6.1 Summary

The final chapter summarises the research and the empirical findings and in general discusses what was learned. In particular this chapter explores the research questions, the contribution to knowledge this thesis makes and what can be gained from this work for future research endeavours.

At the start of this research, the main concern was to see if the use of the engagement model could be useful in ill-defined 'complex' problem situations. The concern of the researcher was a pragmatic one, rooted in what Omerod (2006) calls 'the social context of action'. Therefore the term 'usefulness' gives away the theoretical orientation of this work as one that is interested in the practicability of knowledge and especially the meaningful relationship between the world of action and the world of ideas. Therefore the aim of this work was to see if the model could be developed as an aid to management practitioners as a way of understanding and framing ill-defined problems.

The term 'engagement' throughout the work was used to understand the process of frame shifting to see how key actors changed the way they 'engaged' or perceived problem situations, which in turn resulted in problem (dis)solving. Engagement, therefore, refers to the way we create meaning by attaching it to areas of our interest. How we engage with a problem will determine: how we define it, what solutions we are likely to generate from it, what actions we are likely to take and so on. In a messy problem situation, like in the Firm A case, there may be many conceptual frames interacting through the organisation that cause the way in which action is decided to be very difficult to comprehend. A changed conceptual frame of a problem changes the way the problem is perceived and therefore changes the likely solutions that will be generated. In turn, managers, when they change the frame they use to evaluate problems, can come to a better understanding of the problem situation and therefore create better 'solutions'.

In the IGC study, when the conceptual frame changed from focusing on revenue raising to enhancing the relationship with sponsors in a more direct manner, a solution was able to emerge. The new conceptual frame, albeit discovered through the unexpected results from an unfortunate incident, gave IGC a new way of 'seeing' the problem, and the previous tension they had was resolved. This changed frame acted as the generative mechanism (Bhaskar (1998)) for the way in which actions were taken. When the conceptual frame changed the action changed and so on.

In Firm A's case, changing the frame from that of the SAP engineering solution enabled a broader systemic focus of the 'system' and its parts and, in particular, it helped the managers to understand what information was needed. From this a solution began to emerge. This was after some consideration of other people's conceptual framing of the situation, and the local conceptualisation and interpretations of the area of concern. At the final point of leaving the case study, Firm A were left with the ultimate question of how to resolve tensions that were beyond the scope of the study. It was here that some of the major limitations with the approach became a bit more obvious.

One problem in particular was finding the ultimate owner of the problem who had the power to structure the business in such a way to (dis)solve the problem. Tucker et al. (2001) point out that local conceptualisations of workplaces occur because those that solve problems on a day-to-day basis very rarely have a chance to change the situation in which they work. Couple this with the fact that people who work operationally are rarely included (or perhaps even interested) in strategic decision making, and people make decisions and take action which can cause broader organisational implications. For this reason, this study is limited because there was no access to ministerial people who have the authority to provide the necessary changes.

Complexity theory suggests that often social systems create ways of growing that stem from other complex systems (Wheatley 2001). In the case of Firm A there is a reaction between complex elements that can be thought of as being 'hierarchical' thanks to the way in which the government structures the business. Any problem that is (dis)solved will be subject to further constraints which Ackoff (1978) calls 'uncontrollable variables'. In some cases, like Firm A for example, a problem situation lives under the conceptual frame of another at a higher hierarchical level in organisations where bureaucracy prevails. For this reason, the work done in this case was limited to the scope of the general manager and his ability to make change happen.

The attempt to (dis)solve problems is an ideal process (Ackoff 1978) and one that strives for a complete solution, whereas the soft systems literature recognises the tension and chooses to opt for 'accommodation of world views' (see Checkland & Holwell [1998:161–165] for a discussion on this matter). Ackoff argues that this kind of thinking is 'compromise', where everybody loses by giving up something. Ackoff calls this process 'problem resolution' and relates it back to the literature of Herbert Simon who called this rationalisation process 'satisficing'. He argues: 'To dissolve a conflict, the conditions that produce it are changed so that it disappears'.

In returning to the bus strike example, the situation was dissolved by recreating the system so that tension could not occur. This is not an accommodation of worldviews where, when an agreed solution is reached something altogether different is produced. Ackoff therefore defines resolution as one that seeks compromise between conflicting conceptual frames. This is what the soft systems tradition aims to do, because it aims to renegotiate social reality (Checkland 1982) so that all concerned parties can reach a stage where a feasible solution can be reached. Juergensmeyer (2005), using Ghandi as an example, recognises this as a lose-lose situation because the debate produces Satyagraha, a form of problem dissolution, aims to reconstruct the resolution. situation so that all parties are happy with the new arrangement and ultimately get what they want. Juergensmeyer notes that the breakdown of a fight occurs when the process of Satyagraha-based problem solving breaks down. Arguably the soft systems tradition strives for this (see Checkland 1982), but ultimately the primary literature and subsequent evidence from that research suggests otherwise.

Adding the dialectic elements to the engagement model, although arguing it is a slight addition to the process, has invariably changed the scope of the problem solving activity being undertaken by someone who would want to use it. Instead of seeking to accommodate worldviews, the user will now look to conflicting situations and attempt to find means to *change* the nature of how the participants engage with the area of concern. Engagement is a process of active participation that involves an attempt to change the conditions producing the conflict so that it cannot occur. Ackoff (2000) notes that is an ideal process but ultimately one that is obtainable. At the heart of this process is considering the conceptual frames of others and learning how to dissolve messy problems. In IGC their problem disappeared when a new conceptual frame emerged and dissolved the previous one. In the case of Firm A, a solution emerged about the 'information needs' of both parties, which meant the SAP solution in cooperation with the various systems could work if they were focused on the social context in which information was produced. The conceptual frame of information needs and who has them potentially dissolves the need to do away with either the feral systems or SAP, because with the right training and discussions both could clearly coexist. This process is currently on-going in the organisation, and whether or not they get long-term improvement to the stage where the problem can be dissolved completely remains to be seen.

6.2 Revisiting the research questions

This thesis argues that engagement is a useful concept for understanding poorly structured problems. It is thought that the research conducted, the literature survey and empirics provide significant justification for the research argument. Initially several questions were raised and these will now be reinvestigated:

1. What are complex problems?

In chapter two, the nature of what is a complex problem was raised. It was argued through the literature to be one where multiple possible interpretations exist. More specifically, complex problems are those that give rise to no easy solution, many possible answers and justifications (sense-making processes) and involve stakeholders at various levels. In this research, it was shown, specifically in the IGC study, that what a problem is perceived to be is dependent on how the actors interpret the situation at hand. IGC's problem changed when they found an effective solution in the tragedy of the child Salvadore.

Sense-making literatures inform us that people determine causality through the mental models they impose on the world. This indicates, from a pragmatic point of view, that

action taken stems from a certain conceptual frame that perceives something to be 'problematic'. Complex problems depend, therefore, on how we frame them conceptually. If something is deemed to us to be problematic, then we will automatically begin to conjure up possible solutions (see Gilbert [1991]). Firm A made sense of their lack of efficiency by creating an engineering solution (SAP) when an information-needs solution would have been a better justification for them. They subsequently spent millions of dollars on the promise that SAP would improve productivity when in reality it dramatically reduced it. Those working at the operational levels in the organisation failed to take up the new system because it did not make sense to them since it did not match the way in which they perceived how they worked. A complex problem is therefore one that contains many possible justifications, all of which may lead to more problems being created because these kinds of situations are socially constructed from various conceptual frames.

2. What are the limitations of traditional problem solving methods for dealing with complex problems?

In chapter 2 the argument was made that social problems are messy affairs that are dependent on the conceptual frames of those who interpret them. Traditional problem solving methods were seen as inadequate because they frame the world through the idea that a solution is possible, usually using the highly positivistic lens of mathematical problem solving. From the literature it was argued that such approaches fail to admit that social reality is fluid and ever changing; therefore, by taking one conceptual frame over another, the issue of multiple perspectives is lost. When a mathematical approach is offered, it automatically assumes a frame where only mathematical answers are going to be appropriate. Linear mathematical assumptions such as decision tree approaches make little sense when faced with multiple perspectives, political agendas, cultural concerns and the messy nature of human affairs.

Traditional approaches are also limited because they fail to account for the various levels of interactions between sense making processes in organisations. At various levels there are differing justifications for decisions made and actions taken which interact (or do not, as in Tucker et al. [2001]) with lower levels of the same sense

making processes. In the case of Firm A, we see that managers and operators had two completely different causal structures for interpreting the world around them. This caused a great deal of confusion about what the organisation really was about and in turn created ad hoc systems that really did not match organisational information planning. Therefore traditional approaches rely too much on singular reference points, which does not explain the multiple levels of interaction amongst structural causal models in organisations.

Problem solving models usually seek to optimise and/or satisfice, given certain acceptable levels of rationality. It is impossible to have a God's-eye view of the situation (see Ulrich 1983), therefore to reduce understanding of a problem down to the unreflecting approaches rooted in cause and effect thinking is to exclude what might be found by adopting other conceptual frames. As argued in chapter 2, there are many interdependent variables, both controllable and uncontrollable, that go into structuring problems.

Where stakeholders are concerned, there are certain polemic considerations that also form a part of problem contexts. Problems are dependent on certain stakeholder held conceptual frames that can override the position of others. These conflicting views create tension (as seen in the Firm A case), which can result in continuing debate, political issues and various related concerns. In the IGC case it was shown that often stakeholders will select a desirable solution until another one comes along with a more desirable output. In such cases the traditional approaches do not posit a way to deal with such conceptual frames.

Finally, it was argued that understanding problems sometimes involves understanding how the various conceptual frames at work in the situation interact to result in various expressions of the problem and multiple interpretations of the same situation. Mitroff and Mason (1979) highlighted that often there are hidden assumptions in conceptual framing. Therefore, to tease out these hidden assumptions, an argumentative process of comparing (contrasting) conceptual frames will help in creatively constructing meaningful interpretations of such problems. This approach calls for understanding that taking a conceptual frame requires acknowledging and understanding the other frames interacting with it from both a positive and negative perspective through dialectical reasoning. By contrasting these different frames, it is argued that meaningful interpretations can ensue.

In Firm A, many different perspectives were sought to highlight this kind of thinking. At first the tensions were revealed between management and the operators and their lack of engagement with each other.

3. How can complex problem solving be theorised in terms of changing conceptual frames?

Complex problem solving was argued in the literature to be about the process of problem (dis)solving. This process is one where the conceptual frame used to interpret the problem is changed in favour of one that dissolves the conditions that created the problem. This process removes the conditions that make it possible for the problem to exist by changing the social system so that it can no longer occur. The first empirical example of this is the study in which IGC changed their frame as a result of an external event. This caused them to see their complex problem in a completely different light and suddenly a solution emerged. The event caused a change in conceptual frame, which in turn changed the actions taken by the organisation.

In like manner, the use of the SAP system as a way to frame the problem resulted in disaster for Firm A, perhaps because they had not appropriately sought the information needs of various workers at various levels. The problem began to dissolve when considering real-time information needs. When the conceptual frame of information needs is used, it assumes that all workers need information at various levels, and thus, through using a variety of different systems in combination, various possible solutions can emerge. Some parts of the supply chain, for example, are only ever going to be realised conceptually from a local frame, because the focus of the work will never show those workers the 'bigger picture'. Every problem they have will therefore be conceptualised locally, and therefore various solutions like 'feral systems' will only ever be conceptualised locally as well.

In the Firm A case, managers were framing management problems and operational workers were framing operational problems. Therefore each party was mutually excluding each other through both their conceptual actions and decision making processes. When the managers began to change their conceptual frame to consider other frames, they saw the needs of a group of people in the 'silos' who were making their own systems to circumvent management systems. The idea of meeting information needs locally and globally (in their social context) helped frame the problem better. At present the management team are retraining key supply personnel to show them how to integrate their systems corporately to improve organisational performance.

