Utilizing the Theory of Planned Behaviour to Lead Change in Manufacturing Organizations

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Abstract. In the fast changing business environment, there is no doubt that change is one of the most critical issues that manufacturing companies will face. However, none of current change approaches has been specifically developed for manufacturing organizations. To address this gap, this research aims to apply the Theory of Planned Behaviour to lead change in manufacturing organizations. This research selects case study method and has some findings. Firstly, the TPB is an appropriate theory to explain human intention and behaviour in the organizational change. Secondly, all the critical factors could be identified by applying the TPB.

Keywords: change management, Theory of Planned Behaviour, manufacturing organizations

1. Introduction

As change is becoming a significant feature of organizational life since the last two decades, change management, as a branch of management science, has received considerable attention. Various change approaches have been developed in the academic studies, but none has focused on manufacturing organizations. Therefore, there is a basic concern whether the current approaches are appropriate for change management in manufacturing organizations. Characteristics of manufacturing organizations identified from the literature highlight the importance of managing people in the change management in manufacturing organizations. However, the literature review shows that this challenge has not been fully and appropriately addressed by the current change approaches.

The Theory of Planned Behaviour (TPB) developed by Ajzen (1988) has been successfully used to predict human intention in experiments such as job hunting and election voting choice[1]. According to VanRyn and Vinokur (1990), application of the TPB to a particular area of interest will provide a collection of information that is extremely useful to understand human behaviours or to generate interventions which could be effective in changing them. Therefore, unitizing the TPB might be a valuable way to lead organizational change in manufacturing organizations. The goal of this research is to study how the Theory of Planned Behaviour might be utilized to lead organizational change in manufacturing organizations.

2. Literature Review

2.1. Approaches to change

Various approaches to change have been developed in the academic studies, but the majority of change management theorists have argued that there is not a best approach universally; instead, the "best" approach is determined by the nature of change and the organization context within which the change takes place. In this part, five approaches to change have been reviewed.

- Planned approach to change

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The planned approach to change, founded by Kurt Lewin, dominated the theory and practice of change management from the 1940s to the 1980s[2].This approach is based on the premise that change could be consciously launched on and planned by an organization. Lewin's 3-Step model is distinguished. It describes a successful change project involves three steps - unfreezing, moving and refreezing .

- Processual approach to change

According to Burnes[3], the processual approach to change emerged in the 1980s, based on the works of Andrew Pettigrew. Processualists reject prescriptive and recipe-driven change approaches and argue that the process of change is a complex and rational decision processes involving different levels of analysis[4].

- Congruence approach to change

The congruence approach to change is based on the Congruence Model developed by Nadler and Tushman (1997), which provides a way to organize thinking about how an organization works[5]. The congruence model views the organization as a system.

- Leadership approach to change

Although competent management will help the transformation under control, for most organizations, it is leadership that is critical for successful change. Based on this premise, the leadership approach, which highlights the role of leadership, are distinct from other type of change approaches. Kotter (1996) puts forward an eight-step change model based on the eight common and fundamental mistakes that are identified in the direct observation of companies[6].

- Organizational learning

The turning up of organizational learning could be traced to 1950s[7], but its popularity is mainly due to the pace of change and the rise of corporate Japan. Although there is no consensus on the definition of organizational learning[8], most theorists in this subject have argued that organizational learning will not only enable a timely and effective organizational change, but also offer a new way of looking at organizational change.

- Summary

As far as the author's concerns, even if Lewin's3-Step model could be used in combination to manage change, his 3-Step model of change, which is the core for his change management theory, is too simplistic. The processual approach is the most analytical approach which will benefit a profound understanding of the change, but its limitation lies in the high level of complexity to be used. The congruence approach is based on the premise that organizational change is achieved the significant fit criteria. However, the problem is that problems in implementing change are more than not being fit. The leadership approach is closely related to the constructing of leadership. Kotter's model is distinguished in this approach. Kotter's model is the model many managers are working with, and it is notable that it provides the most detailed guidance for implementing change. However, this kind of linear progression seems too ideal. The last approach is organizational learning regarding that organization can learn new values and unlearn the past. However, this approach seems to be more like a fashionable paradigm in academic research but difficult to put it in practice.

