

# The Importance of IS Stakeholder Perspectives and Perceptions to Requirements Negotiation

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### Abstract

*Project managers and developers need to acknowledge the influence of IS stakeholders' perspectives and perceptions on the outcome of requirements negotiation - the essential component of requirements elicitation. This paper describes a conceptual study, which demonstrates such an influence and asserts that stakeholder perspectives, goals and issues are the key to negotiators' perceptions of the system requirements. Analysis of two seminal IS case studies further supports this assertion and indicates that goals, perspectives and prior experience with negotiation techniques can guide stakeholders bargaining behaviour during requirements negotiation. Our findings also show that to achieve consensus on requirements, stakeholder perspectives must be aligned or accepted by negotiating parties. Achieving alignment of perspectives, however, is quite difficult because during requirements elicitation stakeholders' goals continually alter due to their acquisition of technical and business knowledge, development of inter-personal relationships and creation of new perceptions of issues relevant to requirements negotiation.*

### 1. Introduction

Development of an information system (IS) requires input from the 'Holy' trinity: a designer (IT), a decision maker (Business) and a user (Individual) [9]. Initially these three system stakeholders share a common goal - to establish an IS. This shared goal, however, is driven by a set of 'requirements', which are held by individual and organisational project stakeholders. Some of these requirements are explicit others tacit, some reflect objective business and technological needs, yet many are deeply personal and subjective, some are buried in the stakeholders' perspectives and their individual perception on the system being developed and its role in the organisation and the society, all of which are influenced by

stakeholders' life, education and employment experiences [2, 10-13, 17-19, 36, 42]. And so, it is important to acknowledge that in addition to representing their employer and employee groups, each stakeholder also represents their own individual expectations as to the form and the function of the completed IS [9].

Apart from stakeholders' expectations, there are many other variables that influence the success of an IS project. Some of these influences affect a project in terms of its scope, size, problem domain, deadline and budget. Most of these influences are predominantly static (or constant) throughout the development of the system and as such can be easily handled by project managers [30, 38]. In contrast, it is difficult for management to be prepared for the dynamic (or changing) influences, such as stakeholder experience and knowledge, expectations and perceptions, trust and conflict, empathy, intersubjectivity and rapport [34, 38]. These dynamic influences, in particular, have tremendous impact on stakeholder perception of all aspects of IS projects - in fact they provide a strong catalyst for generating stakeholders' own goals and the formation of views on other stakeholders' goals [15].

Creation and communication of stakeholders' goals, their willingness to change or reduce these goals, and their readiness to part with some these goals, will have a definite effect on the stakeholders' bargaining behaviour during requirements negotiation, and ultimately, on the final shape of the system under development [13, 45].

It becomes, therefore, evident that establishment of effective inter-stakeholder communication, building of trust and empathy, all leading to alignment of IS stakeholders' perceptions and perspectives, is critical in achieving natural consensus<sup>1</sup> on stakeholder goals during the requirements negotiation process [15].

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<sup>1</sup> By a natural consensus we mean a consensus that has been genuinely made by all parties and not as a result of pressure or just to expedite the negotiation.

Requirements negotiation and consensus building can be extremely difficult, as the process is organic due to stakeholders' tendency to change their viewpoints and goals as they become technically aware, as their knowledge of the business increases, as they achieve incremental goals, as they establish rapport with their counterparts, as understanding of the system changes their perspective on goal value and to suite volatile business environments.

To demonstrate that requirements negotiation and its styles, as well as, acknowledgement of stakeholder perspectives, perceptions, goals and issues are pertinent in requirements elicitation this paper first reviews two well known case studies of the failed IS development. In support this paper discusses these factors on requirements negotiation as pivotal influences in elicitation of IS requirements. Then the paper explores stakeholder goals and issues with a view that alignment of these goals and issues is crucial in reaching natural consensus in requirements negotiation. An overview of negotiation styles as commonly adopted by three major stakeholder types, i.e. business, IT and individual, follows. Finally the paper discusses the influence of stakeholders' goals, issues and negotiation styles on the requirements elicitation process and system development.

## 2. Vignette Case Studies

There have been many reported IS project failures over the years, though we analysed only two of the most famous cases, to seek support to our argument on the importance of stakeholder perspectives and goal or issue perceptions, as well as, requirements negotiation styles to achieve not only the successful requirements elicitation but also to reduce the chance of project failure.