It should be noted here that a change of conceptual frame is not 'magic'. That is, a change of perspective will not necessarily create an instant solution. On the contrary, this thesis argues that by changing perspectives it is possible for problem (dis)solving to occur, even though this is an ideal to be realised. In both studies, the change of events and unfortunate circumstances resulted in new ways of seeing things. By changing the mode (the conceptual frame) of engagement, it is *possible* that problem dissolution can occur. In these studies the way in which participants engaged conceptually with their problem was the main reason for it not being solved. Ironically, when they changed the way they framed the problem to a better explanation, solutions began to emerge. Neither was aware that there was a better solution until they were forced to realise one through unforeseen events. By not changing the way they framed the problem they also created no new solutions.

Solutions to complex problems are therefore found when how one engages with a problem changes according to the engagement approach. Churchman (1968) called this the 'perspective of taking a perspective'. In Ackoff's bus strike example, neither the bus drivers nor the conductors (who were at the heart of the conflict) wanted to budge. By changing how the problem was framed (i.e. removing the conductors from the buses), the solution emerged. Therefore complex problem solving is a process of changing conceptual frames until an appropriate solution is found.

4. What is meant by the term 'cognitive engagement'?

Cognitive engagement was argued in chapter 3 to be the process of exposing conceptual frames and, through a process of meaningful reasoned debate, finding creative ways to dissolve problems. In the same manner as in civic engagement, where people actively participate in improving communities, so in an engagement process people are actively involved in exchanging one conceptual frame for a better one. Cognitive engagement means that hidden conceptual frames surface by understanding how individual stakeholders express the problem and then find alternative conceptual frames that help to dissolve the problem. Engagement refers to an intertwining of conceptual frames in a cognitive setting.

The various expressions of the supply problem, taken from the point of view of various workers in the Firm A environment, led to their being able to reframe the problem to a different 'engagement'. In a similar manner, IGC changed the way they engaged with the world after the Salvadore event, and this gave birth to new conceptual frames and hence new possible justifications and solutions to the problem. At Firm A the conflicting conceptual frames highlighted a century old battle between the managers and the workers at that particular organisation. The 'us and them' culture (prevalent in the transcripts) led to conceptual framing of a different way of seeing things. By understanding these expressions and conceptual frames, a better explanation was able to bridge the divide.

5. Does cognitive engagement assist in solving ill-structured problems?

As argued through the literature in chapters 2 and 3 and the empirics in chapter 5, the cognitive engagement concept is useful for understanding how to dissolve problems. From the literature it was argued that engagement provides a way of understanding how conceptual frames interact to cause wicked problems to be perceived in organisations. The interaction of conceptual frames from various stakeholders, all involved in applying causality through sense-making, leads to troubling situations arising. From the cognitive view, engagement helped to make sense of how IGC changed their view on sponsorship in the organisation.

At Firm A, the use of the engagement concept led to understanding how the problem situation was created by studying various stakeholder perspectives and how they interacted. From this it was clear that the nature of the problem related to a poorly defined data structure and a lack of understanding about the social context of information in the organisation. If one frame had been taken over another in this case, a skewed or poorly framed interpretation would have resulted. By taking things to the systems level to see the interacting frames, it became possible to move towards problem dissolution.

It is hard to say if problem dissolution would be possible without seeing these different perspectives interacting. Each one of the participants gave a possible solution to the problem in their interviews, and almost all of them without qualification at Firm A gave local conceptions of the supply network. The problem, being a strategic one, contained interacting views that if individually solved would have made no sense. When viewing these interactions from the systems point of view, it became possible to see if dissolution would work.

The cognitive engagement concept is useful because it allows a problem solver to see how the various conceptual frames in an organisation interact. It permits people to look for 'frames' that make a problem interpretable to people on a local level, and therefore it is useful for strategic problems where many stakeholders and perceptions exist. On a smaller scale, it was found useful in the IGC study because it highlighted the tensions faced by John Beard's management team and how the interacting frames led to the way in which the problem was perceived. In summary, the concept is useful because: it helps to understand the true nature of wicked problems as outlined at the end of chapter 2, it allows for problems to be expressed from multiple points of view, and it allows problem solvers to build meaningful responses to complex situations by changing how they interact with them.

On the other hand, as a conceptual structure it is useful, but the model used in the studies is problematic for several reasons. Firstly, the model shows an interconnection between conceptual frames and problem expressions as being interlinked the wrong way round. Ideally, in a problem context, the intervener, unless an active participant, is not likely to know ahead of time what the problem

expressions are likely to be. In this regard, the model probably should have stage 1 as involving understanding conceptual frames *through* problem expressions, not the other way round. It makes no sense to apply ideas without first understanding at least the very basic assumptions of the problems being expressed. This is a core weakness of the model.

Ledington and Ledington (2001) argue that the user of the model applies the ideas ahead of time because they are deemed relevant to the situation. The question from this research is: how is this possible without first having some idea what the problem context is about? Learning involves two levels of interaction on behalf of the problem solver, that of the thinking being used and that of thinking about the thinking (see Argyris & Schon (1978)) being applied. It is impossible to know what ideas are likely to be relevant without first collecting expressions that lay down the context, and arguably this comes out of the situation through the way key stakeholders express the problem. More evidence is needed to support this assumption, and this will be discussed in the future research section.

Secondly, the original model did not allow for tensions between actors to emerge. This was found to be the greatest asset in the studies because it allowed for synthesis of these tensions into a new and better interpretation. In fact, the tensions at work at Firm A would not have been realised unless the dialectic component had been added. The dialectic component allowed for an understanding of the contradictions at work in the situation and how these formed part of a bigger network of assumptions throughout the organisations. In a way, the engagement that creates the wicked problem is a product of the tensions between key stakeholders. The key to the process is learning how to create a platform where the tensions can possibly be dissolved.

Thirdly, the use of a 'dialectal processes' is highly misleading. As Craib (1997) notes, the dialectic is more than simply a threefold thesis, antithesis, synthesis process. The dialectic refers to the internal contradictions that exist in the nature of things that surround us. To couch it in a social process means that a dialectical process is an on-going construction of a confused reality with various conflicting conceptual frames interacting. The new interpretations are argued to arise by considering a clash of frames and coming to an 'answer' that *dissolves* the tension by

changing the conditions for it to exist. As mentioned in the earlier section on Satyagraha, it's not accommodation of worldviews that's the aim but the complete dissolution of tension. This is a totally new situation that is appreciated *through* the dialectics of the previous situation. Therefore, the process is not looking at alternative views and trying to synthesise them (Ackoff (1978) refers to this as resolution), it's an attempt to make a new frame in which the previous tensions are dissolved and a new better arrangement for the problem owners has been reached. Dialectical thinking is required to reach this goal which in essence is not a 'synthesis' but dissolution. The new interpretation though is more likely a lateral answer (De Bono (1971)) that was made available by the mere consideration of the conflict.

Fourthly, expressions come from conceptual frames that relate to the problem. In essence, the lesser (expression) is a slave to the greater (conceptual frame), which in turn is a part of the master (wicked problem as expressed from various stakeholders). This relationship is very important and its implications are discussed in subsequent sections of this chapter. The model makes no mention of this relationship except to say that the user of the model will learn about value systems. The above relationship implies that values are mixed up in the way people express problems. It is *impossible* to separate values from interpretations of the world, as Checkland (2005) argues. To interpret the world is to appreciate it or interpret it through a value system. To understand how someone interprets problems is to understand something about the values they have. Ackoff (1978) argues that to an economist, every problem is an economical one and to a social worker every problem is a social one. At Firm A, every problem to the yard workers was a yard worker problem. The engagement model requires that the problem solver separate values from interpretation by relegating the process to a second loop. This really does not effectively describe the process, because it separates into a different part. It might be more beneficial to represent the model as shown in cyclical fashion:

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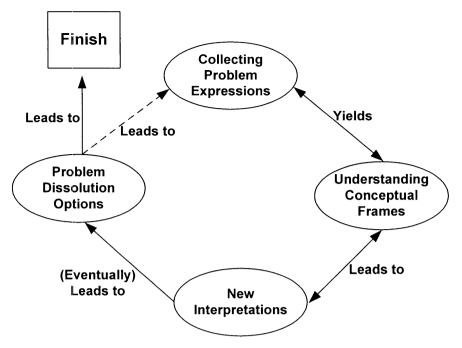


Figure 8 Engagement process rethought

Note on the diagram there are double-headed arrows indicating the interaction between problem expressions, conceptual frames and new interpretations. This highlights the concern of the researcher that the previous model inadequately described the process. In the final part of the cycle, it is assumed that new interpretations of the problem will lead to options for problem dissolving. Finally, the process finishes after this or starts again if needed and/or possible. This cyclical logic more clearly shows what the engagement is trying to achieve.

Lastly, the process of engagement is mentally difficult, because it requires its user to know what values they have and be able to understand how that will effect the interpretation of the problem context. That is, if the problem solver is an economist, they must be able to accept other conceptual frames (Churchman 1968) otherwise they will solve the problem as an economical one. Herein lies a hidden assumption of the engagement model that is rooted in systems thinking: you must be aware of your own values and conceptual frames and those of others and be able to hold them in tension with your own. This is extremely difficult. Midgley (2000) argued that, when problem solvers intervene, even if for 'scientific observation', they are invariably applying their values to the problem and interpreting it through that particular lens. How one takes the perspective of having a perspective (Haynes 2001) is a lot more difficult then the literature lets on and should be investigated further.

In summary, it was found to be a useful concept for understanding how the real-world processes of thinking interact to 'cause' ill-defined problems to exist. Understanding how the various problem expressions came from various conceptual frames and how particular sense-making processes emerged was a very helpful process. It helped to create new interpretations of the problem where previously none were available. The point is that it was possible to use the concept in this manner to gain insights and structure new interpretations of ill-structured problems. From a pragmatic point of view, it could be useful as a management training device to help those involved in structuring ill-defined planning issues, such as the current water crises in Australia for example.

6.3 Contribution to knowledge

In interpretive studies the idea of knowledge contribution has a very different conception than in other epistemologies. Walsham (1995), for example, highlights four key areas where interpretive based studies make meaningful contributions to scholarly knowledge. These are: developing new insights into complex phenomena, developing new concepts for sense-making and new interpretations, making new theoretical contributions and making recommendations based on certain implications of the study. This thesis is not purely interpretive in this sense, and its aim is a pragmatic one. Pragmatism, according to Omerod (2006), grounds theoretical assumptions in the social context of action rather than purely in language processes or discourse. For this reason a pragmatic contribution to knowledge is what James (1906) calls 'practical consequences'. This may be rephrased as, what 'practical' value is this knowledge?

Engagement as a conceptual frame to understanding ill-structured problem situations has already been shown in this chapter as being theoretically useful. Several key insights for 'practical knowledge' have been generated:

• The engagement concept helped to understand how different conceptual frames interact to form ill-structured problems. Although this clearly needs more development (discussed later), the engagement concept has proven useful to

help understand how problem expressions relate to the way in which conceptual frames are formed to interpret problems. In the case of Firm A, it allowed the researcher access to more than one sense-making process through the eyes of different stakeholders. The local conceptualisation of the supply chain was revealed, the non-engagement of upper and lower management staff was explored and so on.