2.2. Leading change in manufacturing organizations

Through the review of the approaches to change, it could be recognized that none has paid attentions to the type of the organization. However, to make the change approach appropriate, the aspect of organization type need to be considered into the development of the approaches to change. As for manufacturing organizations, it is important to understand it before the adoption or development of any change approach. Nauta and Sander have found that people will experience great goal conflicts between organizational goals and divisional goals when performing a particular behaviour[9]. It is notable that in manufacturing organizations, the constitution of organizational members is more complex than other kinds of organizations. According to Halberstam, different education and background will lead to great individual disagreements when organizations are in the change[10]. Moreover, there is great interpersonal impact in the organization in a way or anther. In addition, particular attentions are needed to be paid to those people who play a more significant role such as middle mangers and group leaders. Therefore, managing people is critical to lead change in manufacturing organizations. However, the great need to managing people in the change

management of manufacturing organizations has not been fully and profoundly addressed in the current change approaches.

2.3. Theory of Planned Behaviour

● Explanation of the TPB

The TPB is developed from the Theory of Reasoned Action, with the improvement in dealing with behaviours which people think that they cannot achieve. It is believed that this theory can be used to predict and explain human intention and behaviour in specific contexts.

• Predicting behaviour

According the TPB, the prediction of individual behavioural achievement depends jointly on intention and perceived behavioural control. The relative importance of intention and perceived behavioural control in the prediction of behaviour will vary across different situations and across different behaviours.

• Predicting intention

As belief is the most basic level of explanations for human behaviour, three intention determinants that are included in the TPB -attitude, subjective norms and perceived behavioural Control (PBC)-are based on behavioural beliefs, normative beliefs and control beliefs, respectively.

• Attitude: As behavioural beliefs will link the behaviour to a certain outcome, attitude toward the behaviour refers to the degree to which a person has a favourable or unfavourable evaluation of the behaviour outcome.
• Subjective norms: Subjective norm refers to the perceived social pressure from referents who will approve or disapprove of performing a given behaviour.
• PBC: PBC refers to the perceived ease or difficulty of performing the behaviour and it is assumed to reflect past experience as well as anticipated impediments and obstacles.

● TPB for change management

The TPB can make contributions in change management in following two aspects. Firstly, the TPB could provide a collection of information for managing people in the change, both collectively and individual. Moreover, both prediction and explanation of human intention and behaviour could benefits change leaders' control of the change process. Last but not least, the TPB has integrated most of the human perspectives to change, and moreover, it reflects a more intelligent people in organizations, who are more likely to be in the modern organizations.

3. Case Studies

To explore the implications of the TPB for change management in manufacturing organizations, case study strategy is selected. Reasons why the case study strategy is selected are listed as follows:

• Case studies have been regarded as the most appropriate when little is known about a topic from either the literature or previous empirical evidence[11].
• Case studies will help capture both the essence of the events and the real-life context within which they take place, which is critical for studying key factors which could affect people in organizational change[12].

3.1. Case background

GK printers Limited is a small, family-run printing business company, established by the present managing director's father. From 1980s to 1990s, the company met three challenges, and correspondingly, the company had experienced three major organizational changes.

In 1980s, the advent of newer, computerized printing techniques, which GK had not adopted, seriously threatened the company's survival, and the managing director formed a "crisis committee" to tackle this crisis. At that time, Employee relations were very good in the company and, but not being paternalistic. The printing workers, who made up the majority of the workforce, were all union members, and two of them were prominent activists in their local union branch. The crisis committee decided to discuss the change – buying new machines with the workforce. At last, the crisis committee decided to progressively replace old

printing machines with newer, more capable equipments within 12 months, and this change has been proved quite successful.

