

**MANUFACTURING MANAGER'S PERCEPTIONS
OF RESISTANCE TO CHANGE: AN EMPIRICAL
STUDY**

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ABSTRACT

This paper reports the findings of a survey that investigates management's perceptions of resistance in manufacturing organisations. Manufacturing organisations have faced a mandate for change for sometime now. Industry leaders and Government heads have repeatedly called for efficiency increases, productivity improvements and general industry reform, such that businesses can remain competitive in the international market place. However, managing a major change effort is a complex task and examples of successful change efforts have been few and far between. Resistance has been identified as a critical aspect in the process of change, an aspect that can significantly influence both positive and negative outcomes (Maurer 1996). To this end, approximately 250 companies were surveyed throughout Australia with the objective of clarifying how resistance to change is understood by managers and the effects this approach may have on their methods of change management. The results indicate that resistance is predominantly viewed adversarially by manufacturing managers as an impediment to change that must be removed; a problem that must be overcome if the organisation is to achieve successful change. It is concluded, however, that this approach may in fact be inappropriate. Rather, a more conciliatory response is suggested that looks to evaluate and possibly utilise resistance in an effort to achieve successful organisational change.

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INTRODUCTION

Resistance has attracted a good deal of attention in recent years and has been variously described as both the friend and enemy of change. In the latter case, resistance is perceived negatively, approached adversarially and cast as an impediment to change or an obstacle that must be overcome. Reminiscent of classical management theory, researchers of this era (circa 1940) considered unity of purpose to be the hallmark of a technically efficient and superior organisation, while pluralism and divergent attitudes greatly reduces the organisation's effectiveness and impedes performance. The resistant worker was typically painted as a subversive who's individual self interest clashed with the general interest and well being of the organisation. The prescription of this viewpoint, therefore, is to eliminate resistance, quash it early and sweep it aside in order to make way for the coming change (see Rowe & Boise 1973:151; c.f. Mooney 1939; Urwick 1947).

In more recent years, researchers have pointed out that treating resistance adversarially may in fact be quite naive (Kahn, 1982, p.416). Such researchers have instead suggested that there can be utility in resistance, citing a number of ways in which resistance can actually benefit a change process:

- Resistance is often the symptom that points out where change may be inappropriate or poorly managed (Bartlett 1973:407).
- Resistance can be a catalyst that breaks down organisational apathy causing an influx of energy to the change process (Litterer 1973:152).
- Resistance can be the element that drives discussion, debate and the search for an increasing number of alternatives to the issues that face the organisation (Albenese 1973:418).

Thus it is suggested that resistance may not be the enemy of change that we once thought. In fact, there is a growing number of organisations that are achieving successful change in an environment of heavy resistance, which stands in contradiction to the notion that resistance is the enemy of change (Waddell 1995).

Despite this extensive research however, it is apparent that there has been little quantitative work, particularly in Australia, that has investigated the common perceptions of resistance by management practitioners. The above mentioned work has largely focused on examining the exact nature of resistance and thereby suggesting techniques for its appropriate management. The survey reported here, represents an addition to this work by examining the actual understanding or perception managers have of resistance and consequently how this affects the approaches they use to manage it.

This research comes at a time when the need to manage resistance in more informed ways could not be greater. Research conducted by Maurer (1996:56) suggests that up to two-thirds of major organisational change efforts are failing, and resistance is the 'little-recognised but critically important contributor' to that failure. Similarly, Kotter & Schlessinger (1979) argue that any adverse effects of resistance are greatly exacerbated when a simple set of beliefs are applied to its management. Therefore, the need for a sophisticated understanding of resistance is paramount.

RESEARCH METHODOLOGY

Questionnaire Instrument

Perceptions can be accurately measured in a variety of ways; in particular, a survey can directly question the respondent in regards to the issue of interest or it can measure the activities, attitudes and behaviours that are manifestations of perception in question (Zikmund 1991). Given the emotive connotations attached to

the word 'resistance', the survey was designed using the latter strategy in order to avoid respondents pre-empting or biasing their answers.

The questionnaire, therefore, did not address the issue of resistance specifically, but rather incorporated it into more general change management questions. This allowed the survey to gain a wider understanding of the respondents approach to change management while simultaneously honing in on their perception of resistance.

The survey did not attempt to find discrepancy or contradiction in the respondents answers, rather it looked to confirm the perception of resistance that exists via the examination of the structures, processes and other organisational factors that are utilised by the respondent.

