CHANGE MANAGEMENT IN THE NEW ZEALAND MEAT INDUSTRY: IMPLICATIONS FOR LABOUR RELATIONS[1]

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Abstract

The increasing volume of research and writing on the management of change and the many prescriptions for change promulgated by various writers and practitioners is not matched by a corresponding increase in the effectiveness of change initiatives. High failure rates for new technology implementations and for other change initiatives, such as TQM, appear to point to the failure of previous research to identify the fundamental drivers of successful change management. A multi-plant case study into the elements of successful change management examined four meat plants which were introducing new technology into the chain process. The study found that the most critical factor in the relative success of change was the quality of the employment relationship prior to the change. A 'positive' prior context characterised by such factors as high trust relationships, mutual respect and high delegation was more likely to lead to a successful outcome than a 'negative' prior context characterised by such factors as autocratic management, low trust and low mutual respect. These results affirm some earlier research carried out in the 1970's and 1980's on labour relations in the New Zealand meat industry.

This research was carried out to examine the process of change management in the meat industry, focusing on the implementation of new technology on the sheep/lamb killing chains. The initial impetus came from a trades union research project on restructuring in the meat industry (The Meat Industry Study, 1988) which suggested that the cost of new chain technology was actually much higher than was thought because of, among other things, deficient implementation and human resource management processes.

The management of change

There has been a great deal of study on different aspects of change over the last twenty years and many models and prescriptions, some theoretical and some practitioner oriented have been developed. The reason for this attention is that change in all aspects of our organisational environment has become a defining characteristic of the late twentieth century. Notwithstanding the amount of research and the number of highly paid change consultants, the management of change in many cases does not appear to be carried out very well. There has been much comment on the high failure rates of different kinds of change initiatives. For example the 1970s saw the rise of Total Quality Management (TQM), a significant driver of organisational change. The TQM failure rate in 1979 was estimated at 90% by one of the TQM movement's founders (Crosby, 1979). By 1991 the failure rate was estimated to be still as high as 80% (Fuchsberg, 1992a, 1992b; Training and Development, 1992) and there is a growing feeling among managers that TQM is "too hard" (Economist, 1992). TQM is now acquiring the reputation of being just another management fad (Main, 1991: Tetzeli,

1992). Replacing TQM in popularity is Business Process Reengineering (BPR). Although BPR is a relatively recent phenomenon, we already have reports of failure rates of over 50% (Belmonte et al, 1993; Hall et al, 1993; Stewart, 1993).

New Technology change initiatives also appear to suffer from high failure rates. In the UK these are estimated variously as between 40% - 70 % (Bessant and Haywood, 1985; McKracken, 1986; New, 1989). Kearney (1989) estimated that in the UK one third of money invested in new technology (1.9 billion pounds) was wasted due to faulty implementation management.

There has been little serious attempt by management theorists to discover why there are such high failure rates for these change initiatives (Reger et al, 1994) but Revenaugh (1994) sees faulty implementation as a major cause of failure while Schonberger (1994), in a survey of BPR and TQM implementations found that the reasons for failure varied from a lack of commitment by senior managers to inappropriate human resource practices. Some writers (Dale and Cooper, 1992; Crosby, 1979; Kearney, 1989) saw management lack of ability in managing change and in motivating and involving employees as major contributors to failure. These studies point to the sources of failure as lying in the lack of ability of managers to successfully deal with the affective characteristics in the sphere of the social sub-systems of the organisations.

In looking at the poor record of other kinds of organisational change implementations, some writers (e.g. Duck, 1993; Vrakking, 1995; Kanter et al, 1992) point to the inadequacy

of the many change recipes and models in their failure to recognise the essential 'messiness' of the change process. These writers point out that change is not an orderly, linear, stepwise process amenable to the kind of programmed solutions we find in many texts and used by many consultants. These writers characterise the change process as a chaotic, iterative process, much of which stems from the less tangible aspects of the organisation, the informal systems, culture, history and so on. In particular, Kanter et al talk about the importance of the "building blocks of change" and the "prehistory of change" to the success of the change implementation.