In 1989, to transit GK into a highly competitive printing company, it was realized that better business systems were required, especially in the control of paper work (orders and invoices), costing system, and production scheduling. To tackle this problem, the managing director gave the authority to the six people who were responsible for these activities in finding the solution. The group decided to introduce a computerized business system (CBS) instead of manual system. Although more time had been spent in successful running the system in the company than planned, no one regretted the time, as the change benefited the company a lot.

GK's business continued to grow, until 1993 when a significant amount of business had been negatively affected by customers' new requirement such as lower price and faster delivery. Instead of asking for outside assistance, the managing director asked the marketing and design manager to put forward some suggestions for reducing costs and set-up times,. The marketing and design (M&D) manager quickly responded and defined the problem and come up with the solution that more design staff and another design workstation were needed. However, the proposed change was soon denied at its introduction stage.

3.2. Case analysis

Three organizational changes have happened in case one, namely, buying new machines, introducing the CBS and reacting to the changed business environment.

- Buying new machine

In this organizational change, two analysis units are distinguished: one is the managing director and the other is the two union activists. From the data, it could be recognized that the managing director's intention to buy new machines had been strengthened after communication with the workforce. The formation of the plant manger's intention is shown in table1. As for union activists, they strongly advocated buying new machines, and the formation of their intention is shown in table2. Both of these analysis units had contributed to the success of this change.

Table.1 The managing director's intention

Subjective Norms	Attitudes	PBC
The student's final report showed a profitable future if new machines were bought.	The change will help the company out of trouble by producing higher value-added products that customers were increasingly demanding.	He knew the change well.
Some workers might resist.		The company had the financial ability to buy new machines.
The two union activists strongly advocated.	As the company was own by his family, his individual interests greatly agreed with the organization interests.	Important workers showed their support for the change.
Other companies had bought these new machines.		He had the power to make the decision.

Table.2 Union activists' intention

Subjective Norms	Attitudes	PBC
The student's final report showed a profitable future if buying new machines.	The change will help the company out of trouble by producing higher value-added products that customers were increasingly demanding.	They knew the change well.
Crisis committee implied to buy new machines.		They were confident to have the ability to operate the machines
Other companies had bought these new machines.	They might be replaced by machines, but they could also improve their ability to operate the machines.	They were happy to participate the decision making.

- Introducing the CBS

In the second organizational change, people who are responsible for these operating activities were authorized by the managing director to decide whether to introduce the CBS. After comprehensive

consideration, their intention was to introduce the CBS, and the formation of their intention is shown in table3. Although they met some problems to put the system to work, they behaved actively and appropriately to achieve the final success of the change.

- Reacting to the changed business environment

In this change, the managing director authorized the M&D manager alone to put forward the relevant change. The intention of the M&D manager's colleague, who is the analysis unit in this situation, was to strongly disagree with the proposed change put forward by the M&D manager. His behaviour had reflected his intention. The formation of his intention is shown in the table4.

Table.3 Operating people's intention

Subjective Norms	Attitudes	PBC
The external assistance was requested, who also suggested CBS.	The introduction of CBS had been very successful during these years	They were confident that will have the ability to control the system.
The printing manager pointed out that such an amount expenditure on equipments would greatly extend the company's capabilities. CBS was very popular during these years	CBS could bring benefits such as reduced lead times, more reliable deliveries, and a greater integration of business functions. Their ability could be improved.	They were authorized by the plant manager to make the decision. They knew the change well.

Table.4 The M&D manager's colleague's intention

Subjective Norms	Attitudes	PBC
The M&D manager was believed to be a newcomer to the printing industry in the organization.	The suggestion could not solve the company's problem.	He was not involved in the decision making.
The other managers were taken aback by this proposal, as they though the solution was an outrageous piece of opportunism. This change was not suggested by the business environment	He believed the M&D manager was building his empire. There was high risk to fail	He had the ability to disagree.

3.3. Findings

From the above data analysis, it could be recognized that the TPB is effective in explaining human intention and behaviour in the organizational change, both collectively and individually. Furthermore, all the critical factors could be identified by applying the TPB. To facilitate organizational change in manufacturing organizations, the common elements in the three intention determinants are concluded.