### 2.1 Vignette 1: LAS

In 1992 the London Ambulance Service (LAS) was responsible for the dispatch and tracking of ambulances in response to emergency calls. Soon after installation the system, call traffic increased, misinformation on the dispatch and location of vehicles occurred and the system crashed as a result of a large number of exception messages occurring because of database problems. After analysis a report found many reasons for the system failure but high in the list were unjustified assumptions made during the specification process because there was little consultation with appropriate stakeholders such as end users and client stakeholders [22]. Also because of the lack of stakeholders' contribution during development,

stakeholders lost confidence in the system and did not assert its 'ownership'. Further to this, the pre-existing climate of mistrust between management and staff inhibited the specification process, so the majority of decisions were made purely from a management perspective. While these influences were not the only reasons for the system failure, which eventually ensued, they did significantly contribute to a system breakdown, as well as, considerable user dissatisfaction.

### 2.2 Vignette 2: SOCRATE

In 1993 the SNFC (The National Society for French Railroads<sup>2</sup>) introduced SOCRATE (The Official Computerised Reservation System for European Tourism) as the official reservation system for all European train travel. The system was an adaptation of SABRE - the successful American airline reservation system used by the United Airlines. When the system was initiated chaos ensued immediately. It took much longer than with the old system to buy a ticket, staff could not understand how to use the ticketing system, much of which was caused by the poorly designed user interface. The system implementation was of equally poor quality, with frequent system crashes being the daily affair. Due to poor training, ticket orders were allowed to be entered several times (in both automatic and manual fashion), which resulted in seat double bookings as well as empty seats on trains because the system showed them as occupied. The automatic ticket dispensing machines were difficult to use so they were generally avoided by commuters. Many trains travelled empty because people could not get on them as they were waiting in line to buy tickets. Some staff refused to use the new system or gave out free fares in protest. In error, the system often produced tickets where the fare cost was zero. Some tickets were provided for non existent trains. The system produced tickets for trains that would never meet. Both case studies had many factors contributing to the project failure, but as expected, high on the list were ignoring or diminishing the value of the different stakeholders' perspectives, poor perceptions of the system based on requirements elicitation process exclusion, exclusion from the requirements negotiation process or acceptance manipulation as the result of a forceful negotiating style and finally decisions were made based on only certain stakeholder groups' goals and issues.

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<sup>2</sup> Please note the acronym has been translated to English so the letters do not match the title

IS Stakeholder Influences	EVIDENCE OF ISSUE	
	LAS SYSTEM	SOCRATE SYSTEM
<b>Perspectives</b>	Management failed to consult all system stakeholders and thus didn't acknowledge all perspectives on the system requirements;	Consulted stakeholder groups had significant cultural differences, which were largely ignored as of any importance in perspective setting;
<b>Perceptions</b>	Stakeholders, who weren't consulted in the process had a poor perception of the system which resulted in a lack of confidence in the system so they did not accept it for use;	
<b>Goals</b>	Management made decisions on establishing requirements based purely on their own goals;	Certain stakeholder groups were under-represented during requirements elicitation and their goals were not considered in system implementation, e.g. the ticket clerks, travel agents (who could also remotely issue tickets) and travellers. Also senior management focused on a delivery date and ignored the issues of system quality;
<b>Issues</b>		Development of the system was influenced by management issues such as economic factors, political and power interplay between the government, unions and developers;
<b>Negotiation Styles</b>	The non-management stakeholders weren't given equal opportunity during negotiation of requirements;	Stakeholders were manipulated into decisions by the system designing committee, thus resulting in forced consensus;

Table 1 - IS System Influences

Table 1 demonstrates that both the SOCRATE and LAS systems experienced problems with stakeholder issues - such as differences in their perspectives, perceptions, goals, issues and approaches to negotiations - which all cumulatively contributed to their failure [14, 21, 35].

