Change Management

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ABSTRACT

This report is prepared for preparing the change for new product of the board manufacturing company. The Change from the external market force of market demand on the supply of thin sheet board material thus prompted the Marketing department to make the market survey that there is a need to introduce a new product to be competitive in the board manufacturing market and offer a complete range of board products for the building industry. Internally, The Marketing Department has to convince the top management and the main stakeholder to agree and accept the urgent change. At the same time has to balance the sales revenue with the cost of technology investment and economical scale perspectives of producing the targeted product. The proposal of this change's success should be judged by how the new product can help to sustain the future growth of the company and give a reasonable revenue. Currently, the company produces Building Board material of size 1220 mm x 2440 mm and thickness ranging from 10mm, 12mm, 16mm, and 18mm. The Marketing Department wants to reduce the thickness to 4mm and 6mm and the size change to 1220 mm x 1220 mm and 1220 mm x 610 mm. For this request, The Marketing Department has to show the stakeholder and Top Management the purpose of the change and convince the Top Management, stakeholder (include the factory team) to accept the Change. Strong support from top management and stakeholder is very important. Marketing Department has to show the market size of the thin board and projected the sale volume. The comparison of the sale revenue-again the investment sum has to be competitive with short break-even point so that the figure of dollars and cents provides strong persuasive power and support for the stakeholder and top management to strongly consider and accept the investment and the change.

Keywords: change management; market survey; technology investment; economical scale

INTRODUCTION

Understand the process or system works, to determine whether change is required (Alderfer, 1980). Posma & Kok (1999) pointed out that the investigation of the functioning of the organisation before any suggestion for improvement. The production line is comfortable with the production of thick sheet board. It is easier to produce thicker board material than thin board material due to:

a) The thickness tolerance is difficult to control for thin sheet material;
b) Thin sheet board is harder to handle;
c) Higher wastage for manufacturing thin sheet;
d) Producing thin sheet material is less economical, unless some technical adjustment to the production line, fine-tune to the operating system and provide training to the operators.

Therefore most manufacturing companies do not want to produce thin sheet. But the survey shows that the demand for the thin sheet is more than the thick sheet material. The use of thin sheet material is commonly applied to houses ceiling. Market size is big and the demand is constant. For the company to stay afloat and be competitive, it is vital to make the change ahead of any unexpected crisis that arises. The Marketing Department has survey the market and has to strategy the need to change for the continued growth of the company. The awareness for the top management to accept the change and developing future-

focused business strategies and plot the plans and implement the plans to make it happen.

THE CHANGE MODEL PROPOSED

The consideration of what change model to propose for this purpose, let us look into various models and pick the one which is more suitable for the organization change:-

Edward Deming's PDSA model:

A four steps method of "PLAN-DO-STUDY-ACT " which commonly known as Deming circle

FIGURE 1: Deming's PDSA Change model
Source: Adapted from the W. Edwards Deming Institute

PLAN:
It is to look into how the change should be, start with smaller planning, that will be easier to monitor and achieve a positive result.

DO:
the implementation of the Plan. Step by step make changes and test the result of the change.

STUDY:
study the outcome, may it be success or failure, what is the possible course? What is the area go wrong? Any possibility of improvement?

ACT:
when the study phase shows sign of fulfilling the required target and quality, it is time to act. Otherwise, it is time to decide the alternative of the next proposed change and discard the initial change.

ADKAR Model
This model is of five milestones to arrest the change process:
A for Awareness of the need to change;
D for Desire to support and participate in the change;
K for Knowledge of how to change;
A for Ability to demonstrate new skills and behaviours; and
R for Reinforcement to sustain the change.

FIGURE 2: ADKAR Change Model
Source: Adapted from Prosci ADKAR Model

KOTTER's Model.
It was during 1995 Kotter first proposed the eight-step model (1995). The 8 steps to a successful change model define the key critical steps that need to go through to ensure that change happens and sustains (kotter 2002).

FIGURE 3: Kotter Change Model
Source: Adapted from Kotter (2005)

1) Establish a sense of urgency – convincing facts is the objectives must be real and relevant and highlight the urgency for change;
2) Pull together the guiding team – assemble the key person for the task force;
3) Create a vision – develop team vision and strategy the goal;
4) Communicate the vision – use all resources to communicate and pass the message of the team vision and appeal to all level to support the change;
5) Empower others to act – look in-depth at the vision and process of change. Eliminate the risks and create recognition to the change;
6) Plan and create short term wins – plan change into smaller phases. Completed one phase then proceed to the next phase. Highlight achieved and future milestones;
7) Don't let up – be foster and encourage determination and persistence. Motivate the team of achiever and the next suture milestones ahead; and
8) Make change stick – weave change into the culture. Strengthen the value of success and sustain the change.