- This process above invoked a dialectical process whereby the tensions were explored and new interpretations could form to dissolve those tensions. This addition of the dialectic proved to be useful in that it helped the researcher understand the conflicts that made the problem a concern for those involved. From a theoretical point of view, the dialectic provided insights into the way in which different actors perceived the problem. From a practical point of view, by exploring the tensions between conceptual frames, new solutions could be found. In the IGC problem context, the tension was dissolved when an opportunity arose to perceive the situation in a different light (the external event). This event moved the tension out of the way because it ceased to exist. It is clear, however, that if the tension was grounded in long-lasting ideological conflicts, it may not be possible to dissolve the problem.
- Problem dissolving, a term coined by Ackoff (1978), could be seen as an engagement process. In this sense, problems can be dissolved when the conditions (conceptual frames) that cause the problems to exist are reordered or changed by making new arrangements. For IGC a new arrangement was made through an event that dissolved their previous problem. In Firm A, the problem's answer began to emerge when considering 'information needs' across all levels and how they interact in a social context. When the way in which people engage changes, there is at least a possibility that the ideal process of problem dissolving can begin.
- Possible solutions are generated through the way in which the problem is framed. Apprehending the problem and generating solutions are part of the same engagement process. When a problem is perceived, the engagement of conceptual frames will support a solution to that end. In the case of Firm A, SAP was seen as a solution to the manager's problem but operational workers found it to be cumbersome and ineffective. They perceived a problem and

generated a solution in the same motion (engagement). A problem, by the very nature of its name, immediately generates the notion of 'solutions'. A key finding of this work is that conceptual frames create the problem and the solution. The way in which operational workers engaged at Firm A caused them to perceive all problems as operational ones; managers at the same organisation perceived their problems as management ones. The two conceptual views of the situation never met. Both managers and operational workers were generating their own problems in accordance with their particular worldview. These problems suggest certain kinds of solutions, which as a consequence produce certain kinds of actions (e.g. feral systems). The conceptual frame held by each party generated problems and solutions because it was evidence confirming their own biases and suspicions. Whatever solutions are expressed are deeply connected to the way in which the problem is framed.

The engagement concept was found to be disparately used across a broad range of literatures (see chapter 3) to mean participation or involvement. In the IGC situation, the answers to their problem were present and the way in which they engaged shifted. This frame shifting activity is part of the engagement process in which people make decisions to deliberately change the way they assess things and come up with new frames of reference. The main contribution to knowledge argued for here is that the engagement concept is a useful way of thinking about dissolving problems. It helps the practitioner to understand that an ill-structured problem contains the following elements:

- **Problem expressions**: expressions of what key stakeholders think the problem is likely to be.
- **Conceptual frames**: The conceptual set of ideas that relate to form a certain view that leads to certain ways of seeing the world. Haynes (2001) calls this a perspective.
- **Dialectic**: By considering the tensions that are at the core of the problem, new possibilities for dissolving the tension can emerge. This is a process in which alternative frames and realities need to be discussed. Often one view is assumed

to be correct because the conceptual frame taken suggests certain types of problem expressions.

• **New interpretations**: By exploring these tensions between conceptual frames, new creative solutions can emerge that can potentially dissolve the problem.

Engagement encourages the practitioner to explore tensions, create different arguments to their own and eventually take action based on new interpretations. It also leads to the idea that problem dissolving is possible when a systems view of stakeholder perceptions is taken. This is supported by the literature (as shown in chapters 2 and 3). Engagement encourages a strategic view of problem situations because it looks to the interacting conceptual frames that make the tensions relevant to stakeholders. By taking a strategic view, engagement urges participants to make a reasoned choice, instead of focusing on simple cause and effect relationship. On the contrary, engagement asks the practitioner to focus on the relationships between the frames that arguably determine causality through perception. To do this, as Churchman (1979) notes, requires one to become acquainted with one's own view of the world and how that influences the decisions made. From a pragmatist's view, this allows real change to occur that will create the possibility of win-win situations in a variety of conflictual situations.

From the frame of strategic thinking, engagement is argued to be a useful way of understanding the relationship between various elements in a problem situation through the collective conceptual frames of stakeholders. At the centre of this idea is the notion that conceptual frames lock people into logical ways of framing the world and quite often blind them to the possibility of better solutions simply because no real alternative ideas or conceptual frames were considered. Tension takes place inside a conflict, and dissolving such tension involves getting the conflicting parties on to the same side. Dissolving the problem requires the conditions that produced the tension to be removed so that it can no longer exist. Again, this is an ideal process that may or may not be possible, but still something worth aiming for considering the impoverished alternatives.

6.4 **Publications**

Throughout this work the researcher argued through the literature review and the empirics that engagement is a useful concept for thinking about ill-structured problems. In addition to this evidence, several publications were extracted from the thesis that, at least in a small way, show that some contribution to knowledge has been made. In particular, the idea of engagement and some of the early thinking around the Firm A case provide some evidence that a contribution to knowledge has been made.

These publications include:

- Houghton L.J & Kerr D.V (2006) "A study into the creation of feral information systems as a response to an ERP implementation within the supply chain of a large government-owned corporation," International Journal of Internet and Enterprise Management, Vol. 4, No.2, pp.135-137.
- Burgess, K & Houghton L.J (2005) "The role of information technology in innovation within Supply Chains: is the research framework the problem?" 4th Annual Critical Studies in Management Conference, Cambridge, UK.
- Hobson, D.P., Kerr, D.V., Burgess K., Houghton L.J. (2005) "The inefficiencies and excess's of enterprise resource planning systems (ERP)" Excess & Organization: Proceedings of SCOS XXIII: Stockholm 2005
- Houghton L.J., Ledington P.W.J. (2004) "The Engagement Approach to Real-World Problem Solving: Towards a coherent Soft-Systems-based theoretical platform for real-world problem solving", Systemic Practice and Action Research, Vol. 17, No.5, pp.497-510.
- Houghton L.J., Kerr D.V., Burgess K. (2004) "SAP is it systematic research bias, which is to blame for such post implementation disappointment?" Proceedings 15th Annual Conference on Information Systems, Hobart, Australia.
- Houghton L.J., Kerr D.V. (2004) "Understanding Feral Systems in Organisations: A case study of a SAP implementation that led to the creation of ad-hoc and unplanned systems in a large corporation." 9th Annual Asia-Pacific Decision Sciences Institute Conference, Seoul, Korea.

6.5 Future research on engagement

There are many areas in which future research could be beneficial to the practical aspects and theoretical aspects of the engagement model. In thinking about the model of engagement, as presented in Ledington and Ledington (2001), many revisions and changes have already been suggested that could help future practice. Apart from that, more research is needed to further validate the usefulness of the concept. One of the major limitations in the studies presented here was that a major resolution was reached by a series of events that changed the way the problem was perceived. Future studies should seek to start the process with deliberate change in mind. For example, the problem situation should not necessarily come to dissolution through an external event that changes the focus. It would be ideal to put the ideas into practice and then learn from a more deliberate angle about how conceptual frames affect the ways in which problems are perceived in organisations. Research posing questions such as: 'what would happen when attempting to apply this kind of thinking to the current drought in Queensland?'; 'how could new conceptual frames offer solutions to this kind of problem?'; 'how could new interpretations dissolve or resolve this kind of systemic problem?' would provide a rich development field for the engagement concept and in turn would lead to meaningful new insights. In this study it was thought that more work is needed in this area.

Future research should also look to using the engagement concept in which problems are time dependent. In both cases the companies in question were fairly reactive environments because of high regulation structures and many quality control processes. It is a limitation that this study could not find a private institution with different demographics to see how it would fare when time and pressure were more of an issue. Most managers in this environment are under a high degree of pressure and, as Nutt (1999) argues, managers very rarely have the time to conceptualise and carefully think through strategic problems. The author also points out that most of the PBL literatures assume a bureaucratic structure with long-winded decision making processes. In these environments managers have more time to solve problems and possibly dissolve them. In entrepreneurial environments, there is little time for such

managers. How does time affect decision making in strategic ill-structured problem solving? This is an important question for future research.

In this study the term 'cognitive engagement' was used to differentiate it from other existing ideas such as emotional engagement and psychological engagement. As a further study, it would be interesting to know how psychology affects cognitive frames and how emotions affect the way in which problems are conceptualised. Clearly they do play a part, because humans are interconnected beings and it is only their wilful choice to divide the mind and emotions that leads to conclusions that they are not connected. What kind of role they play in conceptual framing and problem expressions would be helpful to explore in future research situations. It is beyond the scope of this research but would be of interest for future research.

Another point of interest could be for ideas research in general. It was noted in the studies that, by exploring the tensions in problem contexts, new designs were able to emerge. Creativity – coming up with new ways of seeing things – seems to be intrinsically linked to the idea of synthesis, not necessarily making two old ideas compatible with each other, but creating new solutions in which the old conflict can no longer exist. This process of making new conceptual frames relies on the old, yet is not either way of the old ways of thinking about the problem but a new way of thinking altogether. This is not a compromise model of problem solving; it is creating new ideas through old tensions to frame the world in a new way as was discussed earlier in this chapter. The role of dialectical thinking in this process is best summarised by Arthur Koestler (1973):

"...the perceiving of a situation or idea in two self-consistent but habitually incompatible frames of reference".

How does that affect ill-structured problem solving?

The model of engagement as presented by Ledington and Ledington (2001) has been argued to be a useful tool for ill-structured problem situations. However, moving that from a place where it is useful in practice to a place where it is useful for teaching may be a big challenge, as, for most of the core assumptions in the model, it requires a practitioner to be aware of their own biases and values. How can a person be taught to think about their unconscious biases and thinking? This is a psychological concern and one that is outside the scope of this research.

Apart from these issues, the major concern for the researcher lies in understanding how the conceptual frames people form come into being in a problem solver's thinking. This is not a question of why people form the frames they do – there is a great deal of literature in Neurolinguistics and brain science in general on this topic – but why certain frames are given preference over others in problem contexts. Especially of interest to the researcher is finding out the reasons why people in organisations logically box themselves into the conceptual frames they hold. To cite a recent example, the researcher observed a policeman on television stating that the road toll in Queensland was high during a recent holiday and it was time 'to hammer the message home to be careful'. In the state of Queensland we have a constant flow of dismembered people on television who remind us: 1. not to speed, 2. not to be stupid on the road. This has been ongoing trend for many, many years and clearly the strategy is not working *vet* they return to the same conceptual framework. Unfortunately for discerning television viewers, the same old disturbing and violent television commercials prevail. Is there a better of way of framing the problem; is there another way of seeing a solution instead of 'hammering' the general public?

A burning question for future research is why we return to the same set of ideas hoping to produce a different solution next time. At the heart of this issue are sense-making processes that determine causality from real-world problems, and therefore certain kinds of solutions must be selected. What the policemen on television is really saying is: 'the drivers on the road aren't getting the message when they should be. After all, millions of dollars have been spent on these advertisements ... what's wrong with you people?' The way in which a problem is framed, argues Ackoff (1978), is the way in which solutions will be formed. Most people when describing the problem start with the phrase, 'Well the problem is', which immediately suggests certain kinds of solutions! This is an area, though well researched and supported, that still needs further investigation.

A final area of research that needs further exploration is the relationships ideas and actions have with each other inside a pragmatic framework. In particular, the way in which ideas form the basis for conceptualising how we think about our world is an area that hits at the heart of what forms discourse processes, actions and the like. Engagement as a concept hints at the pragmatic concern that all ideas stem from action in social contexts, but this then raises the question what makes certain ideas occur at certain times in certain settings? How do passive ideas (those existing as a mental model) form themselves into reality and what is at the heart of this process of 'engagement'. This touches on James' concerns for pragmatism that more likely cannot be answered without further study of a transdisciplinary nature.

6.6 Concluding remarks about the nature of ill-structured problem solving

In conclusion, this thesis has presented the idea that thinking about ill-structured problems through the cognitive frame of engagement is 'useful'. Both studies shed light on the reasons why this could be useful, and this is supported by chapter 3. However, when looking at most teaching on the subject of problem solving, we find the same logic that Herbert Simon produced. Though meaningful and helpful, it is as though a generation of thinking has been ignored. The majority of university level thinking about problems reduces problems to steps, cycles and fairly spurious logic.

Engagement relies on the assumption that conceptual frames are produced by those who desire them to perceive things in a certain way. Most teaching we aspire to at university level assumes there is only one right way of doing things (i.e. the quantitative model) and that any other modes of thinking are simply not valid. What is even more troubling is that, with current arrangements in Australian society and university structures, there is no room for 'engagement' types of thinking. Knowledge is still predetermined as being defined by positivism, despite the rhetoric produced by the modern university.