The findings of the research reviewed here support these ideas. All the plants in the study followed similar change 'recipes', which were based on the New Technology Agreements in their employment contracts. These prescriptions consisted of:
a. Adequate prior notification of intended change
b. Participation in design and configuration of the technology
c. Participation and negotiation in decisions about manning, redundancy, and rates of pay for working the new technology.

The concerns of the affected employees and their representatives, the site delegates and regional union officials, centred on what would happen to displaced staff, the speed at which the chain would run, how many people would work the new system and how much pay the people operating the new system would receive.

Each plant used a similar change recipe yet there were very different outcomes between the plants in terms of the success of the implementations. The most significant factor which explained this difference lay in the nature of the informal social processes of continuity which pertained at each plant and in which the change processes were embedded. This is what Kanter et al mean by the "prehistory of change". In this area there was a distinct variation between the plants. The most successful plant, Plant 1, had what I have termed a 'Positive Context' while the less successful plants had more 'Negative Contexts' (Table 1)

Methodology

I used a qualitative approach as I wanted to get inside the 'black box' of change management and examine the on-going human dynamics involved in change. There has been a strong call for qualitative approaches to the study of change management (e.g. Johnson, 1987; Pettigrew, 1985). These

authors feel that to try to understand the management of change it is necessary to go beyond describing the *content of change* management to look at the *process of changing* and that this can only be achieved through the use of a qualitative approach where it is possible to gather the kind of rich and "thick" data needed. Miles and Huberman (1995, p 147) point out that qualitative research is useful when the researcher wishes to move beyond establishing relationships to investigate causality. The authors assert that attempting to establish causality using quantitative research, especially in a complex, social setting, is problematic.

Case study research design is recommended by Yin who asserts that "..the case study allows an investigation to retain the holistic and meaningful characteristics of real life events such as ... organisational and managerial processes" (Yin, 1984; p 14). These strengths are carried further through the use of multiple case study designs which allow for theory building and the testing and development of hypotheses (Eisenhardt, 1989; Miles and Huberman, 1995, p 26).

Four export meat works were selected for study in two matched sets of large and small plants. This allowed the minimisation of the risk of causal relationships being confused by intervening variables such as plant size. Each plant was visited three times for a week on each visit, over a period of 18 months. This provided longitudinality and facilitated the testing of hypotheses through replication.

Data collection

Primary data was gathered through semi and unstructured interviews on both individual and group bases with staff at all levels of each plant. Other stakeholders such as national union officials, industry associations and senior management staff at respective head offices to provide a broader context. Data was also gathered in an opportunistic manner as events unfolded in front of me. I spent some time in each plant observing on the chain floor, in smoko rooms and so on. Production data was made available as were relevant records of negotiations and communications between meatworkers and management in the past.

Data analysis

Data was analysed using content analysis. This was achieved through a combination of initial, "eye-balling" analysis and peer review, supported and validated through the use of NUDIST, a "software system for managing, organising and supporting research qualitative data analysis projects." (Richards et al, 1992, p 2).

Table 1. Characteristics of prior negative and positive contexts impacting on change process

Characteristics of Positive Context		Characteristics of Negative Context
* Informal processes	*	Formal processes
* Delegation - empowerment	*	Low delegation
* High trust relations	*	Low trust relations
* Feelings of ownership (eg "one team")	*	Feelings of alienation (eg "us and them")
* Feeling of mutual respect	*	Lack of mutual respect
* High integrity leadership	*	Autocratic rule

Measure of success

I used the same measure of success as used by the plants - the time it took for the new technology to pay back the original investment in it (see Table 2). This is based on the formula used by MIRINZ (Meat Industry Research Institute of New Zealand) to calculate the cost effectiveness of the new technology. Management at each plant estimated a payback time of between 12 and 18 months. In the event, none of the plants achieved this but Plant 1 was clearly more successful than the other plants, with a payback time of two years. These measures are based solely on actual stock killed in each plant. Other cost factors such as increased carcase and skin damage in the trial period have not been included in these calculations as it proved difficult to obtain reliable data from all the plants. The data I was able to obtain indicates that the differences between the plants would have been even greater, but the ranking would have been the same.

