

**THE EFFECT OF CHANGE ON SOME OF THE  
ORGANISATIONAL AND JOB FACTORS:  
A CASE OF INTRODUCTION OF CELLULAR  
MANUFACTURING**

by

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## **ABSTRAK**

Kajian ini dijalankan untuk mengkaji kesan perubahan keatas beberapa faktor organisasi dan faktor kerja. Faktor-faktor yang diukur adalah tahap penyeliaan, komunikasi, komitmen kerja, kepelbagaian kemahiran dan persekitaran kerja. Faktor-faktor seperti umur, bangsa dan pengalaman bekerja juga dimasukkan untuk mengkaji kesan moderator pada perhubungan di atas.

Hasil keputusan menunjukkan bahawa perubahan yang diperkenalkan tidak meningkatkan faktor-faktor yang diukur. Tambahan lagi, persekitaran kerja dalam sistem lama lebih digemari oleh pekerja. Ini menunjukkan yang walaupun perubahan yang diperkenalkan itu bertujuan untuk meningkatkan keberkesanan organisasi tersebut, akan tetapi ia tidak memberi kesan yang diinginkan ke atas para pekerja.

## ABSTRACT

This research was conducted to examine the effects of change on some of the organisational and job factors. The factors measured are supervision, communication, job commitment, skill variety and working condition. Factors like age, race, working experience and salary were also included to examine the moderating effect on the above relationship.

The results show that the change introduced did not improve any of the factors measured. Furthermore, working condition in the old system seemed to be preferred by the workers. This shows that although the change introduced was aimed at improving the organisation's effectiveness, it did not necessarily have the desirable effect on the workforce.

## Chapter 1

# INTRODUCTION

### 1.1 Introduction

No organisation can survive without going through the process of change. In the last two decades, organisations have faced increasing global competition, limited resources, deregulation, privatisation of public sector, technological innovation and change.

The environment is constantly spinning out new opportunities and threats. Therefore, it is vital that organisations continuously monitor and adapt the changing environment in order to be competitive. Although the change introduced in an organisation is aimed at improving the long-term effectiveness, this is not necessarily so. Some changes simply fail because organisations fail to integrate the organisational factors into the change process. This has made change a painful process which is usually met with resistance.

There are a wide range of possible changes which includes new products, new technology, leadership style, organisation structure, job enrichment, work groups and so on. In the context of this research, only one particular type of change is considered, that is the introduction of cellular manufacturing in an organisation. Cellular manufacturing is based on the concept of group technology where, dissimilar machines are grouped together into work centres, called cells. Cellular manufacturing is very common in Japan and has proven to be effective and efficient. However in Malaysia, only a few industries practice this type of a layout in the manufacturing processes.



## **1.2 Purpose of Study**

The purpose of this research is to investigate to what extent the change introduced in an organisation has effected some of the organisational and job factors. This study also attempts to find out whether the change has brought significant improvement to the organisation in terms of communication, supervision, the working condition (organisational factors) , skill variety and job commitment (job factors).

This is a comparative study of two departments - one that has been exposed to change and another which has not. The concern here is to investigate whether or not the department where the change has been introduced is more effective in terms of communication, supervision, working condition, skill variety and job commitment. We cannot assume that organisational change will always lead to improvement. To do this, we need a more detailed understanding of the processes through which people come to define their situation that has made an impact on their work life.

The apathy of lower level employees has been put forward as the main problem of the modern industrial world (Carnall, 1980). Therefore, this study aims at line workers.

## **1.3 Definition of Key Terms**

### ***1.3.1 Change***

Organisation itself is a system which encompasses input, activities (people, technology) and output (Ross, 1994). Organisational change is the movement of an organisation away from its present state and toward some desired future state to increase its effectiveness. Collin (1984) states that any factor in the external environment that interferes with organisation's ability to attract the human and

material resources it needs or to produce and market its services or products, becomes a force for change. Pressures for change may also arise from a number of sources within the organisation, particularly from new strategies, technology and employees' attitude and behaviour.

### ***1.3.2 Skill Variety***

The degree to which the job requires a variety of different activities so that the worker can use a number of different skills and talent.

