

# Managing People on Construction Projects

Second Edition



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Edited by Robby Soetanto

*November 2013*

*ISBN 1 873844 79 4*

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A catalogue record for this book is available from the British Library

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Printed and bound in Great Britain

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## Foreword

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The construction industry cannot operate without people and people are crucial to the successful execution of construction projects. Project systems may have a strong influence, but cannot operate efficiently without excellent people who are informed, motivated and coordinated effectively. Teamwork, leadership and worker engagement are at the heart of successful project management.

This second edition of the Managing People on Construction Projects handbook picks up on the successful first edition which was well received in 2005. It brings up to date the important issues of how successful project leadership can be cultivated, what makes a high performing team and how the all-important staff of the supply chain can be successfully integrated into the team.

This edition has been revised by one of the original authors as part of a joint ECI and Loughborough University Collaboration showing how the human principles of empowerment and respect for people can be applied in practice through the value enhancing practices contained in this handbook.

The handbook links well to other ECI publications on Leadership and Motivation in Safety, Health and Environment' (ECI, 2009) and 'Organisational Project Management Competency Frameworks' (ECI, 2011).

I commend this handbook to all managers of projects and team leaders as useful tool in achieving high performance project outcomes.

**Alistair Gibb**

**ECI Director and Royal Academy of Engineering Professor**

## **Preface to the Second Edition**

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Welcome to the second edition of this ECI handbook

Since the publication of the first edition of the handbook in 2005, the engineering construction sector has encountered profound changes in the socio-economic environment, mainly due to the recession following the financial crisis in 2008. This represents a significant challenge for companies to operate with constrained resources and increasing demand to deliver 'more for less'. Recent developments of information and communication technology (such as 3D-information model / Building Information Modelling), if used appropriately, have provided an ample opportunity for companies to increase efficiency and effectiveness of project delivery. These changes and developments have highlighted the need to revisit the implementation of teamwork and empowerment concepts within the new working context, characterised by resource scarcity and increasing use of distributed virtual team. Nevertheless, managing people is still the key factor that underpins every successful project.

This second edition has undergone a re-organisation of the sections. The implementation guidance of Value-Enhancing Practices (VEPs) is presented before the assessment of current practice and climate of teamwork and empowerment. This will allow the readers to progress their understanding before thinking about assessing their current practice and climate. More recent literature has also been included, and texts have been added to consider the increasing use of distributed virtual team. This handbook complements ECI publications on 'Leadership and Motivation in Safety, Health and Environment' (ECI, 2009) and 'Organisational Project Management Competency Frameworks' (ECI, 2011). References to these two books have been made in different sections as appropriate. The last section presents analyses of the survey to assess current practice and climate. As most analyses involve simple manipulation of the data using Microsoft Excel, potential users do not need to possess advanced IT skills to analyse the data for their own use. I hope this will encourage the readers to adopt this 'tool' in their quest to improve current practice of managing people on construction projects.

**Robby Soetanto**  
**Loughborough University**



## Acknowledgements

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The first edition of this handbook was the result of the work of ECI Respect for People task force and a research project entitled “*Respect for People: strategies for improved construction project performance.*” The project was funded by Engineering Physical Science Research Council (EPSRC) via Innovative Manufacturing and Construction Research Centre (IMCRC, Loughborough University) and the Institution of Civil Engineers (ICE), whose support is acknowledged with appreciation.

Thanks are due to members of the task force who contributed to the original data collection exercises including interviews, questionnaire survey and case studies:

Philip Green	<i>Alstec Group Ltd</i>
Elaine Wilson	<i>Astra Zeneca Engineering</i>
Robin Astles	<i>Astra Zeneca Engineering</i>
Caroline Johnson	<i>Foster Wheeler Energy Ltd</i>
Kathy O’Leary	<i>Interserve Industrial Services</i>
Catherine Jackson	<i>Pochins PLC</i>
Julie Walsh	<i>Shaw Group UK Ltd</i>
Louise Gardner	<i>United Utilities PLC</i>
Nigel Brown	<i>United Utilities PLC</i>

The European Construction Institute wishes to acknowledge the contributions of task force members during the early stages of the IMCRC project:

Martin Austick	<i>Alstec Group Ltd</i>
Tony Park	<i>Bechtel Ltd</i>
Bill Faulds	<i>BP Chemicals Ltd</i>
June McCoy	<i>Bramall Construction</i>
Robert B. Storey	<i>CBI Constructors Ltd</i>
Dave Richardson	<i>CEL International Ltd</i>
Ed Wilson	<i>CEL International Ltd</i>
Oliver Brown	<i>CEL International Ltd</i>
Sue Lund	<i>DATS Ltd</i>
Andrew Eldred	<i>Engineering Construction Industry Association (ECIA)</i>
David Lucy	<i>Interserve Industrial Services</i>
John Collings	<i>Interserve Industrial Services</i>
John Stokes	<i>Interserve Industrial Services</i>
Peter J. Turner	<i>Interserve Industrial Services</i>
Craig Heinze	<i>JMJ Associates Ltd</i>
Jeremy Haslam	<i>JMJ Associates Ltd</i>
Dan Harlott	<i>OPPS Consulting Ltd</i>
Rob Garvey	<i>OPPS Consulting Ltd</i>
Peter Finnis	<i>Saipem S.A.</i>
Peter Roberts	<i>Shell International Oil Products</i>
Mike Hedges	<i>TPS Consult</i>
Andy Hamilton	<i>University of Salford</i>

ECI wishes to especially thank Andrew Price of Loughborough University who has led the task force and headed up the research team and to Stephen Weatherley (then ECI UK Operations Director) who drafted the VEP's. Special thanks are extended to other members of the research team: Andrew Dainty (Loughborough University), Alan Bryman (University of Leicester), Kay Greasley (University of Leicester), and Nicola King (Glasgow Caledonian University).

The ECI wishes to acknowledge the great help by many individuals who have been involved in the production of this handbook, especially all survey respondents and interviewees, who spent their valuable time in contributing to the project. The ECI also thanks Terry Everett (formerly ECI staff) and Anu Khandelwal for their assistance throughout.

## Executive summary

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In any enterprise, the performance of people is important if success is to be achieved. This is especially so on construction projects where the ability of people to work together effectively to achieve a common result is essential. However, experience has shown that putting people from different organisations together and expecting them to work together in a co-ordinated way on interdependent tasks to achieve a common project objective is difficult. The skill of managing such project teams requires both skill and judgement and the adoption of practices and behaviours which will facilitate a successful end result. As a result of research over a period of two years at Loughborough University which included managerial and employee interviews; a questionnaire survey; industrialist consultations and meetings; and case study materials drawn from the experience of practitioners, the ECI Respect for People task force put together this handbook with the aims of:

- providing guidance through Value Enhancing Practices on appropriate behaviours and practices which will improve individual and team performance
- providing a tool to measure and benchmark leadership, teamwork and empowerment within construction projects

The handbook describes the background and context of the research work and presents the findings but it is primarily a practical book designed to help busy project team leaders or managers with guidance on strategies for leading, empowering and managing teams of people on the project.

Value Enhancing Practices (VEPs) in the handbook have been written based on the results of the research as well as on practical experience from members of the task force. They are grouped under three themes.

The first theme is entitled 'Project Leadership for Managers' and is a practical guide for those who manage and lead project teams so that they can more effectively achieve project objectives and team goals by the way they lead the team, developing a high performance from all team members.

Key activities covered by this theme include:

- providing inspiration to the team by personal example and through respect for the individual team members
- setting, clarifying and communicating project objectives and team goals and the plans which will achieve high performance
- creating an effective environment for the team to perform through the provision of appropriate tools and resources
- ensuring good communications at all levels, establishing appropriate feedback mechanisms to ensure communications are fully understood and implemented
- defining the roles, responsibilities and accountabilities of the team members through delegation of authority and decision making
- motivating the team by developing team loyalty, with appropriate recognition and reward mechanisms and through personal support and development

The second theme is called 'Achieving Project Team Performance' and provides guidance on the setting up of project teams, giving help to individuals who work together in project teams on how they might do so more effectively and how they might more ably achieve their team goals. Key guidance is given in this theme on the following activities:

- establishing the team properly at the outset, managing changes as people join and leave and reviewing team achievements as goals are completed
- defining and setting team goals which are aligned and which can be measured to assure success for the team
- getting the team to work together to jointly solve problems, to feel empowered to make decisions and to mutually support each other
- developing team members through appropriate training; regularly reviewing performance and seeking to generate a challenge culture

The final theme is entitled 'Effective Supply Chain Engagement in Projects' to provide guidance on how to establish integrated project teams which fully engage and mobilise the supply chain to contribute effectively to project team success and, through ongoing relationships, to achieve continuing improvement to mutual benefit.

This theme covers the following activities:

- creating an integrated supply chain team, and selecting and aligning the supply chain team members to develop an appropriate contractual arrangement between parties
- maintaining relationships and creating trust in the supply chain team through motivating and empowering individuals in a no-blame environment
- continuously improving supply chain team performance and establishing longer term relationships, recognising the contribution that supply chain partners have made

A number of quotations from the manager and employee interviews and case studies have been included within the VEP's which give real examples and demonstrations of where effective practices have led to better project performance.

The handbook also contains useful tools which can be used to measure and benchmark leadership, teamwork and empowerment within construction projects. These are in the form of employee and managerial questionnaires which can be used by managers and team leaders to regularly measure the effectiveness of their own project team.

# 1. Introduction

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People are a key asset and an important determinant of successful organisations, hence there is a need to appropriately deploy and manage them. This is even more so within the project environment where people from different organisations work together temporarily and are highly interdependent in conducting their respective tasks to achieve a common project objective. Managing people well is not an easy task: it is an art rather than science. This handbook presents good practices in managing people, which, if applied, will enhance the value of construction projects for their stakeholders. It has been produced by the ECI Respect for People task force and a research project entitled 'Respect for People: strategies for improved construction project performance'.

The aims of the handbook are to:

- provide guidance in the form of Value Enhancing Practices (VEPs) on appropriate behaviours and practical actions which will improve individual and team performance
- equip key participants (i.e. project leader, individuals who form part of a team and supply chain members) with a tool to measure and benchmark leadership, teamwork and empowerment aspects within construction projects

The handbook is the result of the work of a research team and the task force over a period of two years. The research work included numerous managerial and employee interviews; a questionnaire survey; industrialist consultations and meetings and case study materials drawn from experience of practitioners. The handbook is structured as follows:

- Section 2 describes the background and context of the implementation of empowerment, teamwork and leadership strategies within UK construction industry
- Section 3 provides VEPs for those who lead and manage project teams so that they can more effectively achieve project objectives and team goals
- Section 4 provides VEPs for the establishment of project teams, offering help for individuals on how they might achieve their team goals more effectively
- Section 5 provides VEPs on how to establish integrated project teams which fully engage and mobilise the supply chain to contribute effectively to project team success
- Section 6 presents the assessment of current practices and climate of teamwork, leadership and empowerment through managerial and employee questionnaire survey in a number of companies
- The appendix includes employee and managerial questionnaires which companies and project teams can use to measure a benchmark the climate of leadership, teamwork and empowerment within the project environment.

## 2. Background and context

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### 2.1 Introduction

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This section describes the background and context of the empowerment, teamwork and leadership strategies in the construction industry which are the basis of the value enhancing practices (VEPs). First, empowerment, a key concept within this handbook, is defined and its relationship with teamwork and leadership clarified. This is followed by a description of the context of construction, focusing on the distinctive characteristics of the industry, new working practices including partnering / strategic alliances, and the potential for empowerment of project teams. The structural and cultural context of empowerment within construction organisations is then explained. Finally, a model for individual and team empowerment within a supply chain context is presented.

### 2.2 Definition of empowerment and its relationship with teamwork and leadership

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As an extension of employee participation, empowerment has until recently been a poorly defined concept, with the literature providing a wide range of competing definitions. Generally, it can be described as:

*‘the process of enabling employees to make workplace decisions for which they are accountable and responsible, within acceptable parameters, and as a part of the organisational culture’ (Geroy et al, 1998)*

Empowerment is often considered as a job enrichment process that is: economically and socially acceptable; and helps to create and maintain a motivated and committed workforce. Since the early 1990s, ‘employee empowerment’ has been the generic term used to describe both the individual and team aspects of the concept (Honold, 1997; Tuuli and Rowlinson, 2009). Individually focused empowerment is important for improving the efficiency of individual workers and their personal motivation and satisfaction. However, work activities and environments that rely on teamwork require empowerment strategies that emphasise self-management and group decision-making autonomy. ‘Team empowerment’ requires a shift from task-oriented working to an output-focused approach where the team has collective responsibility for both the utilisation of resources and the division of tasks necessary for performance. Paradoxically, promoting individual decision-making autonomy has the potential to move teams away from an integrated operation. Thus, the process of empowerment within the construction project environment should be aimed at achieving an optimal balance between individual and team decision making with consideration of the context of the interrelated multilevel (at individual, team, organisation, project levels) empowerment actually takes place (Tuuli and Rowlinson, 2010).

Issues to do with empowerment are also significant in relation to leadership practices in the construction sector because it is employed to improve performance by increasing output from those who are directly involved in production. Here, the role of leader is crucial as they seek to instil a vision in others (Bryman, 1992). Empowerment is seen as important to this process since it is a way of enhancing commitment to a vision, since organisational members are more likely to adopt and get behind a leader's vision if they are able to participate in its implementation and development. Appropriate teamwork and leadership styles are critical for the success of empowerment within organisations (Tuuli and Rowlinson, 2010).

## **2.3 The application of empowerment to construction**

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The construction industry is one of the EU's largest industrial sectors, representing some 10% of GDP and providing employment for more than 10 million citizens (www.cen.eu 2013). The industry also represents one of the most complex and dynamic industrial environments. It relies on skilled manual labour supported by an interconnected management and design input which is often highly fragmented right up to the point of delivery. A large and complex construction project will involve many design, construction and supplier organisations whose sporadic involvement will change through the course of the project. These specialists will usually come from a large variety of different organisations, but all must work together effectively to ensure the achievement of project objectives. However, process fragmentation and the mutual interdependence of teams renders construction one of the most difficult project-based industries in which to apply good human resource management practices. Notably, professional and functional cultures within project work-groups can inhibit the integration of the design and construction processes for improved project performance (Moore and Dainty, 2001). This cultural alienation and the conflict that it engenders is a significant barrier to the achievement of innovation and process improvement within the sector.

The recognition of the negative implications of fragmentation on the performance of the sector has led to the development of new working practices and structures which encourage the integration of project activities and participants in the design and construction process. The focus has been on the effective integration and management of supply chains, which in turn has emphasised the need to ensure that all key stakeholders contribute fully to the achievement of project objectives (Egan, 1998). This emphasis is evident in the increased application of partnering and strategic alliances between organisations (Allen, 1999), despite the reduction in such arrangements in recent years as the emphasis has switched back to lower first cost approaches. Notwithstanding, considering the shift in relationships and responsibilities that such changes engender, it is surprising that the process of empowering teams and individuals within this framework has been largely ignored. In the globalised world, the industry increasingly relies on virtual teams, fragmented work groups, sub-contracted labour and multi-organisational project delivery structures. The level of autonomy that this structure promotes demands the systematic implementation of effective empowerment and team working techniques. Furthermore, empowerment has the potential to offer the opportunity to create a workplace culture that is responsive to employee needs. This is fundamental to retaining and developing a workforce that will generate sustained performance improvement in an increasingly turbulent and demanding business environment (DTI, 1997; M4I, 2000).

If empowerment is seen as the process of enabling employees and teams to make workplace decisions for which they are accountable and responsible, it must first establish the acceptable parameters of this decision making. These will depend, in part, on the structural and cultural context in which their organisations are embedded (Tuuli *et al.*, 2013). Thus, empowerment should be viewed within the context of the specific application under consideration and the strategies used must be sensitive to the particular business and operational requirements of the organisation. However, both construction practitioners and academics alike have generally ignored the potential of employee empowerment in the past. This may be linked to the extreme short-term pressures on organisations with regard to achieving defined levels of project performance which have led to many of the 'softer' human resource management approaches being seen as expensive luxuries within construction firms (see Druker *et al.*, 1996).

## **2.4 The structural and cultural context of empowerment within construction organisations**

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Whether an empowerment strategy is successful or not depends upon the organisational context and the mode of its implementation (Conger and Kanungo, 1988). If these are managed effectively, empowerment promotes improved productivity and quality, reduces operating costs, allows greater flexibility, increases job satisfaction and improves motivation (Swenson, 1997). Conversely, poorly managed empowerment strategies erode trust within an organisational system (Robinson, 1997) and can result in cynicism about managerial intentions (Cunningham *et al.*, 1996). Thus, the implementation and potential of empowerment cannot be viewed in isolation from the organisational and industrial context for which it being considered. Contextual aspects of empowerment raise several significant points, as follows:

- empowerment is not a thing: it is a term that is used to represent a wide variety of arrangements which can range from 'sham empowerment' (Rosenthal *et al.*, 1997) to high levels of devolution of autonomy and responsibility, a genuine devolving of power and changing of structural and cultural systems to back up the project with support from all levels of management
- the existing context when an empowerment programme is implemented or begun (e.g. the nature of the organisation, the industry in which it operates and other environmental factors) will play an important part in whether the programme is successful
- empowerment programmes do not necessarily lead to the empowerment of those who are implicated by them. Empowerment has to lead to a sense of self-efficacy by the individual to be effective (Conger and Kanungo, 1988)

Empowerment comprises three core elements:

- clarity, consistency of organisational goals and alignment of systems toward these goals
- an ongoing development of the skills and competencies of employees
- congruence between corporate, management and personal employee goals (Ward, 1993, c.f. Honold, 1997)



Thus, empowerment is not an act of management relinquishing control, but a fundamental reorganisation of operating practices (Holt *et al*, 2000). This presents a significant challenge for the organisation attempting to adopt empowerment strategies, as it is likely to bring about change to both working practices and structural relationships within the organisation. Moreover, it requires the culture of the organisation to be amenable to empowerment if it is to succeed (Foster-Fishman and Keys, 1995).