The meat industry - a culture of conflict

The meat industry has been of enormous importance to the economy of New Zealand over the last 100 years. There is a common perception that meat workers were highly paid, militant employees, ready to hold the country to ransom at the drop of a hat through strike action. The nature of the work is dirty, unpleasant, monotonous and dangerous. Traditionally it was the butchers, the "aristocracy" of the plant employees, who are tough, uncompromising, skilled men working hard and prepared to confront management to achieve high wages, who were seen as the drivers and focus of conflict. Management, many of whom had risen through the ranks of the butchers, were themselves tough and uncompromising, technically skilled but with little management knowledge or training (Inkson, 1979). Many plants, developed in the days of a regulated, cost plus economy, were large and concerned primarily with killing and dressing as many sheep as possible. The meat industry was characterised by confrontational tactics on both sides but management tended to accede to confrontational tactics and pass on the costs to the New Zealand tax-payer.

The sequential nature of the process, perishability of the product during the process and the high strategic importance of the product provided labour with an opportunity to apply maximum leverage in order to gain better wages and conditions. Unions were well organised and were willing to take frequent and prolonged strike action to gain higher wages. Many plants had full time union officials, paid by the plants, as well as departmental delegates. Conflict levels in the meat industry were among the highest in New Zealand, with 61.5% of working days lost in the manufacturing sector in the period 1981 - 85.[2] Inkson reported that the meat industry "employs only three percent of the workforce but accounts for fifty percent of time lost through stoppages" (Inkson, 1979). As New Zealand's single most important export earner, the meat industry, with its high levels of conflict, came under surprisingly little scrutiny from social science researchers during the period 1950 - 1970.

However in 1976 Turkington offered a major review of the determinants of conflict in a study of the propensity to strike in three of New Zealand's most strike prone industries, one of which was the meat industry.

Using 23 variables, he arrived at the conclusion that objective factors such as size, location and ownership, were the chief determinants of conflict levels in the meat industry, while factors such as management and supervision were accorded low significance. Turkington concluded that large plants with overseas owners in an urban setting were more prone to conflict than others. In particular, Turkington found a positive correlation between size and number of stoppages - size explaining 51% of the variation in frequency of stoppages among the works.

The size factor in organisations has been "By far ... the most widely researched anatomical factor" but Porter et al (1975, p 248) warned that size is not as simple a variable as it may appear to be. Different studies have produced widely varying reports on the correlation between size and various organisational attributes for example the results reported by Woodward (1958, 1965) and Harvey (1968). A major problem with meta-analysis of studies on the effects of organisation size is that many of them use different categorisations of size. For example, some may be working with sub-units of larger organisations while others are working with a whole organisation.[3] However, notwithstanding the problems and the contradictions between some of the studies, the weight of opinion from meta-analysis (eg Porter et al, 1975) agrees that organisational size appears to have a positive relationship with absenteeism, turnover and labour disputes and a negative relationship with job satisfaction.

Turkington's findings appeared to support these conclusions but his study indicated that there were other possible variables contributing to the incidence of conflict. For example Turkington cites factors such as personality differences, poorly trained supervisors and communication problems.

Table 2. Key plant statistics showing size, age, capacity and payback times for new technology

Plant	Tot no of employees*	No of chains	Payback time (years)	Chain capacity (carcases per day)	Age of plant (years)
1	336	1	2	3456	98
2	1100	4	4.5	3500	82
3	485	1	3	4200	60
4	1800	6	3.75	4200	98

* At height of season

However, these issues are not examined by Turkington except as further outcomes of the size factor. His study was across the whole industry, using aggregate figures and while the study did much to stimulate further research, its major failing was that Turkington has little to say in explanation of the marked, within size category, inter-plant variation in conflict levels revealed, except to surmise that the variation must be caused by some interaction of the other factors.

Inkson (1979) attempted to address this issue when he examined the incidence of conflict in the industry and found that it is "characterised by massive differences in intensity between the plants" eg differences in the number of man days lost per year varies from 0.11 at one plant to 10.68 at another in the period 1967 - 73. Five out of 42 plants accounted for over 55% of the total lost time in the industry." Other negative indicators such as accident statistics and abuse of ACC show similar variance (see also Turkington, 44 - 46.) Therefore the view found to be widely held in the industry and reinforced by Turkington's study, that conflict is endemic and unavoidable right across the industry, does not appear to be valid.