### ***1.3.3 Job Commitment***

The degree to which the individual attaches importance to job performed and willingness to perform it better, spends more effort on the job to improve productivity and quality for the organisation.

### ***1.3.4 Supervision***

The way an employee perceives his/her supervisor and also the kind of relationship, which exist between both the employee and the supervisor.

### ***1.3.5 Working Condition***

The immediate environment of the work, which includes the relationship with co-workers and various working conditions.

### ***1.3.6 Communication***

The process by which people attempt to share meaning via the transmission of symbolic messages. Effective communication is important for managers to

accomplish the functions of planning, organising, leading and controlling.

### **1.3.7 Cellular manufacturing**

Cellular manufacturing attempts to improve the efficiency of the process layout while maintaining its flexibility. Based on the concept of group technology (GT), dissimilar machines are grouped into work centres, called cells. Manufacturing cells are viewed as a more efficient alternatives to the functional departments of the process layout (Russell, 1995). The concept was first introduced in 1925 by an American Engineer but it did not gain prominence until 1980's when the Japanese perfected its application.

Traditional assembly line job is highly specialised, it creates boredom and monotony since the task performed is routine and repetitive. It requires no initiative and is seen as unchallenging. Work cell concept on the other hand is designed in such a way that a worker has to perform the task from beginning to the end. In order to do the job, he/she is required to acquire a variety of skills and is able to control the pace of the work, making the job more interesting and challenging. Practitioners' experience as well as survey literature (Russell, 1991) reports that the practitioners have benefited from the introduction of group technology.

### **1.4 The Significance of the Study**

Research shows that practitioner have benefited from the introduction of cellular manufacturing (Black, 1983).

The advantages of cellular layout are:

a) Reduced material handling and transit time.

In cells, material movement is more direct and less distance is travelled between operations. Material does not accumulate or wait long periods of time to be moved. The time needed to produce and transfer the product are less and productivity increases in cellular manufacturing (Black, 1983).

b) Reduced set up time.

Cellular layout is more flexible and it does not take long to change over from one item to another because similar parts are processed together. The change over can occur more frequently and items can be produced in small batches, unlike assembly lines, which are inflexible and are suitable for mass production, where demand is stable and volume is high.

c) Reduced work in process inventory.

In a work cell, the flow of work is balanced so that no bottlenecks or significant build up of material occurs between stations or machines. Less space is required for storage of in -process inventory between stations. Machines can be moved closer together thereby saving transit time and increasing communication. (Black, 1983)

d) Better use of human resources.

A cell contains a small number of workers responsible for producing a component part or product. The workers act as a self managed team, in most cases more satisfied with the work that they do and more particular about the quality of their work (Russell, 1995).

e) Easier to automate.

Automation is expensive and a company can rarely afford to automate an entire factory at once. Cellular layout can be automated one cell at a time. Automating a few workstation on an assembly line will make the difference to balance the line and to achieve the increase in productivity expected. Since in cellular layout the processes are isolated, automation can speed up certain process.

## Chapter 2

# REVIEW OF LITERATURE

### 2.1 Literature Review

Starting with Lewin in 1947, various studies have been carried on the dynamic of change and its effect on organisations. According to the 'Force-Field' theory of Kurt Lewin (1951), any behaviour is the result of an equilibrium between driving and restraining forces. The driving forces push one way, the restraining force push the other. The performance that emerges is reconciliation of the two sets of forces. Lewin's model suggests that organisations must look for multiple cause of behaviour than a single cause. The forces can be many types and the differences between them may result in change which may effect the behaviour performances of an individual, group or entire organisation.