How useful this concept will be in teaching, research and practice is not therefore to be determined only by the principles of valid research but over time by a community of practitioners who are committed to learning and developing such ideas. Part of the

process argued for in the thesis is the idea of challenging key assumptions, surfacing conceptual frames and building better interpretations for action in troubling situations. Clearly, this is an issue of dissemination. How can real-world problem solving be taught and learned when the very institutions that are set up for this purpose are not following this path? Let us hope that the next generation of problem solvers are not *just* of the quantitative view but are well established in understanding how real-world problem dissolving works. The future of research like this, that seeks to find better ways of seeing problems, is generally avoided in most business disciplines.

In concluding, it is hoped that this research will develop to become useful for those on the front line of real-world problem situations. However, an environment for such research needs to be produced for this to happen.

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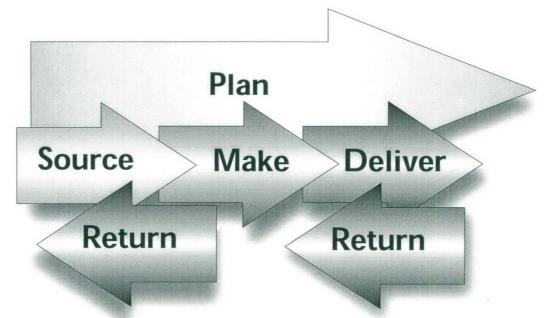
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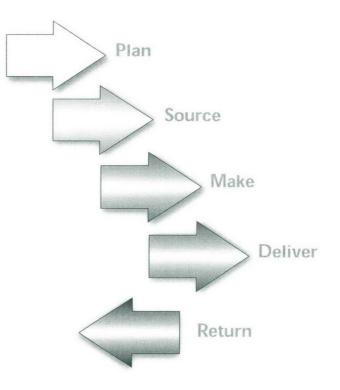
Appendices

Appendices



Supply-Chain Operations Reference-model

Overview of SCOR Version 5.0



Supply-Chain Council

Supply-Chain Council, Inc. 303 Freeport Road Pittsburgh, PA 15215 www.supply-chain.org

Supply-Chain Operations Reference-model

Overview Version 5.0

CONTENTS

- What is a Process Reference Model?
- Model Scope and Structure
- Applying the Model

The Concept of Configurability Configuring Supply-Chain Threads Developing Process Maps

Summary

The Supply Chain Operations Reference-model (SCOR) has been developed and endorsed by the Supply-Chain Council (SCC), an independent not-for-profit corporation, as the cross-industry standard for supply-chain management. The SCC was organized in 1996 by Pittiglio Rabin Todd & McGrath (PRTM) and AMR Research, and initially included 69 voluntary member companies. Council membership is now open to all companies and organizations interested in applying and advancing state-of-the-art supply-chain management systems and practices.

Member companies pay a modest annual fee to support Council activities. All who use the SCOR-model are asked to acknowledge the SCC in all documents describing or depicting the SCOR-model and its use.

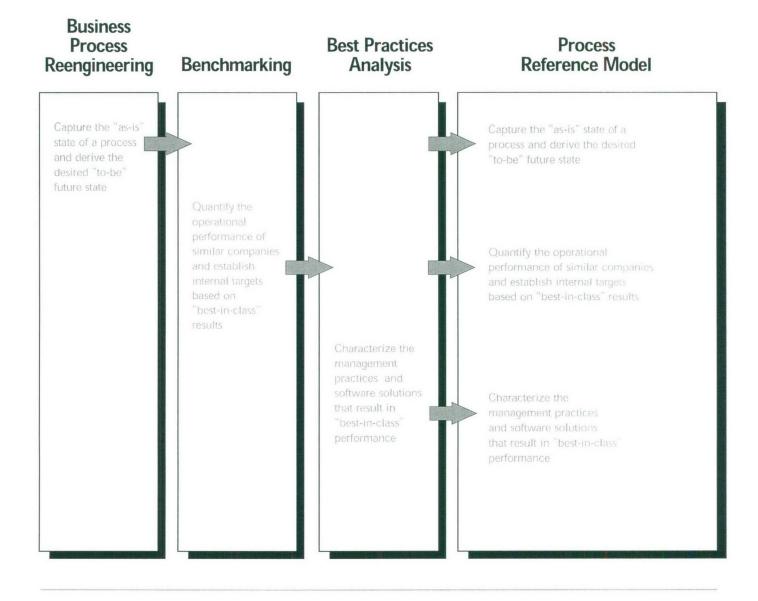
All who use SCOR are encouraged to join the SCC, both to further model development and to obtain the full benefits of membership. Further information regarding the Council and SCOR can be found at the Council's web site, www.supply-chain.org.

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What Is a Process Reference Model?

Process reference models integrate the well-known concepts of business process reengineering, benchmarking, and process measurement into a cross-functional framework.



A Process Reference Model Contains:

- Standard descriptions of management processes
- A framework of relationships among the standard processes
- Standard metrics to measure process performance
- Management practices that produce best-in-class performance
- Standard alignment to features and functionality

Once a Complex Management Process is Captured in Standard Process Reference Model Form, It can Be:

- Implemented purposefully to achieve competitive advantage
- Described unambiguously and communicated
- · Measured, managed, and controlled
- Tuned and re-tuned to a specific purpose

A Process Reference Model Becomes a Powerful Tool in the Hands of Management

The Boundaries of Any Model Must Be Carefully Defined

"From your supplier's supplier to your customer's customer"

SCOR spans:

- · All customer interactions, from order entry through paid invoice
- All product (physical material and service) transactions, from your supplier's supplier to your customer's customer, including equipment, supplies, spare parts, bulk product, software, etc.
- All market interactions, from the understanding of aggregate demand to the fulfillment of each order

SCOR does not attempt to describe every business process or activity, including:

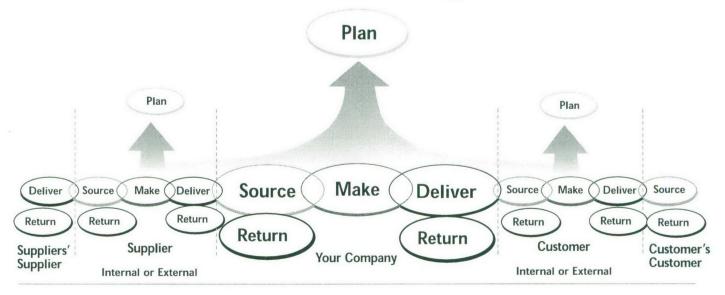
- Sales and marketing (demand generation)
- Research and technology development
- Product development
- Some elements of post-delivery customer support

Links can be made to processes not included within the model's scope, such as product development, and some are noted in SCOR.

SCOR assumes but does not explicitly address:

- Training
- Quality
- Information Technology (IT)
- Administration (non SCM)

SCOR is Based on Five Distinct Management Processes



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Scope of SCOR Processes



Demand/Supply Planning and Management

- Balance resources with requirements and establish/communicate plans for the whole supply chain, including Return, and the execution processes of Source, Make, and Deliver.
- Management of business rules, supply chain performance, data collection, inventory, capital assets, transportation, planning configuration, and regulatory requirements and compliance.
- Align the supply chain unit plan with the financial plan.

Sourcing Stocked, Make-to-Order, and Engineer-to-Order Product

- Schedule deliveries; receive, verify, and transfer product; and authorize supplier payments.
- ▶ Identify and select supply sources when not predetermined, as for engineer-to-order product.
- Manage business rules, assess supplier performance, and maintain data.
- Manage inventory, capital assets, incoming product, supplier network, import/export requirements, and supplier agreements.

Make-to-Stock, Make-to-Order, and Engineer-to-Order Production Execution

- Schedule production activities, issue product, produce and test, package, stage product, and release product to deliver.
- Finalize engineering for engineer-to-order product.
- Manage rules, performance, data, in-process products (WIP), equipment and facilities, transportation, production network, and regulatory compliance for production.

Order, Warehouse, Transportation, and Installation Management for Stocked, Make-to-Order, and Engineer-to-Order Product

- All order management steps from processing customer inquiries and quotes to routing shipments and selecting carriers.
- Warehouse management from receiving and picking product to load and ship product.
- Receive and verify product at customer site and install, if necessary.
- Invoicing customer.
- ▶ Manage Deliver business rules, performance, information, finished product inventories, capital assets, transportation, product life cycle, and import/export requirements.



Return of Raw Materials (to Supplier) and Receipt of Returns of Finished Goods (from Customer), including Defective Products, MRO Products, and Excess Products

- All return defective product steps from authorizing return; scheduling product return; receiving, verifying, and disposition of defective product; and return replacement or credit.
- Return MRO product steps from authorizing and scheduling return, determining product condition, transferring product, verifying product condition, disposition, and request return authorization.
- Return excess product steps including identifying excess inventory, scheduling shipment, receiving returns, approving request authorization, receiving excess product return in Source, verifying excess, and recover and disposition of excess product.
- Manage Return business rules, performance, data collection, return inventory, capital assets, transportation, network configuration, and regulatory requirements and compliance.



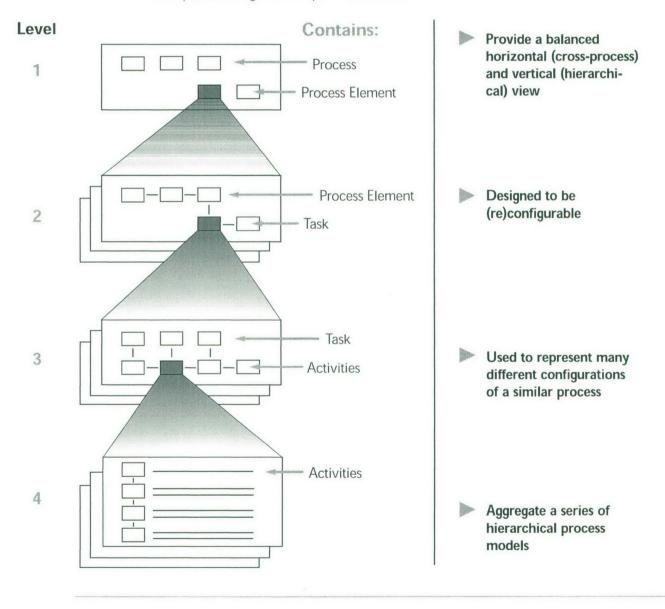


Make

A Process Reference Model Differs from Classic Process Decomposition Models

SCOR is a process reference model that provides a language for communicating among supply-chain partners

 Process decomposition models are developed to address one specific configuration of process elements



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SCOR Contains Three Levels of Process Detail

		Level		
	#	Description	Schematic	Comments
odel		Top Level (Process Types)	Plan Source Make Deliver Return Return	Level 1 defines the scope and content for the Supply Chain Operations Reference-model. Here basis of competition performance targets are set.
ns Reference-m	2	Configuration Level (Process Categories)		A company's supply chain can be "configured-to-order" at Level 2 from 30 core "process categories." Companies implement their operations strategy through the configuration they choose for their supply chain.
Supply-Chain Operations Reference-model	3	Res	P1.3 Islance Production sources with Supply- han Requirements P1.4 Supply-Chain Plans	Level 3 defines a company's ability to compete successfully in its chosen mar- kets, and consists of: Process element definitions Process element information inputs, and outputs Process performance metrics Best practices, where applicable System capabilities required to support best practices Systems/tools Companies "fine tune" their Operations Strategy at Level 3.
Not in Scope	4	Implementation Level (Decompose Process Elements)		Companies implement specific supply-chain management practices at this level. Level 4 defines practices to achieve competitive advantage and to adapt to changing business conditions.

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Process Categories

Defined by the Relationship Between a SCOR Process and a Process Type

		SCOR Process					
		Plan	Source	Make	Deliver	Return	
Process Type	Planning	P1	P2	P3	P4	P5	
	Execution		S1- S3	M1- M3	D1 - D3	R1-R3	Process Category
	Enable	EP	ES	EM	ED	ER	1

Practitioners select appropriate process categories from the SCOR configuration toolkit to represent their supply-chain configuration(s).

