two focus groups involved a total of 16 participants.

Given the nature of the issues under discussion, the participants played quite distinct roles in their organisations, e.g. those of Chief Executive Officers (CEOs), Chief Information Officers (CIOs) and Chief Financial Officers (CFOs), project managers, senior managers and senior consultants.

The mix of organisational positions, responsibilities, tasks and views benefited the group dynamics and stimulated discussions. The focus group members represented a variety of substantial and long-standing companies in Australia, of which activities were ranging from software development and management consulting, through health care, banking and finance, to logistics and business intelligence.

The dynamics between different industry groups and the IT and non-IT executives was exceptional which is reflected in the richness of the collected data.

The initial questions that were put to both groups were about the alignment between business (problem area) and IT (solution area). The participants were asked to consider a number of propositions (such as the impact of alignment on project success) and to discuss these and to add their own experiences and knowledge (such as the impact of alignment on requirements quality) into what factors influenced this alignment. The follow up interviews, of about 90 minutes each, were then conducted with the focus groups participants to further elaborate their views and opinions.

The researchers videotaped the focus group sessions and audio-taped the interviews, which resulted in hours of video and audio streams that were later transcribed and analysed. As both focus group discussions evolved into heated debate, the videotapes captured some invaluable details of participants' interactions that is missing from the respective paper transcripts. Not only were the body language, repartee and “robust” arguments in clear evidence, but the actual way that the group dynamics drove the discussions also emerged. From the viewpoint of critical hermeneutics, the socio-political nature of the responses was quite pronounced, perhaps stimulated by the group dynamics.

It should be noted that in interpretive studies, such as hermeneutics, interviewed participants are treated on equal footing with the investigators and considered co-researchers.

The resulting transcripts of the focus groups and the interviews were the data from which the analyses were done. Given that the data is in an unstructured textual format, it was felt that a hermeneutic analysis was the most appropriate method.

All transcripts were analysed using the Ricoeur's principles of critical hermeneutics [15] to drill down through the data creating derivative documents.

Harvey and Myers [16, p20] quote Paul Ricoeur:

> *“In critical hermeneutics the interpreter constructs the context as another form of text, which can then, of itself, be critically analysed so that the meaning construction can be understood as an interpretive act. In this way, the hermeneutic interpreter is simply creating another text on a text, and this recursive creation is potentially infinite. Every meaning is constructed, even through the very constructive act of seeking to deconstruct, and the process whereby that textual interpretation occurs must be self critically reflected upon.” [15]*

The very act of creating this derivative document forces the researcher to engage with the data, sorting and categorizing it artificially [1], engaging with all the components of the knowledge fragments and building them into new understanding. Critical hermeneutics, as previously adapted by Lukaitis and Cybulski to analyse some well-known case studies [17], can be shown to be of great value to identify clear cut categories and topics, and the resulting derivative documents subsequently allow quick ranking of the factors impacting some of the issues under consideration.

The adopted method [17] relies on the set of iterations - also known as hermeneutic cycles or circles - to gather small pieces of knowledge, often out of context, and reconcile these smaller pieces with the gathering horizon of understanding of the whole phenomenon. As each small piece (a morsel of knowledge) is reconciled with the whole (an understanding of a domain), the whole then becomes the horizon that contains all the knowledge. This gathering understanding of the domain under investigation

then causes the existing smaller individual parts to be re-evaluated and possibly their new meanings re-integrated again into the new understanding [18, 19].

Through the hermeneutic cycle, researchers can commonly observe an oscillation between individual fragments of knowledge and the understanding of the whole of a domain. One can tell when understanding has been reached because all the data and observed phenomena are consistent, no longer appear strange and simply make sense [20]. It is often described as data saturation, when any new data neither adds to, nor detracts from the understanding developed.

That hermeneutics can be an asset in an interpretive research, such as this study of contradictory and seemingly irreconcilable views of domain practitioners, is especially evident when dialectics [21, p1197] is deployed to thoroughly investigate the "truth" or otherwise of our growing understandings of a domain under investigation. Dialectics can be understood as the search for knowledge and understanding without applying judgmental attitudes. In other words, we seek all the arguments and issues involved, irrespective of whether they are for or against the proposition under investigation. And if we find too many arguments in favour of a given position, then under the rules of dialectic, we are obliged to seek out as many arguments against the proposition.