Establishing a need for change springs from a recognition or a belief that a certain desired performance can be attained. If, by attempting to alter current working practises, a manager can foresee an improvement in his overall efficiency, he will take steps to bring about such change (Kotter, 1990). Lewin(1951) suggests that planned change contain three phases: unfreezing, intervention and refreezing. Unfreezing involves helping people to see that a change is needed because the existing situation is not adequate. Existing attitudes and behaviour need to be altered during this phase so that resistance to change is minimised. The second phase involves making the change, which involves letting go of old ways of doing things and initiating relationship for new ones. The third phase, refreezing, involves reinforcing the changes made so that

the new ways of behaving become stabilised. If people perceive the change to be working in their favour, positive results will serve as reinforcement. If they perceive the change as not working in their favour, it may be necessary for managers to use external reinforcement which can be positive or negative (Cumming and Worley,1993)

Leavitt (1964) took an integrated view of four internal dimension of organisation concerning change: task, structure, people and technology. Each factor is linked with the others and all factors together provide a total view of internal elements of an organisation, which can change and effect the organisational effectiveness. Leavitt (1964) defines technology as the technical tools for problem solving that include computer, automation and operation research techniques. People refer to the members of the organisation, which is more likely to affect the behavioural dimension. Changing the organisation's structure involves system of communication, organisational hierarchy and workflow. Internal change must emphasise changes in structure, technology and people with improved task solution serving as a common goal for the three factors (Leavitt, 1964). The four factors are integrated so that changes in one variable are likely to cause changes in the others. In discussing organisational change, Leavitt assumes that internal change is a function of altering one or more of these factors which in turn will create change in the others (Leontiades, 1980).

People are an asset to the organisation. In order to manage change effectively, it is very important to understand the actors in the organisation. According to Grinell (1994), many organisations do not know how to effectively manage and utilise their

people. Grinell adds, that understanding the human system means learning a new kind of logic called "psychology". This supports that people are an important asset to the organisation and therefore need to be dealt with using a conceptual approach. It will not be adequate to just tackle the technical issues and administrative problem in managing an organisation anymore.

Managing change involves the need to influence people. Empathy, sensitivity to employees needs and differences and the struggle to understand them and to communicate in an intelligible fashion are essential (March, 1991). The human relation school of thought focuses on the effects that the members of an organisation have on all aspects of its operation. The human resources which influences and control the utilisation of other production resources in the organisation's system of operations. The social scientist sees the organisation as a system of interacting and interdependent human beings (inter group) who shape and determine how the organisation's task is defined and executed in relation to the organisation's goal. The Hawthorn studies of Elton Mayo (1933) were the first significant piece of evidence to show that work performance depends to a large extent on acceptable social relationship being established between levels of management, supervision and the workforce. When introducing a change, recognition must be given to informal norms, values, attitude and work groups (Sathe,1983)

An important consideration when implementing a change such as the application and use of new technology in an organisation, is the ability of management to put an effect on various administrative, procedural and operational control systems at their disposal. Increase in either task variability or plant automation necessitates more



extensive two way communication between individuals involved in the work process. This is because it either reduces the length of any single production run or because any breakdown in the automated process requires immediate problem solving. Impersonal controls such as performance reports and formal rules and operational procedures are rendered inadequate in this circumstances. Instead the organisation must design smaller work units, facilitate face to face interaction , problem solving and joint decision making (Tracy and Azumi, 1976; Hastings, 1993). In large organisations, unit effectiveness increases with increased delegation in terms of efficient performance, initiation of work improvement and co-ordinating operation and achieving work reliability(Mahoney et al., 1972).

Grundig (1994) said that a key feature of successful change is the ability to block out disturbance by using communication as a vehicle for learning. Communication does not just flow downwards from superior to subordinate, it flows up, down and across and in order to cope with the communication problems raised by increased openness in individual and group relationship, management will need to acquire a more highly developed 'interpersonal competence' (Argyris, 1962). One of the major task management, says Mayo (1949) 'must be that of organising team work, that is to say of developing and sustaining co-operation'; and management succeeds or fails to the extent that it is accepted by members of the organisation as having authority over them and possessing leadership qualities.

Leadership is a key to managing organisation in periods of change and crisis and thus, is important to all those working within the organisation (Hersey and Blanchard, 1988). In Gouldner's (1955), study of a gypsum factory the previous manager had

indulged in loose, almost indulgent practises with regard to rule observance and other working practises and procedures. There was no orientation towards costs and improving. The enforcement of more stringent rules and code of conduct removed the privileges and rewards people had secured under old system. The studies of Gouldner (1955) and Guest (1962) highlight how change in style of leadership can influence the effectiveness of change. They highlighted the dysfunctional nature and character of an autocratic system of management in creating tension and divisions between managers and the work force, which are reflected in the high production cost, poor quality of output and labour grievance.