LEWIN's model;
One of the oldest models of organizational change is none other than Lewin´s three-step model which was developed in 1951. Lewin suggested that three steps to organizational change. The first step is defining and unfreeze the current state, revealing the driving force of change and the resisting forces to the organization change and predict the desired end result. The second step involves the participation of individuals in the new state of affairs. The third step is to set new policies, rewarding system for those successful participants and established new standards. Consequently, the new state is stabilized and refreeze (Lewin, 1951; Burnes, 2004).
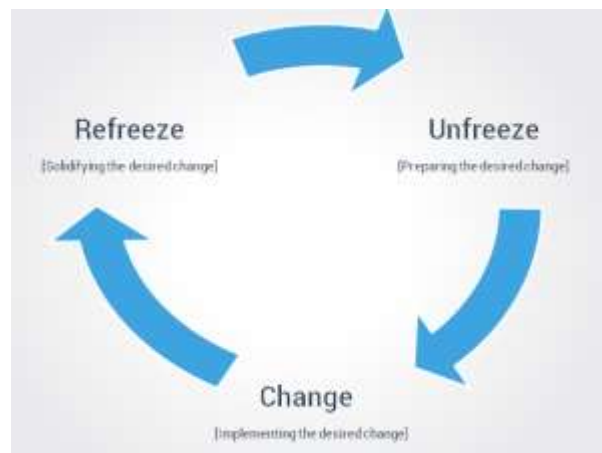

FIGURE 4: Lewin's Change Model
Source: Adapted from Lewin (1951)

BULLOCK AND BATTEN PLANNED CHANGE MODEL
Bullock and Batten´s planned change model (1985) proposed four stages of planned change.

1) Explore the need to change, what are the required resource needed for the Change.
2) Draw out the Change plan with sequence action. Allow contingency plan for error.
3) The action phase require feedback from relevant departments
4) This stage is of integration and alignment with other departments of the organization. Furthermore, the change is formalized through policies and rewards (Bullock & Batten, 1985).

FIGURE 5: Bullock and Batten Planned Change Model
Source: Adapted from Bullock and Batten's Panned Change Model (1985)

HARRIS AND BECKHARD

Using the formula to determine the factors needed and in place before the change can happen:

$$C = (A \times B \times D) > X$$

Where
C is the Change;
A is the level of dissatisfaction with the current state;
B is desired result;
D is the practicality of Change;
X is the costs of change.

As from the above formula, the Change "C" (A x B x D) must has benefit more than the costs of change otherwise it will be viable and profitable to perform Change (Dannemiller & Jacobs, 1992).
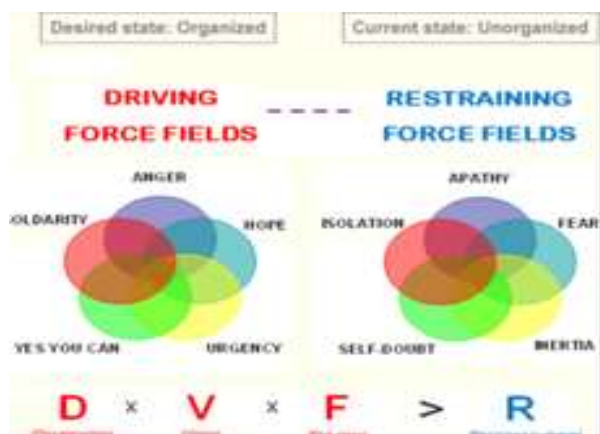

FIGURE 6: Beckhard-Harris Change Model
Source: Adapted from Beckhard, R (1969)

McKINLEY's, NADLER and TUSHMAN's CONGRUENCE MODEL

Nadler and Tushman's congruence model (1997) aims to understand the dynamics within an organization when it changes. In this model, internal and external inputs (resources, strategy and environment) are transformed into outputs (individual, team and organizational behaviour). Hereby, the transformation process is analyzed according to the specific context of an organization. Four components make up an organization, namely the work (daily activities), the people (skills of people working in the organization), the formal organization (structures and policies of the organization) and the informal organization (unwritten activities like values and norms). These four components are dependent on each other and the higher the congruence is between them, the higher the organizational performance is. Consequently, the model emphasizes that it is crucial to pay attention to all four components at the same time since only then a change initiative will be successful (Nadler & Tushman, 1997).