Hermeneutics further acknowledges that the distance between the investigator and the subject can be great. Kidder states *"… what is clear and obvious to one in reading a text is likely to be a function of one's own cultural orientation and one's own prejudices rather than the function of some given accessibility of the text"* [21, p1194]. This "distance" then, can be equally ascribed to that existing between the business executive and the requirements engineer during the elicitation process, or even after requirements documents have been transcribed and are under investigation or reconciliation.

III. DISCUSSION

If one assumes that the overarching goal of requirements engineering (RE) is the ultimate delivery of information systems that are aligned with an organisation's business, then every link in the RE process is critical to this successful delivery. As succinctly summarised by Bleistein and colleagues [22, p14]:

> *"For the requirements engineer, this means that the tools and techniques must integrate means of capturing systems requirements such that they are in alignment with the highest-level of business objectives in order to ensure success".*

Bleistein et al. went on to further elaborate their SOARE approach to strategy-oriented alignment, which could potentially resolve some of the most intricate alignment problems by enlisting patterns of domain best business practice [22, p20] :-

> *"… understanding of the business model can mean knowing a large number of system requirements in advance of stakeholder interviews while also having confidence in the quality and appropriateness of those requirements thanks to cumulative industry experience".*

Such patterns therefore represent shared and reusable domain "experience" [23, 24], which could effectively be deployed to close many types of commonly encountered business / IT alignment gaps.

The main areas of such gaps strongly emerged from our first focus group, which identified eleven principle issues that bore on the successful alignment of IT with the business. These issues included management inability to estimate projects and return on investment, problems with acceptance testing, project and risk management, trust, scope creep, resistance and change management, aspects of project and product ownership, vendors and business integration, and finally, the issue which was discussed most vigorously - the effectiveness of stakeholder communication and mutual understanding.

Not surprising, stakeholder communication and understanding by Executives bodies to be the Achilles heel of the requirements engineering process and as such the main thorn in the business / IT alignment - this observation closely paralleled the findings by Reich and Benbasat [25]. Even with some of the benefits of the SOARE framework and its methods, well before business / IT alignment could be forged, before the patterns of best practice could be incorporated as part of the organisation's strategy, and before shared requirements could be reused, it is the stakeholder communication that negatively influences the effectiveness of requirements interviews, negotiations and meetings, and which defines the quality of interaction between the project initiator,

management, requirements engineer and the end users.

The stakeholder problems are further confounded, as Gadamer [1, p387] resolutely states, not only by the communication media, such as language, but also - and more importantly - by the communication subject matter and its understanding. Recent studies [13] suggest that understanding gaps between requirements engineers and business can be quite pronounced, and the resulting tensions between the stakeholder communities could in fact lead to organisational or inter-organisational conflict [23].

As was repeated in both focus groups and overwhelmingly reiterated in our interviews, the primary issue mitigating against good alignment was indeed "understanding", stemming from poor stakeholder communications. Interestingly, the recurring theme of this lack of understanding was being attributed as the fault of both the business executives and also the IT group. We will illustrate these issues with some of the collected data.

In the hermeneutic-dialectic tradition [20] we will make our co-researchers' participation in the dialectics clearly visible, and thus we will let them speak for us in the following sections.

It seems that, in general as clearly felt by some of our participants, IT people feel a frustration that the business people appear not to have a sufficiently detailed grasp of their requirements (note that the initials in brackets indicate the participant's code).

[BS] That is the senior managers don't understand their business processes down to a level of granularity and detail that they need to, to make wise decisions about which part of this process can be changed this way and that way with the technologies. That's my view. And the ownership and responsibility moved out of the technology camp into the business camp.

[BS] Of actually having a, what we called systems analysis and design – those disciplines being learnt by the business folk and going through the process mapping. And, the business folk don't understand the detail we need it necessarily. Particularly at the senior management level who are trying to make a strategic decision.