In Guest's study of motorcar factory experiencing these problems, the unsuccessful manager attempted to increase productivity by close supervision, but his successor decided to use more personal contacts with his subordinates and bring them into decision making process and this improved performance level significantly. Patchen (1989) found that supervisors who obtained rewards for the subordinates, such as pay rises, promotion and changes in work schedules, or successfully defended them on disciplinary charges, were instrumental in high performance among work group. Bowers and Seashore (1966) in a study of forty insurance agents found that effective supervisors not only provided support but also stressed the achievement of work group goals and facilitated interaction among group members. In all these studies change in style of leadership did influence the productivity and satisfaction of employees.

Judson (1990) identified three characteristics that are necessary conditions for effective change. These conditions are awareness, capability and inclusion. For change

to be successful those involved must understand the change, its objective, their role and so on. People need to understand the new system if they are to understand their own part in it. Information must be shared if people are to judge the impact of changes upon themselves and upon 'their' job (Carnall, 1990). Commitment to the job and one's colleague is said to be significant to the performance of the organisation under certain kind of technology and is possible only if people have certain personality characteristics needed to adapt to a certain alienating work conditions (Aronoff, 1967; Blauner, 1964; Fullan, 1970; Rouseau, 1977).

At a time of increasing change and uncertainty, flexibility and adaptability are more likely to be achieved by organisation which recognises that every member has individual and social needs which have to be considered when work pattern changes, and which indeed contributes to the emerging pattern. Thirst and Bamforth (1951) clearly showed the adverse effect of imposing mechanised mass production techniques of retrieving coal on a traditionally organised work force. Decreased satisfaction and performance followed the introduction of technology innovation in mining operations. Similar results were found in a case study by Lynton and Harriet (1960) in Gopal Cotton Mills Limited. Although the working condition improved after the replacement of the existing loom with automatic looms, workers were not happy and productivity was low, because improvements disturbed the existing patterns of social relationship among the employees.

There may be a conflict of interest which arises when technical innovation calls for change in working arrangement which breaks down previously established social ties (Trist and Bamforth, 1951; Rice, 1958). The opposition of work groups and

individuals to change in their role and responsibility may evoke anxiety and concern about the threat and loss of privileges and status between one work force (craft) and another (Sayles, 1958). In order to explain the behaviour of people it is necessary to look at the controls over individual behaviour, namely technological, administrative, economic, quasi legal and organisational within the system of operation (Crozier, 1964; Glegg, 1975; Georgio, 1973; Lawler, 1976; Rice 1963; Woodward, 1970). The behaviour of individuals and work behaviour of workers in relation to output is seen as a resultant of the interplay of human forces, with the changing controls exercised by the task, technology, structure and environment of that organisation.

Relationship between individuals in an organisation can encourage the sharing of certain dominant values and norms about working condition and pay which are contrary to the management's own goal. Those management who wish to introduce changes in working practices and procedures may be resisted or opposed by a work force which believes that the changes envisaged do not appear to be in their best interest (Brooks, 1980).

Introducing and implementing a change seldom leads immediately to the desired results because people often require time to learn how to behave differently (Groves, 1992). Changes involves uncertainty for people and arouse feeling of insecurity which they see as a threat to them, and consequently individuals and work groups try to prevent or resist it. Groups will have adopted work patterns, which have become accepted, and which nobody may want changed. It is these customs and practices and probably not the job, that threatens (Brooks, 1980). Disruptive changes in the workflow which undermine the predictability and maintenance of a smooth and

trouble free system of operation are the major sources of low morale, stress and destructive emotional reactions (Beynon,1973; Katz and Kahn, 1966).