Level 1 Process Definitions

SCOR Is Based on Five Core Management Processes

SCOR Process	Definitions
Plan	Processes that balance aggregate demand and supply to develop a course of action which best meets sourcing, production and delivery requirements
Source	Processes that procure goods and services to meet planned or actual demand
Make	Processes that transform product to a finished state to meet planned or actual demand
Deliver	Processes that provide finished goods and services to meet planned or actual demand, typically including order management, transportation management, and distribution management
Return	Processes associated with returning or receiving returned products for any reason. These processes extend into post-delivery customer support

Level 1 Performance Metrics

		Customer-Fa	cing	Internal	-Facing
Performance Attribute	Reliabilty	Responsiveness	Flexibility	Cost	Assets
Delivery performance	1				
Fill Rate	\checkmark				
Perfect order fulfillment	1				
Order fulfillment lead time		\checkmark			
Supply-chain response time			1		
Production flexibility			1		
Supply chain management cost				\checkmark	
Cost of goods sold				1	
Value-added productivity				1	
Warranty cost or returns processing cost				1	
Cash-to-cash cycle time					1
Inventory days of supply					1
Asset turns					1

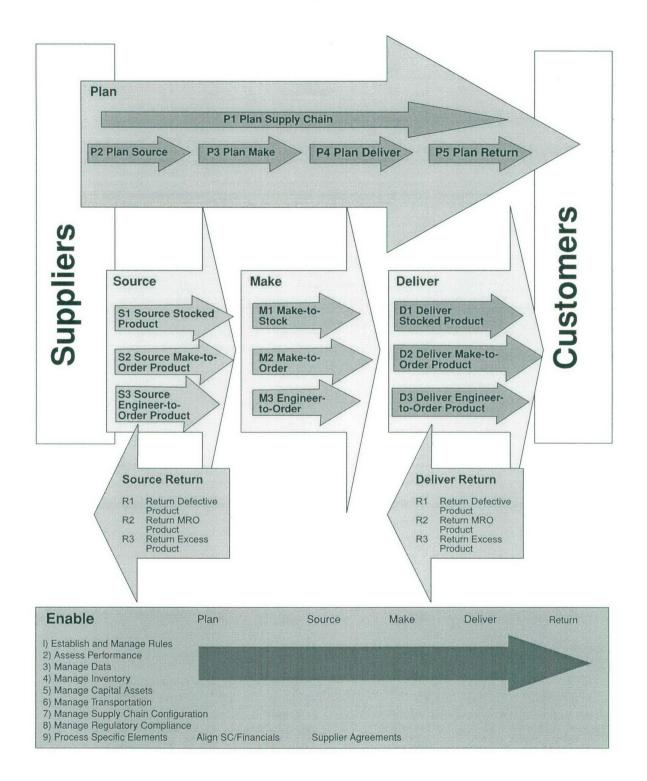
At Level 2, Each SCOR Process Can Be Further Described by Process Type

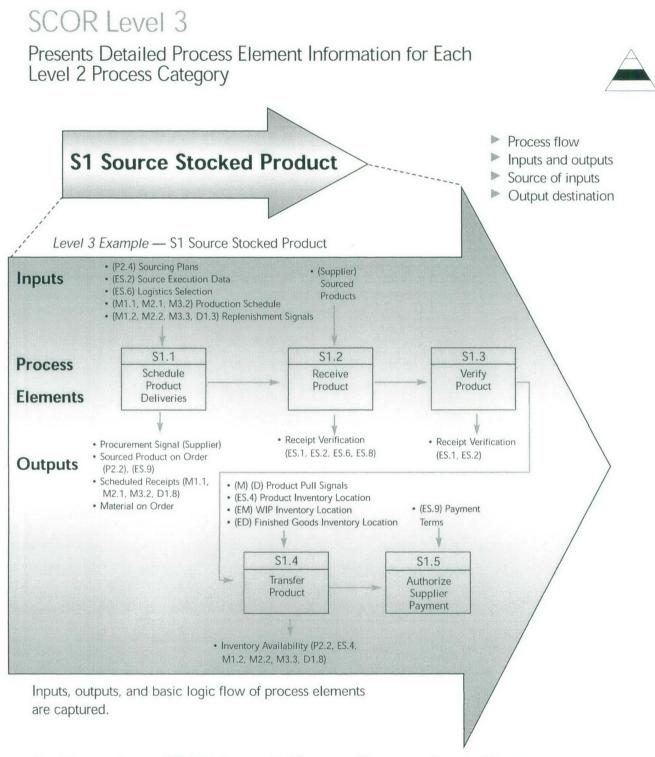


SCOR Process Type	Characteristics
Planning	 A process that aligns expected resources to meet expected demand requirements. Planning processes: Balance aggregated demand and supply Consider consistent planning horizon (Generally) occur at regular, periodic intervals Can contribute to supply-chain response time
Execution	A process triggered by planned or actual demand that changes the state of material goods. Execution processes: Generally involve - Scheduling/sequencing Transforming product, and/or Moving product to the next process Can contribute to the order fulfillment cycle time
Enable	A process that prepares, maintains, or manages information or relationships on which planning and execution processes rely

SCOR Version 5.0 Level 2 Toolkit Has 30 Process Categories







An Example of SCOR Level 3 Process Element Logic Flow

Examples:

SCOR Level 3 Standard Process Element Definition, Performance Attributes and Accompanying Metrics



Process Element: Schedule Product Deliveries

Process Number: S1.1

Process Element Definition

Scheduling and managing the execution of the individual deliveries of product against an existing contract or purchase order. The requirements for product releases are determined based on the detailed sourcing plan or other types of product pull signals.

Performance Attributes	Metric	
Reliability	% Schedules Generated within Supplier's Lead Time % Schedules Changed within Supplier's Lead Time	
Responsiveness	Average Release Cycle of Changes	
Flexibilty	Average Days per Schedule Change Average Days per Engineering Change	
Cost Product Management and Planning Costs as a % of Prod Acquisitions Costs		
Assets	None Identified	

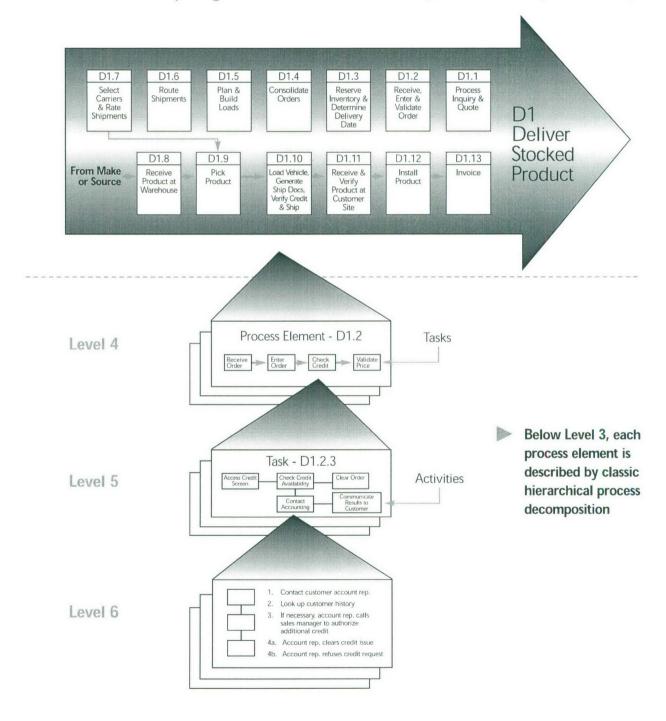
SCOR Level 3 Best Practices and Features

Process Element: Schedule Product Deliveries

Process Number: S1.1

est Practices	Features
Utilize EDI transactions to reduce cycle time and costs	EDI interface for 830, 850, 856, and 862 transactions
VMI agreements allow suppliers to manage (replenish) inventory	Supplier managed inventories with scheduling interfaces to external supplier systems
Mechanical (Kanban) pull signals are used to notify suppliers of the need to deliver product	Electronic Kanban support
Consignment agreements are used to reduce assets and cycle time while increasing the availability of critical items	Consignment inventory management
Advanced ship notices allow for tight synchroniza- tion between SOURCE and MAKE processes	Blanket order support with scheduling interfaces to external supplier systems

Implementation of Supply-Chain Management Practices within the Company Occurs at Level 4 (and below)



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The Concept of "Configurability"

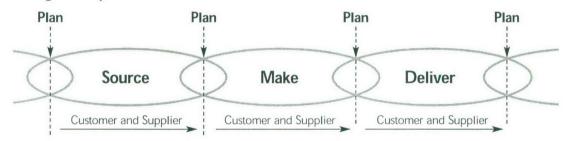
A supply-chain configuration is driven by:

- Plan levels of aggregation and information sources
- Source locations and products
- Make production sites and methods
- Deliver channels, inventory deployment and products
- Return locations and methods

SCOR must accurately reflect how a supply-chain's configuration impacts management processes and practices.

Each Basic Supply-Chain is a "Chain" of Source, Make, and Deliver Execution Processes

Configurability



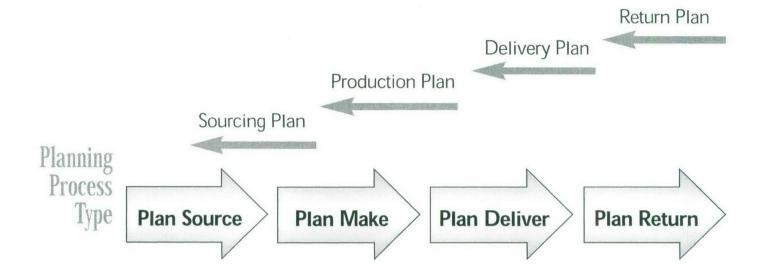
Each intersection of two execution processes (Source-Make-Deliver) is a "link" in the supply chain

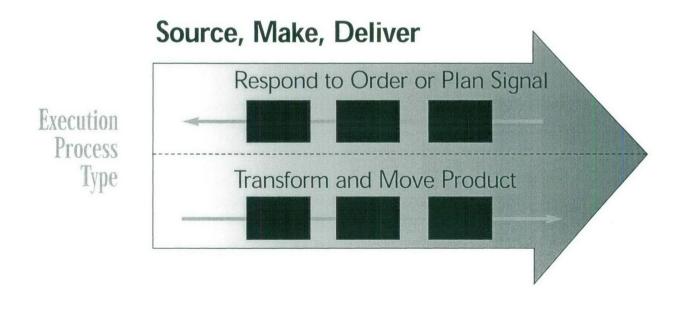
- Execution processes transform or transport materials and/or products
- > Each process is a customer of the previous process and a supplier to the next

Planning processes manage these customer-supplier links

- Planning processes thus "balance" the supply chain
- Every link *requires* an occurrence of a plan process category

How SCOR Logic Supports Horizontal Process Integration



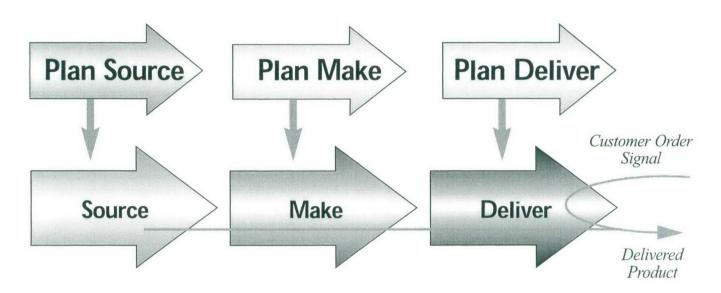


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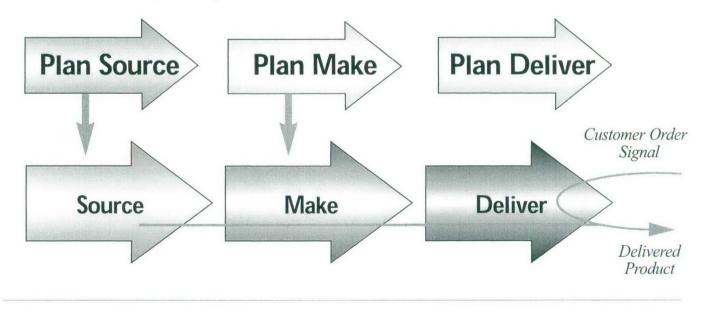
How SCOR Describes One SCM Trade-off

Make-to-Stock Configuration

Common SCM objective — achieve "market-winning" fulfillment time with the least inventory risk. *Example:* "pure" make-to-stock configuration. Plan Deliver and Deliver activities are taken upon receipt of Customer Order.