This frustration seems to get quite heated. What becomes evident is that the IT side of the understanding chasm suspects that there is some detail, some deeper understanding of the business that they are unaware of, yet need to know to enable a system to operate correctly.

[WD] But when it comes down to the alignment to the business there's two parties. There is IT and there is the business. And I think both are at fault at this. But it's totally different trying to expect that the business sponsors that we deal with are going to have an adequate understanding of IT. So if those business leaders don't understand that one concept, that it is their business, they will not survive two hours in the marketplace without that system running. I think that is the biggest initiative we can push across them.

[WD] And I think that probably we are forced, have to go back to business to push back and say "if you don't understand it, you'll have to understand it, otherwise it will fail".

The IT participants alluded to their belief that business executives needed to better understand the technology and how it can be better used. But it is not all about just a simple appreciation of how technology plays a part in a successful business, there is also the understanding of the business itself.

During the first focus group the dynamics between the business participants and the IT participants was quite interesting when one IT executive suggested that both sides of the understanding equation were at fault.

[BS] You need to understand what you are trying to achieve in the business model and business model changes. What does that mean to my processes and how can I get a grip on them? That debate is not uniformly high level I have to say on both the technical side and on the business management side [smiling broadly].

The response from the banker appeared to recognise the need for a better understanding between the different parties, even acknowledging that different parts of businesses are also quite unique…

[PC] Is that businesses are all different and bits of businesses are different. This is basically interpersonal stuff [interjections of agreement from CF], it's about relationship building and about being able to understand who it is you are trying deal with and how you need to operate in respect to that particular piece of culture that you are operating with. Which touches on what Bob [point towards BJ] talked about earlier on. And the other thing, my third and final one just carries;

... your point forward a little bit further is that there really needs to be a level of understanding and consideration for the position of the other person in the process. And what do I know about what I am talking about. And I'm not the expert, I need your help. That's why I am seeking to engage with you in this process to get to the end. And as a broken down old salesman, the concept of mutual gain has to permeate right through the whole process. There's got to be mutual gain [mumbles of agreement all round].

And the sharing of knowledge now needed between business and IT because of increased complexity…

[BS] *I mean the point I was getting to in a lot of this, is I see the responsibility of understanding of information flows and modelling information flows in an organisation which is sort of what we're all about, and making it concrete in technology. Realising it in technology. The understanding of that has moved from the purely IT end of the spectrum and has now been picked up the systems and process understanding is becoming required on the business side, for businesses to actually understand their own business models, their own information flows. Because we have much more complicated businesses, interactions.*

Doing business in China, marketing into Europe and North America is not something that is done by a couple of people with a couple of good ideas There's all of that happening, but you've got the information flows [which] are now global. And tracking the economics and logistics and all the rest of it is reasonably demanding. It's a much more complex problem. What I'm getting at is we're only part way through the process and business people are picking up on that [interrupt CF "Totally agree"].

Nevertheless, senior executives from business appear to be quite concerned that IT seems to be unable to understand what is needed unless it is spelt out in some considerable detail. This theme where the business appears to be almost "putting up with" IT's inability to understand the detail of the business requirements keeps emerging throughout these encounters. This seems at odds with the claims of the IT people that business "doesn't understand enough of IT to be able to help".

It would seem that "understanding" simply does not exist between the two camps.

[MD] *What we, what we find I guess is that whenever we request anything we actually have to go into a lot of detail to actually tell them exactly what we want it to do, and you know what options we want; what parameters it needs to be based on; what the desired outcome is. Otherwise, they'll go away and come up with this is what the software can do and just say that's it – take it or leave it. So you have to go into a lot of detail to actually explain to them exactly what the need is; why it's required; what the software, what we'd like the software to do and what the outcome is, that it's needed*

This seems to be confirmed from the IT camp by a throw-away remark made during a follow-up interview…

[PR] *…and maybe really our problem is in requirements. Well their problem probably is in requirements and that's where most people have their most largest [expletive deleted]-ups.*

Once the data from the follow-up interviews and the second focus group are woven into the hermeneutic cycles, the key findings begin to emerge.