FIGURE 7: McKINLEY's, NADLER and TUSHMAN's CONGRUENCE MODEL
Source: Adapted from The Congruence Model

In 1991, Bridges´ managing-the-transition model was created. It does not focus on planned change but on the process of transition. Hereby, he defines transition as letting go of the past and adapting to new behaviour. Hence, there is a separation of the mechanistic functional changes from the human emotional process of adapting to change. It is claimed that change can be planned, whereas transition is psychological and thus more complex. Bridges´ model not only helps to understand the emotions of individuals at each stage of the change process but also comes up with useful activities which should be performed in each phase. The transition process has three phases. The first one is called ending. It is needed to end what used to be before starting something new. Identifying who is losing what and acknowledging these losses openly is crucial for marking the endings. In the next phase, the neutral zone, motivation might fall as anxiety increases. Bridges state that managers need to ensure that people see the neutral zone as some sort of creative process and establish temporary structures. In the last phase, new beginnings should be made. Here, four key elements are important for people, namely: a purpose behind the change, a picture (vision) of what the new organization will look like, a step by step plan to get to this desired state and participation in the outcome. The new beginning is established as soon as people feel emotionally committed to doing something new.

One important note is that endings are often longer for people further down in the organizational hierarchy which is why managers, who have already reached the new beginning, need to be patient with their employees´ transition (Bridges, 2009). Carnell´s change management model (1990) also takes managers into account. It states that effective management of change depends on certain management skills. Managers should be able to manage transitions effectively by helping people to learn and by creating a risk-taking atmosphere. Furthermore, a manager should deal with organizational cultures by establishing a more adaptable culture through, e.g. more local autonomy. Finally, a manager should also be able to handle organizational politics effectively through an understanding and recognition of different agendas. Only managers with these three mentioned skills will be able to create an atmosphere where risk-taking, creativity and better performance can be implemented (Carnall, 2007). Senge et. al (1999) came up with a systematic model dealing with sustainable change. Thus, this model is different from, e.g. Kotter´s eight-steps-model, as it does not focus on the early phases of creating change but instead addresses the aspects of sustainability and renewal of organizational change in the long term. The authors´ four key guidelines for this are: initiating (start small), sustaining (grow steadily), redesigning (do not plan the whole case ahead) and finally rethinking change (expect challenges) (Senge et al., 1999).

Cameron and Green (2014) conclude from this that change goals should be kept realistic, managers should stay close to the change efforts at all stages as well as reward good actions. Finally, another school of thought is represented by Stacey and Shaw´s complex-responsive-processes model (2001). The most important notion of this model is that it sees complex change as uncontrollable.

Consequently, the authors do not try to answer the traditional question of how to manage change but instead focus on the participation of managers in the change initiative (Stacey, 2001). Cameron and Green (2014) summarize this as three key roles of leaders in complex change: develop people´s thinking on how to achieve goals, encourage feedback and information flow and finally focus people´s attention on differences between the current and the desired state.

TABLE 1: Linkage between Organizational Change Management Models and Organization Metaphors (Cameron & Green, 2014)
Source: Adapted from Cameron & Green (2004)

Model	Machine	Political System	Organism	Flux & Transformation
Three-step-model (Lewin, 1951)	Y		Y	
Planned change model (Bullock & Batten, 1985)	Y			
Eight-step-model (Kotter, 1995)	Y	Y	Y	
Change formula (Beckhard & Harris, 1987)			Y	
Congruence model (Nadler & Tushman, 1997)		Y	Y	
Managing-the-transition model (Bridges, 1991)	Y		Y	Y
Change management model (Carnall, 1990)		Y	Y	
Systematic Model (Senge et al., 1999)		Y	Y	
Complex-responsive-processes model (Stacey & Shaw, 2001)		Y		

For This Change process, Deming's Change model
is used. The reason to use Deming's Change Model is due to its clear steps of application and it is recommended and is used by ISO 22301 for crisis change. The Model not only can be used for the Change process, upon completing the Change process, it allows user to continue access the change and to sustain the Change Standard and act as a monitoring model too. Although Palmer, Dunford and Akin (2009) stress that no one model reflects all situations or circumstances, the change process proposed is a simple change and is a revolutionary change. The Proposed change is gradual, it is not a revolutionary change, Therefore a simple straightforward Change process can fulfil the required task. The simple process is easier to train the task force team, once the task force teammates have learned the Model well throughout the whole process, they will feel comfortable and easy to use.