The construction industry is an example of a project-based industry that in many ways is ideally suited to the application of empowerment strategies. However, construction project organisations form complex and ever-changing arenas for the implementation of empowerment, especially given the impact of the competing demands and objectives on those involved in the project delivery process. The task for all construction organisations, whether they are involved in the design and / or construction process, is to successfully complete a series of projects, which will invariably be influenced and constrained by cost, quality and programme requirements. Thus, the vast majority of large construction companies comprise many small project teams or groups of specialist staff in project-related functions. These project delivery work groups are effectively self-managed, cross-functional teams which combine the expertise of various designers, managers, cost control specialists and other technical experts appropriate to the nature of the particular development under construction. Typically, underpinning this configuration will be a 'matrix' organisational structure, where functional departments form a permanent location for project-based staff working in temporary cross-functional teams (Langford *et al*, 1995, 69). Upon completion of the assigned project tasks, teams are usually disbanded and redeployed elsewhere within the organisation. The success of a project team relies on them having clearly-defined objectives and tasks and on the team members having been carefully selected (Mullins, 1999).

An assumption surrounding production teams is that they form 'a stable number of individuals in a relationship involving shared and recognised production goals, with work status defined through a system of social roles and behavioural norms supported by a set of incentives and sanctions' (Huczynski and Buchanan, 2001). This view of teamwork implies that work will form a satisfying and meaningful activity for those involved, and that there will be little conflict between employees' functional and project-based goals. The competing demands of functional and production-oriented goals that are present in many matrix structures used within construction projects have been shown to provide a potential for tension within teams that can impact on the empowerment process (Moore and Dainty, 1999; 2001). It is far from clear that common goals will necessarily result from the construction project-based environment.

Huczynski and Buchanan's (2001) assumptions about production teams imply a relative degree of permanence in contrast to the transient nature of the construction project environment.

Due to the project-based nature of the sector and the rapid turnover of projects, people are continually moved from one project to another and few individuals are involved with a single project for its entire duration. Complicating this situation further is the fact that the vast majority of design and construction activities within the industry are subcontracted. Indeed, the entire construction labour market is founded on widespread self-employment (Briscoe *et al*, 2000). This makes collaborative and integrated working extremely difficult within the sector.

Although few would doubt the need for the construction industry to embrace leading-edge thinking on employee involvement and empowerment, ingrained employment practices and time-honoured organisational delivery structures are not easy to break down. Internal challenges to the implementation of empowerment in construction include a lack of management commitment, an underestimation of the extent of change required, a resistance to behavioural change, a failure to adopt continuous learning, too much bureaucracy and ineffective communication (Holt *et al*, 2000). External pressures for construction organisations include the problems of attracting and retaining their workforce in the face of an increasingly competitive labour market. Furthermore, encouraging people to buy into the performance improvement process is particularly problematic given the fragmented project delivery structures and reliance on sub-contracting and self-employment within construction. This requires that the empowerment concept should be extended beyond organisational boundaries to be applied throughout the project supply chain.

Figure 1 illustrates empowerment of individuals and teams within an integrated supply chain, which needs to be considered simultaneously if its benefits are to be fully realised. This handbook seeks to address this issue by providing guidance: for managers and individuals working in teams on how to establish integrated project teams which fully engage and mobilise the supply chain to contribute effectively to project team success.

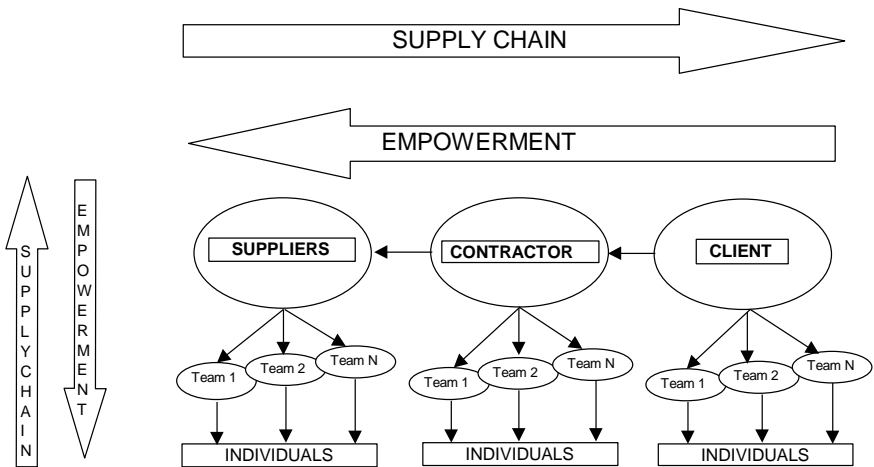


Figure 1: Empowerment of individuals and teams

## 2.5 Data from interviews and questionnaire survey

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The work presented in this handbook has been derived from extensive interviews and questionnaire surveys of personnel working on major engineering projects. The interviews aimed to:

- identify key teamwork, leadership and empowerment issues, which are prevalent in the context of construction projects and
- provide case study examples and quotes which underpin the implementation of VEPs. (See sections 3-5)

32 operatives and practitioners at managerial levels were interviewed. They were working on four construction projects and were from 31 different companies. The four projects represent a diverse range of types and sizes. The interviews were repeated three times within a year, in order to identify any variations / changes of the issues identified. In total, 87 interviews were conducted, transcribed verbatim and analysed using the qualitative data analysis tool, NVivo.

The questionnaire survey involved 100 managers and 191 employees. The data were used to demonstrate the utility of the questionnaire as a tool to assess current practice and climate of teamwork and empowerment. This is presented in Section 6.

The questionnaire survey involved 100 managers and 191 employees. The data were used to demonstrate the utility of the questionnaire as a tool to assess current practice and climate of teamwork and empowerment. This is presented in Section 6.

## 2.6 Summary

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Construction provides a fertile, but challenging ground for the implementation of empowerment. The implementation of individual and team empowerment promises many benefits to the construction industry and could potentially increase effectiveness and efficiency. However, before these could be realised, a set of contextual factors have to be considered by any organisations wanting to introduce appropriate empowerment strategies. This section has provided an overview of empowerment in the construction context, and discussed the importance of these contextual factors for successful implementation. The management should not underestimate the complexity of these contextual factors, as one empowerment activity can impact individuals and teams in different ways and bring different results in different organisations. Therefore, it is important to understand and appreciate the intricate relationship between practice and context within an organisation and activities which are conducive to good teamwork and empowerment. This is demonstrated via Value-Enhancing Practices (VEPs), presented in the next three sections.

## 3. Project leadership for managers

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### 3.1 Introduction

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The purpose of this project leadership VEP is to provide help and guidance for those who have to lead and manage project teams so that they can more effectively achieve project objectives and team goals through the way they lead the team, developing a high performance from all team members.

### 3.2 Essential activities

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- providing inspiration to the team by personal example and through respect for the individual team members
- setting, clarifying and communicating project objectives and team goals and the plans which will achieve high performance
- creating an effective environment for the team to perform through the provision of appropriate tools and resources
- ensuring good communications at all levels, establishing appropriate feedback mechanisms to ensure communications are fully understood and implemented
- defining the roles, responsibilities and accountabilities of the team members through delegation of authority and decision making
- motivating the team by developing team loyalty, with appropriate recognition and reward mechanisms and through personal support and development

### 3.3 Guidelines for implementation

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It is said that if management is the art of getting people to do what you want them to do, then leadership is getting people to **want** to do what you want them to do. Hence leadership requires more than just good management practice. Leadership has much to do with how the leader is perceived and people need to be committed to the leader's objectives and goals and have trust and confidence in the leader as a person. Team members need to be inspired by their leader and feel that they are recognised and appreciated for their contribution. This VEP gives guidance on how that trust and confidence can be developed in a way which will result in a high-performing project team, the leader acting as a catalyst by creating the right climate.

### **3.3.1 Providing inspiration for the project team**

Inspirational leadership is in many ways a gift and, for many, leaders are born not made. However, there is much that those in positions of project leadership can do by developing appropriate behaviours which create a climate in which inspirational leadership can flourish and produce exceptional project team performance.

#### **3.3.1.1 Leadership by example**

The first characteristic of inspirational leadership is to lead by example. 'Do as I do' rather than 'do as I say' from the leader sends powerful signals to a team and inspires confidence and credibility in a leader. The leader must be part of the team, not sitting above it if he or she is to inspire others to perform. This role as exemplar not only applies to task-related behaviours. It also applies to interpersonal skills and behaviours. How the leader deals with each individual in the team is important. Similarly, how the leader handles external interfaces is also crucial and will send signals to the team which either inspire confidence or destroy credibility. The inspirational leader has not only to be good at his or her job, they also have to provide a role model to which team members will aspire.

*'setting by example is showing that you're putting the effort in, showing that you're respecting them, showing that you know what you're talking about and protecting them from people who are coming down heavy on them'*

#### **3.3.1.2 Leadership capability and track record**

Confidence in a leader's capability is important to team members. This may be apparent through a personal track record but leaders need to give individuals confidence that they can relate to and understand the problems, difficulties and issues that the team is facing. However, they do not necessarily need to have the detailed knowledge, competence and experience of every team member. Indeed, where leaders have such specialist knowledge it can often create problems with delegation if the leader gets too involved with detailed decisions. Leaders need enough experience to understand, support and empathise but not so much that they are constantly interfering or taking over. Sometimes they can act as a consultant on detailed matters but this should be at the instigation of the individual.

*'we're not all experts in every field, but if you're asking people to do something that you're not prepared or can't do yourself, then you're not going to get a very strong team'*

#### **3.3.1.3 Mutual respect in project teams**

It is very important that there is mutual respect between members of the project team. This matters most at a professional competence level - everyone has to feel confident in the professional capability of their team colleagues - but it matters at a personal level as well. People have to be able to 'get on' with each other. So personal behaviours matter. There must be shared values, respect for others, a tolerance of difference and good social chemistry between individuals. Mutual respect for the project team leader is most important. He or she must cultivate an environment where everyone's opinions and views matter and where there are shared values as to how people behave towards each other at work.

*'people, in the team meetings, will ask for your contribution or ask for your opinion on something that may have nothing to do with you, which I believe is a bit of respect really. They respect your view'*

### **3.3.1.4 Developing trust in project teams**

Trust is an outcome not an input. It cannot be mandated. It does, however, develop in project teams where there are good interpersonal relationships and mutual respect between the leadership and team members. It is fostered by behaviours in the team and can be apparent at different levels. Trust might be at a social level where individuals get on well together: There can be professional trust where there is a climate of respect within the team that each team member will perform competently within their own sphere of ability. There can be team trust where there is mutual confidence throughout the team that they will succeed together. High performing project teams will exhibit all three types of trust. Lack of any one type might still make for a happy team, but it will inhibit performance in terms of project outcomes.

*'you develop trust by appreciating other people for what they are, not who they are and what they can offer'*

Trust can be engendered by team building and team effectiveness training events. Social trust can be built by holding suitable social events to enable team members to get to know one another outside the work environment. It is the responsibility of the project team leader to make provision for these team building events. To build professional trust can be helped and enabled by team effectiveness training where the whole team take time out to work together on mutual problem solving exercises, developing the skills of working together. Team trust is developed when individuals in the team are working to common objectives. Suitable team alignment events and workshops can be a way of developing this trust and engendering team spirit. The nature of projects is such that the composition of the team will change as the project develops and hence it is not only necessary to establish team building at the start of the project but also to repeat and reinforce it throughout, especially at times when new people join the team.

*'We're respectful friends. We put a lot of effort into making sure that when we come to work we're not coming to work. We do have team building events, we go away for weekends, we have quite a lot of evening do's, every Friday we go for a drink'*

### **3.3.1.5 Empathy in project leadership**

For excellence in project performance, the project team must develop a supportive and positive culture and it is the job of the project team leader to ensure that this supportive culture is created and maintained. The leader has to demonstrate to the team by example the attitudes and behaviours that he or she expect within the team. The effective leader will also be seen as fair and consistent in dealing with individuals, not showing favour or partisanship in the way they relate. The effective leader will also develop a supportive culture through personal encouragement of individuals, with a management style that listens to individuals' concerns and grievances and a positive 'can do' approach to issues and getting things done. This approach has to be balanced by ensuring that there is an expectation that individuals will perform and meet their agreed job requirements wherever possible and accept discipline and sanction if they fail to do that without good reason. Empathising is important as a way of giving team members confidence in the job, ensuring that their self-esteem is developed and they feel supported by the team leader in what they are doing.

*'you get more out of them [employees] by treating them like human beings and being able to cajole them into doing their best'*

### **3.3.1.6 Responsive project leadership**

Inspirational leadership implies a leader who is involved, concerned about what is happening in the team and is prepared to take action and respond when things need changing. This can involve taking tough decisions which might not be universally popular and which might disturb the dynamics of the team, affecting team performance in the short term. It can be necessary from time to time to change team roles, to move under-performing people off the project or to back-track on work done in the light of new information. The project team leader must keep closely in touch with what is going on so that he or she can respond in a timely way to changing circumstances. It is important, however, that this is not done in an intrusive way which makes people feel they are constantly being watched or over-monitored. It can be a difficult balance to strike. The responsive leader will be respected, even for tough or unpopular decisions, if people feel the leader is in touch and understands the situation. The danger, when leading a good, self-motivated team is that the leader can be tempted to stand back and become detached. An intervention by a detached leader in such a team will be resented by everyone and can be as bad as a very intrusive or overbearing leader who constantly interferes.

*'I mean you might do things that nobody particularly likes, so you're not always going to be the most popular guy on the park, are you?'*

### **3.3.2 Clarifying project objectives and team goals**

Clarity of purpose is essential for good project management. It is the responsibility of the project team leader to articulate clearly to the team what that purpose is, to jointly develop with the team the project objectives which will meet that purpose and to then develop for each objective a set of team goals that spell out what will be achieved, by when and by whom. This is then integrated into the overall project programme.

#### **3.3.2.1 Setting project objectives**

Project objectives are derived from the project purpose. It is very important that the project leader engages with the project stakeholders and sponsors to get a clear, unambiguous understanding of the purpose of the project. This should be rigorously tested and developed to ensure there are no undeclared expectations of sponsors or misunderstandings as to why the project is required. Once the project team has been assembled, the leader must share the project purpose with them. It is good practice for the team to test this purpose with the leader which ensures there is a good common understanding of why this project is being done. From this, the team must then develop a set of specific project objectives. This is best done in an offsite workshop where the team can jointly debate and agree on a set of objectives which meet the purpose. Following this agreement, the leader must share these objectives with the project sponsors and stakeholders. In some cases, this can be an iterative process and sometimes it can be helpful to involve the project sponsor in the team workshop. A common understanding of project objectives underpins the whole basis for the project team and is extremely important.

The next stage, again jointly with the team, is to develop and agree a set of team goals for each project objective. Where the team is split into different functions or sub-teams, these goals can be specific to a sub-team or they can be for the whole team depending upon who is involved in delivering the specific goal. Team goals must be specific and measurable and the time or stage gate when they will be delivered should be defined.

It is important to define the outcome which will indicate successful achievement of the goal. Once goals have been agreed, it is then up to the team to decide how each will be achieved and to assign personal responsibilities within the team, monitoring progress against an agreed action plan.

*'They [project goals] are communicated from day 1.  
Everybody knows what they should do. They should know what the goals are.  
They should be set out in their roles and responsibilities'*

### **3.3.2.2 Monitoring the team goals**

Project teams usually work best when they have a fair degree of freedom and flexibility as to how they achieve their team goals. Monitoring should be related to the progress on the achievement and delivery of goals rather than checking or prescribing the methods by which the goals are to be achieved. Regular team goal reviews will help to regularly reinforce team members' understanding of the goals and help them focus on their achievement. During the course of a project, it sometimes becomes necessary to change team goals. This might be because the project objectives have changed or that circumstances have arisen which alter priorities elsewhere. In this case, the goals should be reviewed jointly with the team and agreement on the changes reached before implementing the change. Mandates from on high changing project team goals do not help team motivation and commitment, especially if they are mandated without a full explanation.