### 3. Case Study Findings

Both case studies clearly indicate that failing to acknowledge (all) stakeholders' perspectives may contribute to poor system design and possible project failure. They demonstrate that ignoring or diminishing the value of a perspective usually results in dissatisfaction from that stakeholder group, especially when it represents active system users. We can see that management in both cases resorted to power type

negotiations and, as such, eliminated an opportunity for unbiased input, communication and consensus building. In the LAS case study, the general staff had a pre-existing poor relationship with management so they were not included in the elicitation process. In the SOCRATE case study, management did consult a few representative stakeholder groups but manipulated their decisions to serve the management criteria of a set installation date. In both cases, the post implementation reports argued that better relationships between management and staff would have contributed to an improved communication process and more beneficial requirements elicitation process [14, 21, 35]. Obtaining all stakeholder groups input would have resulted in more complete specifications and allowing better negotiation of the requirements would have resulted in better end user satisfaction [14, 21, 35]. Further to this

the SOCRATE report highlighted the importance to understand the different perceptions within a stakeholder group even though they may have the same perspective [35]. Both reports recommended that decision making should use a negotiation style that encourages equality of power for all stakeholder groups so individual goals and issues are not favoured to the detriment of the system [14, 21, 35].

Literature on bargaining behaviour has already established that any party to a negotiation comes to the table with a predisposed perception on what they feel is an equitable goal to achieve [15]. In addition to this and from our review of these reports it became evident the individual stakeholder perspective also brings respective issues that influence their willingness to concede or stronghold a goal.

#### **4. Stakeholders: Their Goals and Issues**

IS stakeholders can be classified into three main categories, i.e. IT, Business and Individual stakeholders [9, 19]. 'Society' could also be considered a group stakeholder; however, at the same time rich social affects apply equally to all of the identified groups; thus, we decided not to isolate the 'society' as a separate stakeholder group.

The IT stakeholder group includes developers, implementers, designers, vendors or maintenance people [19]. The Business stakeholder group includes the business owners, department Managers, the Project Sponsor and the Project Manager [19]. Finally, the Individual stakeholder group includes the end users and customers [19]. Traditionally the requirements process, which involves all of these groups, has been defined as the refinement of acquired goals into non-conflicting requirements statements [18]. Stakeholders' goals are important to the design of an IS because acceptance of the project is based on the achievement of personal goals and how it affects their everyday working environment [26, 31]. Crucially, each goal has been predetermined based on their perspective [15]. Critically, the desire to achieve these goals or to get their 'piece of the pie' determines how they perceive counterparts' goals and how far they will go to accommodate the achievement of their goals [15]. A further influence on the negotiation of requirements, apart from goals, is that all stakeholders also have individual issues they must contend with during the negotiation process. In fact stakeholders' goals are usually determined or limited by these issues therefore it is important to acknowledge these as having an influence on the requirements negotiation [19].

#### **4.1 IT Stakeholders Goals and Issues**

In the hermeneutic analysis of negotiation literature, the themes emerged, which largely confirm Easterbrook's [19] observation that the IT groups' perspectives are based on goals, which are specifically aimed at the IS projects performance, implementation and maintenance. The factors also highlighted from our investigation included project effectiveness, efficiency, output accuracy, ease of implementation and maintenance, meeting the deadline, keeping within the budget, fulfilling the requirements. Further to this, project stakeholders are also interested in being innovative and creative whilst maintaining a quality system. The IT group focuses on issues concerning the project and the effect of its final version on developing further projects within their organisation or for other clients. They have issues with obtaining the relevant information from the right people so the system achieves the required results, as well as, trying to satisfy the majority of stakeholders. Consideration of technical feasibility is also paramount in determining the organisational and technical suitability and availability of the solutions built or acquired for the use on the developed system [24]. The most important issue is with operational feasibility which relies on the acceptance of the project within the organisation [24]. This group has the greatest involvement with the project as they develop it.

#### **4.2 Business Stakeholders Goals and Issues**

The Business stakeholder groups' perspective is based on the goals that include deadlines, budgets, system requirements, improvements to business functions and processes, maintainability, implementability, effectiveness, efficiency, accuracy and the resulting productivity for business [4, 19]. The business stakeholder group issues are on a macro level within the corporate structure [4]. Business stakeholders commonly take the standpoint from which they gain the 'big picture' of business rather than the view of various individuals in this business. In IS development, they have to consider benefits to both the project (sponsors, developers and project managers) and the business (clients, shareholders, suppliers, management, employees, etc.). They often have concerns with economic feasibility of an IS undertaking, which commonly drills down to the benefits outweighing the costs [24]. Security is another issue for management especially in a climate where privacy laws have been legislated. Managements should ensure the company's and clients' sensitive information be protected [44]. This group has the second greatest involvement with the development of

the project as they hold the power to support or veto the project and ultimately set the initial deadline and budget.