The proposed Deming's Change model is a standardized method, it can be used to achieving a continuous improvement process. The simple step can be applied by employees of any department to resolve new or recurring issues. It fosters teamwork by brainstorming and problem solving and it is inexpensive and can be accepted internally.

The success of anyone model must and gain full support from the top and upper-level management. When the top and upper-level management take Deming's cycle as a mandatory policy for change management then the change will be successfully implemented.

CHANGE MANAGEMENT PROCESS

FIGURE 8: Change Management Process
Source: Adapted from Smartsheet

1) The need to change and request for Change:
The forces of change as illustrated as Figure 9 shows Internal and external force. To be sustainable in this competitive global market, one has to be vigilant and be very sensitive toward the changing forces. To react and proactive in tracking the changing force will lead the organisation heading the survival route and the organisation will continue to grow. Otherwise, the organisation will be faced out of the competitive global market.
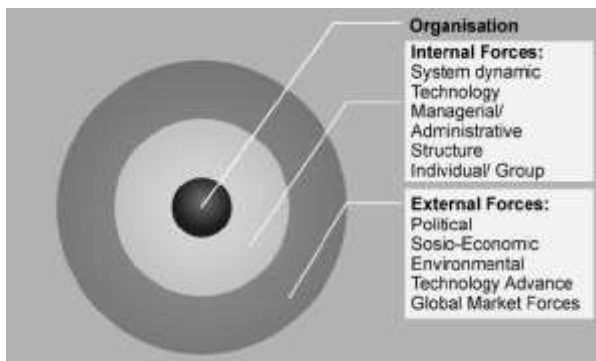
FIGURE 9: The Forces of Change in the organisational environment
Source: Adapted from Kamal (2018)

2) Impact Analysis - External environment:
From the PESTEL framework to diagnose the external environment. For any Change to consider, the first instinct is to consider the Political impact. When Politic is stable, the social economy is on the rise, the demand for housing will increase as people dare to invest in the property market. The housing market will continue to flourish. More houses will be build when there is a demand. Due to ever-changing consumer expectations and the competitive building material supply industry, the Organization has to be proactive and plan a step. Ask ourselves what can we do when faced with competition and the impact of crisis? What will be the rescue plan?

Moran and Brightman (2001) pointed out that Change Management is the process of continually renewing an organization's direction, structure and capabilities to serve the ever-changing need of the internal and external environment. Organizational change can be seen as a sort of innovation of technology, new product or practice used by the members of an organization for the first time, regardless of whether it has already been used by other organizations or not (Petigrew, 1985). The Top Management must be convinced that the great demand for thin board material for the building industry will take the organization thru the crisis time if it happened. The number of houses and apartments to be built in the next five years, ten years, or more, the forecast overwhelming. The market size is big and the market demand for building materials, especially the thin sheet board is increasing. Base on the finding, Marketing Department can project the market size of the thick board as well as the thin sheet boards and the potential sale volume. From the projection and SWOT analysis, understand the organization's current strength in the building material market, it is easy to capture the thin board market and contribute sizable income for the company. The analysis is also able to predict the market share of the thin board's potential sale. The projected size of the market share will motivate and pushes the feel of **urgency** for change by the top management and the production team to wanting for the **immediate change**. Although Change may not be an easy task, everyone looking at the positive future and the feeling of the market trend (threat), and **opportunity**. The expectation of the building industry booming and the continued healthy production trend is overwhelming. So this force of change is from the external environment.

Internal environment
Looking internally, the proposed change may impact factory personnel.
Once the hard facts of huge sale volume are well received by the management team and main stakeholder, the order to start the process of change is given, the task force (Project Management Team) has to be set up to look into

the Rod Map of Change Process and initiating the Change process.