*'...it is given in a variety of meetings. Costs are continuously reviewed in monthly cost meetings, so we know where the project stands financially. Programme is discussed on a weekly basis so we know where the project stands on programme.  
So I think the meetings that exist do sort of give out the relative information'*

## **3.3.3 Creating an effective team environment**

### **3.3.3.1 Setting the tone for the project**

It is the job of the project team leader to set a tone for the project which will be conducive to the achievement of the project objectives. This includes defining the standards of work expected, agreeing job roles with members of the team and managing interfaces. It is particularly important that the project leader should create a measure of stability in the work environment so that the team can get on with the job in hand. This might not always be possible but the leader should ensure that project sponsors, stakeholders or others do not disrupt the team by arbitrarily changing requirements as the work proceeds. Other key interfaces with the team must be monitored by the leadership to ensure that they are helping rather than hindering the team in achieving their key objectives.

### **3.3.3.2 Creating the right workplace environment**

The workplace environment is very important in determining how effectively a team will operate. There is a lot of evidence that locating a team together in an open plan office environment improves team performance compared with having people working in separate offices in functional or company groups. The open plan environment aids communication and also gives scope for people to bounce ideas off each other and build on each other's suggestions. Meetings are easier to arrange and are more ad hoc and informal and may be more productive. An open plan office also creates a better environment for social relationships, although there is a need to ensure that socialising does not waste time and effectiveness. Common ground rules (for e.g. telephone calls) and certain level of tolerance from individuals will help to create a more effective open plan office for everyone.



### **3.3.3.3 Providing tools and resources**

It is the job of the leader to ensure that the team has the right tools to do the job in hand. This obviously includes the provision of such things as telephones, computer equipment and other office equipment. It also includes the systems and software that people are using which must be appropriate to the needs of the task in hand. The other issue is the use of IT system to interface with existing client or contractor systems. This can be a significant problem when a company-wide system, such as an accounting system, does not match the needs of the team. Communication within the team and beyond is important and reliable intranet/extranet, perhaps linked to a project website, might be appropriate. There might be the need for specialist software for specific types of work such as design. Recent technological development of project extranet and 3D information model of facilities (i.e. Building Information Modelling or BIM) has permitted better teamwork and collaboration through timely and accurate transfer of information between parties in the supply chain. However, cultural changes are required before this could be realised, and providing appropriate training in the use of the technology will not only enhance the skills but also raise an awareness of the implications of this new technology in the existing working practices.

Timely provision of resources is also part of the leader's job. It is important in a project team that there are sufficient suitably trained and experienced staff available to support the team in a multitude of tasks. Without the availability of this support, teams of highly specialised project professionals can waste a great deal of time sorting out low-level issues which can be better dealt with by others. Another resource which can be limiting on team progress is money. At the outset, the leader needs to agree and then manage a team budget which will enable the team to do its job without having to delay the job unnecessarily while project sponsors debate whether to approve expenditure. Unnecessary delay can lead to frustration within the team, especially if the sponsor is stressing the urgency and importance of the project but is tardy in releasing resources. The team will view such delay as lack of commitment to the project by the sponsor.

## **3.3.4 Ensuring good communications at all levels**

### **3.3.4.1 Keeping everyone informed**

It is good practice at an early stage of the project for the leader to develop a project communication plan. They should define methods of disseminating information to those who need to know. Taking an ad-hoc approach to project communication is both inefficient and costly. Good communications does not necessarily need to cost a lot of money or be sophisticated. Nor is it true that electronic communication is always the best. Such things as notice boards, posters, ad hoc meetings at the coffee machine and newsletters are all simple ways of communicating general information. Face-to-face meetings are important and need to be regular, especially if the team is not all in one location.

*'on the communication side, I'd make sure I'm getting everyone round the table, once a fortnight'*

As the costs of getting everyone on a table could be quite significant, they should be considered in the budget. However, this is often quite prohibitive, and therefore project leaders have to manage distributed teams, which are multi-disciplinary and spread across different continents with different time zones. Increasing need for distributed team has meant that project leaders should possess specific skills to allow them to manage the team virtually.

Bombarding the team with information and sending everything to everybody is not only wasteful, but also ineffective. With it being easy to send emails to large circulation lists, it is often tempting to include everyone 'just in case they are interested'. In fact, there is evidence that large in-trays of emails significantly reduce effectiveness of team members. Each team member can easily spend an hour each day going through an inbox of 50-100 emails even if most of them are to be deleted. They can also create a confusion as the issues cannot be conveyed accurately. Dealing with emails of peripheral interest can distract team members from dealing with their priority tasks.

*'emails can be a bad communicator because there's not always evidence that people have received emails and faxes. People have gotten into the habit of firing an email off and automatically expecting that somebody else receives it, but that's a poor communication means sometimes'*

For larger projects, a good document control system is essential. There are several commercial document management systems available. Most companies already have a preferred system and conflict can arise with compatibility of different systems where project teams are drawn from different companies. The clients may drive the use of a common system that is going to be used by parties working on the projects. The development of 3D information model of facilities with interoperable system (i.e. BIM), will allow better exchange of information between parties, who can extract (and input) relevant information from (and to) the model as information repository and representation.

### **Case study**

The company is an engineering consultant working on a 5-year redevelopment project. The company organises a series of internal and external regular seminars. Internal seminars focus on information and skills sharing, such as presentation skills, using e-mail and CAD systems. External seminars invite external speakers to talk about topical issues to keep people up to date in terms of what's going on. These seminars are usually held every two weeks. Additionally, the company also encourages the sharing of tacit skills, not on a lecture basis but more on a personal basis by adopting an open plan office arrangement, whereby all the directors and associates are all scattered round amongst the staff.

### **3.3.4.2 Communications feedback**

Effective communication is not just about informing, and important components of communication are the ability to listen, to give feedback and to respond. A project leader has to be a good listener. This is not only about listening for verbal responses but also the ability to read 'vibes', to understand how the team feels about things as well as what they say. Providing opportunities for feedback from team members, both as individuals and as a group, is vitally important. Most members of the team have worthwhile suggestions to make to improve the job or enhance performance. Opportunities should be given in meetings for discussion, debate or comment. Some meetings may be open sessions where the team can be honest with the project leader and each other. An atmosphere of openness, respect and trust will reduce the likelihood of conflict. It also bonds the team together and reduces the occurrence of hidden agendas and last-minute surprises.

*'I learnt a lesson a long time ago that it pays to listen to people, even at the lowest level, because they may have a more practical experience of something, whereas mine might only be theoretical'*

### **3.3.4.3 Communicating learning**

In the busy day-to-day operation, time is at premium, and reflecting and learning from previous project is often overlooked. There is a need to communicate lessons learned from previous projects. Where appropriate or timely, such learning should be incorporated or taken account of in the current project. But learning also occurs as the project proceeds and it is important that opportunity is given to review what is being done, to identify learning points and, if appropriate, to modify the way the team is working. Some learning may not be applicable to the current project but should be captured for the benefits of future projects.

## **3.3.5 Defining roles and responsibilities**

### **3.3.5.1 Clarifying roles in the project team**

Whilst team working is a collective, collaborative activity, there is still a need for each individual member to understand clearly their role and what is expected of them. It is for the leader to understand how the team will best work together and who is the best person for each role. The team role is not just about professional capability and there are other roles which need to be identified. These might be to do with personal relationships; who works best with whom and can one team member complement another, making up for deficiencies in interpersonal skills, for example. To make these decisions, the project leader really needs to know his or her team. The project leader may look at team role theories (such as Belbin) to determine appropriate composition of the team. Here, psychometric testing can help, particularly in checking the balance of a team.

It is good practice to not only publish an organisation chart for a project team, but also to have written up job specifications for individual members. These should be produced only after discussion with those involved. Human resource department may also be involved in this. It is very important to deal with potential overlaps or gaps between roles at the outset. If someone feels that another team member is encroaching on their area, it can lead to bad feeling. On the other hand, it is important that team members are flexible in their roles and are prepared to mutually support other team members who might be struggling. Getting the balance right is the art of good leadership.

### **3.3.5.2 Accountability and responsibility**

It is very important that all team members understand what they are responsible for and to whom they are accountable. These responsibilities derive directly from the team goals but there needs to be clarity about who, specifically, is responsible for their delivery. In some cases this will be one individual, in others it will be a group of team members. In the latter case, each member of the group needs to be clear what part they are to play in the delivery.

Ultimately, it is the project leader who carries the responsibility and it is he or she who is accountable to the project sponsor or other person for its delivery. But clearly the leader cannot discharge that responsibility without the help of the team. Hence there has to be delegation of responsibility to members of the team. A leader has to be careful to delegate to the team what the team has the capability of delivering without abdicating overall responsibility and accountability.

### **3.3.5.3 Empowering the team**

To create an empowered team it is necessary to delegate authority for decision-making and action down to individual team members. This implies that the project leader may need to live with unexpected consequences of decisions taken by members of the team. However, the evidence suggests that overall project team performance will be improved by sensible delegation of authority. The key to doing this successfully is to only delegate such freedom of action where the team or team member has the competence necessary to bear such responsibility. If the competence is not adequate, there may be a need for education or training of the individuals. Commonly, the issue is that the individual concerned may well have the professional and managerial competence to make those decisions but does not have sufficient information or breadth of view to make a balanced decision. In this case, the 'education' might be to give them that wider view. This might be better than the leader taking the decision for them which could lead to resentment and lack of commitment if the individual does not have full knowledge of the facts.

As a rule, authority should be delegated down to the lowest level able to use it competently. Without this delegation, team members will feel constrained and over-managed and will lose self-esteem. They will tend to do only what they are told to do, carrying out orders without any real commitment to them. Morale will fall and the team will become less effective. Activity on the project becomes doing the minimum necessary to keep the leader happy. There are dangers, however, of delegating authority where the competence does not exist to fully bear the responsibility. In this case, poor or sub-optimal decisions will result and the project will suffer. Once having delegated authority, the leader can find it very difficult to take it away from a team or individual or to reverse a decision the team has made without trust being destroyed. Again, successful delegation is part of the art of leadership.

Where the leader has doubts or concerns with an individual or group about their competence to carry delegated authority, it is possible to work with the team or individual as a mentor or overseer, giving them guidance. In such a case, the team feel part of the decision making process but in fact authority has not really been delegated. Where individuals in a team have been empowered, it is important for the leader to trust them and to continue to provide support and encouragement. It is important, too, that the leader is kept in the picture when decisions might impact elsewhere.

### 3.3.6 Motivating the team

#### 3.3.6.1 *Developing team loyalty*

From the outset, the leader needs to develop team loyalty and the foundation for this is team building (see Section 3.3.1.4). Loyalty will come from shared aims and objectives and without those, team members will start to work to 'hidden agendas', even though they might pay lip service to the declared project aims. This is a particular problem in teams which span the supply chain. The project leader needs to work hard to get all such 'agendas' on the table at the start and to work through an aligning process, bringing everyone on board with a shared set of objectives for the team. With project teams this is especially difficult because of the relatively transient nature of projects and the fact that people join and leave throughout as the project progresses. Some people joining an existing team have great difficulty in accepting the decisions made by predecessors and want to start again with a clean sheet. Unfortunately with projects, it is rarely possible to do this and so these 'joiners' have to be patiently taken through the process of understanding the given aims and how they need to align with them, in the interests of the overall project. Change of key team membership can be most disruptive and often sets the project back in schedule as the new people take time to get up to speed.

The aim of the leader in developing team loyalty is to get everyone pulling in the same direction. He or she needs to be attuned to the attitudes, concerns and feelings of the team members and be constantly inspiring, supporting and directing the team, encouraging them on to achievement of the team goals. It can be helpful in a team to develop some constructive competition as a way of engendering team spirit and motivating people. Competition is a powerful motivator for many people. It has to be done with care because competition can also drive behaviours in a divisive way which can, if unchecked, tear a team apart. Internal team rivalries can become more important than achieving team goals cooperatively.

*'so to me loyalty's massive really... they give me recognition, if I do have to ask them to work or to do something or to pull us out of it, they do it'*

#### 3.3.6.2 *Coaching and personal development*

An important role of the project leader in motivating is that of coaching team members. This is especially needed when individuals are lacking in confidence or not contributing effectively to the team. The leader should discuss with the individual ways of achieving their goals. This will require the leader to spend time listening to what the individual has to say, to ask questions to tease out concerns or worries about the job and, where necessary, to give encouragement, reassurance or practical help. In some situations, the leader may have to address real or perceived barriers to performance improvement. Follow-up and continuity are important with such coaching as well as regular performance reviews.

One highly motivating aspect of empowerment of individuals is to let them set their own personal objectives, within the overall objectives of the team, which gives people a measure of control over their own work. In this situation the leader needs to ensure that the desired outcomes are realistic and achievable. The key is to give the individual ownership of how those outcomes will be achieved. The leader can proffer help and guidance but the decision should ideally rest with the individual.

Offering personal development and training is a powerful motivator for team members. If individuals feel that the project will help them develop their own skills and knowledge, many will grasp the challenge of the project as a way of meeting their own personal objectives. Clearly, satisfying these personal development needs of the individuals has to be consistent with the need to achieve the project objectives. It is important that personal development needs are aligned with project/organisational objectives. This should facilitate the achievement of individual, project and organisational objectives simultaneously. Further guidance of development and learning intervention is provided in other ECI publication on organisational project management competency frameworks (ECI, 2011 pp.18-24).

### **3.3.6.3 Recognition and reward**

It is important in project teams that individual contribution to project success is properly recognised and rewarded. Financial rewards are important but are not the only way in which project success can be rewarded or recognised. Many project team members are employed on a salary scale commensurate with their job grade in the company for which they work. For some, part of their financial reward is directly performance-related and in this situation it is important that the performance measures for pay correlate to the project success criteria of the team. This is not always the case because performance in many organisations is assessed by the functional or departmental boss rather than the project leader. The danger of this is that it could lead to behaviours by the individual which are not aligned to the team goals. Some projects deal with this by having a project bonus paid at the end, related to overall success. There are difficulties with this approach in giving such a bonus to employees of another company. If the bonus is not paid to supply chain team members, however, it can cause personal resentments. A further difficulty with integrated project teams is that it is quite possible to have two people from different companies doing the same job but paid very different rates. This also can lead to resentment. A key task of the project leader is to anticipate these potential difficulties and early in the project to seek ways of avoiding them where possible. This might be through discussion with departmental heads and supply chain partners on finding ways of aligning incentives with the project objectives.

Team member contribution could be recognised and rewarded by different means (again, financial rewards are not one of them). Being associated with a prestigious project may be important to some; others are motivated by the challenge and team spirit which a project engenders. Most people do, however, need some form of recognition. This might only be a 'thank you' but to many, being thanked will matter and can be a powerful motivator. It is important that the project leader makes sure that where a contribution to the project has been made, the individuals involved are recognised for that contribution, perhaps verbally, perhaps through a letter or some small reward (i.e. token of appreciation, such as project staff of the month). The safety, health and environment (SHE) function has done a great deal to develop incentives to encourage better SHE performance (see ECI SHE Guidance Note 001, 2009) and there is no reason why project leaders should not do likewise.

*'through bonus and promotions and through, you know, verbal, verbal thanks.  
And if we get any compliments from any clients or anything we always  
make sure that that gets passed down to the individuals concerned'*

## **4. Achieving project team performance**

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### **4.1 Introduction**

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The purpose of this VEP is to provide guidance on the setting up of project teams, providing help for individuals on how they might do so more effectively and how they might more ably achieve their team goals.

### **4.2 Essential activities**

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- establishing the team properly at the outset, managing changes as people join and leave and reviewing team achievements as goals are completed
- defining and setting team goals which are aligned and which can be measured to assure success for the team
- getting the team to work together, jointly solving problems, empowered to make decisions and mutually supporting each other
- developing team members through appropriate training, regularly reviewing performance and seeking to generate a challenge culture

### **4.3 Guidelines for implementation**

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#### **4.3.1 Establishing the team**

##### **4.3.1.1 *Setting up the team***

It is important to allow time in the project programme for the establishment of the project team. Team members should be carefully selected for the capability they offer as well as their ability to fit into the team. Time must be made available to enable working relationships to develop. This is especially necessary where team members do not know one another or have not worked together before. To enable this to happen, facilitated team building can help. Team building is necessary on three levels:

- social team building: providing opportunities for team members to get together socially so they can get to know each other better
- team skill building: using offsite workshop events to help individuals develop the necessary skills of working together as a team, to help develop co-operative skills and to understand each other's' strengths and weaknesses
- team alignment workshops: working together to understand the objectives of the project and to develop and agree aligned team goals (see Section 4.3.2.2)

For more guidance on team building, see Section 3.3.1.4.

The objective is to build commitment to the team as well as trust and respect between team members. While team building events will help, they must be consistent with the ethos set by the team leadership in the way the team develops in the daily work environment.

It is helpful to establish a distinctive project team identity which will engender a good team spirit and loyalty to the team. This can be done by having a distinctive project or team name, or a logo and house style. Some projects create their own website.

Initial training and induction are important for team members at the outset. These usually give people background on the project as well as health, safety and housekeeping instructions. They can also include defining standards of behaviour and project procedures where appropriate.

Increasing deployment of multidisciplinary virtual teams has represented a challenge to developing a 'team' for the delivery of international projects. Less frequent face-to-face (off line) meetings is inevitable with teams have to rely on IT/internet-mediated communication. This mode of working has implications on team building and effectiveness, but should be accepted as a reality within highly competitive construction industry operating in an increasingly resource-constrained world. Team and individual members should be aware of these implications and be willing to adapt to this cultural change and go extra miles to develop 'teams'.