#### 4.3 Individual Stakeholders Goals and Issues

The individual stakeholder's perspective is based on a goal list that includes: personal requirements, usability and possible improvement to any business functions that affects individual's work [19]. This group's issues are typically placed on an organisational micro level. Individual stakeholders usually take a selfish view of the business and do not consider the larger impact of IS development. Instead, they are concerned with the implications of IS deployment on their job security, workload, on the amount of free time and on their salary. The majority of corporate individuals have little or no involvement in the development of the IS project and are often represented on the project by a single person. At the same time, they normally have the most contact with the final project, they are the main source of concerns and the subsequent feedback on the system quality, and have the most to lose if the system replaces them or part of their responsibilities in the workplace.

When examining goals on respect to negotiations it is important to acknowledge that while participants to a negotiation will generally stand steadfast to protect their ultimate goal, they are more willing to make concessions on sub-goals when risks are minimised [1]. It is equally important to acknowledge negotiators will become more complacent in their defence of a goal if they realise that it is unlikely to be achieved or if concessions would be made and the resultant outcome loses relevance to their original goal [1]. From this synopsis it is evident there are many differing issues and goals that need to be aligned to smooth the negotiation process but it must be acknowledged that negotiation styles used during this process are also an influence on the outcomes achieved.

### 5. The Nature of Negotiation

Fundamentally negotiation can be defined as a social interaction between individuals to apportion some limited resources [36]. Characteristically, negotiation involves two or more parties with a conflict of interest who use some format of cooperation to establish some level of agreement on the issues in conflict [33]. In software development, in particular, while negotiating participants aim to accept one outcome, their decision making process spanning social, organisational and technological dimensions can indeed be very complex [42]. Moreover, negotiating

individuals sometimes rank their personal goals over the goals of their employer, thus adding an important personal dimension to the negotiating equation [33, 40]. Further to this, because negotiation outcomes are influenced by many external issues, including the context of the multiple stakeholder groups (the 'Holy trinity'), it is important for requirements negotiators to develop a strategy that will minimise the negative impact of the proliferation of non-homogeneous stakeholder groups [34]. To this end, negotiators must learn how to manage and reconcile stakeholders' expectations, and this cannot happen without prior training, preparation and tailoring negotiation approaches to individual stakeholder groups and their customary negotiation styles [7]. To better understand this process we examined the negotiation techniques used by the three stakeholder groups, i.e. IT, business and individual.

Individually, the three stakeholder groups use a range of negotiation techniques to achieve their goals when negotiating in business or personal aspects of their life. On a macro level and as individuals, in business the most important negotiation we will be party to concerns our remuneration and working conditions. These negotiations come in the form of Enterprise Bargaining Agreements (EBA) or Work Place Agreements (WPA) and may occur in a group or individual environment. Similarly in IS negotiations, as individuals, we may be party to negotiations as top level as deciding budget or deadline or as bottom level as choosing a screen button colour. Significantly we are all subliminally being schooled in the art of negotiation daily. These negotiation techniques may range from group strikes to union representative negotiation resulting from voted agreement or even one on one, face to face, negotiation for specific employment contracts. On a micro scale, negotiations between individuals may involve small financial transactions, making appointments or personal task scheduling. Importantly each time we are party to a negotiation we train for future negotiations. In the following sections, we will review different negotiation styles as often deployed by different stakeholder types, which are also present in IS negotiations and requirements elicitation.

#### 5.1 Business Stakeholder Negotiations

The Business stakeholder group, as industry representatives, use many distinct negotiation techniques during the course of business. Some of the more prevalently used are the Sequential Agenda and the majority vote Decision Rule [6]. Another type is the Power Balance negotiation where all participants

are given an equal vote [6]. Business stakeholders also use lowest price Auction style negotiations for goods or services [46]. In contrast and offering more opportunity to negotiate are multi-lateral business negotiations where in a series of iterations the parties with the worst offer are asked to provide a counter against the better ones until the best price is sourced [46].