Other studies focused on the subjective, socio/technical factors which predisposed the industry to conflict eg Inkson & Cammock, (1988); Inkson, (1979), Geare, (1972) and which arrived at more powerful, alternative explanations for the inter-plant variance. Rather these studies pointed to the factor of management style and ability as determinants of conflict levels.

Management style

Turkington's finding that the chief determinants of conflict are objective factors, beyond the control of managers or employees and other views that the nature of work itself causes stress and conflict, reinforce the kind of fatalistic attitudes towards the incidence of strikes and other manifestations of disharmony and low job satisfaction often expressed by managers. Inkson found that managers saw the industrial relations problems they faced as largely beyond their control and attributed them for instance to "pure bloody mindedness by the men". "The descent from this kind of baffled abrogation of responsibility, into managerial pessimism, fatalism and helpless inaction, is observable in some parts of the industry" (Inkson, 1979).

Inkson goes on, "As long as the freezing industry has continued to operate profitably, its traditional, insular managers and directors have seen no need for change. Little creative effort had yet been devoted to the long term solution of problems." (Inkson, 1979). In the regulated, cost plus world where the meat industry grew fat, there was little need to improve management skills or to address the long term problems. The high cost of this strategy was simply passed on to the tax payers of New Zealand. High levels of conflict were blamed on the meat workers and their intransigent unions or the large size of many plants and few plants looked at improving management skills as a means of addressing problems of conflict.

This perception on the part of many managers that they are helpless in the face of powerful and intransigent unions has shaped the nature of their response strategies both at an individual plant and company level and at the industry level through the Meat Industry Association (MIA). The Labour Relations Act (1987) and to an even greater extent, the Employment Contracts Act (1991), provided managers with the opportunity to weaken the perceived power of the unions. Thus, the problem of conflict in the industry was characterised as one of loss of control in the face of intransigent conditions and forces and not one of poor management training and skills. The answer was to attempt to regain control through "breaking" the unions' perceived strength using the new powers under the changed legislation, as well as the constant threat of closure.

Further evidence for the effects that management style and behaviour could have on conflict levels was provided by some single and multiple case studies of New Zealand freezing works. These studies examined management style, worker attitudes, job satisfaction and levels of conflict and indicated that management style has a great deal to do with levels of industrial harmony.

Inkson & Simpson (1975) put forward a strong argument for management's quality and style as constituting a very significant factor in determining the levels of conflict at any one plant when they analysed the industrial relations record at two comparable plants. Inkson later compared these findings with those from a third plant which reinforced the conclusions already arrived at (Inkson, 1979). One of these plants had been the subject of separate intensive analysis for a number of years by different researchers. This plant had been characterised by one of the worst industrial relations records in the country when a new manager was brought in with a new approach and a mandate to use it. He implemented participative practices and training for supervisors and managers in facilitation skills. The results were reported to be little short of astounding. The levels of conflict dropped considerably. In addition butchers became less instrumental - the importance of cash being lower and that of relationships with peers and supervisors higher and they had higher job satisfaction, now finding the job less boring. Researchers concluded that there was a direct causal relationship between the more considerate management style and the more positive outcomes. (Howells & Alexander, 1968; Ryman, 1979; Paske, 1979). These studies indicated that "good" management could lead to lower conflict. However, Inkson (1979) reminds us that managerial influence may have the opposite effect. Two case studies revealed that management often make a significant contribution to raising the level of conflict through their actions, even if it may be at times unwitting (Geare, 1972; Howells & Alexander, 1968).

In conclusion, the above studies indicate that a main cause of the considerable inter-plant variation in conflict levels that Turkington failed to explain may well be the quality of the management and supervision and that management may make a significant contribution to levels of conflict in any one plant. The findings of my research fit well with these conclusions.