It is useful to remember that because of the nature of this qualitative research the amount of data coming in to the analysis is considerable. There are an enormous number of issues emerging. It is quite beyond the scope of this paper to go into any degree of detail about the "richness" of the collected data.

Interestingly, all of the problems with stakeholder communication were vigorously debated in 1980s and 1990s [26], and the communication break-downs were noted on the level of analyst / user interaction. However, now these issues re-emerge with even stronger emphasis and even wider-ranging impact on the level of executive communication.

IV. KEY FINDINGS

When hermeneutically dissecting the issues surrounding the impact of "understanding" on the overall alignment problem, a number of interesting findings emerge (See figure 2).

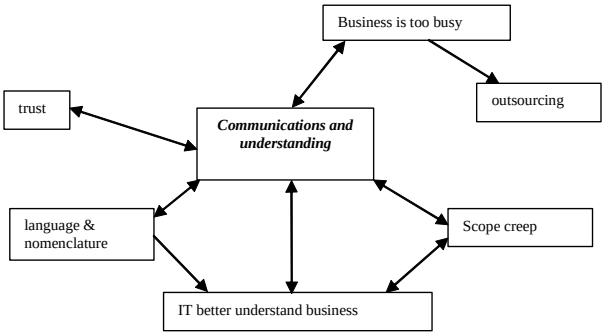

Figure 2: Emerging Issues Impacting on Communications and Understanding, and Consequently Alignment

Looking at good communications and understanding as being the overall goal (Figure 2), the departures from the ideal appear to be either from a simple lack on interest by the business – "Business is too busy", through to IT not having a sufficient grasp of what their businesses are about.

Thus where the business people show a lack of interest in IT, there appears to be a relationship with their desire to outsource some or all of the IT function. Similarly, where IT shows a lack of understanding and communicative ability, then scope creep emerges as well as a lack of shared language.

Trust seems to either act as a lubricant for communications and understanding between the business and IT, or as a resistor or abrasive between the two.

A. Business is too busy

Throughout the discussion so far, it has been repeatedly raised that the responsibility for ensuring that communications has occurred effectively rests with IT, not business. Business is too busy to learn enough about IT to be able to talk with IT people on IT matters.

[CF] *I think the first level is that there is just generally conceded by business people that are non-technologists that it's a level of technical understanding that they can't have and don't want to have.*

One CIO remarked that business is now engaging at such a complex level that there is great difficulty just understanding the processes that go on, and in engaging the right people at the right time.

[BS] *That's where we got to on that project I described as business led with a [expletive deleted] you just have to do this and this and so here's a prototype. Yeah that's ok but you just need this bit and you know it looks pretty good and then we involve more people from the business and they said oh [expletive deleted] no you've got to do all this other stuff. Then we got through that then somebody else came in from the business and said no! Over here we've got 19 different services that we offer and they are all tracked with different rates – and it just explodes. That was really badly done. That's an example of not involving knowledgeable people across the businesses at the right stages and finding out as you went. And that prototype builds took over a year while we were battling synchronising databases, foreign databases and those sorts of things.*

And in some cases the business went one of two ways. Either they started to disengage with IT and simply said "this is what we want just go and do it", or they wanted to get dangerously involved.

[CP] *… some of the people in the business side they sort of say, I don't care how you do I just want you to do this, you go away and you work it out cause that's why I'm paying you lots of money or whatever.*

It's one of those things, is it really the IT's responsibility to understand it or it is, are we going to be asked in the business people to become IT literate, literate to a point where they're coming up with a solution for you?

The problem with that is when they do do that is because they don't a lot of times understand the IT side of things, they are creating the Ben Hur's of the world.

B. Outsourcing

The outsourcing issue emerged quite strongly as a response to the "I don't care how it is done, so long as it is done and done cheaply" attitude. It

seems that some businesses have become so disenchanted with their own IT people and the difficulties associated with them that they become disenfranchised.