### **Case Study**

The case study is from an international engineering and construction company providing services and products to a broad range of industries, such as petroleum, pharmaceutical, power generation and health care. They have two structured approaches to team building, namely Belbin, and expectations and commitments methodology. Using the Belbin method, the project team study members' behaviour, natural characteristics, strengths and weaknesses through a computerised questionnaire. This is very effective to draw a picture of how team members work with others. Expectations and commitments methodology asks the expectations from a particular group (e.g. engineering, procurement and construction) and the commitments they are ready to take on. This simple methodology facilitates the working interfaces between different groups. They also organise team exercises or even extreme sports, such as quad biking, laser shooting, ropes course, etc. Additionally, social events are organised.

#### **4.3.1.2 Joining a team**

It is the nature of projects that the membership of the team will change as the job proceeds. Most of those changes in membership will be planned as the project proceeds through its various stages. Some changes will be unforeseen, such as when people unexpectedly leave and need to be replaced. Sometimes these changes can be traumatic for the team as a whole and might change the ethos and direction of the team leading to mistrust or lack of commitment. Hence it is very important to have processes in place to deal with those joining or leaving established project teams.



First, it is very important that there is induction training of all new team members when they start. This should not only include the usual safety and workplace induction but should also include an interactive session on the project objectives and team goals where the joining individual has the opportunity to ask questions and test whether they can buy in to those goals. Commitment will not necessarily be obtained merely by telling the individual what those goals and objectives are. If a joining member is not happy with team goals, it is important that this is discussed with all members before any changes are made.

Where a number of new individuals are joining the team at the same time, such as at the start of the construction or commissioning phases of the project, team building and alignment events should be convened. It is important that the existing team should be involved in these events, not just the joining members. The event will serve to reinforce the team goals and reinvigorate the existing team as well as bringing new members up to speed.

In situations where an individual is joining the team as a replacement for someone leaving, in addition to the induction, there needs to be a face-to-face handover with an appropriate overlap to let the person joining get up to speed. If this is not possible, people leaving the project should be fully debriefed and asked to prepare a briefing manual for the incoming person indicating the current state of the job. They should give the background to current issues where relevant and give advice that the incoming person would need to know such as where information can be found. For those leaving teams, it is also good practice to ask them to review their time in the team and to share what they have learned, what they feel has gone well and difficulties they might have had.

#### **4.3.1.3 Changing a team**

It is sometimes necessary for a team to change direction, a situation which should be avoided where possible because it is very disruptive and demotivating. Nevertheless, it is the nature of projects that things change. This might be a revision of project purpose imposed by the client, changes within the project itself or totally unforeseen external factors.

In these situations, it must be a priority to maintain good open communications. This is good practice for a team at any time but more difficult when there is a major change in the offering. Keeping team members in the dark is extremely demotivating and creates a reaction which loses momentum as people wait for the situation to be clarified. Worse than that, it can feed rumour and create confusion and uncertainty as people take their eye off the team goals. For the leader, the objective is to avoid uncertainty in the minds of the team members by making sure that they are informed in a timely way of the new direction. If this involves bad news, such as cutting team numbers, it is better to deal with it in an open way with the individuals concerned and to implement any changes as quickly as possible so that momentum is not lost and motivation of the team maintained.

All projects eventually come to an end and it is important to wind up a team in a managed way rather than letting it fragment and break up as people drift off to other jobs. Firstly, if the project goals have been achieved, it is important to celebrate that success and to recognise and reward the contribution of individual team members as well as the whole team themselves. Many projects do that with a social gathering, paid for by the project. If it is a new plant or facility, it might be appropriate to have a formal opening. With such events, it is important not to leave people out who have made a contribution, since this will cause considerable resentment. This includes people who might have left the project at an earlier stage and were not there right to the end.

It is also important when winding up a project to capture learning from the team. Many projects do this by a written report by the project manager but all too often these do not capture all the learning, may be bland and avoid discussing problems and failures. Much more effective is an interactive review at an event with all the key project team players present, including those who have left. The key questions are:

- what went well and why?
- what did not go well and why?
- what will we do differently next time?

If team members address those questions personally as well as collectively, they will gain personal learning from the review as well as informing the corporate learning process. In such situations, it is as important to learn from successes as much as from failure. Capturing the learning from a review event is also important and should focus on the positive lessons coming out: 'what we are going to do differently', rather than seeking to apportion blame.

*'I think we've learnt that there are one or two bits where they could be better but there are one or two bits where we have been better, so, I suppose it's always a learning process in construction'*

## **4.3.2 Achieving team goals**

### **4.3.2.1 Setting team goals**

To be effective, project teams need to have clearly defined goals. Most construction projects have some sort of detailed project specification and scope together with a schedule, which is fine and very necessary. But many projects leave it to the project manager and the team to deal with that in an ad hoc way. For a high performing project team, greater clarity is needed. For high performance, a team needs to set specific goals. These goals are developed from, and must be consistent with, the project objectives but they set out specifically what has to be achieved, by whom and by when. They also identify what resources are necessary for the achievement of each goal. From team goals, each member of the team should be clear what is expected of them and whether they are directly responsible for delivery of a particular goal or whether they will be supporting other members of the team to deliver it. From the team goals, it should be possible to develop individual work plans and also to set priorities within the team.

To ensure buy in and commitment, everybody in the team should be involved with the setting of any goals for which they are personally accountable either for direct delivery or in support of others. In addition, the whole team should be at least aware of and accept all the team goals, so that they understand what is driving and motivating their colleagues in the team.

#### **4.3.2.2 *Aligning goals within the team***

Merely setting individual or group goals within the team is not enough for performance excellence, although it is very important for setting individual priorities and work plans. To ensure the whole team is pulling in the same direction and to make sure the team is mutually supporting each other, it is also necessary to ensure team goals are aligned. This is best done in a workshop context where team members get together to test all the goals against the project objectives. For each goal, it is necessary to identify and, if possible, quantify the extent to which it contributes to or achieves one or more project objective.

In some cases, there will be different priorities between project objectives and in this case these priorities need to be unambiguously defined. For each goal, the question needs to be asked whether there is a better, more efficient way in which those objectives could be met and if so the goals should be modified accordingly. The team goals also need to be checked against each other for consistency and, in particular, whether there are any overlaps which might lead to work in the team being duplicated. Finally, there needs to be a check that the team goals are sufficient to meet the project objectives.

When the team is happy with the goals, the agreed, aligned goals should be written up and be available to everyone. There should be an understanding within the team that, not only does everyone have a responsibility to complete their own goals, there is also a requirement that team members mutually support each other where this is appropriate in the achievement of the goals of other members of the team.

#### **4.3.2.3 *Monitoring progress to goal achievement***

Regular monitoring of progress towards achievement of goals is essential. It is frighteningly easy for a project team to lose sight of team goals and realise too late that they cannot be achieved in the time left. It is the responsibility of all members of the team to review how they are getting on against the goals and this should be reflected in the work plans of team members. In addition, the team leader should be holding regular reviews with the team to review progress and identify any problems which might need resolving. Not all of these reviews need be with the whole team, although regular weekly or monthly meetings of the whole team (the frequency depending on the type of project) are a good idea. The leader can and should hold ad hoc review meetings with smaller groups or individuals within the team. To facilitate reviews, team goals should be defined in such a way that progress towards success can be measured. For larger, more complex goals they might be broken down into a number of stages with defined deliverables at the end of each stage. Although tangible outputs make the best measures, some jobs can only be measured by time and effort spent. In such cases, forecasting of work or time remaining is as important as measuring time already spent.

The problems of changes in team membership have already been referred to in Section 4.3.1.2. The need for buy-in and commitment to existing team goals by new team members is an area that needs close attention. Where a newly-joining team member has assented to team goals which he or she has not been involved in defining, extra monitoring by the team leader is essential to ensure the joining member fully understands the implications of goals on their individual work plans. There is a danger that they might be only paying lip-service to the goals but are actually working to a different agenda. In that case, the leader needs to go through an alignment process with the individual to get them back on board.

#### **4.3.2.4 Recognising team success**

The definition of specific, agreed team goals is important so that team success can be recognised. Individual contributions to the achievement of goals can also be identified and suitably recognised and rewarded. Recognition of success as the project proceeds is very important in a team since it is a powerful motivator to achieve more and it also helps prevent a 'blame culture' arising. Regular team review meetings are a good opportunity for efforts to be recognised and this can take the form of awards, prizes or commendations for the individuals involved. It can sometimes be helpful to bring in the project sponsor or other senior person to make such presentations.

Team success at the end of the project can be recognised through a project party or other event (see Section 4.3.1.3) but there are other ways in which contribution can be recognised or rewarded. For some teams, where there are following projects, it might be possible to keep the team intact to move onto another job. This provides people with continuity of work and has the benefit of shortening the team building phase of the next project.

### **4.3.3 Working in the team**

#### **4.3.3.1 Joint problem solving in a team**

One of the main benefits of team working is that of solving problems jointly. For this reason, it is important to have a balanced team which has within it most, if not, all the competencies necessary to deliver the team goals. Professional skills, knowledge and experience in the main resides within functional departments and single technical problems within one specialism do not need to be solved in a multifunctional/multidiscipline team, indeed they may well be better solved in an expert functional environment. But many, indeed most, of the problems which occur on construction projects are multifunctional in nature and are better solved within a project team context. Also, although technical problems and queries do arise on projects, many are non-technical in nature and benefit greatly from a collaborative approach. In the technical arena, many problems are multifunctional such as poor roof design of switchgear buildings, machinery vibration giving problems with civil foundations and so on. These issues are best resolved in a multifunctional team.

*'I think a lot of talking and communication is how problems get solved'*

Joint problem solving is greatly facilitated by co-location, preferably in open plan offices. When a problem arises, people can quickly and easily be got together to solve it. When this is not possible, such as in distributed virtual teams, this process is likely to take longer. The project leader has to be proactively plan well in advance, and adopts the most effective means of collaborating at distance, such as the use of desktop sharing technology (e.g. GoToMeeting™) to facilitate online problem solving discussion. The group approach also facilitates option generation and consideration of alternatives. In this situation it is not only technical capability which is needed; high performing teams have a good mix and balance of different personality types which enable people to play to their natural strengths. The personality mix of a team can easily be checked by using Belbin or Myers-Briggs psychometric tests.

### **Case study**

On a fast track project, the company was responsible for the design, engineering, procurement, and construction management. Both parties recognised that to achieve a successful outcome, joint co-operation, an open relationship, the development of trust and mutual respect from both the leadership and other team members was essential. The Client re-located to the company's office where the engineering and procurement facilities operated. This enabled them to set up a fully integrated team. The benefits of taking this approach were quicker responses to all technical and commercial queries / approvals, and the advantage of having the client on hand to deal efficiently with any decisions that required an urgent answer. Project cost and schedule savings proved the success of this approach.

Feedback from similar projects going on at the same time reported that they were experiencing some severe delivery slippages. The team decided that in this fast-moving environment, high level expediting of critical equipment from key vendors was required. Due to the close working relationship with the key vendors, deliveries were effectively maintained.

#### **4.3.3.2 Making team decisions**

Freedom to make decisions in a team context is very important. It is notable that individuals working in high-performing teams usually have considerable freedom of action and are empowered to make many decisions themselves without reference to higher authority. It is up to the project team leader to make sure that the team is empowered in this way and that team members feel that they have the authority to make decisions as long as they are in line with the project objectives and they are within their area of competence.

Although there are instances where individuals will make decisions on their own without reference to others, within a team it is much more usual for decisions to be made after consultation among members and to be made on the basis of consensus. Decisions 'emerge' by consensus and are truly group decisions. In such situations, it is important that the group is held accountable for the consequences of these decisions otherwise, if the decision is wrong, a 'scapegoat' situation can arise leading to a blame and counter-blame environment.

*'you couldn't resolve it without getting round the table and at that point the necessary people would be invited'*

It is the responsibility of the team leader to enable delegated decision-making to happen within the team. He or she must ensure that higher level people outside the team are not going to reverse decisions made within the team without very good reason. The leader also may have to encourage some members of the team who might be reluctant to be empowered in this way. This reluctance may stem from a number of causes. Making decisions brings with it responsibility and some might not want that responsibility on their shoulders. They might doubt their capability to make the decision or want to be paid more if they do. On the other hand, some team members might be overconfident of their capability and try to take decisions where they do not have full knowledge of the facts. The leader in that case will need to prescribe limits on what they may and may not decide at the same time as encouraging them to take a more realistic view of their own capabilities.

#### **4.3.3.3 Mutual team support**

A key benefit of working in teams is the opportunity for mutual support amongst the members. By setting team goals which are shared by all, there is a strong incentive for members to help each other in achieving their goals. This is especially true if overall team performance is incentivised rather than just individual contributions being rewarded. Mutual support is greatly facilitated by co-location since there is a much greater chance that everyone will know what is happening on a daily basis and will see when help is needed as situations arise. It is also easier for an individual to ask someone else for help if they are located in the same office. When co-location is not possible, mutual support could be demonstrated by making the other parties aware of what one is actually doing (through regular online meetings), and meeting the deadlines of deliverables as agreed.

*'it happens quite a lot that someone will chip in, usually just to assist with the mundane, but assist so the individuals aren't left hanging high and dry'*

Mutual support is a critical component of team spirit and loyalty since it creates bonds of co-operation between individuals. It dispels stereotypes and breaks down the 'us and them' of clients and contractors and helps people to work together rather than in opposition. It can create dependencies which sometimes can be unhelpful, for example people offloading tedious work onto others, but it can also create a positive peer pressure within the team which motivates members to do better.

A supportive environment in a team can generate genuine creativity as people are much more likely to bounce ideas off colleagues in developing solutions. This can have the benefit of exposing issues to the wider multifunctional audience of the team which can produce imaginative ideas and innovative solutions which might not come from a very narrow functional appraisal of an issue.

### **4.3.4 Developing the team**

#### **4.3.4.1 Team reviews**

The importance of team reviews has already been mentioned in Section 4.3.2.3 as a means of monitoring progress towards achievement of team goals. But team reviews are also a means of developing the team in the way they work together. To develop a team, it is important that learning takes place. It is good practice not only to review the goals and deliverables as a team at regular team review meetings, but also to carry out process reviews. A process review looks at the interpersonal processes going on within the team, how the team is working together, and how it can be improved. The review questions are essentially the same as in Section 4.3.1.3, i.e.:

- what is going well and why?
- what is not going so well and why?
- what are we going to do differently in the future?

These questions can be asked of a range of activities of the team such as:

- communications
- planning and control of work
- mutual help and support
- functional interactions
- decision making
- social events and interactions
- office environment and so on

By looking from time to time on how they are working together, the team has the opportunity to improve. It also gives team members an opportunity to voice their concerns or worries before they create resentments and the breakdown of relationships within the team. The frequency and format of the review meetings will depend upon the size of the team and nature of the project. For larger projects, outside facilitation can be a help; for others, the project team leader can adequately chair the meetings.

Some companies have a system of peer review for project teams whereby a colleague from a different project team comes in and reviews the project. This can be useful because an experienced project practitioner from outside the team bring different perspectives, and therefore can often see the blindingly obvious issue which those in the team cannot see for themselves, since they are all too close to it.

#### **4.3.4.2 Training and personal development**

Development and training of members of the project team is important to raise team competence and capability. Although long-term training and development of staff is a matter for the companies for which the individual team members work, nevertheless where it is in the interests of both the individual and the project team to do so, appropriate training should be arranged within the project.

As part of the review process, the team leader should regularly meet with members of the team to encouraging feedback and identify any training needs. These might include training courses which cover relevant project tools and techniques or might cover business-specific aspects or areas which may be new to the individual. Within the team, it might be possible, where it is in the interests of the team to do so, to extend or broaden an individuals' team role, perhaps in preparation for a wider career development move following the project.

In some cases, it can be helpful to assign individuals to a mentor, someone with more experience with whom they can discuss the job. This is especially useful for inexperienced or younger staff who might need more guidance to play a full role in the team. The mentor can be someone else from the team but it is probably better if it is someone locally based but not part of the team. A further guidance on training and personal development for enhancing project management competency is described in ECI (2011).

#### **4.3.4.3 *Creating a challenge culture***

The highest performing teams are dynamic. They are characterised by a 'challenge' culture in which the team members have extremely good relationships and are prepared to challenge one another by adopting a mutually questioning approach, spurring the team on to new levels of performance. Such teams typically define 'stretch' targets or goals which are more demanding than the declared goals for the team. Whilst such an environment can be exhilarating, it has its dangers: the challenging must be consistent with getting the job done and not just questioning for its own sake. Such teams can also be characterised by a very high level of internal competitiveness which can become counterproductive if it gets out of hand.



## 5. Effective supply chain engagement in projects

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### 5.1 Introduction

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The purpose of this effective supply chain engagement VEP is to give guidance on how to establish integrated project teams which fully engage and mobilise the supply chain to contribute effectively to project team success and, through ongoing relationships, to achieve continuing improvement to mutual benefit.

