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# A Critical Evaluation of the Human Aspects in IS Teams

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## Abstract

*This paper describes some of the human aspects that can be considered important both for the BPR and reengineering teams areas. The purpose of the research is to investigate the human and reengineering teams through identifying the prevalent aspects of conflict, trust and motivation. Previous research in the business process change area has stressed the role of information technology, but minimal attention has been given to the human aspects. Using these assumptions, a comparison of theory and empirical findings was undertaken and three, large organisations operating in the United Kingdom's private and public sectors were used. It was concluded that the identified aspects are evident within reengineering teams and to provide a more empirical understanding, a novel, but simple classification of the identified aspects was formed.*

**Keywords:** Reengineering teams, business process reengineering, human aspects

## Introduction

Many organisations have to go through change management programmes in order to survive in competitive business environments. In the light of this, change programs (Schaffer and Thomson, 1992), or "programmed" approaches (as they are also known) to organisational change (Sadler, 1995) such as Business Process Change, Process Innovation or more widely known as, Business Process Reengineering (BPR) are being often employed. Grover and Kettinger (1998) found that: "Business Process Reengineering (BPR), Process Innovation and Process Improvement" are terms used interchangeably to represent the phenomenon of "Business Process Change." Based upon this observation, it can be noted that the research described in this paper used the term BPR and Business Process Change interchangeably.

There is a lot of evidence that reengineering projects are consistently falling short of the dramatic or expected benefits (Hall *et al*, 1993; Moad, 1993; Willcocks and Currie, 1996). Theorists have emphasised that an engineering perspective that has considered the influence of other factors such as the human ones may provide suitable solutions and prevent the failure rates (Wellins and Rick, 1995; Oram and Wellins, 1995; Avgerou *et al*, 1995; Corrigan, 1997). Indeed, results from literature findings also support the view that the human, political, and social aspects *need to be* considered and should *not* be forgotten (Moad, 1993; Belmonte & Murray, 1993; Mumford, 1999).

The human and organisational aspects are certainly an essential part of the topic of reengineering teams. The role of reengineering teams has been recognised (Davenport, 1993; Hammer and Champy, 1993), however, minimum research is focused upon their role or what issues should be considered when these teams are in existence. Reengineering teams are viewed to be different to other teams that are required for organisation wide continuous improvement on the basis that reengineering teams are required to be familiar with particular processes and with the other teams that are required for organisation wide continuous improvement on the basis that reengineering teams are required to be familiar with particular processes and with the enablers of change. Examples of enablers of change include technology and the information to be used to obtain the change (Davenport, 1993; Harrington, 1991).

Teams are not only fundamental for the BPR area, they have been considered essential to obtain organisational change and for the management of a project. Within the organisational change area, theorists have been asking for an identification of the most important characteristics having an impact on performance to be identified (Porras and Robertson, 1992). Such points were also endorsed by the case study results obtained from the research. It will be found in the paper that the organisations undertaking BPR have reengineering teams and are considered central for the approach. Additional results also found are that the sizes of the teams vary between organisations, and the human and organisational aspects are similar, despite the differences in the nature of the operations of the organisations.

This paper intends to promote further research into the Business Process Change and Teams areas by describing a rich set of findings that emphasise some of the human and organisational aspects evident within reengineering teams by undertaking case study research.

Having provided an introduction to the purpose of the paper and the background areas, the paper will now proceed to describing the research methodology used to obtain the research findings. An illustration and discussion of the obtained results follow this. Finally, conclusions are drawn to emphasise the findings and contribution of the research.

## Research Methodology

The objective of this research was to fill a void in the area of BPR and teams. Investigations about the human aspects that emerge within reengineering teams were undertaken. To form the case studies the research utilised the qualitative research method. Following this, a decision about an appropriate research strategy had to be made. It was decided that the case study method, specifically, the multiple studies strategy was the best one to use. The reasoning for this was that we wanted to determine whether the type of aspects identified in one case study would be found in other large organisations as well. This could then allow us to state that these aspects can also be found in large organisations, something that would be difficult to obtain in a single case study. On the one hand we had to decide between a rich set of findings and on the other, some generalisations and we opted for the generalisations.