The plants in the study

Plants 1 and 3 were single chain plants with similar backgrounds. They had both been local abattoirs which had come to export slaughtering relatively recently. Both plants had gone through recent ownership changes and faced considerable financial problems as the meat industry restructured. Plants 2 and 4 were much larger multi-chain plants which had been operating in export slaughtering from their inception. While the payback times initially appear to support the notion that size determined the outcome in that the two smaller plants had lower payback times than the two larger plants, there were clear differences between the two plants in each size category. Plant 1 was clearly the most successful in managing the change from the old system to the new, taking only 2 years to pay back the investment (Table 2) while the other small plant, Plant 3, took 3 years. Of the two larger plants, Plant 2 took 4.5 years to pay back the investment while Plant 4 took 3.75 years. So the question was - how to explain the within-size-category variation in the success of the change management process?

As mentioned previously, all the plants followed very similar change management pathways involving the now traditional prior warning, negotiation over manning and pay and output levels. The answer to the above question - how to explain the differences between the plants appeared to lie in the social contexts in which the changes were embedded. The qualitative data gathered at the plants pointed to very different social dynamics in the plants. In particular, Plant 1 with the best performance, was characterised by high trust, high delegation of authority and responsibility, low levels of conflict, informal processes, especially problem solving and dispute resolution and high levels of a feeling of ownership in all staff. At Plant 1 they regarded the plant as 'ours". The relationship between the GM and the Production Manager and supervisors was characterised by mutual respect and trust. All staff, including engineers and MAF inspectors worked together to solve problems and keep the chain operating. The GM was widely perceived to be working for the plant and its employees, fighting to get the resources they needed to make the plant work, often at the risk of his own position. The Production Manager was an ex-butcher and would often appear on the chain floor to see how operations were going. He had even been known to don the hygiene gear and join the chain, knife in hand, in response to a challenge from the butchers. In contrast, Plant 3, the other small plant with a similar profile to Plant 1, had a GM perceived to be remote and to be "working for Head Office". He was rarely seen on the chain floor and then it would be a fleeting visit where he would talk briefly to the MSH supervisor and disappear. The Production Manager would likewise be seen rarely by the butchers and he preferred to stay out of the MSH, leaving control to the Supervisor. This man exercised an iron control, tolerating no horseplay, singing or shouting. He expressed contempt for the quality of the people under his command and felt that he had to motivate them by fear. The butchers had to ask permission to go to the lavatory by holding up their hands and they complained that they were treated like children. An opportunity to witness the results of this kind of regime came when

the frequent breakdowns during the trial period happened. At Plant 3, as soon as this happened, the men would rush outside and start playing cricket or just taking it easy while the supervisor and the engineers tried to rectify the problem. When asked why they didn't stay and help sort the problem out, they simply replied "Why should we? They do nothing for us, we're treated like shit, so why should we help them make money?" In contrast, at Plant 1, I saw instances where a breakdown would occur and immediately the butchers involved, with the supervisor, MAF inspectors and engineers would work together to resolve the problem very quickly. The butchers would also notice when their machinery was starting to malfunction and would proactively attempt to fix it themselves to prevent an actual breakdown. At Plant 3, a particular piece of semi-automated machinery suffered from continual breakdowns until eventually this machine was pulled off the chain completely and was never made to work. The same problem at Plant 1 occurred and was resolved very quickly in the manner described above and continued to work well.

There is not the space here to give all the many examples and comparisons between the plants that I witnessed and recorded. However, Plants 2 and 4 compared in a similar manner but to a different degree. Although Plant 4 was the largest plant, it performed better than Plant 2 the second largest plant. Plant 4, while not having the highly positive social context of Plant 1, there were certainly less manifestations and expressions of negative attributes than at Plant 2. As with first comparison between Plants 1 and 3, social dynamics at Plant 2 were characterised by low trust relations, low delegation, autocratic leadership style and an attitude of contempt for the butchers working on the chains. The GM was remote and perceived not to understand the lot of the people working on the chains. The Production Manager had been a butcher himself but was perceived to use this understanding to better control the butchers. His control was absolute and initiatives and useful ideas from the butchers were ignored at best and in one case a group were punished for developing a better way of carrying out their work which involved rotating round the duties in a particular configuration. The work was arduous and they found that their design enabled them to keep up a high pace with far less strain. They had started to carry out their work using their design when their foreperson noticed it. He informed the Senior Supervisor who then came along and told them they couldn't do it. They refused to stop and the Production Manager was brought in. He ordered them to stop and would listen to no explanations on the matter. When the butchers continued to work using their method they were sacked. The Labour Court reinstated them on the grounds of unjustifiable dismissal but this incident did little to build positive relations. Plant 4 was also characterised by high levels of distrust between engineering and production staff at all levels. Senior staff would not eat in the same room, even though there was a room specifically set aside for this purpose. The Chief Engineer regarded himself as answerable only to Head Office and would not communicate in any meaningful way with the GM. Maintenance engineers called in to fix malfunctioning equipment on the chain not only would receive no help from the butchers but would be