The next move is to sit down with the technical R & D, Production and Engineering departments to look into "hows ?". How to produce this thin sheet? as the machine of the factory is tuned to produce thick board material, can the machine alter or adjust to produce thin board material? Can the Engineering department overcome the adjustment of the machine's limitation? Is there any problem handling thin sheet material? the wastage on production downtime? Handling problem? Packaging problem? All these possible "Problems" must be eliminated if possible and solutions must be matched. How about the technical side? R&D has to confirm the thin board's physical characteristics met and confirmed the basic standard and quality requirement. The production department may have to upgrade the operators' awareness and training on the new production process.
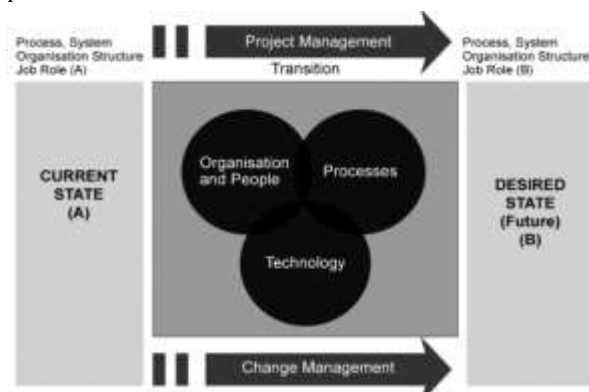

FIGURE 10 : Change management and Project management
Source: Adapted from Creasey (2009); Creasey and Taylor (2014).

The process of Change as illustrated in Figure 10 shows that the change from the current state of thick board production to the Desired state. The task force is the Project Team and the Change management is the departmental head.

3) The approval from top management is granted.

4) The implement of Change or DO
The task force team is formed and lead by the factory manager(FM, the Change Agent). It is Cleff (2000), who support the insiders leading the change process that will be more effective than by technical experts from outside (external consultant). The member of the task force consisting of the R & D department head, Engineering department head and supervisors and the Production department head and supervisors. The first step FM want to know is whether is it possible to produce a thin sheet board. The answers will be put to test, the R & D's pilot plant start rolling out the sample board. The pilot plant is the prototype of the actual production plant. The test is conducted per the actual simulation of the Production Process. Apply SWOT in the pilot test process. Test for board's quality and the standard requirements and the physical strength of the board is evaluated.
Next, come to the financial side. What will be the cost to produce such board material? Is it profitable to produce such a board as per earlier projection and estimation? The thin sheet board material is a commodity product in which the market rate is fixed. The cost is determined, the break-even point calculated and found that it is a profitable and compatible product to produce. It is acceptable by top management on the profit margin and the full-scale test will be in progress.

5) CHECK and review
After the successful evaluation from the pilot plant. The production process has to give a "trial run" or FineTuning on the production process. All set to align the machine, the speed, the raw materials, the controlling system and test towards the production team's adaptation to the change. All departments teams are out to witness the Change. The First batch of new product is out - hot and fresh from the production line.

FIGURE 11 : Locus of Change (Intensity of Change)
Source: Adapted from Kamal (2018)

Again, the test continues until everyone is confidant that there is no other problem or any stone unturned to produce the newly finished products. The Thin sheet board produced also confirmed the required standard. The change is pronounced successful and completed. The next activity is to train and motivate the operational personnel to get used to the new production process. The next review is focusing on handling, trimming to size and packing system

ACT
This is the final step. Along with the Steps all solutions and problems faced have been recorded and the remedial work has perfected. So it is time to sustain the Change process. The continued using of **Deming's Change model** to check and balance the production process and maintain the quality of board standard.

Factors impact the Challenges and critical success of Managing Change
The top-level management and the organization stakeholders must recognize the need to change. The top management needs to translate the change and strategized the change into an operational goal as described in Figure 12.

FIGURE 12: Translating Change strategy into operational goals
Source: Adapted from Hayes (2014)

The supportive attitude from all stakeholders is the blessing towards Change success. Their aggregate wisdom, knowledge and experience are more likely to identify changing circumstances than a single leader or even a full governing board.

The next challenge of Managing Change is the preparation of a comprehensive strategic or business planning process. It must be based on facts, carefully analyzed data. There are five challenges to strategically arresting the critical success of the product change.

1) Strategy Development
A strategic plan connects mission through goals and objectives to mission-driven measurable actions. This conceptual structure fosters the rigorous thinking required to anticipate, create or face change. If necessary, this way of connecting a qualitative mission to quantifiable results can also be used independently from a full planning process to guide stakeholder or management in dealing quickly and effectively with the urgent management change.