The styles of business negotiations may significantly vary from culture to culture, and their goals may also be differing from country to country [43]. Salacluse [43] performed a survey of 310 business people from Spain, France, Brazil, Japan, USA, Germany, U.K., Nigeria, Argentina, China, Mexico and India and found that while 54% viewed contract signing as the negotiation goal, the remaining ones preferred the establishment or maintaining of a relationship as their preferred negotiation outcome. Also interesting was that 100% of all the Asian countries viewed negotiation as a win-win process, whereas in Europe France was the only country to share this perception [43]. In conclusion Salacluse [43] reported that professional, national and occupational cultures provide all important influences on a person's negotiation style. From the analysis of business negotiation styles, it appears that the business negotiation focuses on achieving the most suitable outcomes through the use or elimination of power over resources to be shared.

## 5.2 IT Stakeholder Negotiations

Understandably the IT stakeholder groups are often involved in business negotiations and using a variety of bargaining styles. However, when isolated and working within their respective field, IT project stakeholders often employ the 'recommended' negotiation techniques, such as the Win-Win approach which relies on a set of principles, practices and tools to facilitate a mutually satisfactory outcome for a group of interdependent stakeholders [8, 41]. Another negotiation method used by the IT stakeholder is the WinCBAM (Win Cost Benefit Analysis Method) - an expansion on the Win-Win approach, which uses the same fundamental process but in addition requires the stakeholder to assess the costs, benefits and uncertainties established as being associated with the requirement before they make a decision on its inclusion or omission [27]. A further negotiation method used by the IT personnel is the Quantitative Win-Win that relies on a hierarchical process to determine the importance of different stakeholder representatives in relation to the business and also ranks the requirements from the perspective of each of

the stakeholder groups. It consequently uses a process of tradeoffs to decide on requirements based on resources use and their availability [41].

An iterative negotiation method used by IT stakeholders is the GQM (Goal-Question-Metric). GQM looks at stakeholder goals on a conceptual level from the various viewpoints and relative to a specific situation. It consequently quantifies the goals value and level of achievement [5]. Similarly, the SQFD (Software Quality Function Deployment) groupware method supports negotiations by measuring importance of each requirement to separate stakeholders or their groups [39]. TQM (Total Quality Management), on the other hand, emphasises adoption of value systems, methodologies and tools to increase or establish customer satisfaction [29]. Often used in support of TQM is Six Sigma, a business strategy that uses statistical methods to highlight and eliminate problems from the business processes to improve customer satisfaction through the elimination of defects by focusing on variation reduction [3, 29]. All of the techniques applied by the IT stakeholders demonstrate that their perspective focuses on fairer outcomes based on quality consideration, analysis of stakeholder needs, viewpoints and system feasibility.

## 5.3 Individual Stakeholder Negotiations

As individuals, we may participate in all of the above mentioned negotiation situations and their respective techniques. On the other hand, individual get engage in bargaining situation which are specific to their personal objectives. This can include negotiations for the purchase or sale of a car, house, boat, negotiations about wages and working conditions, it can be related to house work allocation or give-and-takes with children to determine curfews, allowances or gifts. However, negotiation is easier for some than others but in each case we make the decision adopt either a distributive or integrative style. Distributive bargaining behaviour occurs within a competitive context relying on demands, threats and arguments to increase a participant's chance of maximising their individual gain to achieve a win-lose outcome thus only creating unilateral satisfaction [36, 47]. Integrative bargaining behaviour occurs within a cooperative context relying on information exchanges, concession exchanging and the building of relationships to increase the chance of maximising joint gain and mutual satisfaction [36, 47]. To put simply, in individuals, our negotiation perspectives and styles are based on personal preferences. We choose to be passive or aggressive and make these choices based on our past experiences, our personality, and our

determination to achieve our goals. Often, however, the ingrained personal style may change rapidly when entering new negotiation situations, which may be unpredictable, with unexpected interactions, and unbounded in its influencing variables. However it is not only our negotiating perspective that influences our bargaining behaviour. The goals we want to achieve are also of major importance in this process.

## 6. The Effect of Goals on Reqs Negotiation

Every negotiation is a goal directed activity [36]. In fact the first phase of negotiation preparation is to develop a strategy based on the determination of one's goals [24]. It is commonly agreed that stakeholders' goals are one of the catalysts for requirements elicitation, elaboration, organisation, analysis, negotiation, documentation, and evolution [32, 48, 49]. A crossover in social, anthropological and IS research has helped us to acknowledge that the decision making of IS stakeholder groups is based on the perception of requirement's importance to their unique goals [4]. This can be problematic because individually each stakeholder considers their goals as having overarching importance to the system, where in reality, when looked at in relation to the IS organisational context this perspective may be incorrect [4]. More important, when negotiating stakeholders use their goals as the benchmark for concession or defence, which can consequently influence negotiation outcomes, this could lead to organisational conflict, negotiation breakdown, or it may contribute to deadline and budget overruns [20, 25, 33].