Common SCM objective — achieve "market-winning" fulfillment time with the least inventory risk. *Example:* replenish-to-order Deliver network. Plan Deliver activities are already in place and ready to be executed when Customer Order Signal is received.

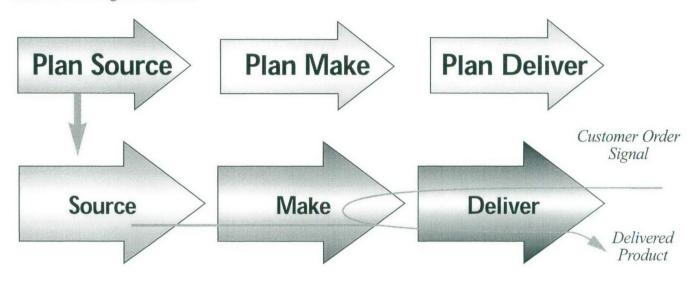


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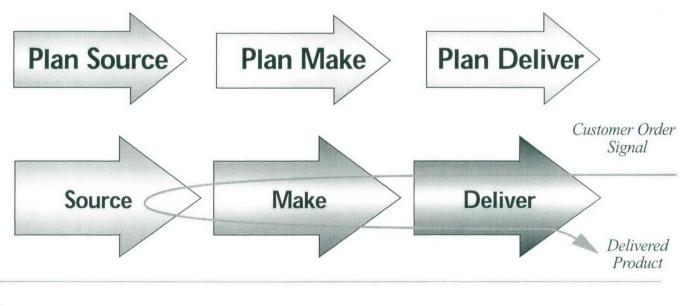
How SCOR Describes One SCM Trade-off

Make-to-Order Configuration

Common SCM objective — achieve "market-winning" fulfillment time with the least inventory risk. *Example:* make-to-order configuration. Plan Make and Plan Deliver activities are already in place and ready to be executed when Customer Order Signal is received.



Common SCM objective — achieve "market-winning" fulfillment time with the least inventory risk. *Example:* make-to-order configuration that extends through the Source process. All inter-enterprise planning functions are already in place and ready to be executed when Customer Order Signal is received. This scheme requires some degree of intra-enterprise P1 Planning. *See page 23*.



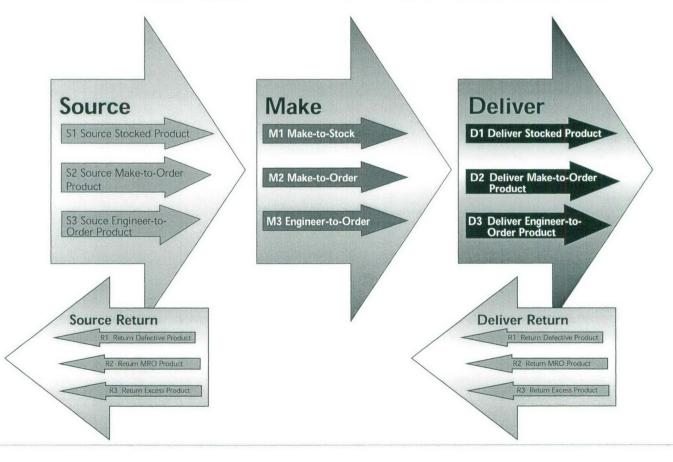
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Configuring Supply-Chain Threads

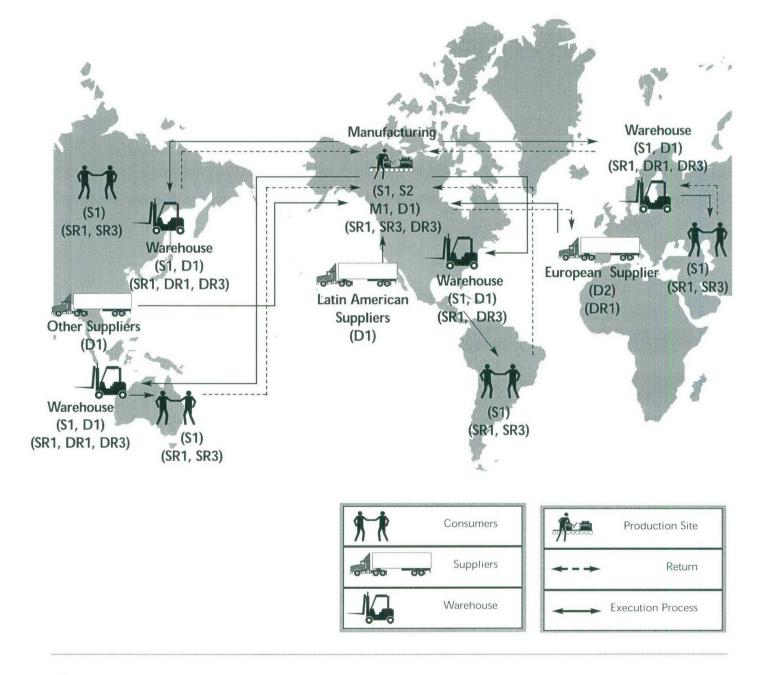
Configuring a supply-chain "thread" illustrates how SCOR configurations are done. Each thread can be used to describe, measure, and evaluate supply-chain configurations.

- 1. Select the business entity to be modeled (geography, product set, organization)
- 2. Illustrate the physical locations of:
 - Production facilities (Make)
 - Distribution activities (Deliver)
 - Sourcing activities (Source)
- 3. Illustrate primary point-to-point material flows using "solid line" arrows
- 4. Place the most appropriate Level 2 execution process categories to describe activities at each location

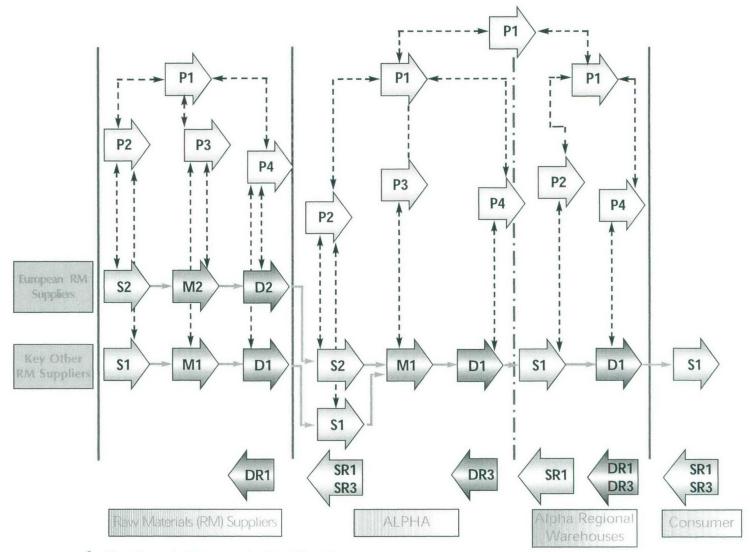


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Supply Chain Threads are Developed from the Geographic Product Flow



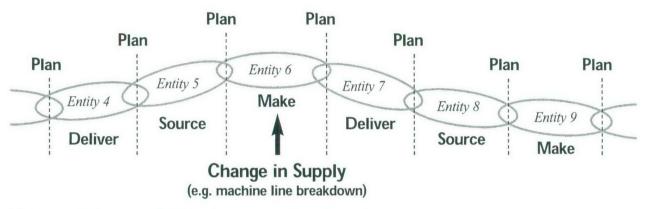
SCOR Process Maps are Used as a Basis for Evaluating/Understanding the Supply Chain



- 5. Describe each distinct supply-chain "thread"
 - A supply-chain thread ties together the set of Source-Make-Deliver supply-chain processes that a given product family flows through
 - · Develop each thread separately to understand common, and distinct, execution and return process categories
 - · Consider end-to-end threads in the inter-company case
- 6. Place planning process categories, using dashed lines to show links with execution processes
- 7. Place P1, if appropriate
 - P1 Plan Supply Chain aggregates outputs from P2, P3, and P4

In a Classic Logistics World

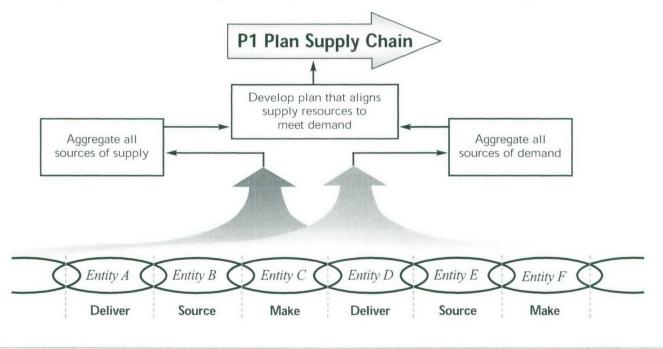
A change in a supply chain often "ripples" through each linkage, affecting other areas.



The impact of a change can be felt both up and down the supply chain

- A change in supply caused by a "production planner" may impact a "materials planner" and an "inventory planner"
- Further, such a change may impact both your customer's and supplier's supply-chain planning

Effective Supply-Chain Management Requires Balancing Multiple Links Concurrently



SCOR Overview: Summary

SCOR is a process reference model designed for effective communication among supply-chain partners.

- A standard language helps management to focus on management issues
- As an industry standard, SCOR helps management focus across inter-company supply chains

SCOR is used to *describe, measure* and *evaluate* Supply-Chain configurations

- Describe: Standard SCOR process definitions allow virtually any supply-chain to be configured.
- Measure: Standard SCOR metrics enable measurement and benchmarking of supply-chain performance.
- Evaluate: Supply-chain configurations may be evaluated to support continuous improvement and strategic planning.

Filipino Koalas

JUNE, 2006

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Office Hours: 9.00am to 4.00pm

Web Page: www.cebumission.org www.vine-life.info



Activites

GRACE FELLOWSHIP'S VISIT



Grace Fellowship from the Gold Coast visited Cebu. They focused their efforts on conducting a school holiday program for the children. We were very excited to have our first school in the cemetery, a dream and vision for some time coming a reality.



SCHOOL HOLIDAY PROGRAM AT CEMETERY

Feeding programs have been in the cemetery for some time but the school holiday was our next step. There isn't a better place to bring the new creation message and impact



with the power of Christ's love –than the cemetery. Thanks to the Gold Coast and CMFPI teams, this area continues to be pioneered. We were so thankful to discover how very helpful the parents were with the preparation of food and other activities. The children on the front page of this Go-Tell magazine



shows a picture of some of the artwork that was created during the holiday program. The kids absolutely loved them. Another blessing we found was the fact that our classes were conducted on solid marble floors, a much better use for the tombs, other than a place for the dead don't' you think?

Taking this program to the tombs where these people are living and putting the children's artwork up on the walls, is the Gospel bringing light where there is darkness...literally.



STREET BEDS GALORE!

Grace Fellowship purchased folding beds for the street dwellers and each child that attended school at the cemetery received one too! It was so awesome to see the families' responses to these gifts. They

had difficulties fitting these beds between the tombs, they only have limited space on top of the concreted area that holds the deceased's bones. I'm sure that they worked out this problem and really appreciate the gift of these beds to sleep on, other than the cold, hard floor.



LAPU LAPU COMMUNITY CENTRE-DEMOLISHED!