### 5.2 Essential activities

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- creating an integrated supply chain team, selecting and aligning the supply chain team members and developing an appropriate contractual arrangement between parties
- maintaining relationships and creating trust in the supply chain team through motivating and empowering individuals in a no-blame environment
- continuously improving supply chain team performance and establishing longer-term relationships, recognising the contribution of supply chain partners

### 5.3 Guidelines for implementation

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#### 5.3.1 Creating an integrated supply chain team

##### 5.3.1.1 *Selecting supply chain team members*

There is considerable evidence that successful project performance has been enhanced through the development of integrated project teams which include key supply chain partners. These teams operate in a co-operative way which avoids duplication of effort and seeks to align the objectives of all parties through the use of appropriate incentivised contracts.

*'the alliance way of working means that they do resolve differences very quickly and that can only be for the overall good of the project'*

The selection of team members is the most important decision to be made when setting up any type of supply chain project team. It is very important that there is a common understanding between team members since experience has shown that lack of compatibility between supply chain partners is the most common cause of team failure. In this situation, since it is a reciprocal relationship, selection is a two-way process and it is as important for contractors and suppliers to select the right client as it is for the client to select the right contractors and suppliers.

When establishing an integrated project team, key factors to consider are:

- compatibility of company cultures. The supply chain companies must have complementary business objectives and a similar, or adaptable, cultural attitude
- there must be commitment to the integrated team by all the companies involved at a senior level as well as a working level
- great care is needed in selecting the members of the teams involved, more so than in normal supplier selection processes. It is the team members who will make an integrated team succeed or fail
- it is preferable for parties to have worked together before and that a degree of confidence and mutual trust already exists between them
- as for any high performance team, the skills and capabilities of the team members must be appropriate for and positively contribute to the team and need to be balanced across the team

*'they got the job on the basis of their competency - not to do with price'*

#### **5.3.1.2 Aligning supply chain partners**

The process for aligning supply chain partners in an integrated project team is similar to aligning goals in any team (see Section 4.3.2.2), but must be done more thoroughly because the team members are coming together from very different organisations and company cultures. In addition to getting individual team members aligned around team goals, it is necessary also to get some degree of corporate alignment between the different companies involved.

Depending on the size of the project and the number of supply chain partners involved in the team, it is necessary to set up alignment meetings and workshops at two levels, at the level of senior management who will establish the corporate relationships but will not themselves necessarily be part of the team and also at the level of the team members themselves. The senior management group will also normally be concerned with agreeing the formal contractual relationships between the parties (see Section 5.3.1.3 below). Before agreeing the nature of the contract, however, it is important with an integrated team approach to define the nature of the working relationships and behaviours that the group want to see in the team. This will be based on a mutually beneficial co-operative approach and it is common for such senior groups to publish an agreed 'partnering charter' or similar document which defines the behaviours and working relationships to which the partners aspire on the project.

*'there's an inherent team building development that's gone on over the years and in the initial months of the contract we will develop a relationship with the people'*

A key part of the alignment process at the senior level is agreement on a set of common objectives. It is very important that the aims and objectives of all parties are openly declared - there should be no place for 'hidden agendas' - and through a process of debate and, in some cases, negotiation, a final shared set of partnership objectives must be agreed. Commitment to achieving these is required by all parties for this to be successful. This commitment not only means the contractors and suppliers agreeing to the client's project objectives but also includes the client agreeing to the aspiration of the contractors and suppliers to make a reasonable profit from the arrangement and then helping them to

get it. The concept of working co-operatively to mutual benefit by committing to shared objectives is the key. The problem is that this is easy to say but much harder to achieve in practice, especially when things start to go awry. There is a need to be brutally realistic and honest in these types of partnership, which again many clients and contractors find difficult to do. The alignment of objectives at a corporate level is not easy to achieve and time must be allowed for a process which can be slow and fraught on occasions.

It is likely that some of the team members will have been involved in the higher level alignment process: certainly it is essential for the team leader or project manager to have been fully involved at least. Once partnering objectives have been agreed, the process of assembling the team and defining specific team goals can proceed. The only difference for integrated teams across the supply chain is that more time and effort is needed to build team relationships and to get rid of hidden agendas. For an integrated team to be successful, members have to reach the point where they put aside their company 'hat' and feel fully committed to the team as a member rather than as just a representative of their company.

### **Case study**

The company is involved, as part of a joint venture with two other companies, in a large scale petrochemical complex. The joint venture between the three companies consists of differing business cultures; American, Asian and European and personnel from 26 different nationalities. To integrate the diversity of cultures into an effective team it was essential to try to break down any misconceptions and mistrust, develop relationships, trust and good communication amongst project personnel and recognise the differences in the business culture and the national cultures of the companies and their personnel. These factors were openly acknowledged by senior project management and the client. To help further in the understanding the diversities, cross-cultural events were organized and details of countries' national holidays, with a description of their origins, were published at the time of each holiday. In addition to the integration of personnel, common business practices and methodology between the companies were immediately implemented for project execution whilst other practises and working methods were jointly established prior to implementation. The lesson from this is that it does not matter who people are or their cultural background, an effective team can be created given trust, good personal relationships and people willing to listen to each other's' ideas.

#### ***5.3.1.3 Establishing the contract***

The contractual arrangements which are put in place to underpin the relationship between the parties need to be consistent with an integrated team approach. They also need to reflect the spirit of the partnering charter or other agreed statement of how the parties want to work together. Selecting an appropriate contract form can be difficult since most such terms and conditions have been developed for an adversarial contracting environment. Many standard contracts used by buying companies define severe penalties and liquidated damages for defaulting on performance which might be at odds with the way the parties want the contract to operate. Many are blatant attempts to push as much risk as possible onto the contractor or supplier. In fact, in an integrated team, risk is being shared and the principle is that risk should be borne by the party best able to manage it.

Adversarial contracting relies heavily on negative incentives to drive performance. Whilst there is a place for penalties, experience has shown that positive incentives are far more effective in delivering best performance. To drive behaviours in the way that the parties want, it is usual to incentivise partnering contracts on a gainshare / painshare basis and these incentives are usually built into the contract. In some cases, incentives are not made contractual and the process is agreed at the outset but are paid at the discretion of the client. In partnerships, incentives can be paid on an individual contract by contract basis according to contribution or can be a collective gainshare 'pot' which is shared out between all the parties on project completion to an agreed formula. The advantage of a shared incentive 'pot' is that it provides an incentive for supply chain partners to help each other when difficulties arise.

*'that pot at the end, will be shared between everybody and I think that's how it works, how the last lot of alliance working was'*

Whatever incentive scheme is agreed upon, it needs to be relatively easy for people to understand (otherwise it will not act as an incentive), it should be seen as fair by all parties and incentives should be firmly linked to the specific, measurable project objectives and team goals defined in the alignment process. Where possible, incentives should be paid against hard measures but there is a place for incentivising 'softer' measures such as client satisfaction but there should be a declared basis on how that will be measured at the outset. The agreement of the shares between parties is often the subject of much negotiation when the contract is being agreed.

The best contracts are signed and never pulled out of the drawer. It is essential, though, to have properly negotiated contracts for supply chain integrated team projects because if and when things start to go wrong, it is to the contract that the parties will turn. In that event, if the contract terms are adversarial or do not reflect the way the parties are working, the partnership can quickly disintegrate with disastrous consequences.

### **Case study**

The company is involved in developing and supplying a sub-system for a defence project. The operating environment for the system is extremely demanding and at the limit of existing technology. The previous way of working would have been to agree a fixed price contract with claims and variations, which often lead to major conflicts. It was recognised that to achieve an optimum technical solution an integrated design team approach was required. The factors influencing a successful outcome were the need for an open relationship, co-operation and the development of trust. To back this up the commercial relationship needed to reflect the technical approach but was more difficult to achieve. Given the previous history there was some suspicion, but the team overcame that, developed innovative approaches, and operated in a semi-autonomous way with management carrying out higher level checks and balances only. The main learning point is the need to recognise the factors required for a successful outcome and work accordingly.

## 5.3.2 Maintaining supply chain team relationships

### 5.3.2.1 Creating trust in the supply chain team

The creation of trust in project teams has been dealt with in Section 3.3.1.4. When building supply chain integrated teams, mutual trust is more difficult to achieve since there is a long-standing history of adversarial mutual mistrust in contractual relationships in many European countries. These attitudes and preconceptions in the supply chain cannot easily be glossed over and it takes time for trust to develop as the parties work together and gain confidence in pursuing common goals. It is necessary to establish a common team culture from the outset and ensure that all members are clear on their roles and responsibilities in achieving the shared goals. Commitment and a belief that it can be made to work are key components of building trust and very necessary when difficulties arise or mistakes are made.

*'trust is not a commodity, you can't buy and sell it, you've got to prove it really'*

Trust is also necessary between the senior managers who are not necessarily involved as team members, especially in the early stages, since their attitudes and responses when difficulties arise between supply chain partners will be critical. It is difficult for a team to maintain a good team spirit and co-operation if their senior managers are not supporting them.

*'I think trust has to be developed over a period of time, for anybody and anything actually'*

### **Case study**

The project is a long-term contract for operational maintenance and system performance improvements. The characteristics are a fast-moving, dynamic working environment and a high level of interdependency which is required for the success of both parties, that is to say, in terms of operating performance, financial and image. The relationship between the key members of each company is critical. A relationship management approach was adopted to achieve a common understanding of the perception of each company and the key players involved. This involved facilitated feedback, sessions looking at aspects of communication, initiative, attitude, competence and commitment. Criteria were agreed and classified into four levels. A gap analysis was carried out based on people's perceptions and actions agreed. The assessments are reviewed on a regular basis. The outcome is a much higher level of trust, better communication and a focused approach on the project.

### 5.3.2.2 Empowering the supply chain

There is a long-standing attitude in construction that the customer is always right. This has led to an undervaluing of the supply chain by many client companies who believe that they know best when it comes to construction projects. In fact, since most suppliers and contractors work with a range of different client companies, the supply chain has a wealth of experience and knowledge, largely untapped, which can be brought to bear in improving project performance. This experience might be available through improved products and equipment or in the methods and processes of project delivery but, although there is often a reluctance to engage them early in the life of a project, involvement of the supply chain at the conceptual and definition stages of projects can bring considerable benefit.

*'we were involved from absolutely day one in all the development and everything, so a lot of trust was set up between the parties'*

Unfortunately, many traditional working practices within the industry have made it difficult to involve the supply chain early in the project process. Operating companies are often reluctant to involve suppliers and contractors at this early stage, fearing loss of confidentiality and loss of buying leverage in subsequent price negotiations. Contractors and suppliers, on the other hand, are often wary of putting forward innovative ideas through fear of lack of protection of intellectual property and a concern that ideas put forward at the pre-contract stage will not be properly rewarded.

By adopting a different approach to supply chain relationships and by the use of integrated project teams, it can be much easier to encourage the sharing of ideas between parties without loss of commercial protection. Integrated teams and suitably incentivised commercial arrangements can positively encourage an early contribution from the supply chain to the mutual benefit of all parties. Integrated project teams, when properly aligned, empower the whole supply chain and foster the introduction of new ideas to facilitate the achievement of project objectives. Within such teams, the commercial arrangements need to ensure that new ideas are encouraged and properly rewarded while confidentiality and intellectual property rights are upheld.

The treatment of individuals within integrated teams must reflect the empowerment of the supply chain. Ideas and contributions from team members should be valued and considered regardless of the company they work for. Their contributions should be recognised and rewarded and, within a team, there should not be a major disparity in salary and rewards between individuals doing essentially the same job and making a similar contribution to the project, regardless of which company employs them.

### **5.3.2.3 Avoiding the blame culture**

Adversarial contracting practices can rapidly lead to a culture of blame and counter-blame. This blame culture is typically reflected in the high level of claims at the end of project contracts where either or both parties seek redress for poor performance. Whilst undoubtedly some such claims are justified, many fail to reflect the fact that poor performance has resulted from poor attitudes and mistakes by both parties. When pointing the finger, it is well to remember that there are three fingers pointing back at yourself. This blame culture results directly from a lack of trust and understanding between the parties. This leads to stereotyping and a breakdown of open communication between the parties. This in turn leads to misconceptions about the intentions and actions of the other party resulting in a deterioration of relationships. In such an environment, it is hardly surprising that project objectives are not achieved, the focus instead being on a preoccupation with the causes of failure and the identifying of which party is responsible.

*'the big problem with construction is that people sometimes get frightened to make decisions because of the blame culture'*

A further manifestation of the blame culture is that there is little continuity of the relationship between client and contractor. There is a perception in some client companies that the 'best' contractor is the one to be appointed to the next project and the 'worst' is the one who has just completed the last project. This means that clients return to the bottom of the learning curve each time as they move on to yet another contractor with no attempt to develop or grow the relationship over time. As the mistrust becomes embedded in the

organisational culture, companies adopt policies of 'man to man marking', constantly looking over the shoulder of the contractors and endlessly checking work. These policies are in fact self-defeating in that not only do they greatly increase costs for the additional effort, but by adopting this approach clients are actually reducing the accountability of the contractors and demotivating and disempowering their staff by constantly checking up on them.

The solution to the blame culture is to create a different sort of supply chain relationship - a partnership. In this model, risks are shared, behaviours are co-operative rather than adversarial and accountabilities are clear and fair from the outset. In a blame-free environment, the focus is on success not failure and where problems arise the emphasis is on jointly finding solutions rather than spending time determining who is to blame.

*'the only way that you can get people to bring ideas and to bring positive open solutions to the table is not to blame them if something goes wrong'*

A good indicator of successful blame-free working is the way in which disputes are resolved. Everyone wants dispute-free projects but it is a fact of life that disputes do arise between parties on even the best managed projects. For this reason, it is very important that the parties define and agree dispute resolution procedures from the outset. Where appropriate, these should be built into the contract. In a blame-free environment, disputes will be dealt with quickly and locally. Producing claims at the end of the project which have not been raised at the time should not be allowed. Disputes only escalate if the local team cannot resolve them. It is good practice to have several steps in the process before litigious measures are invoked. The principle for resolution should be settlement in the interests of the parties rather than within their contractual rights. It is rarely in the interests of the parties to proceed to litigation. There is a range of alternative dispute resolution (ADR) procedures available to the industry which should be considered before heading for court.

The integrated project team is the best way of ensuring a blame-free culture. If the team is properly aligned, they will be able to resolve most disputes within the team. For those that they cannot resolve, it is helpful to have a small senior management team with representation from across the supply chain member companies to which those disputes can be referred for resolution. Only if that group fails to agree should the dispute be referred to an agreed ADR procedure. Litigation should remain as an absolute last resort.

#### **5.3.2.4 Motivating supply chain teams**

At the corporate level, much of the motivation for a supply chain team comes from the prospect of an ongoing business relationship beyond the immediate project. If contractors or suppliers can gain partnership or preferred supplier status with a client, this brings the prospect of long-term stability and a degree of security to their business. Sustainable relationships with a client are much more likely to result from working in an integrated project team with a client compared with a traditional adversarial contract. Integrated teams give supply chain companies much more opportunity to add value compared with fixed price tendering against a fully defined scope. Intimate knowledge of a client's people, businesses, standards and ways of working give supply chain partners a competitive advantage which they do not usually gain through traditional contracts.

*'what most companies should be aiming to try and do - perform well and you'll be considered for the next one.'*

All businesses need to be profitable to survive, but many contractors and suppliers are willing to take a longer view of returns from partnering contracts and in some cases have accepted a lower return from a partnership in exchange for the prospect of continuing business. From the client's point of view, the motivation is often driven by a desire to reduce costs, although in many cases the result of successful partnerships is improvements in quality of output, better safety performance and speed of response rather than direct savings in capital cost. Clients are also motivated by the prospect of greater certainty of output and a sharing of risk with partners as well as bringing access to skills and capability which the client company may not themselves possess. Longer-term supply relationships can bring stability and continuity to a client's project process with scope for development and continuous improvement.

For individuals within the integrated project team, motivating factors can be rather different. Most people prefer working in an open and non-adversarial environment and enjoy the challenge of working in a multidisciplinary team. Scope for individual development of skills and knowledge is greater and insights into how clients and other supply chain partners think and act can broaden horizons beyond a narrow in-house view of the world. Recognition and reward of individual and team contributions are major motivating factors and integrated team members seem to be happier and enjoy their work more compared to those working on adversarial contracts.

For other factors which motivate teams, see Section 3.3.6: 'Motivating the Team'.

### **5.3.3 Improving supply chain team performance**

#### **5.3.3.1 Creating continuous team improvement**

Most integrated team partnerships, especially longer-term partnerships, have continuous improvement as a major objective. Some clients interpret that narrowly as continuous improvement of prices such as reducing man-hour rates etc, or a steady reduction in contract costs. However, this narrow approach tends over a period of time to lead to prices and costs flattening to a plateau. In some cases, contract partners view this approach as merely a gradual squeezing of their ability to make profits from the partnership. A more successful approach is to take a broader view of continuous improvement and to look for improvements in quality of service and such things as safety, health and environmental performance, responsiveness and innovative thinking. Improvements in operability, better processes, reducing risks and improving business competitiveness are also areas where improvements can and should be focused. Reduction of costs is not the only way a partnership can add value.