The case studies used were 3 diverse ones and the research was conducted during a period of 3 years. To obtain the results for the case study, interviews (both face-to-face and telephone), observations and referring to archaic documents were used. The interviews totalling 85 utilised both open and close ended questioning and usually lasted for about one and a half hours. To analyse the results, the method of within case analysis coupled with cross-case patterns was employed.

## Case Analysis and Discussion

Three case studies that were large in size but different in the services provided were selected for the main analysis. There was a large organisation that dealt in the international hospitality and leisure industry, a large teaching hospital and large local authority operating in the UK.

### *Conflict*

Conflict is defined as an "opposition between ideas or interests" (Collins Paperback English Dictionary, 1999) and is associated with the attributes of stress and threat, which increases the emotional responses and negativity amongst individuals (Thomas, 1992).

Conflict is viewed to occur in two main forms. These taxonomies are described in various ways, but for this research they are referred to as "cognitive, task related and socio-emotional conflicts" (Priem and Price, 1991) and "goal oriented" and "emotional" conflict (Coser, 1956).

When dealing with the issue of conflict, we had to be considerate of the feelings of individuals and had to phrase questions in a way not to offend the respondents. Subsequently, most of the respondents provided answers without any hesitation. The respondents from both case studies 1 and 3 attempted to be as clear as possible about the conflict issue, but an interviewee from case study 2 did ask for clarification and provided a short, but adequate answer. *"Conflict was evident, but it was nothing to do with the personalities, it was more to do with the work, roles and responsibilities."*

In general, it became evident to us that as the project was an intense and speedy one, personal conflicts were placed aside and focus was placed more upon task related conflict. The organisations made attempts to solve conflicts in an organised manner by setting a day or afternoon apart from the work schedules or have individuals who are experienced at resolving conflicts (mediators or facilitators) and deal with the conflict issues at hand. Such situations were possible to obtain when strict deadlines had been met or when there was less stress upon the team.

Conflict is viewed to be beneficial if it is task related conflict and not a personal one (Jehn, 1995). From the views expressed by the respondents, personal conflicts were not given priority as it was felt that they are disruptive and would not have allowed the completion of the project. For this reason, task related conflict was given priority and as Robbins (1996) suggests, this kind of conflict is a positive outcome, rather than a negative one. The initial data analysis also revealed that conflict is an emotional issue that would be quite difficult to describe, however, it was also observed that task related conflict in the cases was described as conflict that related more to the deadlines that were set for the project. Thus, if one date was arranged, there were occasions when the tasks were not completed and the deadlines had to be extended and this caused slight conflicts within the teams. Another form of task related conflict was when one individual was allocated one task and the other was also assigned a similar one, but the emerging results were different and the individuals had conflicting views about the manner in which the task was handled.

## *Motivation*

Motivation has been defined in several ways as each researcher has interpreted it according to his/her reasoning. The dictionary defines motivation as "to inspire and encourage someone to do something" (Collins Paperback English Dictionary, 1999). Further detailed definitions have found that motivation contains three particular attributes and they are listed as: "Motivation is primarily concerned with: (1) what energises human behaviour; (2) what directs or channels such behaviour; (3) how this behaviour is maintained or sustained" (Steers and Porter, 1987). Simply stated, motivation concerns the energy, drive and persistence within individuals.

Motivation is an area of interest to most researchers as this explains the behaviour of different individuals. However, there are very many theories that can be utilised to explain the needs of individuals in the motivation area. To prevent any confusion, a generic manner of questioning was utilised. Consequently, the questions posed were in a form similar to the one described: "What made the team work? Were any bonuses provided? What was the drive behind the team's productiveness?"

The most recent and commonly researched of the motivation theories is intrinsic motivation (Arnold *et al*, 1998). It was also observed that intrinsic motivation rather than extrinsic motivation was more in usage (Crainer, 1995).