In extreme cases, some companies determined that IT was not their core business and opted for outsourcing as a way of divesting expensive energy away from the business to an outside body. They did not want to know about IT, they did not care about IT, all they wanted was for it to be done.

[CP] …you get it from a different perspective when they have outsourced, because when they outsource, that's why they outsource in the first place - a lot of the companies is because they just don't want to know [about their IT]. They don't really care, they just want it done. IT is seen as one of the most expensive things out there that is costing, that the company is wasting their money on. IT is very expensive in comparison to the rest of the organisation out there.

[A-IH] As long as it works I don't care.

[A-IH] It just doesn't matter?

[A-IH] It doesn't matter. It doesn't matter where it comes from.

In the repartee that surrounded the focus groups and the subsequent follow-up interviews, an interesting contradiction appeared. On the one hand we have some pretty large (say) finance/banking organisations happily outsourcing extremely large components of their core IT business to external providers, and on the other hand, we find a company in the same industry space stating what looks like the opposite. They are saying that IT is their core business.

[CF] They've, that has been an ongoing… and that's one of the things that sort of fires me up and engages me is that in financial services particularly, it seems particularly that the product is the system – the system is the product. You know there's a piece of plastic at the end but the product and the way it's run, charged, fees, all that kind of stuff sits in the system. And for a long time it was considered throw it over the wall – it's an IT problem.

The outsourcers, on the other hand, often take in some of the IT people directly from that business and use them and maybe their infrastructure as part of the outsourcing arrangements. That way, the existing business knowledge (i.e. understanding) or intellectual capital is not entirely lost.

[CP] ...the organisation has agreed with that because a lot of organisations actually say we will outsource but only if you employ 80% of our staff or 30% or whatever it may be.

The outsourcers then found that after numerous acquisitions of IT staff from companies who elected to outsource that they were slowly acquiring individuals with expert domain knowledge in various industry groups.

C. Scope creep

Scope creep can be attributed to being a symptom of poor communication and understanding. However, in the discussions with our co-researchers scope creep has been found to be perceived in two ways. Either in a pejorative sense where additional functionality is being added to a project potentially jeopardizing its success, or as a way of both parties (IT and business) better understanding each other's needs and capacities.

It is curious that throughout the investigation that it was not possible to find agreement about this issue. On one hand we had the example of an IT consultant being quite intolerant of scope creep…

[WD] I think scope creep is initially an IT stuff up. I'm working on the basis that people, IT people, have done what their doing before, so the scope is the first part of the project and you need to identify what it is from there.

Then once the pejorative sense of the term was discarded two quite distinct understandings of scope creep began to emerge. The first came exclusively from the business end of the group.

They acknowledged that the world is a changing place and the flexibility had to be considered because of changing circumstances. The best argument offered was about a long-term project that was well underway when the Australian Government announced the creation of a Goods and Services Tax (GST). That particular project had an instant scope creep – the addition of an allowance for the GST. It was simply not negotiable.

[A - IH] The world's ever changing so if you think you've got an agreed scope on day one, depending on how long the project is, by day ninety the world may well have changed and that also will, well could be scope creep. It could be got to do something different, good flexibility. It could just mean you've got to be flexible.

Because of the cognitive and experiential distance between the business and IT it often took some time for understanding to flow freely between the two. Scope creep was thus seen as a resolution of understanding rather than an extension of functionality.

[A - IH] I'd call it clarification if it was there in the first place.

[Q - IH] They've misunderstood?

[A - IH] Misunderstood, yeah.

It was interesting to observe that these comments were more often than not made by the business based individuals rather than the IT people in the group of participants. The IT people were "less forgiving" about scope creep.

[PR] This is really nobody's fault in some ways. I mean it is of course somebody's fault, but this can happen and the fact is that this means you do have scope creep. I mean what has happened is we had an imperfect understanding.

Traditionally, scope creep is managed as part of the overall project management charter (whichever one you follow). It is treated as an aberration and as a threat to the overall health of a project. One individual described it succinctly…

[AP] That's why I define scope in these terms. You manage scope creep by ensuring that any changes in any of those parameters including the dollars spent are treated as a scope change and goes to steering committee for resolution where it gets [expletive deleted]. Scope creep occurs because of uncertainty, because at the start you don't have a detailed analysis of all the business areas. As you go into that detailed analysis of course people will come with thoughts and say we meant to do this or we didn't understand that it didn't include this or why don't we do that. There is a lot of that sort of discussion before you finalise your requirements.