*'it's quite repetitive the type of people that we use, so we can build a good system up so that we know we're getting the proper products at the proper price and the proper service'*

Integrated supply chain teams are an ideal way to improve innovative thinking and to embed a challenge culture of continuous improvement. To encourage innovation within such multi-company teams, careful consideration of the right contractual arrangements is important. It is important to ensure that positive incentives are in place which will encourage a creative approach to problem solving from supply chain partners, for example. With many contractors and suppliers, innovation is actually discouraged, since the client has specified what they want and offering alternatives can be seen as questioning the client's judgement. This attitude by contractor staff can lead to caution or conservatism in the team which will reduce cost effectiveness.



For both the client and the contractor, there are issues of confidentiality, intellectual property ownership and value which need to be protected if novel solutions and ideas are to be shared in an integrated supply chain team. Confidentiality agreements are needed on both sides, but there can still be difficulties if mechanisms for the valuing and rewarding of innovative contributions are not in place between the parties. It is not enough for clients to build clauses into contracts claiming automatic ownership of all new intellectual property developed by the supply chain on the project since this gives no incentive for contractors and suppliers to be innovative. It might be better if contractors and suppliers were rewarded for innovation by letting them retain ownership of intellectual property in exchange for the client's free and unrestricted use of the innovation for example.

How integrated teams can develop a challenge culture though innovative thinking and continuous improvement is dealt with in Section 4.3.4.3.

### **Case study**

The client has set out a series of framework agreements for certain types of project work. The aim is to simplify the award of contracts and develop long-term relationships. To back this up, they have implemented a supplier evaluation process. This focuses on performance parameters over various projects, not just the sort of measures one would expect on a contract. Against the various parameters there are key performance indicators where evidence has to be maintained. Reviews are carried out and a status of 'green', 'amber' or 'red' given. To maintain the framework status it is necessary to consistently maintain and improve the scores against around twelve categories.

Over time team members realise that it is not just good enough to perform against what they perceive to be important, but against the client's stated aims across various projects. There are potential problems however, such as a risk of subjectivity in the assessment leading to conflict and there is a high overhead in maintaining the measurements. This can be effective where there are a large number of projects but if investment drops there is a high cost involved in keeping the system.

#### **5.3.3.2 Recognition of supply chain contribution**

Many clients fail to appreciate the contribution made by their supply chain to project success. Similarly, there are many contractors who in a reimbursable contract are more concerned with maximising man-hours, and hence income to themselves, than whether the project has been successful for the client. This situation arises from a lack of alignment between the reward system and the project or contract objectives. In integrated supply chain teams, rewards should all be focused on meeting or improving on the project objectives or team goals and this should be reflected in the contractual arrangements between the parties.

Within the team, rewards will be based on collective team performance and each supply chain partner's share ought to correlate with their ability to influence that performance. For the companies involved, the reward share will also relate to their willingness to accept risk and it is good practice in exceptional cases to have a mechanism to be able to share extra reward for extraordinary performance.

The recognition and rewarding of individuals within integrated project teams is covered in Section 3.3.6.3.

### **Case study**

The client involved a number of supply chain companies in a long-term partnering arrangement for portfolio of projects. There was an incentive scheme for any savings that were identified by any member of the supply chain. The savings did not go straight to the client, but were shared among supply chain members.

#### **5.3.3.3 Longer-term ongoing relationships**

It has been mentioned above in Section 5.3.2.4 that the prospect of ongoing, longer-term business with clients is a powerful motivator for contractors and suppliers. Where this is possible and there is a continuous flow of projects and a relatively steady workload, it is also in the interests of the client. Establishing and setting up integrated project teams is a costly, time-consuming process because of the need to work through an alignment process and to go up a mutual learning curve together. It is a waste if, at the end of a project, the team is disbanded and the client has to go through the process again with other supply partners for the next project. For this reason, longer-term partnerships are a cost-effective way of reducing the establishment costs and front-end schedule for subsequent projects.

A key requirement of such longer-term relationships is continuity of work, which can be difficult for projects since capital programmes can vary enormously over time. These arrangements are very suitable for smaller site-based projects where there is usually a much steadier workload.

It is important that long-term partnerships are not left open ended and are regularly reviewed. Whilst they are very effective vehicles for continually improving performance, they can also over time become too comfortable and cosy leading to reducing effectiveness and uncompetitive performance if the supply chain partners start taking the ongoing relationship for granted. Relationships need to be regularly tested and benchmarked against market performance to ensure this does not happen. At some points, it is right to go through a full reappraisal and rebidding process, usually after a defined period of years.

Successful teams depend very much upon the people in them and another potential problem with longer-term relationships is that people move on or leave after a time and there is a constant need to introduce new people to the team and to bring them up to speed. This was dealt with more fully in Section 4.3.1.2.

*'somebody doesn't fit in and something doesn't work out so, yes, it's important to bring someone in then, you know, you should never close your mind to it'*

## **6. Assessment of teamwork, leadership and empowerment**

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### **6.1 Introduction**

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This section demonstrates an assessment of current practices and climate of teamwork, leadership and empowerment, and presents the findings of the managers and employees survey in participating companies. First, questionnaire development and survey are described, before the analysis and presentation of the findings. The analysis provides examples of how companies could use the questionnaires to capture current practices and compare/benchmark themselves with the survey results provided.

### **6.2 Questionnaire development and survey**

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One way to assess current practices of teamwork, leadership and empowerment within organisations is by asking people at different hierarchical levels how they feel about aspects/issues surrounding the actual climate and implementation of teamwork, leadership and empowerment. In this instance, the perceptions of managers and employees are crucial in order to understand current (good and poor) practices. This understanding will permit them to focus their efforts on correcting and improving specific aspects which are not conducive to good teamwork, leadership and empowerment practices. To ensure wider coverage of views and opinions, a questionnaire survey was considered as the most appropriate method of capturing their opinions. The questionnaire was designed to cover key teamwork, leadership and empowerment issues which were identified during case study interviews (see Appendix).

The process of developing questionnaires to the use of the information obtained from data analyses is explained below:

- the key issues identified from the interviews (see Section 2.5) were used to construct statements. There are 44 and 87 statements for employees and managers respectively. The number of manager statements is larger due to a wider coverage of issues. Some statements are identical and reversed for employee and managerial questionnaires
- the statements were included in two questionnaires which were used to collate data from five participating companies through a survey of operatives (i.e. employees, including first-line supervisors and below) and managers (i.e. anyone above first-line supervision). The number of responses from each company is presented in Table 1
- the data obtained (in the form of scores indicating levels of agreement) were analysed and presented in four types of analysis (see Section 6.3)
- the results were used to build up a picture of current practices within each company and the overall sample. This also provided an example of how to use the questionnaire data so that companies can use the questionnaires on future projects

**Table 1: Summary of questionnaire response**

Company	Number of responses	
	Manager	Employee
A	30	61
B	22	35
C	17	40
D	14	14
E	17	41
<b>Total</b>	<b>100</b>	<b>191</b>

### 6.3 Analysis of questionnaire data

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The assessment of current practices within projects and companies involves a scoring system where employees and managers are asked to indicate their level of agreement against the statements on a scale from 1 to 5 (1 indicates 'strongly disagree,' 2 'disagree,' 3 'neither agree nor disagree,' 4 'agree,' and 5 'strongly agree'). Questionnaires for both employees and managers are presented in Appendix 1. These scores can be used for the following.

- an analysis of the proportion of responses can reveal the extent of agreement and disagreement on each statement (presented in Section 6.3.1). This analysis aims to identify areas which need to be addressed and corrected to improve performance
- comparison between manager and employee responses regarding identical and reversed statements (presented in Section 6.3.2). This identifies any differences in perceptions between managers and employees with regard to teamwork, leadership and empowerment issues
- comparison between company and industry responses which helps to benchmark the perceptions of managers and employees and to identify potential problems within the company (presented in Section 6.3.3)
- comparison across companies or projects which helps to benchmark the perceptions of managers and employees on the issues and to identify best practices and potential problems across companies or projects within company (presented in Section 6.3.4)

The results and examples of the analyses are provided in the following sections, so that any company who wish to conduct analysis could refer to as the basis for comparison and benchmarking. A summary of results for each type of analysis is also provided at the end of each section.

### 6.3.1 Analysis of proportion of responses

The overall results of analysis are presented in the Appendix (Figures A1 and A2 for employees and managers respectively). The bar charts demonstrate the percentages of each agreement levels (i.e. strongly agree, agree, etc.) towards each statement. The bar charts summarise the responses from employees and managers, which are useful for companies to evaluate their current practices. Management efforts should focus on issues which are perceived by significant number of employees and managers as not true or not materialised yet within project environment.

#### 6.3.1.1 Results for employees

Figure A1 shows that over fifty per cent of employees were unsure about or disagreed with the following **'positive' statements**<sup>1</sup> (percentages, numbers correspond to the number of statement in the questionnaire):

- it is important that I work with people with whom I am familiar (64%, 34)
- I work in an environment which does not blame me (or others) if there are any difficulties (60%, 38)
- my team's contributions are recognised by my organisation (53%, 19)
- being part of a team gives me greater control over my work (53%, 35)

Over fifty per cent of employees were unsure about or agreed with the following **'negative' statements**:

- I have experienced limits as to how far I can influence my work (94%, 14)
- there are circumstances when I should not have had to make decisions related to my work (81%, 40)
- at times individuals should be blamed when things go wrong (69%, 44)
- health and safety issues limit the influence I can have over my work (67%, 41)

#### 6.3.1.2 Results for managers

The same evaluation of manager responses shows that over fifty per cent of managers were unsure about or disagreed with the following **'positive' statements** (percentages, numbers correspond to the number of statement in the managerial questionnaire):

- it is important that I work with people with whom I am familiar (77%, 45)
- my employees want to take more control of their own work (76%, 21)
- there is a well-defined reward system within my company (70%, 83)
- the client (or client's representative) has sufficiently empowered the whole supply chain (68%, 13)
- I work in an environment which does not blame me (or others) if there are any difficulties (68%, 29)
- the level of trust is high between the supply chain organisations (68%, 64)
- there is a high level of trust between the supply chain organisations (63%, 10)

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<sup>1</sup> 'Positive' statements are defined as statements which should be supported (i.e. agreed) to ensure appropriate climate of leadership, teamwork and empowerment, whereas 'negative' statements should be refuted (i.e. disagreed) to allow this appropriate climate.

- when projects start, I can trust the supply chain (63%, 65)
- my employees want to be empowered (60%, 26)
- the supply chain is always willing to share information with me (58%, 70)
- in my company, the contribution of employees is rewarded fairly (53%, 82)
- the resources provided support the level of responsibility that I am expected to undertake (52%, 60)
- the resources provided support the level of risk I am expected to undertake (52%, 61)
- there is a need for new supply chain members (51%, 63)

Over fifty percent of managers were unsure about or agreed with the following **'negative' statements**:

- there are circumstances where employees should not have the authority to decide how their work is carried out (96%, 19)
- the degree to which I am able to make work related decision is influenced by the client (89%, 28)
- I have experienced barriers as to how far I can influence my work (76%, 54)
- at times, individuals should be blamed when things go wrong (67%, 33)
- material rewards (eg. financial) are more effective than recognition (64%, 84)
- I would like to have more authority to make my own work related decisions (54%, 25)
- I need more information if I am to make my own work related decisions (52%, 23)

### **Recommendations**

The findings suggest that management should take the following actions:

- communicate to the employees how their work makes a significant contribution to the organisation and is rewarded fairly
- promote teamwork and social cohesion amongst individuals in order to encourage them to work as a team and to enhance the level of trust and information sharing
- discourage blame culture by creating mechanisms to deal with how problems should be addressed by the team
- facilitate participative decision-making by training managers to enhance their leadership skills
- reassess the level of resources necessary to carry out work (ie make decisions and support the level of risk)
- facilitate two-way dialogue between managers and employees to reassess the barriers and level of empowerment and how they want to be empowered
- suggest a more proactive role of the client to empower their supply chain partners

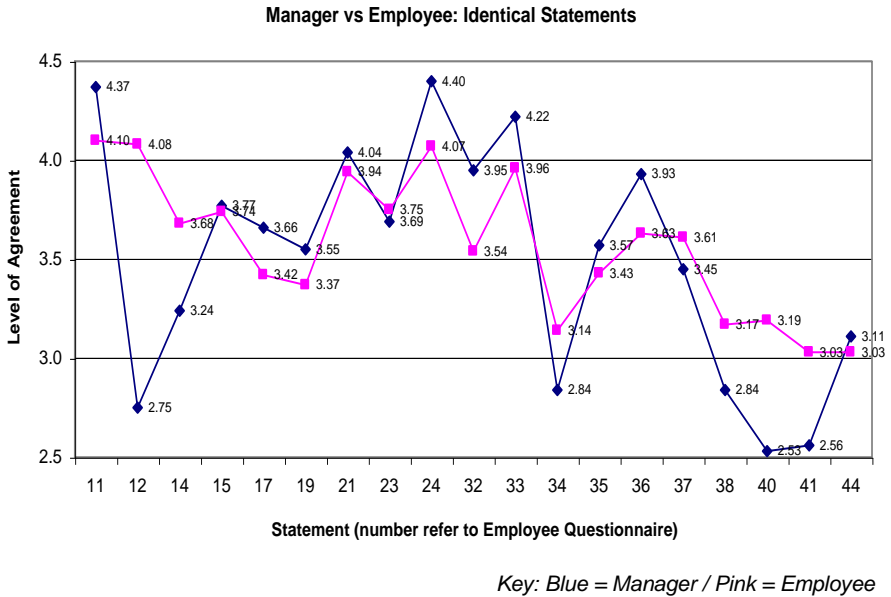
### 6.3.2 Comparison between manager and employee responses towards identical and reversed statements

Several key issues were found to be relevant to both employees and managers and capture their reciprocal perceptions. That is, investigation of these issues would reveal perceptive differences between both parties and how one party's action is perceived by the other. These key issues were used to construct identical and reversed statements.

For identical statements, employees and managers were both asked to indicate their levels of agreement towards the same statements, for example 'I have the authority to decide how my work is carried out'.

Reversed statements were designed to reflect reciprocal perceptions, for example, employees were asked to indicate their levels of agreement towards the statement, 'my contributions are recognised by my supervisor', whereas managers towards the statement, 'I recognise the contributions made by my employees.'

The evaluation of overall sample of identical and reversed statements is presented in Figures 2 and 3. Further analysis was conducted to investigate whether perceptual differences between employees and managers were significant. The analysis of differences provides an indication whether these differences are worthy of notice. Tables 2 and 3 present significant differences found in the analysis of identical and reversed statements.



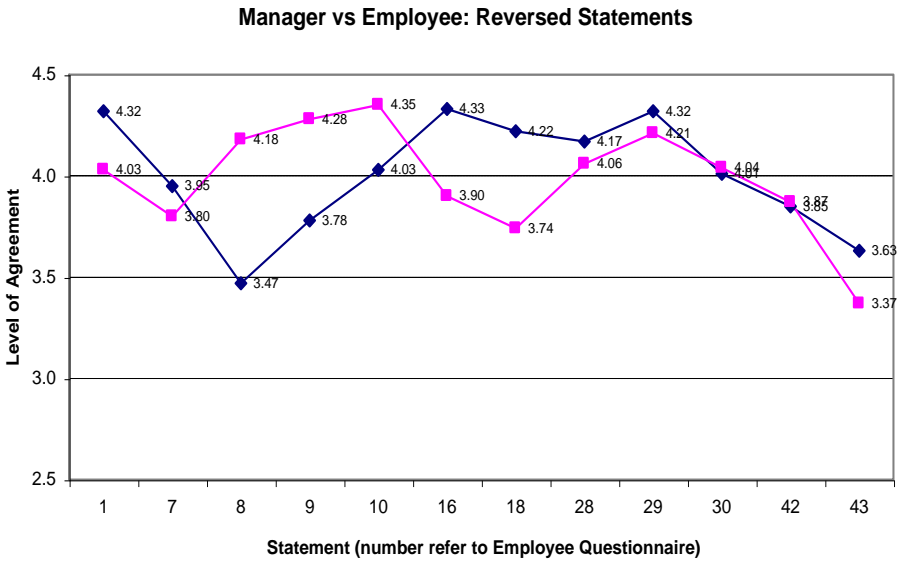
**Figure 2: The differences between managers' and employees' responses towards identical statements**

**Table 2: Significant differences\* of employees' and managers' responses towards identical statements**

Identical Statements (numbers refer to employee questionnaire)	Level of Agreement	
	Employee	Manager
11. I have, at least to some extent, the authority to make my own work related decisions	4.10	4.37
12. I would like to make my own work related decisions	4.08	2.75
14. I have experienced limits as to how far I can influence my work	3.68	3.24
17. My contributions are recognised by my organisation	3.42	3.66
24. The work I do is important	4.07	4.40
32. I have the authority to decide how my work is carried out	3.54	3.95
33. I am fully aware of the project's goals	3.96	4.22
34. It is important that I work with people with whom I am familiar	3.14	2.84
36. When I have team support my work performance improves	3.63	3.93
38. I work in an environment which does not blame me (or others) if there are any difficulties	3.17	2.84
40. There are circumstances when I should not have had to make decisions related to my work	3.19	2.53
41. Health and Safety issues limit the influence I can have over my work	3.03	2.56