## 7. Negotiation and Goal Alignment

When discussing alignment and its values, there are a few things that need to be considered. Even though they are not always obvious, in every negotiation there are always latent shared interests, which are only of use if you can identify them and use them to create common goals or acceptable outcomes [23]. Therefore shared interests need to be actively pursued and emphasised to facilitate a smoother negotiation process through the alignment of goals. Moreover, having differing goals and issues, or even the presence of conflict is not necessarily detrimental to the process - as we know most agreements occur after the initial disagreement [18, 20, 23, 28, 37]. Interestingly, conflict can also expose issues that may never have been resolved, and so even conflict can contribute to the success of the project [18, 20, 23, 28, 37]. Most importantly, goals which are based on personal perspectives are often subjective and yet are open to

change if the stakeholders' perception becomes more objective. A developer must therefore acknowledge the effect of positive and negative relationships on perspective taking. As Drolet [15, 16] previously reported a pre-existing positive relationship between negotiation counterparts usually already has the influences exerted by rapport, trust and intersubjectivity; and these will positively influence the selected outcomes when the counterparts acknowledge each others' perspectives. Contrastingly, a negative pre-existing relationship lacks these factors and can be detrimental to the outcomes based on perspective taking [15, 16]. However, if a negative relationship is pre-existent, the differing individual perspectives can still be aligned to that of the business.

## 8. Discussion

At this point, through a review of literature, we have established that there exist three stakeholder groups with distinct viewpoints in an IS project, i.e. IT, Business and Individual. Each of these groups has goals based on their relative perspectives. These goals are not necessarily firmly set and they can change during the elicitation process as the individual acquires technical and business knowledge, create relationships and develop new perceptions of their issues. Further to this, their previous negotiating experiences influence their negotiation perspectives and their bargaining behaviour during requirements negotiation. Finally, we noted that alignment of these perspectives, whether it is to a counterparts or the business perspective, can help facilitate consensus outcomes on each goal. In addition, our view on the affect stakeholder perspectives, perceptions, goals and issues that can have on project success was supported by the findings and recommendations from two well-known case studies presented as short vignettes earlier in the paper.

## 9. Conclusion

Based on the literature review and our analysis, it is evident that factors influencing requirements negotiation play considerable role in the success of requirements engineering. While it is commonly accepted that developers need to widely consult the stakeholder groups to ensure that the relevant requirements viewpoints are captured and analysed, however, it is also crucial to understand the basis for these perspectives, as they strongly influence the stakeholders' perceptions of viewpoints held by others. Personal perspectives were found to play the role of the catalyst for the development of individuals' goals,

which ultimately guide the system requirements. Moreover, the stakeholders' previous experience with the negotiation process can also influence their willingness to offer compromise and to be amiable to altering their own negotiation goals. Further to this, we recognise the importance of establishing good relationships between negotiating parties as they can be used to promote rapport, trust, collaboration, empathy, compromise and cooperation which are all considered positive influences on the consensus process. We concede that aligning stakeholders' perception of each goal or issue can create an empathetic decision making environment which is conducive to achieving a natural consensus outcome [15, 16].