And again we notice the familiar term of "understanding" creeping into the discussions. This lack of understanding having a rippling effect right down through the course of the project.

D. Trust

Trust suffers as a consequence of reduced communication and understanding. It was raised as an issue in that business did not trust IT for a variety of reasons. Among the issues preventing this trust was IT's inability to correctly estimate its figures and timelines.

[PR] When you have a total discrepancy between an ability to forecast what costs are going to be for these things and what they are not going to be, then you can't get any kind of business alignment. Because business doesn't trust IT. IT's numbers are wrong and IT's numbers are continuously and perennially wrong. And so therefore even very good projects, very good projects can be canned because their initial forecasts are wrong.

Sometimes IT have a habit of purposefully inflating their estimates of costs and that might impact the degree of trust that business has in them. However, one of the CFO participants felt this was not specifically an IT trick and that most budget submissions had a degree of "fat" in them.

[IH] I mean you always get the people who over-estimate the costs of things and they do it a couple of times and then you automatically compensate for it. You know if they say well this is going to cost a hundred grand, you'd know that whenever they say a hundred grand it really means fifty because they've got a buffer up their sleeve.

[Q - IH]: So this is just something you expect?

[A - IH]: Yeah. And they're no different to anyone else. Everyone would put in a budget higher than they need to make sure they can deliver.

Emotion plays a part in trust as well. The business has an need that is often coloured with an emotional response and it is IT's responsibility to turn that around using a suitable methodology. Achieving this has shown to be extremely beneficial in engendering trust between business and IT.

[CF] And we've also, we've found the most use of building trust is where people come with an emotional response and you're able to turn it around using a methodology.

And my favourite is this failure modes effects analysis where people come and say I'm scared about; I'm nervous about.

And the best way to build trust at that point is to say I want you to articulate that to me and I want to put it into this process so we can work out why you're afraid, and again it's leading people to this level of simplicity.

Another unfortunate effect of the loss of trust is that the IT group can lose their independence and self determination.

[IH]: *I think there's a lot more scope to do things if there is trust. I think you very rapidly lose control if there's no trust. You typically get told specifically what to do and expect it do exactly that and nothing else if there's no trust.*

E. Language and nomenclature

In an effort to improve the chances of better communications occurring between business and IT, one organisation renamed the traditional IT roles into titles that reflected better the individuals' relationship with the business units. Names such as "architects" were used in preference to business analysts or systems analysts.

[CP] *We have that a lot with, I've seen it a lot with the architectural space as well because they may have not been called architects, they may have been called business analysts or project managers in their own business but really that's what they were doing. They were creating requirements documents. They may not call it a requirements document but that's what they were doing. They were identifying what was the business need and putting together some form of proposal, solution, this is my options paper or whatever you want to call it. It is difficult. What happens though is that sometimes having them being moved into different parts of the organisation helps.*

In some cases, these roles were carried out by non-IT trained people because of their expertise in the business. This was the case in recent core banking application's project.

[BJ] *So we had so that all the departments, there were about eight departments – loans, credit control, finance, the whole lot, that all had to put their expert on the team, and we did that. But what we found, and the whole idea of having these departments involved for twelve to eighteen months was that they had the expertise in the areas.*

So that when we had builds or upgrades they could do it.

F. Better IT understanding of the business

Several of the participating businesses actually placed their IT staff into the target business units for several months so that they could learn about the business. The experience of working with the business gave the IT people insight into the local issues.

[CP] *What happens is, it's really being able to put in those people in place that are able to see the business side of things and also able to have IT knowledge.*

That goes back to employing the right people I guess at times and also being able to put in, those people have to have the two areas of knowledge to be able to, that's why when you really see in the insource environment that the IT department is really successful is when they have their IT people have a really good understanding of the business.