This really has been a month of grief....CMFPI were forced to dismantle the Centre at Lapu Lapu rubbish dump site. They were given less than six days to complete this demolition or the Government was going to demolish it for them. Keeping in mind that the first week of June is the beginning of the Filipino's school year. So this left CMFPI with not just the problem of losing all the work that had been put into the Community Centre but the distinct possibility of having no venue AT ALL for the classes this year at Lapu Lapu. It is best that we don't share too much about the 'politics' of this situation but needless to say that those that are more affected than us, are the children and their families that have begun to rely on the Centre for their children's education and well being.

Thankfully, we were given a gift of determination by God Himself and despite the distress and emotional upheaval we experienced, we have 'determined' and 'decided' to build a small temporary classroom so that we can commence classes at the beginning of June.

With the funds that was raised by selling off the scrap metal from the shipping containers that made up the original Lapu Lapu Community Centre, we were able to construct and reuse as ______ much of the old materials as possible.

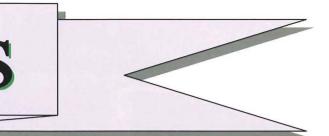


The parents are very relieved to know that we haven't abandoned them in this rubbish dump site despite this setback, as this was a real possibility. IGC with CMFPI are truly believing for our own land to own, so we can build a Centre and classroom facility that will not be demolished or affected by rising rental costs beyond our budgets. This would bring a great security to this area and the programs that are conducted in Lapu Lapu rubbish dump site.

Fire Training at Pier 4

As part of CMFPI's complete ministry to the community of Pier 4, not only has emergency relief been given, houses rebuilt, medical assistance and a new community centre built but now a fire education program has been implemented. The Philippine Coast Guards were in attendance to introduce the first of many steps in preventing such a disaster happening again. Fire extinguishers are hoping to be installed in Pier 4 and a number of fire wardens introduced into this area taking on the responsibility for maintaining safe use of fire equipment in this area, as the families cook with open fires. A fire drill plan and layout is also being introduced so that the





families and their children understand the importance of fire awareness and preparation. The people were very excited by the fire fighter's presence in Pier 4.









Updates Continues



International Visitors

CMFPI have four highly qualified Pedagogs (not formal teachers but behavioural science teachers specializing in children with special learning needs). They come to CMFPI from Denmark and they are completing their practicum in the Mission Houses. They have taken on 16 children with ages ranging from 2 to 13 and all coming from various disturbing backgrounds. There have been some challenging times for them, as they learn very quickly not just about each child's individual challenges and characters but also the Filipino culture and language. Each week the children are taken for an excursion to a special place. The feed back so far has been very encouraging with their input.







The children have really increased in their self-confidence and motor skills. They had a chance to visit many places during their weekly field trips. CMFPI is very thankful for this program and it has been an answer to prayer. We are eagerly looking forward to the next group of Pedagogs next year. The children did rock climbing on one field trip and a visit to the local fire stations. As part of our THANK YOU to the volunteer Pedagogs, we scanned all the sixteen children's hands into the computer and placed their names on each one. We then had them printed onto a photoboard for each Pedagog to take home with them, to remember their time with the children in Cebu, Philippines. They loved them!

Brief Updates:

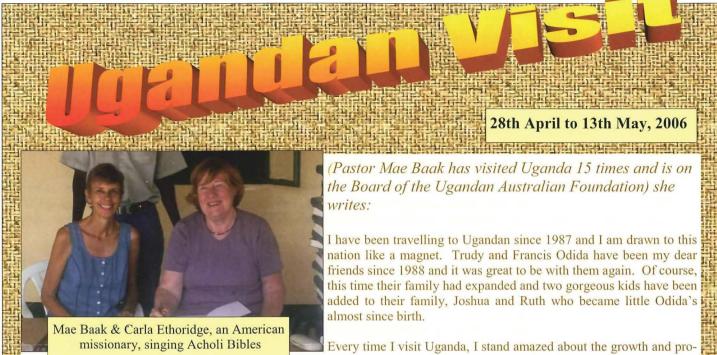
Global Development Group Visits: In line with AUSaide requirements, we had a visit from officials from Global Development Group. They were very impressed with the work that is being achieved in Cebu and have committed to raising funds for further projects, as they line up with the Australian Government guidelines for assistance. They informed us that through this system, we can receive a dollar for every two dollars that is donated. We have been requested to provide the Board with information and details on various livelihood development and educational programs.

Embassy Visit: With the Asean Summit coming up in December this year here in Cebu, there is quite a flurry of activity here in Cebu from the Embassy. The Ambassador sends most VIPs to visit the mission here in Cebu, this time we were able to invite the VIP to our regular Friday night feeding program.

Commence next Follow Up on Children: Sponsors with child sponsorship will soon be provided with a photograph of their child with their school supplies.

Registration of Children for the Community Education Program: CMFPI has been working on the classroom lists for the community school areas, ensuring that all the Kinder One and Two's are in school this year. We are finding with each passing year, that it is becoming easier to convince parents to put their children into public schooling and we hope this trend continues.

Janice and Aireen's Parties: Janice who is studying nursing just turned 21 and Aireen, our longest charge has just turned 18 this month. We celebrated with a surprise birthday party for these young ladies to make it a special day for them both.

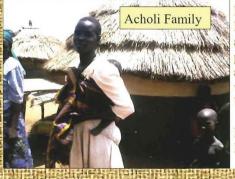


gress of the projects. In the first place in Kitetika: The girl's hostel is almost completed, as well as the 4-storey primary school. There is an outside theatre, extra shallow wells to quench the thirst of the children and many other useful buildings. A new office block on the opposite side of the school has been built and the old office block is now being used as laboratory space for the secondary school.

Secondly: Kansangati: The kindergarten facilitating 150 children is fully established and now a 4-storey primary school is being built on the top floor, which will house an Early Childhood Centre, so that the UAF can train their own kindergarten teachers.

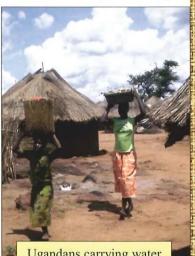
Thirdly: Rackoko in Northern Uganda: Truly a haven in the midst of a dangerous and turbulent area. Make no mistake, the rebels are still present and active. For instance while there, we heard of someone being killed every day! Dramatic, yes but also a reality. But these are resilient people who smile, especially if you greet them in their own language and their smiles are infectious. The primary school has 500 kids and the secondary school about 700 and a further 150 in the vocational school. There is the clinic and the Ugandans carrying water small hospital, the oil and maise mill. The mechanical & carpentry workshops, as well as from the water pumps. k living quarters and teacher's homes are beautifully constructed. The total complex has been fenced off by a high white wall. There is a new kindergarten facility which has been built, as the old one became too small to house all the children that came to live in the Internally Displaced Person's camp next door. For instance, from 80 kids from the camp, the attendance jumped to 650 children after the establishment of the camp. The next project is an assembly hall for 3000 people, which will also be the home of the Adult Education Centre and probably a church.

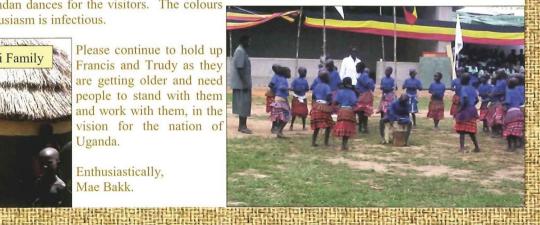
I had the opportunity to travel to the next village Pader, and had a look at their IDP camp and essential buildings but there is no comparison to the UAF program. God is using YOU sponsors to set up a wonderful and awesome village in Rackoko, to help the families who have nothing. But by sponsoring their children, you are building a new generation of people who are being trained to live by God's principles. This will empower them to live according to God's plan for good and not for evil. I am so excited to be able to share this with you all. The children on the bottom right-hand corner are sponsored children dancing their tradition Ugandan dances for the visitors. The colours are so vibrant and their enthusiasm is infectious.



Please continue to hold up Francis and Trudy as they are getting older and need people to stand with them and work with them, in the vision for the nation o Uganda.

Enthusiastically, Mae Bakk.





Is God Mad?

I wish God would use someone else other than humans to build His kingdom, then I wouldn't have to stumble as much. I wouldn't have to look at their faults and I wouldn't have to live with them. It would be a life of bliss, just me and God and His wonderful creation. Wow, what a dream! Often we build such imaginations in our mind so that we can escape reality. Some live out their dreams by excluding people from their lives. If there is one thing that cause people to turn off of God it is His church. I once seen a bumper sticker which said, "Dear God, protect me from your disciples." I laughed out loud and said, "Yes, Lord protect us". It's great to have a good laugh about these things because I am sure that we take our problems far too seriously.

We don't want to trust people and yet God has made such a plan that is built upon human beings. You gotta laugh at that! I sometime ask God, "Are you sure that you know what you are doing.?" People are wild, how can you bring them together to work as one body? If I didn't believe that you could do anything, then I would say that it is impossible." I am sure God is looking down at me, shaking His head and thinking "I show you, boy."

I truly do find it hilarious that God would choose the foolish things of this world to confound the wise. What is God doing? It is as if God is trying to trick us all the time. If I say white, then God says black, if I say left, then He says right. I am sure that He is playing with us sometimes, trying to lighten us up. Although I may feel that He is messing with my mind, I am sure He is trying to show us that He can have a bit of fun too.

Have you ever considered that perhaps it's not God, and other people who have all the problems, perhaps it is us? That's worth a laugh. Another imperfect human being. Have you ever considered the possibility that perhaps God wasn't looking for perfect people? Maybe our standards are much higher than what God expects of us, and maybe it is us who have created such a big problem that has caused our own distrust in others. There is a saying "Expect nothing and you won't be disappointed." If your expectations are not realistic, you will be disappointed and from there you will develop a trust problem and develop a dark side. The less you expect from others, the more you will learn to love and enjoy people. You will learn not expect too much and based on that, you will trust them.

When it come to the role of a Pastor, I don't know why we seem to think that they have to be super humans. I mean, let's just look at it as down-to-earth as we can. They are just humans. They are vulnerable as you and me. That won't change because they have been put into leadership. They will remain vulnerable until the day they die. What super beings are we expecting from them. I know from experience that it was the expectations of others, that sent me off onto different paths. It was because I wanted people's approval that I began a life of TRYING to BE. At the end, I found I couldn't be. I was just trying to live up to other people's image of their idols,. I had misunderstood God's plan.

The more you humanize leadership and fellow Christians, the more you will recognize the difference between what is God's spirit and what is man. You humanize your fellow brother and sister by realizing that while they live on earth, they will fall and fail. We humans have a tendency to follow people who appear to be strong. We seem to think that because they put on this façade, that this must be who they really are but the reason why they put on the facade in the first place, is to protect themselves against the false expectations which people have about other Christians and about themselves. If they don't put on a façade, people will attack them for not being all that they think that their leader should be. You see, it is us who breed shallow leaders. The pressure to live up to people's expectations on me, I usually tell them to shut up. This is my defence to stop people from sending me down the wrong track. If Jesus were here, He would have added a little more like shut up you hypocrite or get behind me Satan. You see, most of us don't want to be in leadership but when others accept it, we criticize them. The greatest destruction of God's church is the false images which people have about what is a Christian, and what a leadership ought to be.

We Christians will remain vulnerable, dependent and needy until the day we die. You don't just get called and abracadabra you have become a super being. When the anointing and call of God falls upon someone, they do not change. God may empower someone to do great things but as soon as that anointing has passed by, they will still be the same person they were before God used them.

Men are at the heart of God's plans. They are instruments, vessels and temples of God's spirit but they are also human beings. God anoints men to do His work on earth. They are His Kingdom on earth, His Body, His Church, His Children, His hands, His feet and His voice but they are also just simple human beings with weakness and failings.