The collated data revealed that intrinsic motivation, described as the form of reward based upon the task, was evident. In all 3 cases, the respondents stressed upon the organisation not paying any bonuses during the project to the team members. During the project, the senior members of the organisation offered their congratulations to the team upon the good results of the project. In case study 1 particularly, project updates were provided every four weeks and during the meetings, congratulatory remarks would be offered and this was confirmed by the team members who spoke of the nice feeling they obtained from the congratulatory remarks offered to them.

It was also found that **intrinsic motivation** could be related to part of Maslow's (1943) classes of need. This relationship also seemed to be evident in practice. However, this opinion was formed only after asking the respondent to provide in depth descriptions of the motivation in their organisation. From the interviews, the impressions we formed about the classes of needs that were evident within the teams are as follows. The initial one was the class of self-actualisation, where the individuals had to realise for themselves that they could undertake the proposed project, then belongingness, where a feeling of belonging to a group and finally, esteem, that the job could be undertaken were the observable ones.

Additionally, the research concluded that in case study 2, McClelland's (1961) achievement of needs theory was observable. When we asked the respondent what was the motivation for the project, the reply provided was that the team was amongst the first to undertake a project such as this one. It was then crucial to make sure that everything would go as planned. Therefore, the vision was borne in mind, and the set objectives and aims fulfilled.

Two of the organisations did provide a token of appreciation in the form of congratulatory letters or monetary rewards at the end of the project. A point worth emphasising is that the bonuses paid to the teams later on were decided by the organisation and not announced prior to or during the time that the project was continuing. They were granted at the end of the project and not before then. The bonuses that were provided were supplied on a team basis rather than individual basis. This was a conscious course of action taken by the organisation, as it was aware that the team could be formed once again in the future and bad relationships

could occur, therefore to prevent such a situation this step was initiated. In the instance of case study 2, the respondents also remarked that the organisation is continuing on looking for better ways to allocate bonuses on a team basis, as this was the trend being foreseen for the future.

### *Trust*

Trust is a behaviour that has been recognised particularly essential for teams (Tjosvold, 1991). It is important because in a team there is inter dependence, sometimes upon the leader and in other instances upon the colleagues to undertake tasks and if this feeling of security and dependence disappears, the task may not be completed.

The behaviour of trust is not easily definable, and not easily evident. However, all the respondents emphasised that the fact that 'empowerment' was allocated to the team was evidence enough to demonstrate that trust by the organisation into the individuals' judgements and capabilities was occurring. When questioning the participants about trust, we posed direct questions and did not ask the questions in the various forms that the topic is described in. That is, is there **Integrity-**Honesty and truthfulness; **Competency-**Technical and interpersonal knowledge and skills; **Consistency-**Reliability, predictability and good judgement in handling situations; and **Loyalty-**A willingness to protect and save for a person (Schindler and Thomas, 1993).

This research concluded that of the four signs of trust mentioned above, the form of trust evident from the analysis is **competency**. However, this is in the viewpoint of management. That is, management views the team as being competent enough to bear the additional responsibility. From our perspective, the teams displayed a combination of integrity, consistency and competence.

> "*The Chief Executive and Board had faith and trust that the team was competent, experienced and skilled enough to undertake the set tasks*" (Case Study 1, 1999).

Such a reply confirmed the existence of the element of trust within the reengineering teams.

## A Novel Classification of the Human Aspects

In order to prevent any confusion in the terminology that has been formed from the above information, a simple classification surrounding the human aspects was formed and displayed in Table 1. From this information, we can then determine the classification in the types of aspects identified in this research. This would be beneficial in the long term, as it would allow us to obtain information that was not available earlier. For instance, if we were to investigate the type of conflict in a large organisation operating in the private sector and taking into consideration all similar factors, *ceterus paribus*, we would expect to find that tasks as well as personal conflicts are more evident. However, it has to be understood that this is an initial step towards providing some form of generalisation and differences in results can occur. To form a more definite generalisation, it would be necessary to undertake more research, but for present purposes, there is some information to begin further research into.