Resistance to change occurs at all levels of an organisation. It manifests itself as organisational politics and power struggles between individuals and groups, differing perception of the need for change and so on (Pettigrew, 1985). Kotter and Schlesinger (1979) proposed that managers could use several tactics to reduce resistance to change. This include education and communication, participation and empowerment, facilitation, bargaining and negotiation, manipulation and coercion. Argyris (1990) stated that to incorporate successful change managers must be committed and skilled in handling change, facilitate communication and encourage employee participation in implementing change.

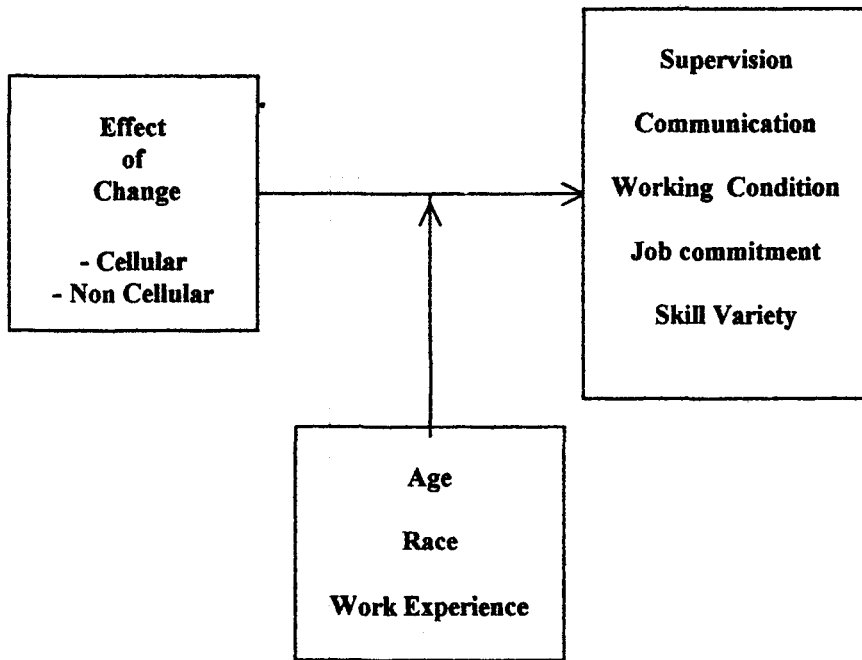
It has to be realised that bringing about major changes in an organisation is a difficult task. As has been mentioned earlier organisation is a system that is composed of interdependent parts where change in one of its element will result in change in other parts of the system. So it seems that the successful management of such organisational change is often directly related to an organisation ability to create an environment that empowers and challenges its employees to change and improve their performance continually (Carnall, 1995).

## **2.2 Theoretical Framework**

Figure 2.1 presents the theoretical framework for this study in which change, has been isolated as the independent variable. The dependent variable has been clustered in two categories and they are: -

- i) **Organisational factors**
- **Communication**
  - **Working Condition**
  - **Supervision**

- ii) **Job Factors**
- **Job commitment**
  - **Skill Variety**



**Figure 2.1 : Theoretical Framework**

Although there are many other organisational factors and job factors but only the above mentioned variables have been included because of their significance, importance and easily measurability.

### **2.3 Research Hypothesis**

From the theoretical framework discussed above, the following hypothesis are proposed.

- H1: The employees in the department where the change was introduced would perceive to have higher job commitment compared to the employees in the

other department.

- H2: The relationship with the supervisor in the department where change was introduced has improved compared to the other department.
- H3: The employees in the department where the change was introduced perceive to have higher skill variety compared to the employees in the other department.
- H4: The department where change was introduced is perceived to have a better working condition compared to the other department.
- H5: The frequency of communication in the department where change was introduced is perceived to be better compared to the other department.
- H6: The relationship between change and the above organisational and job factors would be moderated by age, race and work experience.

## Chapter 3

# METHODOLOGY

### 3.1 Sampling

Data was collected from one organisation where cellular manufacturing was introduced in its manufacturing plant recently. Data was collected from a convenient sample of employees. The target respondents are production operators. The employees who were studied were from two different departments – the existing line and where the change (cellular manufacturing) was introduced.