Therefore, based on prior research that has investigated the nature of change, a participant that approaches resistance negatively (that is as an obstruction to the process of achieving successful change that must be removed), would evidence such organisational factors as:

- Processes that emphasise the top-down management of change.
- Vertical communication structures that flow down the organisation.
- Participative structures that at best allow worker involvement, but not empowerment.
- Acting on initiatives that come solely from senior management.
- Strategies are implemented '*a fait accompli*'.

This describes a negative view of resistance because such an organisation is not open to the input of employees or the feedback they could give in a change process. The initiative and drive is set to come from the top of the organisation, and the task of those 'lower down' the organisation is simply to follow. There are neither the structures nor the processes in place that could utilise resistance in any meaningful way, such that benefit could be gained (eg. communication and feedback mechanisms).

Alternatively, a respondent who perceives resistance as positive, that is as a legitimate phenomenon that could possibly benefit the process of change, is likely to evidence the following organisational factors:

- Change management that is a reciprocal process of top-down and bottom-up input.
- Communication that would support this 360 degree process.
- Participation that empowers employees at all stages of the change process (from formulation to implementation and evaluation).
- The initiative for change can come from any aspect of the organisation.
- Non-threatening forums are created where ideas can be openly discussed and critiqued.

Organisational factors such as these entertains the possibility that utility can be gained from resistance. The structures are in place to receive new initiatives or feedback from employees, such that grievances can be heard, furthermore, there is impetus to act on these.

Thus, by investigating what kind of structures and processes exist at an organisation, the survey intends to illicit the common perception or resistance that is held there.

Population

The sampling frame was derived from the 'Business Who's Who' of Australia, with 250 companies being randomly selected using a stratified sampling technique that followed the different industrial sections suggested by Harrison (1990:27): Machinery (20%); Electronics (8%); Consumer Goods (26%); Industrials (22%); and Basic Industrials (24%) (for the purposes of the survey, the 'Machinery' and 'Electronics' industry sections were grouped together under the same title of 'Machinery', reducing the industry to four).

The companies selected were then sent a postal questionnaire which they completed and returned by post. Given the focus of the research which concentrates on change occurring in manufacturing, the questionnaire targeted Manufacturing or Production Managers who normally form part of the middle layer of management. These managers were targeted because they are normally involved in both aspects of change formulation and implementation. They are familiar with the organisations approach to change management, while being simultaneously involved with those who are most affected by the changes made - the shop floor employees. By having a 'foot in both camps', these managers are intimately involved with most aspects of change management in a manufacturing organisation, and therefore present the most suitable respondent for the survey

The emotive connotations associated with the word resistance, meant that carefully phrased questions were necessary so that respondents felt free to be frank in their responses. The word 'resistance' itself was not used at all in the survey and questions regarding resistance specifically were incorporated into more general change management questions. The questions required respondents to rate their opinions on a Likert scale, ranging from 1 for 'None' or 'Never', to 5 for 'Always' or 'Most'.

This method of survey obviously has both advantages and disadvantages which were taken into consideration. Being a national survey, the comparative low cost of a postal survey was preferred over a personal approach to inquiry. Given that the survey would therefore be self-administered, it had to be succinct, straight forward, and simple to fill out. Consideration also had to be given to the possibility of language barriers or numeracy difficulties. Aside from these issues, the format also incorporated an objective framework that avoided the possibility of interviewer bias as well as guaranteeing the anonymity of the respondent.

Methods of Data Analysis

The data was analysed using four principle techniques. Firstly, analysis proceeded by reference to the percentages calculated for each response to each question. This allowed the responses that were most common, least common and so forth to be identified. Because many of the responses were rated on a five point Likert scale, a proxy variable was used for comparative purposes that allowed responses to be ranked from most common to least common (see figure 1 for method of calculation). These methods provided the ground work which painted a general picture of the data gathered and also gave direction for later analysis.

These initial findings were then confirmed or denied via the use of correlations which examined the data for any inconsistency or contradiction. Finally, multiple regression was used to find any predominant variables amongst the data that would confirm or deny the findings developed in the initial stages of analysis.

RESULTS

Respondents Profile

The survey achieved an overall response rate of 63% amounting to a total of 159 responses spread across all industry sections (see figure 2). While this may be considered a small sample, the results sought were intended to be confirmatory in nature, as opposed to looking for discrepancy and contradiction. As such, the data displayed a strong degree of conformance with low variance indicating that the sample is of sufficient size.