God did not redeem man unto perfection but He redeemed Him unto righteousness. We will continue to have weaknesses until Christ returns, then we will be made perfect. In the meantime we will have to settle for being righteous. While we are weak and do wrong, we have also been made righteous through Christ. Righteousness means 'right with God' because of what Jesus did. While we do continue to do wrong, God is not offended because He accepted the price Jesus paid for our sin. God has accepted Christ death for our sin. We are now right with God, "righteous" not "perfect". We are righteous people, saved by grace. Not perfect men saved by grace.

The sins from our weaknesses have being dealt with by Christ's death. so the only thing to worry about is serving God. When Christ returns, we will not stand before God to face our sins. Christ has dealt with them so we don't have too. What we will face God about, is what did we do with our gift of righteousness. Did we keep it to ourselves or did we share it with the world. Judgement will be about service, not about sin. The incredible attention given to a sin consciousness has cause the body of Christ to stop functioning. Our faults and weakness continue no matter who you are. Perfection is impossible and we should accept our weaknesses as simply our struggle with our humanity. The sooner we accept our humanity, the sooner we will be more gracious with each other and more understanding to the struggles of leadership. The sooner we accept that, we are righteous, and we will not judge each other as the world



Co Tall

Christmas Time

Again

September, 2006



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When the world stops on Christmas Christmas service but invite them to his fears. His joy was in the Lord. He kinds of things.

Some will celebrate pagan beliefs such Lord. as Santa Claus, others will celebrate the the reason the world has for their the Jewish faith, there are many times Consider your giving as a celebration celebration, let us not forget Jesus.

It's not just a time to reflect but it is something has been lost. also a time to express to the Lord and the God has done for us.

others receive presents. For me the world, the spirit of heaviness and personally, it typifies the incredible put on the garments of praise. Perhaps I have a specific request for the women us sharing and caring for one another. the voice of triumph. His joy is when He sees us enjoying each other. For this reason He died.

all men will know that we are fool or what they thought of him. He Christians. What an opportunity we was expressing his love for God to the have to reach the world for Jesus. world. Nothing was going to hold it Don't only invite your friends to the down. His joy was much greater than

day, many people will celebrate all your home, give them a meal, buy them expressed his love with all his might, a present, have some entertainment, with all his soul and with all his spirit. sing, dance and truly rejoice in the Shout unto the Lord for His mercies

end of the year and some will use their Celebration is not something that has things. Hallelujah! time to get drunk and party. Whatever been built into the Christian faith. In

of rejoicing. I am sure that many of the of God's goodness. This year when you celebrations in Christianity have been give to the Christmas appeal remember I don't mean that we should necessarily lost throughout history. Perhaps the what God has done for you. get all religious about it but let's early church didn't feel like rejoicing remember that our joy, fun, laughter when they were going through so much Let's reach out to the poor with God's and celebration comes from the Lord. suffering but I do believe that goodness. Consider this to be your

to others our greatest gratitude for what Perhaps this is a time to restore the Africa and the Philippines. Sometimes celebrations of our Lord. A time when it is amazing to see people singing we can declare out loud that the joy of praises to God, when they are The thing I like most about Christmas the Lord is our strength. Perhaps it is a unaware of what they are doing. Often time is that on the Lord's birthday, time when we throw off all the cares of this makes my heart leap with joy.

grace that the Lord has shown me. this is a time to be a generous and a who are locked up in prison in the Instead of receiving presents for His hilarious giver. We can shout to the Philippines. If anyone is able to give birthday, He gives them out. I believe Lord a new song and put all extra funds so we can bless them as that Jesus has no greater joy than to see reservations on hold to express aloud well, please let us know. Nick and

Love has no bounds. I can see in my are amazing. In the natural person they imagination King David dancing with have no reason to sing to God like they He gave us a new commandment that little clothes on before all his royal do but they worship God with all of we would love one another and by this subjects. He didn't worry about being a their hearts and it is so touching to see.

endure forever. Shout unto the Lord for he is good, for He hath done great

praise and thanksgiving to the Lord. Last year we held great celebrations in

Lucy have been going there regularly for a long time and the women there





The Jolito Family

In Cebu, Philippines we have started the road and earns an average income of food supplement for the children. This working within an area where people \$60.00 pesos per day, that is less than will not be a hand out but a hand up. live in cemeteries.

sad situation that needs our attention. milk formula for the baby nor the food A young lady with six children died as a for his children. result of child birth. She had no money for hospital or even a midwife and so They have already lost one child to same disaster happen to them. she went into labour and delivered her dengue fever.

baby in one of the tombs. Unfortunately

The team was not told of the been able to supply formula and food It is so sad watching a parent grieve for She was a very active mother in our is in crisis. school there and the children that she left behind are in a terrible state.

We need to raise around \$3000.00 for The children need their father now and the family so that we can supply the yet he has to work to provide for them. Their father sells water on the side of father with some capital and monthly Can you help the Jolito family?

Jolito family lives in a cemetery





\$AUD2.00 Australian daily.

children in and Lucy and Nick have

We thank God that we were able to lead Lucy and Nick have found an incredibly There is no way that he can afford the the mother to the Lord before she died.

> But now we need to help this dear father save his children from having the

The children's ages are: Florendo 16, she was also suffering from high blood At the moment neighbours at the Osabas 15, Sulpicio 12, Genena 6 and pressure and she basically bled to death. cemetery have taken some of the Florendo 4, baby Jolito

predicament until after she had died, for the short term but this family really his wife while having the pressure of caring for his own children.



It's Christmas Time Again







Information about the UAF schools in Uganda





The Uganda Australian Foundation (UAF) and goes on to primary seven. Primary staffed. school in the village of Kitetika.

has built two schools in the north of seven pupils sit an external Primary Education.

Kitetika village is about 10 km from many HIV orphaned children.

which only one room was usable. This mill. God is good. It takes a lot of cooking same house is now the school's to cater for approximately 2500 students, administration block and God has teachers and staff each day. continued to bless the school to its current capacity.

Presently, a new school building of four It also boasts a large arena, which was stories is being constructed. This will built and partially covered by IGC consist of 17 new classrooms and one donations. We hope to complete this dormitory floor for grade 6 and 7 girls. project one day. The arena serves many Girls in Uganda carry a heavy work load purposes especially during the rainy in the home and have little time left to season when children use it as a dining study so next year, this opportunity will be facility. available for them. Already 12 new classrooms are in use whilst two more The UAF has been able to rent an acre of floors are being completed.

In Uganda, the education of children needed to give the children opportunities begins in nursery school at the age of to develop interests in other areas. We three and a half. They commence in baby hope one day to be able to purchase the class, then graduate to middle and then land and develop it for sports' activities onto top class. Some bright children can such as basketball and netball. go from baby to top but they are few.

After nursery school comes primary approximately 450 children. Kitetika education. It commences at primary one nursery has nine spacious classrooms Some of the children UAF

Uganda in the Gulu District and one Leaving Exam (PLE). If they pass this Each of the UAF schools has its own exam, they proceed to Secondary clinic and is staffed by qualified nurses and assistants. The most common treatments given are for malaria, worms, Kampala, the capital of Uganda and the This has two components Ordinary Level ringworms, and eye and ear infections school there is also the headquarters of the ("O" level) and Advanced ("A" level.) "O" resulting from congenital syphilis for UAF. In this village they have built a level is for four years, from senior one to which whole families have also been nursery, primary and secondary schools four. Students sit an external exam and if treated. A number of children have and next year they are building a successful, they can proceed to two years physical abnormalities. Some of these vocational school. The school has an of "A" level education. After this they have been rectified through operations. enrolment of over 1000 children mostly either proceed to university or other We really thank you for assisting the from disadvantaged backgrounds with courses, as determined by their mark and children by providing finances through sponsorship which also covers for finances. payment for staff and medicine. This is a The UAF commenced in 1996 with an The primary and nursery school this year huge relief to the parents and our health enrolment of only 19 children have received a new kitchen with energy facilities have saved the lives of many accommodated in a five-roomed house of saver stoves, two food stores and a maize children.

A perimeter wall has been built to give a more secure environment for the children.

land adjacent to the primary school for a football/sport field that was urgently





The nursery schools have a pupil intake of

while Kasangati (five miles from away) has four rooms. Both nurseries have clinics with their own full-time nurse and assistants.

Secondary school has an enrolment of more than 600 students with 140 of them being young people who started in UAF nursery school. It comprises of a fourstory girls' dormitory block, which is fully



The children love football



A message from John Beard

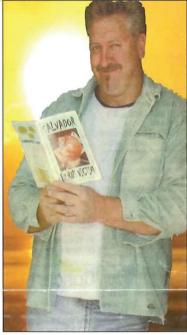
Dear Sponsors,

Thankyou for being so good to both IGC and the individuals who we sponsor. You have all been so amazing that whenever I think about the lives that we as a team have touched I thank God for you all. Truly there is probably no single church which has been able to achieve the same results as we have. Without the grace of God in your life, we could do nothing and we never take this for granted. We are forever appreciative of the mercy that God shows to us through you.

I often ponder on how vulnerable we are as an organization. We don't sell anything, we don't have anything, we are completely reliant on donations coming in every month. Without sponsors we can not exist nor can we do anything to touch the lives of the poor. We are supported by you but beyond that by the grace God has placed in your heart. Imagine that, an organization which is held by nothing more than God's grace. At any time a sponsor may leave our program. There is nothing binding them other that what God has placed in their hearts

How nervous that makes me feel when I put that in the light of the thousands of people who look to us for help each month, yet I have no need to be. God has been so faithful over and over again.

Yet our humanity still exists and we still doubt God from time to time. I guess He is asking the same questions which I keep asking myself and that is, what would it take for me to become completely secure in God? If I had more things would I become more secure? If a could touch something visible would I trust God any more? Why is it that I can't completely trust my relationship with God? Have I really understood what God has done for me?



This is a very frightening question, one at which I look at daily and say to myself, 'Come on John believe, move on to the next step, there is another person crying, there is another person suffering'. I keep moving forward feeling like I could fall over the edge any day. The flesh is crying out, when will I settle and when will I rest? Yet while there is a great commission there is no place to rest. We must keep on moving forward and keep on trusting God. I keep telling myself just one more step forward. Is there another sponsor? Is there something else which I can do to help touch the world with God's grace? Let's be honest, what is the real sacrifice? It's just simply asking someone else if they will sponsor a child? What is the outcome of a few words?

Sponsors, you hold the key to transforming lives. Your mouth has the power to bring life to children. Your few words can take away suffering from many people. All you have to do is step out in faith and open your mouth. If every sponsor invited another person to sponsor a child what would be the effect? All it takes is a simple action of asking friends. Every new sponsor holds another key and every sponsor they invite holds even more answers to the world. As the news travels, God is able to do abundantly more than that which we could think of or do. Good gossip is more powerful than bad gossip because you can over come evil with good.



It may sound strange to mention my need for someone to sponsor my travel expenses to visit the Philippines, Africa and Sweden. People seemed shocked that we don't have enough money to cover these expenses, especially when we have been able to send over \$AUD360,000.00 to our work overseas in the last year.

The simple truth is that in order to send that amount of money overseas, we have had to keep our cost as low as possible. Our house is our office and our wages are low. Our computers have been donated to us by some fantastic people. Our office furniture is worn out but in all this we thank God for what he has been able to do.

Sometimes our own policies of sending money as it has been designated by the sponsor, keeps us bound with our hands tied to do anything outside of what sponsors give for. Of course we love to send your money to its exact designation every month but sometimes we worry about where we are going to get the money to pay for our administration expenses.

Every month we truly have to ask God, to find a way to do a miracle for us in IGC. We are not complaining but at this point of time I need to visit our programs overseas and we don't have the funds available. I don't want to pressure anybody but if God is dropping this seed into your heart then it would be fantastic and an answer to prayer.

If you are a business man why not place an advertisement in our newsletter and claim it as an expense to your business. We will use the money for the advertisement to visit the programs, encourage the workers and collect information to report back to you.

Thankyou again for being such a blessing to us with the things God has already done through you. No one can take away what you have all ready done. There is no moth nor rust which can destroy the grace of our Lord Jesus Christ.