Trust is another aspect that was investigated and it was concluded that the competent and consistent parts of trust were evident.

Motivation was another area of investigation and it was found that intrinsic rather than extrinsic motivation was evident. This form of motivation was associated with the team members being provided with congratulatory remarks when a job was completed well. It was also connected with team members feeling that they could undertake a certain task and belonged to the organisation or team.

**Table 1. A Novel Classification of the Human Aspects in Reengineering Teams**

|  | Case Study 1 | Case Study 2 | Case study 3 |
|---|---|---|---|
| Type of conflict | Task related but with some personal element within it | Personal as well as task conflict both existed | More tasks related rather than personal conflict was evident. |
| Types of motivation | Intrinsic. | Intrinsic. | Intrinsic. |
| Types of Trust | Competency and Consistency | Integrity | Competency and Consistency |

# Conclusions

In this paper we attempted to provide a more empirically informed understanding of the human aspects surrounding reengineering teams and business process change. This has involved building upon the theory regarding certain prevalent aspects. These were identified to be conflict, trust, and motivation. The aim of this research is to provide new theory regarding the human aspects. The reasoning for this is that the human aspects have been considered as factors that could lead to failure (Corrigan, 1997) and yet minimal research has been undertaken in this area.

When this research began we found that the human aspects area is virtually ignored within the BPR area. It was also concluded that these aspects are more prevalent when investigating the reengineering teams area. Further research into the reengineering teams deduced that although the role of reengineering teams was emphasised within the BPR literature (Hammer and Champy, 1993; Davenport, 1993), there was very little information regarding them. Consequently we concluded that the human aspects and reengineering teams areas are under researched and to counterbalance it, this research was conducted. By doing so, more theory regarding the human aspects can be formed and further research into the area can occur.

As an initial step towards understanding these aspects this research has helped, however, there are many questions that still remain. For instance, if these aspects were to be measured in quantitative terms, then how will this occur? These are intangible items that are not easily evident and the problem lies in measuring these aspects. In conclusion, we have attempted to provide an appreciation of certain identified aspects in this paper in order to enhance our understanding of the human aspects surrounding reengineering teams. We also attempted to develop a classification that is meant to provide an initial point of reference for future research.

# References

Anonymous (1999), *Collins Paperback English Dictionary* (Fourth Edition), Glasgow, HarperCollins Publishers.

Arnold, J., Cooper, C.L. and Robertson, I.T. (1998), *Work Psychology: Understanding Human Behaviour in the Workplace* (Third Edition), London, Financial Times Management.

Avgerou, C., Cornford, T. and Poulymenakou, A. (1995), 'The Challenge of BPR to the Information Systems Profession', *New Technology, Work and Employment*, 10, 2, 132-141.

Belmonte, R. and Murray, R. (1993), 'Getting Ready for Strategic Change: Surviving Business Process Redesign', *Information Systems Management*, 23-29.

Corrigan, S. (1997), 'Human and Organisational Aspects of Business Process Reengineering', London, Institute of Work Psychology, University of Sheffield.

Coser, K. (1956), *The Functions of Social Conflict*, Glencoe, IL, Free Press.

Crainer, S. (1995), 'Reengineering the Carrot', *Management Today*, 3.

Davenport, T.H. and Short, J.E. (1990), 'The New Industrial Engineering: Information technology and Business Process redesign', *Sloan Management Review*, pp. 11-27.

Davenport, T.H. (1993), *Process Innovation: Reengineering Work through Information Technology*, Boston, Massachusetts, Harvard Business School Press.

Deci, E.L. (1975), *Intrinsic Motivation*, New York, Plenum Press.

Grover, V. and Kettinger, W.J. (1998), *Business Process Change: Reengineering Concepts, Methodologies and Technologies*, London, Idea Group Publishing.