2) Implementation
The implication of the title *Managing Change*, of course, is consideration of the issues of effecting change once it has been recognized and defined, and a plan has been developed. Change is disruptive and uncomfortable to many stakeholders. It can require reevaluating assumptions, refocusing attention and restructuring responsibilities, power and prerogatives. Unless the process is managed effectively, some stakeholders will resist, criticize, complain, or just wait to see whether the initiative will fail so that they don't have to do things differently. Staff who need to accept changes in their responsibilities, managers who need to develop different styles of leadership, a board that needs to take on a different role. The keys to success in managing change are straightforward, and they are all, in one way or another, about communication:

3) Leadership and Supervision
If staff is expected to do things differently, they may need training, encouragement and time to adapt to the change. The task force leader has to managing and training the staff to prepare them for the change as illustrated by Figure 12: Managing people issues in Change.

FIGURE 13: Managing people issues in Change
Source: Adapted from Kamal (2018)

The need to review current responsibilities with a supervisor is to establish priorities for new tasks that may be less important than the ones that will support the change. A regular review of progress and impediments will maintain focus and support success. Successful change is not about you or them; it's about the whole team. Senior leaders in the organization should get involved personally in the process of change, not just remote control and give distance commands. This shows to the team that this change is important and the management is serious.

1) Transparency and effective communication

Announcing an organizational change is not only an announcement, it has to communicate with the following management team and even repeating the Change a few more times to convey a sufficient message of a structural or systemic change. Stakeholders need to have interactive communication with the organization's team leader, it can be an encouragement to comment and providing individual responses and get regular updates from the team on how the change is working and how it's being tweaked or improved as a result of feedback. Stakeholders need to know what successes are being achieved as the result of the change. First-hand information about the Change is keeping on track. The more clearly you communicate from top to bottom levels will benefit the change and will minimize resistance, criticism, and complaint towards changes. Transparency and effective communication will stimulate active cooperation.

Transparency and effective communication are also a tool to control and tracking the change activities. The control and tracking able to grade the level of success towards the change process as shown in Figure 14.
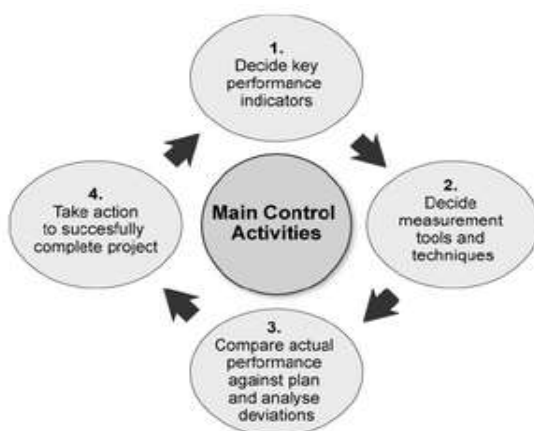

FIGURE 14: Key activities linked with control
Source: Adopted from Brandon (2010).

Assessment and Sustainment

Any organizational change should be accompanied by clear, quantifiable measures of the objective to change, both as a management tool and as a communication tool. It is important to fulfil the objective and sustain the change. The test to the completion of change is to go through the change process eliminate the issues affecting sustainability. Figure 15 illustrate the three issues which will affect the sustainability of change.

FIGURE 15: Three Issues affecting sustainability in change initiate
Source: Adopted from Buchanan et al (2012).

Feedback and support from the stakeholders and customer or end users is another yard stick toward successful Change. Changes that do not supported by Stakeholders and end users will not sustain and spread.

CONCULSION AND RECOMMENDATION

For any enterprises, one need to prepare for Change. The need of Change is to be in trend, fullfill the customers' needs, to stay afloat during Crisis, which may come from both external and internal force and environment. For this instant it is the external force that of market demand and fighting for survival that required the Change of product and it's range. The internal change is mainly involves structural and company policy change. Most of the time, Change is evolution. The organization which is prepared for change and recognised change is the one that can survive and the support towards the change will make the change sustainable and spread. The top management is the main player in the course of the Change process. As only with the strong support from Top Management, the change process can go through smoothly and successfully. The Right thing the Top Management does is to have a vision. It is suggested and recommended for Top Management to look ahead and be prepared for crisis change. Do not shadow by the present comfort, plan. To be able to survive and continue to prosper in this competitive global business environment, one has to keep a brace and have many workable " PLAN B" s.

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