### 3.2 Questionnaire

Questionnaire was used to collect the data. This instrument was used because it has been adopted frequently in organisational behaviour studies. The questionnaire is aimed at investigating the organisational and job factors. The questionnaire was in both English and Bahasa Malaysia since the respondents might have a limitation in their ability to understand the English language.

A pilot test was conducted by distributing preliminary questionnaire to ten workers.

Their feedback on the questionnaire was used as indicator as to whether or not the instructions, language and design of the questionnaire were clearly understood by them. Based on their feedback some changes in the questionnaire were made. The final version of the questionnaire is presented in Appendix 1.

The responses were measured by using a 6-point Likert type scalar ranging from

1) Strongly Disagree to 6) Strongly Agree. The second part sought demographic



information on age, race, experience and salary.

### **3.2.1 Job Commitment**

Eight question (Q1 - 8) were specifically designed to measure job commitment. Five questions were positively worded and three were negatively worded. These questions showed face validity, which further reinforced by the judgements of the colleagues.

### **3.2.2 Supervision**

The next nine questions (Q9 - 17) were designed to test the relationship between the employee and his/her supervisor. The questions were adapted from Jones and James (1979) and Bowers and Seashore (1966).

### **3.2.3 Skill Variety**

Questions 18 - 25 were used to measure skill variety. Three questions were adapted from Hackman and Oldham (1980), Job Diagnostic Survey, and rewritten to suit the respondent's understanding.

### **3.2.4 Working Condition**

The next eight question (Q26 - 33) were aimed at investigating the immediate work environment. Half of the questions were negatively worded. Some of the questions were based on past MBA student's questionnaire (Cheah, 1995).

### **3.2.5 Communication**

The last eight questions were presented to measure the level of communication in the department. Some of the questions were based on past MBA student's questionnaire

(Cheah, 1995).

### 3.3 Administration of Questionnaires

A total of 160 questionnaire were distributed to the workers in the two departments. They were given a day to complete the questionnaire and return them. Out of the 160 questionnaire sent, 140 completed questionnaire were returned - 72 was from Department 1 (cellular) and 68 from Department 2 (non-cellular). This gives a response rate of 87.5%. Table 3.1 presents the response rate.

Table 3.1  
Response Rate

Department	Sent out	Returned	
	Number	Number	%
Cellular	80	72	90.0
Non cellular	80	68	85.0
Total	160	140	87.5

### 3.4 Statistical Methods

The data was analysed utilising the SPSS Program. First Cronbach's Alpha Coefficients were calculated to determine the reliability of the measures used. Then, t-test were used to test whether there are any significant difference between the two departments. Finally, 2 Way ANOVA was used to test the effect of the moderating variables.

## Chapter 4

### RESULTS OF THE STUDY

This chapter presents the profile of sample and the results of the study.

#### 4.1 Respondent's Profile

The profile of the respondents is presented in Table 4.1

Table 4.1  
Profile of the Sample

Factors	Cellular (N=63)	Non cellular (N=67)	Total (N=130)
Age			
M	25.16	24.09	25.09
SD	4.10	4.16	4.24
Work Experience			
M	6.6	3.8	5.2
SD	3.55	3.09	3.60
Race			
Malay	55.56%	64.18%	60%
Non Malay	44.44%	35.82%	40%

N= Number of cases

M= Average

SD= Standard Deviation estimate

Based on the data presented in the Table 4.1 the following statements could be made about the sample.

- (a) The average age of employees in cellular department is slightly higher (25.16) compared to employees in non cellular (24.09). The standard deviation are 4.10 and 4.16 respectively.
- (b) The average working experience of employees in cellular is 6.6 years with a standard deviation of 3.55 years, where else the average work experience of employees in non cellular is 3.8 years with a standard deviation of 3.09 years.

(c) Malays were the major respondent for this study and they made up 55.56% in cellular and 64.18% in non cellular. The non Malays category was represented by Chinese, Indian and others. They made up 44.44% in cellular and 35.82% in non cellular.

## 4.2 Reliability of Measures

Table 4.2 presents the Cronbach Alpha values for all measures in the questionnaire in this study. In the process of checking the reliability of the data, some items that were not correlated with the dimension measured were dropped from the list.