If I was to use some examples of companies I've worked for where they have had their own IT department, it has really been around the fact that a lot of their IT people and we have actually done that in some companies which is where you sort of say ok you're an IT person go and spend 3 months working with the business to understand what it is that the business really wants done and how do they really want to do it.

One company with a very low IT staff turnover noted that their IT staff were already distributed throughout the business and were very well versed in the needs and operations of the business [BS].

[BS] *It's a worry (talking about churn rate of IT staff), I mean we had 2 celebrations last month. One for a developer who has been with the company 35 years and one who has been with the company 20 years. Late last year we had one for somebody who has been 25 years. It's interesting, it's been an interesting journey but I deliberately go looking for people who, we have a number of them who are coming up to their 10th anniversary of senior IT developers who I hired 10 years ago looking for people who wanted to be around for 10 years. They were at that stage in their life and career who want stability, opportunity for growth.*

Once projects were underway, experts from the business units are brought into the project team to make it happen. All participants bemoaned the difficulties associated with getting the best people out of the business units into the project teams. One found that placing the business experts onto the IT Project payroll helped the affected business unit.

V. Conclusions

We have found that what has meant to have been a fairly straightforward stage in the requirement's engineering process for over twenty years, requirements elicitation is still fraught with difficulty and traps.

Understanding seems to be still the principal issue at stake here with continued uncertainty about stakeholders' ability to "be on the same page".

Understanding can be enhanced by ensuring that enough of the right business people are actively involved on the same level as the IT group in projects. It can also be helped by embedding IT people into the actual business units themselves, just so that they can get a better appreciation of the needs of that particular business unit.

Trust is intrinsically related to understanding and when one is high, then the other appears to follow.

If the business is sufficiently disenfranchised from their IT group there is a chance that the business might start seeing IT as not part of their core business and seek outsourcing as a way of cost containment and allowing them to focus on what they think is their core business. Business will often use terms such as "being too busy" or they "just want the job done". But this seems to happen only when the internal IT group are unable to deliver the IT that the business needs.

Scope creep has always been a problem that highlights a lack of understanding. This research has help focus on that issue by suggesting that there are several types of scope creep, ranging from the traditional additional functionality through to the clarification of understanding that we have found.

Surprisingly, business did not find scope creep to be the thorn that IT has perceived it.

Strict adherence to titles and roles has been blurred so that both domain experts and IT experts are all sharing roles and sharing the same table in an effort to enhance that alignment between business and IT.

The alignment between business and IT, nowadays considered in the scope of requirements engineering activities, was seen as occurring in small layers, similar to agile development.

[CP] Just when I was saying we were aligned in little layers I suppose where I am talking about this team of people, this is purely from my central point of view.

And the alignment was something that had to be maintained, nurtured. It is seen as happening at multiple levels in a project, involving varying numbers of people, and importantly, over a period of time.

[CP] Some of the issues are that one group of people go away, they talk, they understand by then a year's gone past and a whole group of new people have come in and the trust isn't there, the ownership isn't there and the relationships aren't there.

The understanding is not there.

Alignment is being seen as a dynamic state that is dependent on time, the relationships that exist between people, the success of communications and understanding, and the success of the business.

As observed by Luftman [27], more research, and in particular empirical study, should be devoted to the issues of strategic alignment of business and IT:

> *"While alignment is discussed extensively from a theoretical standpoint in the literature, there is scant empirical evidence regarding the appropriate route to take in aligning business and IT strategies."*

VI. Future Research

Because of the nature of qualitative research, more questions are posed than are answered. While we have identified some of the factors that impact on alignment, we have not tried to explain these behaviours. This is best left to a separate critical hermeneutic investigation using Habermas' [28, p173] theory of communicative action to explain these behaviours.

Several important issues appear to surface which could do with further investigation…

- In the communications between business and IT, what is the impact of IT practitioner experience on the effectiveness of these communications? Many companies often send in junior people to start the investigations and requirements gathering. Does this have a negative impact?
- Where a company elects to outsource their IT requirements, what is the impact of the loss of IT intellectual capital from that organisation?

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