Figure 1. Calculation of the Proxy Variable

The numbered response of each question on the Likert scale (excluding the scale value 1 which indicates no usage) is multiplied by the number of respondents reporting that level of usage. The sum of the resultant products has been divided by the maximum possible value and multiplied by 100 to give a proxy variable on the scale 0-100 for each reply. For example, the response to the question about the usage of quality circles was 54.8, ie

	<i>Likert Scale</i>	<i>Number of Respondents</i>	<i>x.f</i>
	<i>x</i>	<i>f</i>	
None	1	26	-
	2	23	46
	3	27	81
	4	41	164
Mostly	5	13	65
		---	-----
		130*	356

*All missing responses were ignored.

$$\text{Usage Proxy Variable} = \frac{356 \times 100}{5 \times 130} = 54.8$$

Thus, a proxy variable value of 100 would indicate that all respondents used Quality Circles MOST of the time and a value of 0 would indicate that no respondents used Quality Circles at all.

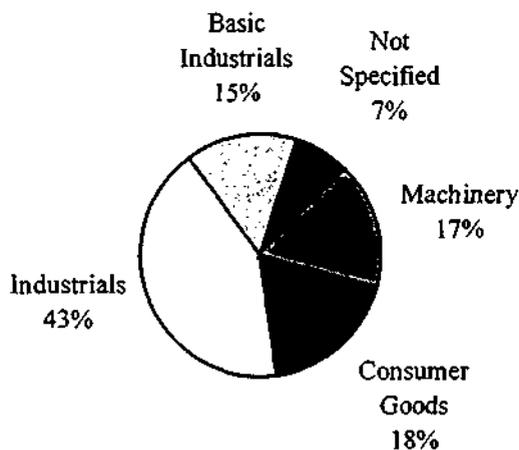


Figure 2. Industry Division Response Breakdown

The survey also successfully reached the targeted middle management level of manufacturing / operations managers as indicated by the respondent profile, even though their actual job titles varied. The typical respondent was male, aged 39-48 years, had some form of tertiary education and had been employed at the company for more than five years.

Percentage/Proxy Variable Analysis

Analysis of the percentage responses and proxy variable calculations quite clearly displays a tendency amongst respondents (and the organisation in which they work), to view resistance negatively. This was evidenced in a variety of ways. For example in Table 1, respondents listed obtaining 'competitive advantage' or 'financial benefit' as the predominant motivation behind instigating a change effort (rating 85.7 and 82.9 respectively), while 'responding to employee initiatives' rated last with only 32.9.

Table 1: Forces Motivating Change

	Usage Proxy Variable
Obtaining competitive advantage	85.7
Obtaining financial benefit	82.9
Countering competition threat	75.9
Altering shop floor culture	63.7
Enhancing company image	61.2
Countering skill deficiency	42.4
Response to employee initiative	32.9

Further to this, 'leadership from management' (80.0) and 'senior management playing an active role' (76.6) rated the two most common strategies used in organisations to ensure the success of change (Table 2). Those strategies that involved employees in the process of change management were listed at the lower end of strategies, with very few organisations supporting such an approach.

Table 2: Strategies for Successful Implementation of Change

	Usage Proxy Variable
Leadership from top management	80.0
An active role by top management	76.6
Clearly define the objectives	74.3
Conducive climate	73.9
Education & Training	71.8
Participation of employees	71.6
Eliminate power games	63.9
Facilitation & Support services	62.3
Negotiation & Agreement	61.5
Process viewed as learning	58.0
Employees involved	50.3
Coercion	41.8
Reward	37.6

Most managers saw the need to prepare for the future generally (96.3), which is certainly a positive attribute, but the rating of 72.1 indicated that the initial stimulus for change primarily came from 'top management only', indicating a clear delineation of responsibility for change. Managers stated that 'emphasis on people' is the predominant need for change (85.4) but perhaps this term was generalised and

could incorporate the other factors. All the other options rated highly, even emphasis on 'managing the change in culture' which had the lowest value of 56.9 (Refer Table 3).

Table 3: Methods for Preparing for Change

	Usage Proxy Variable
Emphasis on the people factor	85.4
Development of new technologies	80.2
Increasing mobility and diversity	80.0
Devolution of accountability	76.2
Trend towards a flatter organisation	73.4
Increased emphasis on managing culture	56.9

A specific question in the survey pertained directly to the concept of resistance and it confirmed what many believe to be the reasons for resistance being perceived as negative. Table 4 identifies what managers perceive to be an individual's reticence to change. 'Fear of the unknown' is by far the most likely factor which would inhibit a successful outcome, also an 'innate dislike of change' which could be related. The 'loss of existing benefits' and 'language/communication difficulties' are of least concern. Once again this could be due to the uncertainty of the Australian manufacturing environment and the need for security in employment.