## 10. Bibliography

- [1] Abdollahian, M. and C. Alsharabati, *Modelling the Startegic Effects of Risk and Perceptions in Linkage Politics*. Rationality and Society, 2003. **15**(1): p. 113-135.
- [2] Al-Karaghoul, W., S. Alshawi, and G. Fitzgerald, *Negotiating and Understanding Information System Requirements: The Use of Set Diagrams*. Requirements Engineering, 2000. **5**(2): p. 93-102.
- [3] Antony, J., *Some Pros and Cons of Six Sigma: An Academic Perspective*. The TQM Magazine, 2004. **16**(4): p. 303-306.
- [4] Aurum, A. and C. Wohlin, *The Fundamental Nature of Requirements Engineering Activities as a Decision-Making Process*. Information and Software Technology, 2003. **45**: p. 945-954.
- [5] Basili, V.R. and Y. Mahiko, *Using the GQM Paradigm to Investigate Influential Factors for Software Process Improvement*. Journal of Systems Software, 1997. **36**: p. 17-32.
- [6] Bazerman, M.H., E.A. Mannix, and L.L. Thompson, *Negotiation in Small Groups*. Journal of Applied Psychology, 1989. **74**(3): p. 508-517.
- [7] Boehm, B., *The Art of Expectation Management*, in *Computer*. 2000. p. 122-124.
- [8] Boehm, B., P. Grunbacher, and R.O. Briggs, *Lessons Learned from Four Generations of Groupware for Requirements Negotiation*. Software IEEE, 2001. **18**(3): p. 46-55.
- [9] Borovits, I., S. Ellis, and O. Yeheskel, *Group Processes and the Development of Information Systems*. Information and Management, 1990. **19**: p. 65-72.
- [10] Carlsson, S. *Information Systems Development: Participation and Intersubjectivity - Is this just a matter of language and communication?* in *ECIS Conference*. 2002. Gdansk.
- [11] Carroll, J. and G. Shanks. *Modelling the Requirements Process; Where are the people?* in *ACIS*. 2001. Australia.
- [12] Carroll, J. and P. Swatman, *Managing the RE Process: Lessons from Commercial Practice*. 1999.
- [13] Coughlan, J., M. Lycett, and R.D. Macredie, *Communication Issues in Requirements Elicitation: A Content Analysis of Stakeholder Experiences*. Information and Software Technology, 2003. **45**: p. 525-537.
- [14] Directorate, T.C., *Report of the Inquiry Into The London Ambulance Service*. 1993, South WestThames Regional Health Authority.
- [15] Drolet, A., R. KLarrick, and M.W. Morris. *Thinking of Others: How Perspective Taking Changes Negotiators' Aspirations and Fairness Perceptions as a Function of Negotiator Relationships*. in *Basic and Applied Social Psychology*. 1998.
- [16] Drolet, A. and M.W. Morris, *Rapport in Conflict Resolution: Accounting for How Face-to-face Contact Fosters Mutual Cooperation in Mixed Motive Conflicts*. Journal of Experimental and Social Psychology, 2000. **36**: p. 26-50.
- [17] Easterbrook, S., *Negotiation and the Role of the Requirements Specification*, in *Social Dimensions of Systems Engineering: People, processes, policies and software development*. 1993, Ellis Horwood: London. p. 144 - 164.
- [18] Easterbrook, S., *Resolving Requirements Conflicts with Computer-Supported Negotiation*. 1994.
- [19] Easterbrook, S.M., *Elicitation of Requirements from Multiple Perspectives*, in *Department of Computing, Imperial College of Science, Technology and Medicine*. 1991, University of London: London. p. 126.
- [20] Easterbrook, S.M., E.E. Beck, J.S. Goodlet, L. Plowman, M. Sharples, and C.C. Wood, *A Survey of Empirical Studies of Conflict*, in *Cooperation or Conflict? 1993*, Springer-Verlag: London. p. 1-68.
- [21] Eglizeau, C., O. Frey, and M. Newman. *Socrate: An Implementation Debacle*. in *IEE Colloquium on Human, Organisational and technical Challenges in the Firm of the Future*. 1996.
- [22] Finkelstein, A., *Report of the Inquiry into The London Ambulance Service for the International Workshop on Software Specification and Design Case Study*. 1993, University College London: London.
- [23] Fisher, R. and W. Ury, *Getting to Yes: Negotiating Agreement Without Giving In*. 1983, New York: Penguin Books.
- [24] Hawryszkiewyck, I., *Introduction to Systems Analysis and Design*. Frenchs Forest, Prentice Hall. 2001, Frenchs Forest: Prentice Hall.
- [25] Hocker, J. and W. Wilmot Burton, *Power in Interpersonal Conflict*. 1985, Wm. C. Brown Publishers: Dubuque, Iowa. p. 67-90.
- [26] Hoorn, J.F., E.A. Konijn, H. van Vliet, and G. van der Veer, *Requirements Change: Fears Dictate the*