**Note:** \* significant difference at 95% confidence level





Key: Blue = Manager / Pink = Employee

**Figure 3: The differences between managers' and employees' responses towards reversed statements**

**Table 3: Significant differences\* of employees' and managers' responses towards reversed statements**

Statements for Employees		Statements for Managers
1.	My supervisor shares work-related information with me (4.03)	I share work-related information with my employees (4.32)
8.	I am trusted to carry out my work without the direction of my supervisor (4.18)	I can trust my employees to carry out their work without the direction of a supervisor (3.47)
9.	I have had the opportunity to solve problems that I faced during my work without having to go to my supervisor (4.28)	I actively encourage my employees to solve problems that they have faced during their work without having to go to their supervisor (3.78)
10.	I am personally responsible for the work that I do (4.35)	My employees are personally responsible for the work that they do (4.03)
16.	My contributions are recognised by my supervisor (3.90)	I recognise the contributions made by my employees (4.33)
18.	My team's contributions are recognised by my supervisor (3.74)	I recognise my team's contributions (4.22)
43.	I am able to influence how work is shared amongst members of my team	My employees are able to influence how work is shared amongst members of their teams

**Note:** \* significant difference at 95% confidence level

### **Summary of findings**

The analysis of identical statements revealed discrepancies between managers' and employees' perception. The findings imply the following:

- managers' perception of their own authority and control over work was greater than employees'
- managers' perception of their organisations recognition of their contributions was greater than employees'
- managers also took more pride in their work and were more aware of project's goal than employees did
- although managers required less social cohesion, they felt that team support is more important than employees did
- managers were more prone to adopt a blame culture than employees

The analysis of reversed statements revealed discrepancies between managers' and employees' perception. The findings imply the following:

- managers did not delegate power as much as employees thought that the managers did
- employees perceived themselves to be less able to influence the work within the team than managers perceived them to be
- managers' perception of their recognition of employees' contributions was greater than employees'

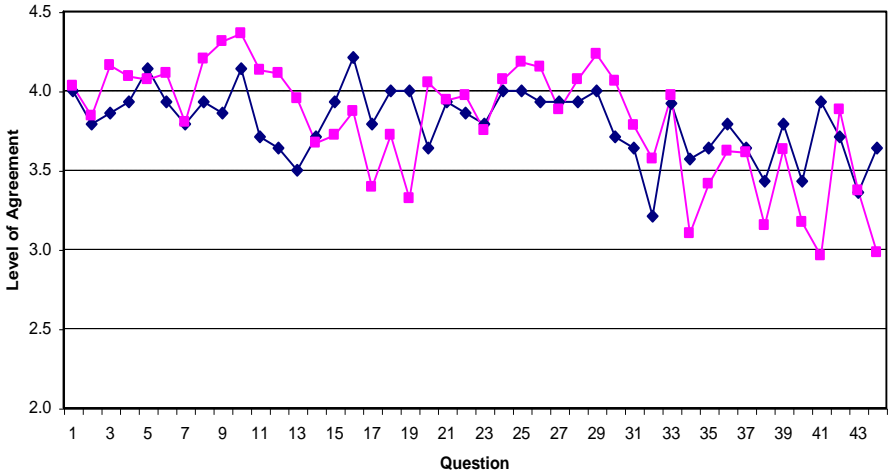
It is beneficial for managers to understand these issues and address them by developing appropriate strategies, such as better communication to get the messages across their employees. A similar analysis can be conducted for any company to investigate the perceived differences between their managers and employees.

### **6.3.3 Comparison between company and industry responses**

This analysis was conducted by comparing averages of the responses in which significant differences were further identified. In this analysis, a database of industry practices (in terms of responses to the statements) is essential to provide a 'benchmark'. Although the larger the database, the better the comparison will be, the database could be developed by accumulating responses from several companies, then comparing a company's responses with the rest, as exemplified in this section.

As an example to demonstrate the use of this analysis, employees' responses of Company D were compared with those of cumulative sample from the other four companies participating in this survey. The cumulative sample served as benchmark scores. Figure 4 depicts the results of comparative analysis of employees' responses between Company D and cumulative sample from the other four companies participating in this survey. Statements in which significant differences between responses of Company D and those samples were found, are presented in Table 4.

Company D vs Sample



Key: Blue = Company D / Pink = Sample

**Figure 4: The differences of employees’ responses between Company D and cumulative sample of other companies**

**Table 4: Significant differences\* of employees’ responses between Company D and cumulative sample of other companies**

Statements for Employees (numbers refer to employee questionnaire)	
3.	I can share my ideas with my supervisor
8.	I am trusted to carry out my work without the direction of my supervisor
9.	I have had the opportunity to solve problems that I faced during my work without having to go to my supervisor
12.	I would like to make my own work related decisions
13.	My supervisor wants me to make my own work related decisions
19.	My team’s contributions are recognised by my organisation
20.	I am comfortable talking to my team members about any difficulties that I may face
34.	It is important that I work with people with whom I am familiar
41.	Health and Safety issues limit the influence I can have over my work
44.	At times individuals should be blamed when things go wrong

**Note:** \* significant difference at 95% confidence level

### **Summary of findings**

Several key issues identified suggest that:

- employees perceived their relationship with their supervisors to be somewhat poorer than the sample, specifically on issues related to communication with supervisor, authority and ownership towards work and decision making
- recognition of teams' contributions was found to be higher in Company D than the sample
- the need for more social cohesion and team building exercises to enhance team spirit and reducing the blame culture was identified within Company D
- employees of Company D were found to be more confident on the limitations that health and safety issues pose on work

### **6.3.4 Comparison across companies or projects**

A company may have a number of subsidiaries or a portfolio of projects which run simultaneously. Comparisons can be carried out to identify best practice or problems inherent within each subsidiary or project, which is useful for the company as a whole to improve performance. Specifically, the analysis would permit the following:

- identification of a better performing company, in terms of achieving more higher scores and fewer lower scores
- identification of poorer performing companies
- identification of best and poor practices in specific performance aspects, for example 'responsibility and decision making', 'recognition'

For example, using the overall sample, the analysis can be applied to compare the results of Companies A, B, C, D and E. Table A1 (Appendix) provides an overview of the employees' responses which reflect teamwork, leadership, empowerment climate and practices within each company. The analysis involves comparing the scores for employees. The last two rows of Table A1 summarise the number of highest and lowest scores achieved by each company in all 44 statements.

### **Summary of findings**

Key issues resulting from this analysis are highlighted as follows:

- company A achieved highest scores in 19 statements and lowest score in one statement
- companies C and D acquired lowest scores in 16 and 17 statements, suggesting the need for management attention and appropriate corrective actions
- the scores of Company A are higher in most statements (specifically 7, 8, 9, 10, 11, 12, 14) within 'responsibility and decision making' aspects than those of other companies. In contrast, Company D performed less well in that dimension. This suggests that Company A may provide a best practice in this dimension, whereas Company D should be investigated further to identify practices which hamper performance-enhancing climate
- in the 'recognition' aspects, Company D achieved higher scores in all statements (15, 16, 17, 18, 19), whereas Company C performed less well. Using these results, management could then devise appropriate actions to improve 'recognition' in Company C and should investigate the practice within Company D as an exemplary case

## **6.4 Summary**

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This final section has described the use of questionnaires that contain statements regarding teamwork, leadership and empowerment issues for both managers and employees. Several issues to summarise this section are described as follows:

- appropriate use of the questionnaires will enhance understanding on the current climate of teamwork, leadership and empowerment, and help to improve them by comparing and identifying perception differences between managers and employees, and between one company and another
- the questionnaires provide opportunities for companies to learn best practices and identify problems which are subsequently used for taking appropriate corrective actions
- the assessment offered in this section only provides one snap-shot of practices. It is suggested that companies undertake this assessment at regular basis, so that performance can be monitored over time and across companies / projects to facilitate continuous improvement
- it is worth noting that the scores derived from the assessment are not the important point, as it essentially serves as a tool to 'flag-up' problems and then enable discussion on various teamwork, leadership and empowerment issues with a view for taking corrective actions
- the validity (and the usefulness) of the survey relies to a large extent on the respondent's honesty and frank feedback. Anonymity of the respondents may facilitate honest feedback and therefore has to be considered when administering the survey. On the other side, it remains crucial that management should be open minded in dealing with these sensitive issues (e.g. willingness to admit shortcomings in aspects highlighted by the employees and take corrective actions).

# Appendix - Managerial and employee questionnaires

## A.1 Introduction

This appendix presents questionnaires for managers and employees. The aim of the questionnaires is to measure the climate of leadership, teamwork and empowerment within project environment. The results should inform team members regarding the current (good and poor) practices. This would permit them to focus their attention / effort to correct and / or improve specific aspects which are not conducive to good teamwork, leadership and empowerment practices. The development of the questionnaires, details of the analysis results and summary of key findings are described in Section 6. This provides an example of how companies could use the questionnaires to capture current practices and compare / benchmark with other companies for improved performance and added value.

## A.2 Employee questionnaire

### Instructions

The following is a list of statements which are used to measure your attitude and / or experience towards various workplace issues. Please indicate (ie circle) the extent of your agreement on each statement using a scale from 1 to 5 where 1 indicates 'strongly disagree'; 2 'disagree'; 3 'neither agree nor disagree'; 4 'agree'; and 5 'strongly agree'. If a question is **definitely** not applicable to you, do not answer, otherwise please answer all questions.

Statements	Level of Agreement				
<b>Factor 1: Supervisor attitude and relationship</b>					
1. My supervisor shares work-related information with me	1	2	3	4	5
2. My supervisor is always willing to share information with me	1	2	3	4	5
3. I can share my ideas with my supervisor	1	2	3	4	5
4. I can share my concerns with my supervisor	1	2	3	4	5
5. I trust that my supervisor will support me when I need help	1	2	3	4	5
6. I am able to talk to my supervisor about any difficulties I encounter in my work	1	2	3	4	5
7. My supervisor responds positively to my suggestions	1	2	3	4	5

Statements	Level of Agreement				
<b>Factor 2: Responsibility and decision making</b>					
8. I am trusted to carry out my work without the direction of my supervisor.	1	2	3	4	5
9. I have had the opportunity to solve problems that I faced during my work without having to go to my supervisor	1	2	3	4	5
10. I am personally responsible for the work that I do	1	2	3	4	5
11. I have, at least to some extent, the authority to make my own work related decisions	1	2	3	4	5
12. I would like to make my own work related decisions	1	2	3	4	5
13. My supervisor wants me to make my own work related decisions	1	2	3	4	5
14. I have experienced limits as to how far I can influence my work	1	2	3	4	5
<b>Factor 3: Recognition</b>					
15. I am respected for the work that I do	1	2	3	4	5
16. My contributions are recognised by my supervisor	1	2	3	4	5
17. My contributions are recognised by my organisation	1	2	3	4	5
18. My team's contributions are recognised by my supervisor	1	2	3	4	5
19. My team's contributions are recognised by my organisation	1	2	3	4	5
<b>Factor 4: Team trust and support</b>					
20. I am comfortable talking to my team members about any difficulties that I may face	1	2	3	4	5
21. I trust my team	1	2	3	4	5
22. My team will support me when I require help	1	2	3	4	5



Statements	Level of Agreement				
<b>Factor 5: Self efficacy and confidence</b>					
23. My experiences on this project have been similar to other projects on which I have worked	1	2	3	4	5
24. The work I do is important	1	2	3	4	5
25. I feel confident to undertake my work successfully	1	2	3	4	5
26. I am sufficiently experienced to do my work successfully	1	2	3	4	5
27. I am sufficiently trained to do my work successfully	1	2	3	4	5
<b>Factor 6: Authority over work</b>					
28. My supervisor encourages me to make work related decisions	1	2	3	4	5
29. My supervisor encourages me to take control of my work	1	2	3	4	5
30. There are circumstances where I should have the authority to decide how my work is carried out	1	2	3	4	5
31. Senior management want me to take control of my work	1	2	3	4	5
32. I have the authority to decide how my work is carried out	1	2	3	4	5
33. I am fully aware of the project's goals	1	2	3	4	5
<b>Factor 7: Team influence</b>					
34. It is important that I work with people with whom I am familiar	1	2	3	4	5
35. Being part of a team gives me greater control over my work	1	2	3	4	5
36. When I have team support my work performance improves	1	2	3	4	5
37. In comparison to other members of my team I feel that I am treated in the same way as them	1	2	3	4	5
<b>Factor 8: Supportive working environment</b>					
38. I work in an environment which does not blame me (or others) if there are any difficulties	1	2	3	4	5
39. I am made to feel that the work I do is important	1	2	3	4	5

Statements	Level of Agreement				
<b>Factor 9: Limitations</b>					
40. There are circumstances when I should not have had to make decisions related to my work	1	2	3	4	5
41. Health and Safety issues limit the influence I can have over my work	1	2	3	4	5
<b>Factor 10: Ability to influence own work and team</b>					
42. I have control over my work	1	2	3	4	5
43. I am able to influence how work is shared amongst members of my team	1	2	3	4	5
<b>Factor 11: Accountability</b>					
44. At times individuals should be blamed when things go wrong	1	2	3	4	5

### A.3 Managerial questionnaire

#### Instructions

The following is a list of statements which are used to measure your attitude and / or experience towards various workplace issues. Please indicate (ie circle) the extent of your agreement on each statement using a scale from 1 to 5 where 1 indicates 'strongly disagree'; 2 'disagree'; 3 'neither agree nor disagree'; 4 'agree'; and 5 'strongly agree'. If a question is **definitely** not applicable to you, do not answer, otherwise please answer all questions.

Statements	1	2	3	4	5
<b>Factor 1: Organisational leadership</b>					
1. I can trust my employees to carry out their work without the direction of a supervisor	1	2	3	4	5
2. I share work-related information with my employees	1	2	3	4	5
3. My employees respond positively to my suggestions	1	2	3	4	5
4. My employees' responses to my suggestions meet my expectations	1	2	3	4	5
5. I encourage my employees to take control of their work	1	2	3	4	5
6. I encourage my employees to make work related decisions	1	2	3	4	5
<b>Factor 2: Project leadership</b>					
7. I have a good relationship with downstream supply chain companies	1	2	3	4	5
8. I have a good relationship with upstream supply chain companies	1	2	3	4	5
9. I recognise the contributions made by supply chain companies	1	2	3	4	5
10. There is a high level of trust between the supply chain organisations	1	2	3	4	5
11. Leaders play a key role in the management of the supply chain	1	2	3	4	5
12. Leaders play a key role in client relationships	1	2	3	4	5
13. The client (or client's representative) has sufficiently empowered the whole supply chain	1	2	3	4	5
14. The way that the project is being led affects my contribution	1	2	3	4	5

Statements	Level of Agreement				
<b>Factor 3: Influence / authority / power</b>					
15. I actively encourage my employees to solve problems that they have faced during their work without having to go to their supervisor	1	2	3	4	5
16. I actively encourage supply chain members to take control of their work	1	2	3	4	5
17. My employees are personally responsible for the work that they do	1	2	3	4	5
18. There are circumstances where employees should have the authority to decide how their work is carried out	1	2	3	4	5
19. There are circumstances where employees should not have the authority to decide how their work is carried out	1	2	3	4	5
20. My employees have sufficient control over their work	1	2	3	4	5
21. My employees want to take more control of their own work	1	2	3	4	5
22. I have, at least to some extent, the authority to make my own work related decisions	1	2	3	4	5
23. I need more information if I am to make my own work related decisions	1	2	3	4	5
24. I need more training if I am to make my own work related decisions	1	2	3	4	5
25. I would like to have more authority to make my own work related decisions	1	2	3	4	5
26. My employees want to be empowered	1	2	3	4	5
27. I have the authority to decide how my work is carried out	1	2	3	4	5
28. The degree to which I am able to make work related decision is influenced by the client	1	2	3	4	5

Statements	Level of Agreement				
<b>Factor 4: Culture</b>					
29. I work in an environment which does not blame me (or others) if there are any difficulties	1	2	3	4	5
30. I am fully aware of the project's goals	1	2	3	4	5
31. My employees are fully aware of the project's goals	1	2	3	4	5
32. My experiences as a manager on this project have been similar to other projects on which I have worked	1	2	3	4	5
33. At times, individuals should be blamed when things go wrong	1	2	3	4	5
34. I am held accountable for my decisions	1	2	3	4	5
35. My employees are held accountable for their decisions	1	2	3	4	5
36. Supply chain members are held accountable for their decisions	1	2	3	4	5
<b>Factor 5: Perceptions / values</b>					
37. The work I do is important	1	2	3	4	5
38. I am respected for the work that I do	1	2	3	4	5
39. I recognise the contributions made by my employees	1	2	3	4	5
40. I actively demonstrate my appreciation for the contributions made by my employees	1	2	3	4	5
41. My contributions are recognised by my organisation	1	2	3	4	5
<b>Factor 6: Teams within the organisation</b>					
42. My employees are able to influence how work is shared amongst members of their teams	1	2	3	4	5
43. I recognise my team's contributions	1	2	3	4	5
44. My team's contributions are recognised by my organisation	1	2	3	4	5
45. It is important that I work with people with whom I am familiar	1	2	3	4	5
46. Being part of a team gives me greater control over my work	1	2	3	4	5
47. When I have team support, my work performance improves	1	2	3	4	5
48. In comparison to other members of my team, I am treated in the same way as them	1	2	3	4	5
49. I trust my team	1	2	3	4	5