Table 4: Managers' Perceptions as to the Source of Resistance to Change

	Usage Proxy Variable
Fear of unknown	61.8
Innate dislike of change	59.1
Disruption of routine	58.9
Conformity to norms	50.8
Lack of information	46.9
Threat to security	46.8
Redistribution of power	45.6
Loss of existing benefits	36.2
Language difficulties	35.2

Middle managers were asked an open-ended question about the types of actions that *they* would use to implement change in Australian manufacturing companies. 'Securing top management support' and 'fostering open and honest communication' were the most obvious espoused actions deemed to lead to successful change implementation. Once again confirming the literature and conclusions from previous questions. Yet what was of interest was the 'employment of external consultants' or 'having any outside involvement' were considered to be least likely to lead to success (Table 5).

Table 5: Managers' Recommendations on Implementing Change

	Usage Proxy Variable
Foster open and honest communication	85.4
Secure top management support	85.3
Give assurance of fairness	80.2
Help people recognise inadequacies	79.4
Participation activity built-in	73.4
Establish a history of consistency	72.7
Support management and employees	72.5
Be prepared for the unexpected	70.1
Expect to deal with old, inhibiting culture	69.7
Be realistic about time and difficulties	68.5
Training to be provided for everyone	67.0
All training 'on-site'	66.5
Recognise employees with difficulties	63.6
Go with the grain	63.4
Reward desired behaviour	63.3
Easy task first	63.3
Concentrate on changing behaviour	62.1
Take advantage of natural occurrences	51.4
Use ceremony/ritual	40.5
Employ external consultants	38.3
Have external consultants to train	37.3
Give rewards	36.1
Get independent assessment	36.0

From the outset, these results suggest that it is senior management that sets the agenda for change, and this does not give priority to the suggestions or feedback of employees. This conclusion finds further support from the analysis of the various methods of participation used by the organisations. A disappointing number (66.2) mentioned that a degree of information sharing is present at the organisation and even less (54.8) stated that some form of Quality Circles or Quality Involvement Teams were also present. The majority (71.3) stated that organisation did not enter into any joint decision making arrangements, nor did they have any structures in place that supported employee self management (65.7).

The picture that emerges is that of organisations who are either paternalistic or authoritarian in their approach to management. The strategies for employee participation listed by respondents describe a strictly limited form of involvement where the management prerogative remains at the top of the hierarchy. Together with the other responses from the survey it is clear that the majority of organisations do not have structures that encourage feedback, reciprocal processes that foster bottom-up and top-down input, nor an impetus to heed change initiatives from all aspects of the organisation.

This information provides evidence that a negative perception of resistance predominates because there is no indication that the organisation has any of the necessary structures, processes or impulse to evaluate worker resistance and thereby potentially utilise it.

Correlation Analysis

Separate correlations for each question were run in order to check for any contradictions or inconsistencies. In general, the significant correlations found between questions generally reaffirmed the comments made previously and very few inconsistencies existed. Although the process did not uncover any new information, it added weight to the previous analysis by confirming the consistency of the data.

Multiple Regression Analysis

The regression analysis was the final step in this investigation, and it identified four key variables: (1) the production difficulties experienced during the change program; (2) particular organisational factors relating to communication structures and processes of interaction; (3) the training initiatives undertaken by the firm; and (4) the methods that foster employee participation (see figure 3 for pictorial representation of this regression model).