- Identifying the dimensions of change outcome

As implied from the case studies, outcome from change serves as the primary issue that people will consider, people will evaluate the outcome from the viewpoints of organizations, themselves and other people.

- From the viewpoint of the organization. In the case, the organizational change is expected to help the company either adapt to the new business environment or keep competitive advantages such improved quality, higher business process efficiency as well as increased customers' satisfaction. It is the most rationale reason for whether people will support or oppose the change.
- From the viewpoint of themselves. It is obvious that people like things which could bring themselves benefits, and reject things which could bring themselves loss. Similarly in the case study, most people have paid great attention to the outcome for themselves.
- From the viewpoint of other people. People will not only evaluate the change outcome from the above two points, but also evaluate the outcome for other people. For example, in reacting to the changed business environment in the case, the colleague thought that the M&D manger made use of the change to build his own empire.
- Identifying Referents

There are different kinds of referents such as people in the organization, the fact that happened, and the shared norm. From the case study, following referents have been identified:

- Sponsor: people will considered those who have the authority to order the change, provide resource for the change, such as the managing director in the case.
- Change agents: people will feel pressures from those who have directly lead the change and gather support for the change. For example, in each situation in the case, these people were the crisis committee, operating people and the M&R manger.
- Target: people who lead the change will consider whether people who have been greatly affected by the change will cooperate or not. For example, in the buying new machines, for the change agent-the crisis committee, targets in the change is the printing works. Change agent would meet difficult problems if target strongly disapproves the change.
- Advocate: people will feel pressure from people who show their opinions to the change, but this kind of referent do not overlap with the above three kinds of referents. For example, in the introducing the CBS in the case, the printing manger's comments on the expenditure of the equipment had helped people know that the investment is worthwhile.
- Identifying Behaviour Control Factors

Critical behavioural control factors that people will perceived in the organizational change have been identified from the case study, and they are:

- Ability: people need the ability to achieve the change or to meet the requirement from the new behaviour. For example, in buying new machines in the case, the plant manger had considered whether the company had the finical ability to buy these new machines, and for printing workers, they had considered whether they had the ability to operate these new machines.
- Cooperation with others: people will consider whether the relevant people will cooperate or not, as change cannot be achieved by one's effort. For example, in the buying new machines in the case, the plant manger considered whether the change would be accepted by the printing workers.
- Participation: people will concern whether they could control the change direction. For example, in buying new machines in the case, printing workers were grateful to participate the decision making.

4. References

[1] Ajzen, I. Attitudes, personality and behavior. Milton Keynes: Open University Press.

[2] Burnes, B. Managing change: a strategic approach to organizational dynamics. Harlow: Financial Times Prentice Hall.

[3] Burnes, B. "Kurt Lewin and the Planned Approach to Change: A Re-appraisal." Journal of Management Studies; Vol. 41 Issue 6, pp977 – 1002.

[4] Buchanan, D. and Huczynski, A. Organizational behaviour: an introductory text. New York; Harlow, England: Prentice Hall.

[5] Nadler, D.A. and Tushman, M.L. Competing by Design: The power of organizational architecture. Oxford University Press, New York.

[6] Kotter, J.P. Leading Change, Harvard Business School Press, Boston, MA.

[7] Argyris, C. On organizational learning. Oxford : Blackwell.

[8] Pedler, M., Burgoyne, J. and Boydell, T. The learning company: a strategy for sustainable development. London: McGraw-Hill.

[9] Nauta, A. and Sanders, K. "Causes and consequences of perceived goal differences between departments within manufacturing organizations". Journal of Occupational & Organizational Psychology; Vol. 74 Issue 3, p321-43.

[10] Halberstam, D. The reckoning. London: Bloomsbury.

[11] Gill, J. and Johnson, P. Research methods for managers. London: Paul Chapman.

[12] Denzin, N.K. and Lincoln, Y.S. (Eds). Strategies of Qualitative Research, Sage, London.