Statements	Level of Agreement				
<b>Factor 7: Teams within the project</b>					
50. Project teams provide good support to individuals when they require help	1	2	3	4	5
51. Joint project teams are effective	1	2	3	4	5
52. Team support improves work performance of the joint project team	1	2	3	4	5
53. In comparison to other members of the project team, I am treated in the same way as them	1	2	3	4	5
<b>Factor 8: Barriers to influence</b>					
54. I have experienced barriers as to how far I can influence my work	1	2	3	4	5
55. There are circumstances when I should not have had to make decisions relevant to my work	1	2	3	4	5
56. here are circumstances where employees should make decisions relevant to their work	1	2	3	4	5
57. Health and Safety issues limit the influence I can have over my work	1	2	3	4	5
<b>Factor 9: Supply chain relationships</b>					
58. Supply chain partnering is conducive to improved project performance	1	2	3	4	5
59. I receive sufficient project specific information to enable me to complete my role on projects	1	2	3	4	5
60. The resources provided support the level of responsibility that I am expected to undertake	1	2	3	4	5
61. The resources provided support the level of risk I am expected to undertake	1	2	3	4	5
62. It is possible to learn from other supply chain members	1	2	3	4	5
63. There is a need for new supply chain members	1	2	3	4	5
64. The level of trust is high between the supply chain organisations	1	2	3	4	5
65. When projects start, I can trust the supply chain	1	2	3	4	5
66. Trust develops over time within the supply chain	1	2	3	4	5
67. As a supply chain member, I am trusted	1	2	3	4	5

Statements	Level of Agreement				
<b>Factor 9: Supply chain relationships</b> <i>(continued)</i>					
68. As a supply chain member, I am consulted	1	2	3	4	5
69. As a supply chain member, I am involved	1	2	3	4	5
70. The supply chain is always willing to share information with me	1	2	3	4	5
<b>Factor 10: Project performance</b>					
71. Effective teamwork is essential for improved project performance	1	2	3	4	5
72. Empowering the individual is essential for improved project performance	1	2	3	4	5
73. Empowering the whole project team is essential for improved project performance	1	2	3	4	5
74. I ensure that all members of the supply chain are fully involved in my projects	1	2	3	4	5
75. Client involvement is very important in getting all parties involved	1	2	3	4	5
76. Interaction always ensures involvement of supply chain members	1	2	3	4	5
77. I feel the way the project is organised affects the way everyone is involved in the project	1	2	3	4	5
78. I feel that the project has met my original aspirations and ideas	1	2	3	4	5
<b>Factor 11: Information</b>					
79. I have access to information when and where I need it	1	2	3	4	5
80. My company uses Information Technology (IT) efficiently and effectively to share information	1	2	3	4	5
<b>Factor 12: Reward</b>					
81. Active and effective contribution of employees need to be rewarded	1	2	3	4	5
82. In my company, the contribution of employees is rewarded fairly	1	2	3	4	5
83. There is a well-defined reward system within my company	1	2	3	4	5
84. Material rewards (eg financial) are more effective than recognition	1	2	3	4	5

<b>Statements</b>	<b>Level of Agreement</b>				
<b>Factor 13: Training</b>					
85. Training is essential for an empowered workforce	1	2	3	4	5
86. My company provides sufficient training to employees	1	2	3	4	5
87. My company provides relevant training when requested by employees	1	2	3	4	5



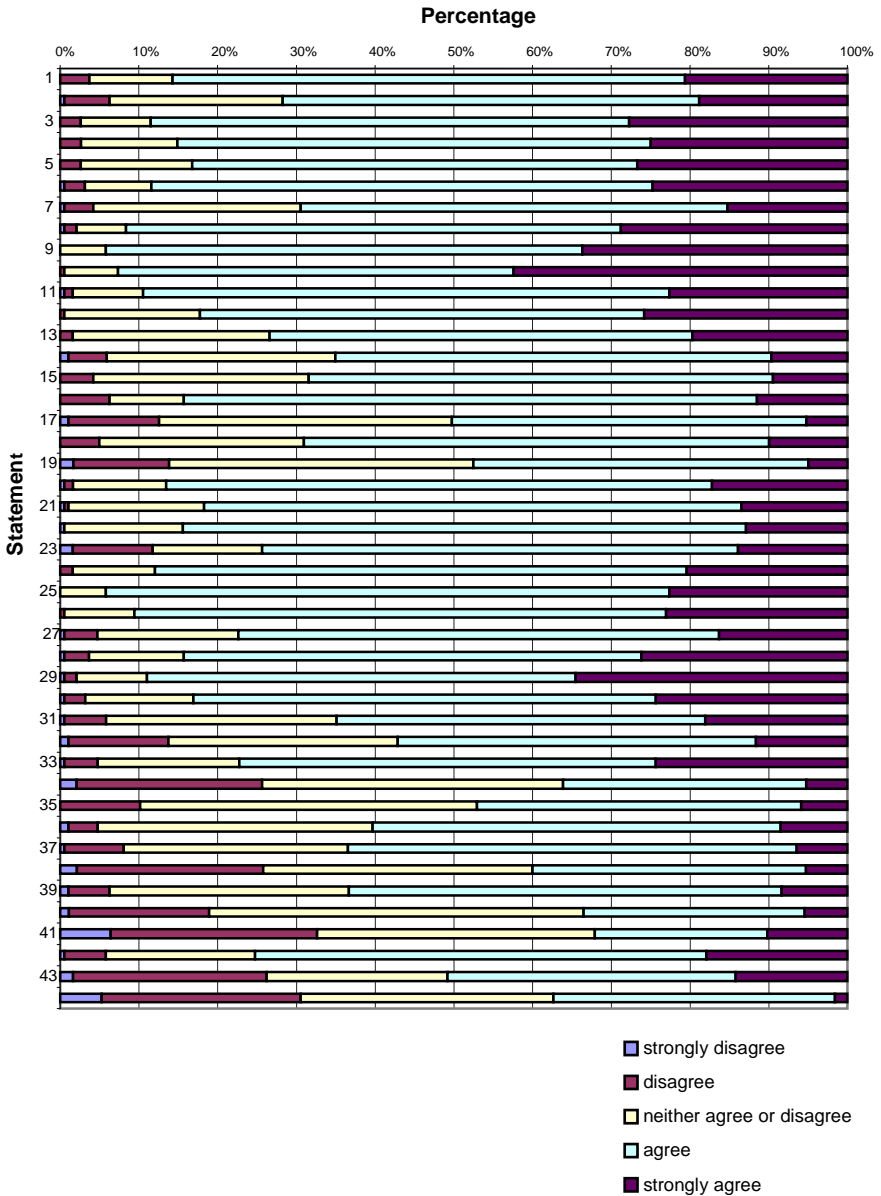
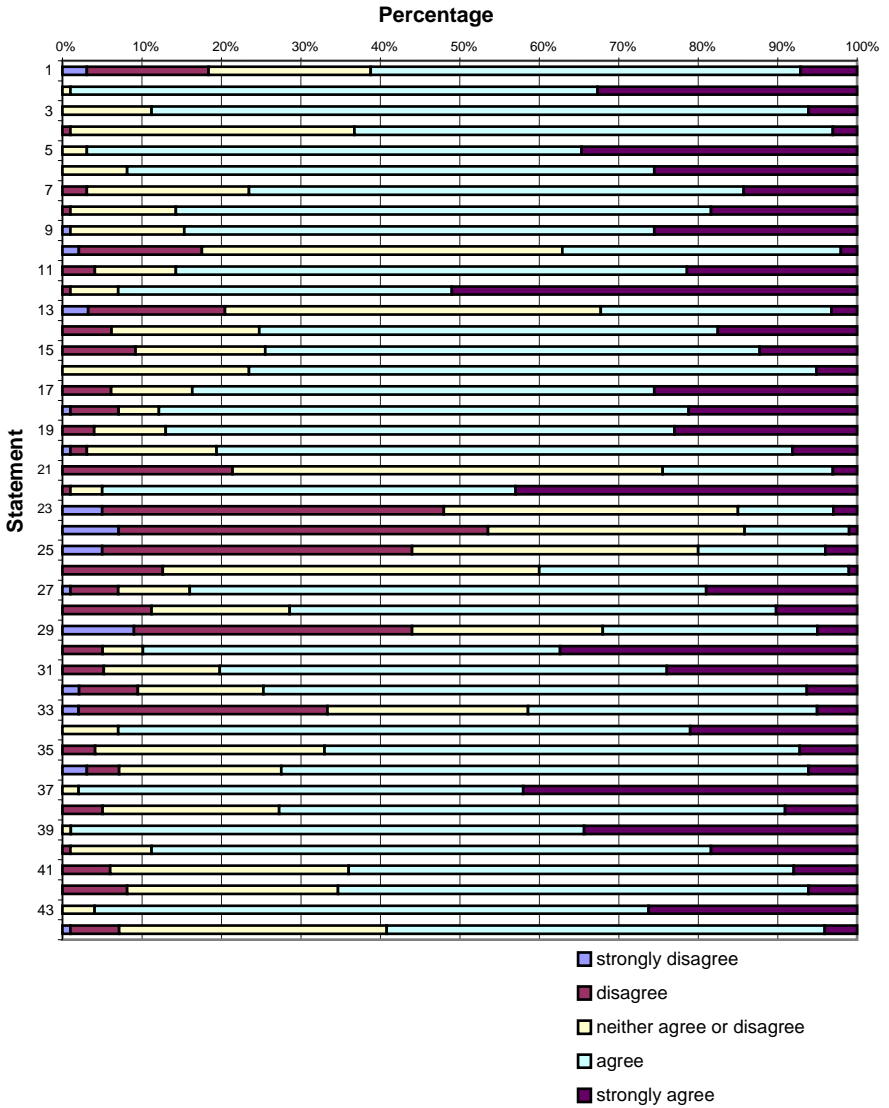
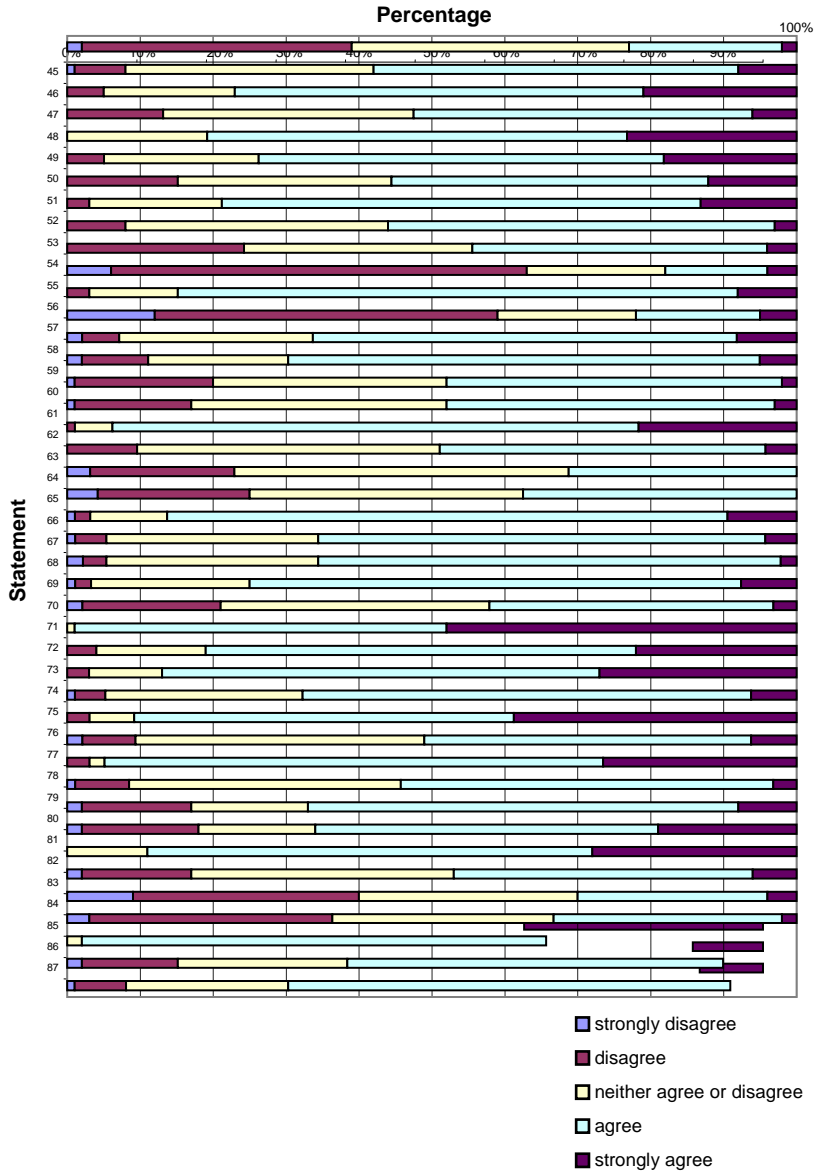


Figure A1: Summary responses of employee questionnaire



**Figure A2: Summary responses of managerial questionnaire**



**Figure A2: Summary responses of managerial questionnaire (continued)**

Table A1: Average scores of agreement level of Companies A, B, C, D, E –

Statements for Employees	Company					Statements for Employees	Company				
	A	B	C	D	E		A	B	C	D	E
1	4.05	4.03	<u>3.87</u>	4.00	<b>4.15</b>	24	4.21	4.00	<u>3.75</u>	4.00	<b>4.24</b>
2	3.90	3.83	<u>3.60</u>	3.79	<b>4.00</b>	25	4.18	4.20	4.05	<u>4.00</u>	<b>4.29</b>
3	<b>4.25</b>	3.91	4.15	<u>3.86</u>	4.24	26	<b>4.25</b>	4.17	4.02	<u>3.93</u>	4.10
4	<b>4.18</b>	3.94	4.03	<u>3.93</u>	4.12	27	3.90	<b>4.06</b>	3.80	3.93	<u>3.78</u>
5	4.18	3.94	<u>3.88</u>	4.14	<b>4.20</b>	28	4.15	<u>3.86</u>	3.95	3.93	<b>4.27</b>
6	<b>4.25</b>	4.03	4.07	<u>3.93</u>	4.00	29	<b>4.34</b>	<u>4.00</u>	4.13	<u>4.00</u>	<b>4.34</b>
7	<b>3.89</b>	3.80	<u>3.73</u>	3.79	3.75	30	<b>4.32</b>	3.88	3.90	<u>3.71</u>	4.00
8	<b>4.31</b>	4.00	4.13	<u>3.93</u>	4.27	31	3.80	<u>3.60</u>	3.76	3.64	<b>3.90</b>
9	<b>4.54</b>	4.03	4.20	<u>3.86</u>	4.32	32	<b>3.72</b>	<u>3.21</u>	3.63	<u>3.21</u>	3.59
10	<b>4.56</b>	4.17	4.18	<u>4.14</u>	4.41	33	4.07	3.91	<u>3.67</u>	3.92	<b>4.15</b>
11	<b>4.27</b>	3.97	4.00	<u>3.71</u>	4.20	34	3.00	3.43	<u>2.95</u>	<b>3.57</b>	3.12
12	<b>4.29</b>	3.86	4.08	<u>3.64</u>	4.10	35	<u>3.20</u>	<b>3.77</b>	3.42	3.64	3.40
13	4.03	3.71	3.90	<u>3.50</u>	<b>4.07</b>	36	<b>3.80</b>	3.63	3.56	3.79	<u>3.39</u>
14	<b>3.71</b>	3.66	<b>3.71</b>	<b>3.71</b>	<u>3.60</u>	37	3.61	3.60	<b>3.71</b>	3.64	<u>3.52</u>
15	3.79	3.69	<u>3.60</u>	<b>3.93</b>	3.77	38	3.15	<b>3.49</b>	<u>2.78</u>	3.43	3.24
16	3.98	<u>3.69</u>	3.85	<b>4.21</b>	3.88	39	3.72	3.69	<u>3.28</u>	3.79	<b>3.80</b>
17	3.48	3.63	<u>3.22</u>	<b>3.79</b>	<u>3.22</u>	40	2.98	<b>3.57</b>	<u>2.97</u>	3.43	3.27
18	3.84	3.71	<u>3.50</u>	<b>4.00</b>	3.76	41	2.83	3.80	<u>2.41</u>	<b>3.93</b>	2.95
19	3.45	3.60	<u>2.94</u>	<b>4.00</b>	3.24	42	3.85	3.86	3.77	<u>3.71</u>	<b>4.05</b>
20	<b>4.15</b>	3.94	4.03	<u>3.64</u>	4.00	43	<b>3.57</b>	3.50	3.51	3.36	<u>2.85</u>
21	<b>3.97</b>	<u>3.89</u>	3.95	3.93	3.93	44	3.05	<u>2.86</u>	2.93	<b>3.64</b>	3.05
22	<b>4.02</b>	3.89	3.97	<u>3.86</u>	3.98	No. Highest	<b>19</b>	<b>5</b>	<b>2</b>	<b>9</b>	<b>12</b>
23	3.69	<b>4.00</b>	<u>3.41</u>	3.79	3.93	No. Lowest	1	7	16	17	6

**Note:** Bold numbers indicate highest scores amongst companies. Underlined numbers indicate lowest scores amongst companies.

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