- Must Haves; Desires the Won't Haves*. The Journal of Systems and Software, 2006.
- [27] Kazman, R., P.I. Hoh, and H. Chen, *From Requirements Negotiation to Software Architecture Decisions*. Information and Software Technology, 2005. **47**(8): p. 511-520.
- [28] Kirsch, L.J., *Software Project Management: An Intergrated Perspective for an Emerging Paradigm*. 2000.
- [29] Klefsjo, B., H. Wiklund, and R.L. Edgeman, *Six Sigma Seen As A Methodology For Total Quality Control*. Measuring Business Excellence, 2001. **5**(1): p. 31-35.
- [30] Leffingwell, D. and D. Widrig, *Managing Software Requirements: A Unified Approach*. 2001, Sydney: Addison-Wesley.
- [31] Lehman, M.M. *Laws of Software Evolution Revisited*. in *European Workshop on Software Process*. 1996.
- [32] Letier, E. and A. van Lamsweerde. *Agent-based Tactics for Goal-Oriented Requirements Elaboration*. in *Proceedings of the 24rd International Conference on Software Engineering, ICSE*. 2002.
- [33] Lewicki, R.L., B. Barry, D.M. Saunders, and J.W. Minton, *Negotiation*. 4th ed. 2003, Burr Ridge: McGraw-Hill.
- [34] Li, C., J. Giampapa, and K. Sycara, *Bilateral Negotiation Decisions With Uncertain Dynamic Outside Options*. IEEE Transactions on Systems, Man and Cybernetics Part C: Applications and reviews, 2006. **36**(1): p. 31-44.
- [35] Mitev, N.N. *Toward Social Constructivist Understandings of IS Success and Failure: Introducing a New Computerized Reservation System*. in *ICIS*. 2000. Brisbane, Qld, Australia: ACM.
- [36] Olekalns, M. and P.L. Smith, *Social Motives in Negotiation: The Relationships Between Dyad Composition, Negotiation Processes and Outcomes*. International Journal of Conflict Management, 2003. **14**(3/4): p. 233-255.
- [37] Price, J. and J. Cybulski, *Consensus Making in Requirements Negotiation: The Communication Perspective*. Australian Journal of Information Systems, 2005. **13**(1): p. 209-224.
- [38] Price, J. and J. Cybulski. *Stakeholder Bargaining Behaviour - The Social Backbone of Communication, Negotiation and Consensus as Used for Information System Requirements Elicitation*. in *The Tenth Annual Australian Workshop on Requirements Engineering (AWRE)*. 2005. Melbourne.
- [39] Ramires, J., P. Antunes, and A. Respício, *Software Requirements Negotiation Using the Software Quality Function Deployment*. Computer Science, 2004. **3706**: p. 308-324.
- [40] Rubenstein-Montano, B. and R.A. Malaga, *A Weighted Sum Genetic Algorithm to Support Multiple-Party Multi-Objective Negotiations*. IEEE Transactions on Evolutionary Computation, 2002. **6**(4): p. 366-377.
- [41] Ruhe, G., A. Eberlein, and D. Pfahl. *Quantitative WinWin - A New Method For Decision Support in Requirements Negotiation*. in *SEKE*. 2002. Ischia, Italy.
- [42] Rus, I., M. Halling, and S. Biffel, *Supporting Decision Making in Software Engineering with Process Simulation and Empirical Studies*. International Journal of Software Engineering and Knowledge Engineering, 2003. **13**(5): p. 531-545.
- [43] Salacuse, J.W., *Ten Ways that Culture Affects Negotiating Style: Some Survey Results*. Negotiation Journal, 1998: p. 220-240.
- [44] Schwalbe, K., *Information Technology Project Management*. 2nd ed. 2002, Canada: Thomson Learning.
- [45] Spector, B.I., *The Negotiation Process: Theories and Applications*, in *The Negotiation Process: Theories and Applications*. 1977, Sage Publications: London.
- [46] Thomas, C.J. and B.J. Wilson, *A Comparison of Auctions and Multilateral Negotiations*. RAND Journal of Economics, 2002. **33**(1): p. 140-155.
- [47] Thompson, L. and L. Van Boven, *A Look into the Mind of the Negotiator: Mental Models in Negotiation*. Group Processes and Intergroup relations, 2003. **6**(4): p. 387-404.
- [48] Van Lamsweerde, A. *Goal-Oriented Requirements Engineering: A Round trip From Research to Practice*. in *12th IEEE International Requirements Engineering Conference*. 2004: IEEE.
- [49] Van Lamsweerde, A. and E. Letier, *Handling Obstacles in Goal-Oriented Requirements Engineering*. IEEE Transactions on Software Engineering, 2000. **26**(10): p. 978-1005.