actively hindered. I saw an incident where the engineer's tool box was removed and hidden as he knelt on the floor to examine the equipment. He turned to reach for a spanner only to find no tool box and a group of butchers studiously looking at the roof.

I have cited these incidents as illustrations of the differing social contexts within the plants. There are many such incidents and stories but here is not the place to enlarge on them.

Implications for labour relations

The implications for labour relations are clear. Although objective factors such as size may have a significant effect on the quality of the social context and hence on the quality of the performance of the plant, it is evident that effective, positive leadership may create a social context characterised by mutual trust and respect. Problems, whether they be of the usual labour relations sort such as wage negotiations, or of introducing change, are more likely to be resolved quickly and effectively in such a context. These interpersonal factors appear to be of more importance than negotiated frameworks such as new technology agreements, which may be observed in the letter of the agreement but in practice may be rendered less than effective through the enacted social dynamics. Positive social contexts may be said to be both the glue that holds the organisation together and the lubricant which enables it to run smoothly to the benefit of all the people in it.

Conclusion

This study began by trying to determine which "recipe" for change was more effective by examining the methods used to manage change at each plant. The data showed that all the plants in the study used very similar recipes yet there were very different outcomes in terms of the success of the change initiative. The analysis indicated that the reasons for these differential outcomes lay primarily in the area of the social context and dynamics at each plant. Rather than the mechanism that was used to implement change affecting the outcomes, it was the prior, social context in which the changes were embedded which were major determinants of success. A chief component of the prior context was the quality and style of the leader and management in general and their effect on engendering either a positive or negative context and hence higher or lower levels of trust, openness, participation and co-operation. The analysis supports the notion of a more chaotic model of the change process rather than a simplistic, step by step model. The major implication for change management theory and practice is that the success of change management is dependent on the management of the continuity in which the change is embedded.

These findings fit well with previous studies carried out in the New Zealand meat industry which indicated that the large differences in conflict levels between similar plants could be attributed to the quality of management, rather than to the militancy of the unions. The research suggests that even the most apparently intractable labour relations situa-tion may be at least ameliorated by positive, integrity based management approaches.

Future research

Further research into change initiatives in New Zealand in particular and into labour/management relations in general to determine the causes of success and failure is needed to explore these ideas further. This methodology could be extended to examine change initiatives in New Zealand such as TQM, which are reported to experience high levels of failure, to better understand what factors determine relative success or failure. How exactly do the factors such as empowerment, trust and so on, work together and are there change management situations where the nature and quality of these factors have little impact on change management performance outcomes as may be implied by the contingency model of Dunphy and Stace (1988)?

The research was carried out during the overlap between the Labour Relations Act, 1987 and the incoming Employment Contracts Act, 1991. It would be interesting to find out if the herein proposed relationship between quality of management and the nature of the social context is still apparent of has been modified in any way. We could speculate that it is likely that any such relationship would be largely independent of the prevailing legal frameworks and that therefore there has been no change.

Lastly, an ancillary but important issue arising from this study is that of the true cost of new technology. There appears to be a significant difference between the costs estimated by managers and the actual costs of the new technology in the four meat plants. Is this a more general phenomenon and do we need to construct better costing models?

Notes

2. Dept of Statistics, Summary of Statistics, 1986.

3. For a fuller treatment of the problems of research using the size variable see Damanpour, 1992.

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