Hammer, M. (1990), 'Reengineering Work: Don't Automate, Obliterate', *Harvard Business Review*, 104-112.

Hammer, M. and Champy, J. (1993), *Reengineering the Corporation*, HarperCollins Publishers, Inc. USA.

Hall, G., Rosenthal, J. and Wade, J. (1993), 'How To Make Reengineering Really Work', *Harvard Business Review*, 119-131.

Hammer, M. and Stanton, S. (1995), *The Reengineering Revolution Handbook*, London, HarperCollins Publishers.

Harrington, H.J. (1991), *Business Process Improvement: The Breakthrough Strategy for Total Quality, Productivity and Effectiveness*, New York, McGraw Hill Publishing.

Hlupic, V., Choudrie, J. and Patel, N. (2000), The REBUS Approach to Business Process Reengineering, *Cognition, Technology and Work,* June, **2** (2), 89-96.

Jehn, K. (1995), 'A Multi-Method Examination of the Benefits and Detriments of Intra-Group Conflict', *Administrative Science Quarterly*, 40, 256-282.

Leavitt, H. J. and Whistler, T. L. (1958), 'Management in the 1980s', *Harvard Business Review,* 36, 41-8.

Maslow, A.H. (1943), 'A Theory of Motivation', *Psychological Review*, 50, 370-396.

McClelland, D. (1961), *The Achieving Society*, New Jersey, Van Nostrand.

Moad, J. (1993), 'Does Reengineering really Work?' *Datamation*, 22-28.

Morton, Michael-Scott. (1991), *The Corporation of the 1990s*, New York, Oxford University Press.

Mumford, E. (1999), 'Routinisation, Reengineering, and Socio-Technical Design Changing Ideas on the Organisation of Work', *in* Currie, W. L. and Galliers, B. (ed.), *Rethinking Management Information Systems*, Oxford, Oxford University Press.

Oram, M. and Wellins, R. (1995), *Re-engineering's Missing Ingredient* (First Edition), London, Institute of Personnel and Development.

Porras, J.I. and Robertson, P.J. (1992), 'Organisational Development: Theory, Practice and Research', *in* Hough, L.M. and Dunnette, M. D. (ed.), *Handbook of Organisational Psychology* (2nd Edition), Psychologists Press.

Priem, R. and Price, K. (1991), 'Process and Outcome Expectations for the Dialectical Inquiry, Devil's Advocacy and Consensus Techniques of Strategic Decision Making', *Group and Organisation Studies*, 16, 206-25.

Robbins, S.P. (1996), *Organisational Behaviour: Concepts, Controversies, Applications* (Seventh Edition), New Jersey, Simon & Schuster.

Sadler, P. (1995), *Managing Change*, London, Kogan Page Limited.

Schaffer, R.H. and Thomson, H.A. (1992 January-February), 'Successful Change Programs begin with Results', *Harvard Business Review*, 70, 80-89.

Schindler, P.L. and Thomas, C.C. (1993), 'The Structure of Interpersonal Trust in the Workplace', *Psychological Reports*, 563-73.

Steers, R. M. and Porter, L.W. (1987), *Motivation and Work Behaviour* (Fourth Edition), Singapore, McGraw-Hill Book Co.

Thomas, K.W. (1992), 'Conflict and Negotiation Processes in Organisations', *in* Dunnette, D. L. and Hough, L.M. (ed.), *Handbook of Industrial and Organisational Psychology*, Paolo Alta, California, Consulting Psychologists Press.

Tjosvold, D. (1991), 'Rights and Responsibilities of Dissent: Co-operative Conflict', *Employee Responsibilities and Rights Journal*, 4, 13-23.

Wellins, R. and Rick, S. (1995), 'Taking Account of the Human Factor', *People Management*, 1, 21, 30-33.

Willcocks, L.P. and Currie, W.L. (1996), 'Information Technology and Radical Reengineering: Emerging issues in major projects', *European Journal of Work and Organisational Psychology*, 5, 3, 325-350.