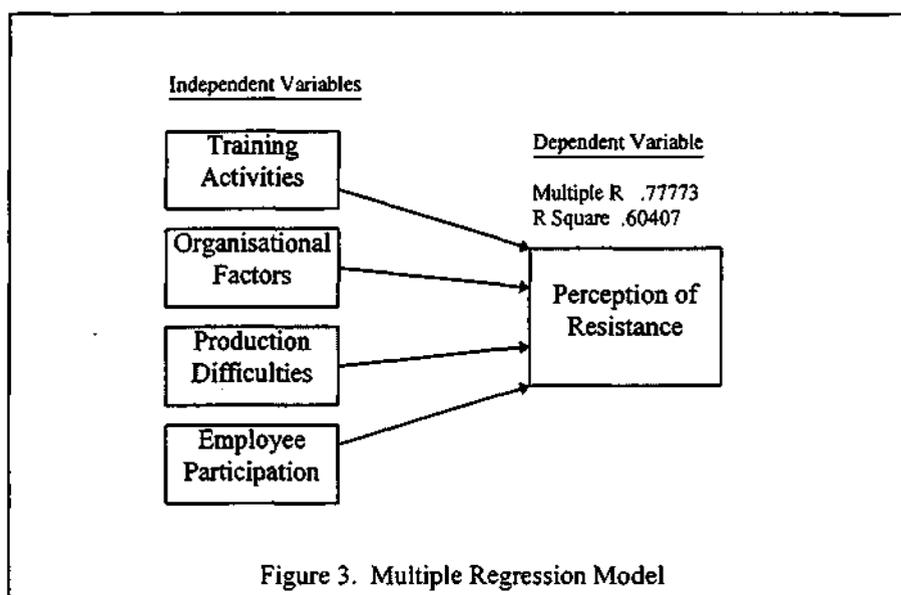


Figure 3. Multiple Regression Model

These four variables account for 78% of variation amongst the data which is a sufficiently strong result (Zikmund 1991). The regression coefficient, which indicates the degree to which the model fits together, was .77773 attesting to the strength of this predictive model. The final figure of importance is the significance level, in this instance, it is $F = .00000$ which also is an extremely strong result.

These results validate the suggestion made in the methodology section, that organisational factors can be useful indicators of that company's perception of resistance. From the data gained in this survey, 78% of the variation in responses can be categorised into four predominant variables (organisations structures, production issues, training activities and methods of employee participation), that can predict the approach the organisation will take if resistance is encountered in a change effort. As such, two extreme scenarios can be suggested:

1. Negative Perception of Resistance.

Where an organisation perceives resistance negatively, that is, as an obstacle to achieving successful change that must be removed, the following are likely to be present amongst the independent variables:

- a) *Organisation Factors.* The organisation is likely to have hierarchical authority structures, where change efforts are driven and coordinated in a top-down manner.
- b) *Production Difficulties.* Management will tend to ignore or trivialise such difficulties as temporary problems that will resolve themselves.
- c) *Training Activities.* Training will most likely focus on pragmatic/skill related matters such as preparing employees for changes in technology. The intention is to suppress any possible negative outcomes and divert employee concerns.
- d) *Employee Participation.* Employees involvement is kept to a minimum. They are normally excluded from the formulation and decision making phases of change management, but perhaps allowed input in the latter stages of implementation

2. Positive Perception of Resistance.

Where an organisation perceives resistance as positive, that is, as a legitimate phenomenon that could possibly benefit the process of change, the following are likely to be present amongst the independent variables:

- a) *Organisational Factors.* The organisation is likely to have procedures that encourage two-way communication and interaction between management and employees. Authority structures may still be vertical, but change efforts are a coordinated effort, not driven from the top;
- b) *Production Difficulties.* Management would view such issues as legitimate and encourage open and public debate so that all employees are fully informed;
- c) *Training Activities.* Training would not only focus on practical skill development, but also on communication and interpersonal skills to foster the employees' ability to participate more fully in change efforts.
- d) *Employee Participation.* Involvement would be considered of paramount importance and endemic in the organisation in all aspects of the change process.

This model, presented in figure 3, can be termed a strong predictive or explanatory model for the effects on impediments to change and can be used as a catalyst for further action depending on the perception of the concept. A number of different regression techniques were performed, eg., stepwise, forward, backward, and each regression technique came up with very similar results.

CONCLUSION

Overall, the survey found that there is a general negative perception of resistance amongst managers today. This result is not limited to only the surveyed operations/production managers, because their responses reflected not only their approach to change management, but also that of their organisation. This conclusion is reached based on evidence that indicates that the majority of organisations do not have the requisite structures, processes or impetus to evaluate or utilise resistance, should it arise in a change effort.

This is not to say that such organisations have grossly inappropriate structures or terribly bad change management approaches. Rather, it is simply pointed out that resistance to change is a significant influence in the successful outcome of change, and that perceiving it negatively, may in fact be exacerbating the damage it can do. The suggestion is that managers need to think carefully about their perceptions of resistance, and consider adjusting their management style to include the possibility of utilising resistance to change when it occurs.

In particular, the improved management of resistance requires a reconsideration of the participative techniques used by the organisation. The results clearly indicate that organisations who have not implemented structures and process that empower their workers to participate in change process, maintain

an adversarial approach resistance. The implication is that the future of change management may lie in the greater use of participation, simply because it is through such techniques that resistance can be evaluated and possibly utilised.

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