Table 4.2.  
Cronbach Alpha

VARIABLE	TOTAL NO. OF ITEM	NO. OF ITEM DELETED	CRONBACH ALPHA
Job Commitment	8	1	0.7179
Supervision	9	1	0.8046
Skill Variety	8	2	0.6437
Working Condition	8	1	0.6186
Communication	8	1	0.6802

Job commitment was measured by 8 items. The value of Cronbach Alpha was found to be 0.684, which improved after one item, Question 7, was dropped to 0.718. The individual scores on the remaining 7 items were added to get a single score on commitment which ranged from 7 – 42.

Supervision was measured by 9 items. The value of Cronbach Alpha was found to be 0.738. The value was further improved to 0.805 after one item, Question 13 was dropped.

The individual scores on the remaining 8 items were added to get a single score on commitment which ranged from 8 – 48.

Skill variety was measured by 8 items. The value of Cronbach Alpha was found to 0.524, which improved after 2 items, Question 18 and 24 were dropped to 0.644. The individual scores on the remaining 6 items were added to get a single score on commitment which ranged from 6 - 36.

Working condition was measured by 8 items. The value of Cronbach Alpha was found to be 0.557, which improved to 0.619 when 1 item, Question 33 was dropped. The individual scores on the remaining 7 items were added to get a single score on commitment which ranged from 7 – 42.

Communication was measured by 8 items. The value of Cronbach Alpha was found to be 0.601, which improved after 1 item, Question 40 was dropped to 0.680. The individual scores on the remaining 7 items were added to get a single score on commitment which ranged from 7 – 42.

The Cronbach Alpha (above 0.6) indicates a reasonable internal consistency/reliability of the items measuring the variables in this study.

#### **4.3 Test of Differences**

In order to compare the differences between the samples, independent t-test were used. The results are presented in table 4.3

Table 4.3  
Differences in Means

Factors	Cellular			Non Cellular			t-value
	N	M	SD	N	M	SD	
Job Commitment	63	28.37	4.23	63	27.90	5.84	0.51
Supervision	61	30.28	7.15	65	30.72	7.18	0.35
Skill Variety	56	24.39	5.26	63	24.30	4.40	0.10
Working Condition	63	23.63	4.57	65	25.20	4.33	1.99*
Communication	61	26.71	5.82	67	27.87	5.39	1.17

\*  $p < 0.05$

#### 4.3.1 Test of Hypothesis 1

Hypothesis 1 stated that the employees in the department where change was introduced would perceive to have a higher job commitment compared to the employees in the other department. The results of t-test show no significant differences between the two samples in terms of job commitment. Hence this hypothesis is rejected.

#### 4.3.2 Test of Hypothesis 2

Hypothesis 2 stated that the relationship with the supervisor in the department where change was introduced has improved compared to the other department.

The results of t-test show no significant differences between the two samples in terms of supervision. Hence this hypothesis is rejected.

### **4.3.3 Test of Hypothesis 3**

Hypothesis 3 stated that the employees in the department where change was introduced perceive to have a higher skill variety compared to the employees in the other department. The results of t-test show no significant differences between the two sample in terms of skill variety. Hence this hypothesis is rejected.

### **4.3.4 Test of Hypothesis 4**

Hypotheses 4 stated that the department where change was introduced is perceived to have better working condition compared to the other department. The results of t-test show a significant differences between means on working condition of the two samples. ( $t=1.99$ ;  $df=126$ ;  $p < .05$ )

### **4.3.5 Test of Hypothesis 5**

Hypothesis 5 stated that the frequency of communication in the department where change was introduced is perceived to be better compared to the other department. The results of t-test show no significant differences between the two sample in terms of communication. Hence this hypothesis is rejected.

## **4.4 Test for Moderating Variables.**

Two Way Analysis of Variances were conducted to see if some of the demographic variables moderate the relationship between the independent variable and the dependent variables. For work experience and age, average was used to classify the sample in two categories (below and above average). An average is the descriptive of a sample obtained at a particular time in a particular way. It also describes indirectly but with some accuracy, the population from which the sample was drawn. It is only