Decision making and problem solving for christchurch international airline

Environment, Air

Introduction

Human beings are known to make decisions virtually every day which produces certain outcomes. The decisions vary from situation to situation and institutions or organizations. Decision making is about deciding what action to implement, which usually involves several options (Adair 1999). The classical five step approach which are define the objective, collect the relevant information, generate feasible options, make the decision , implementation and evaluation. (Adair 1999). The case of an Airlines response to natural disaster (earthquake) alongside how decision was made or the problem solved is the main aim of this paper. Addressing the problem from the earthquake however, demands efforts aimed towards progression or attainment of a specific goal. The overall aim of the paper is to present the case of decision making and problem solving as defined by the occurrence of 4th of September 2010 in New Zealand that affected some airlines.

Background -Christ Church International Airways Limited

Christ Church International Airways Limited (CIAL) was the first international airport in New Zealand in 1950 (christchurchairport. co. nz). From a domestic operating airline, CIAL extended its services to international flights with several developments following.

CIAL’s corporate missions and objectives are to deliver sustainable growth in revenue and earnings, deliver superior customer service, provide fit for service infrastructure with flexibility that paves way for future growth,

provide an environment conducive for staff effective performance , operate in a sustainable manner and gaining recognition as a positive contributor to the community (christchurchairport. co. nz).

Context of organizational problem

Airlines around Cantebury and Christchurch area were hit by an earthquake on the 4th of September at 4. 35 am. The Christchurch airline was closed until 10 am Sunday, 5th of September morning. The CEO , Jim Boult and other senior management staffs are expected to make a decision in solving the problem posed by the earthquake(christchurchairport. co. nz). In this situation , he is expected to mobilize the entire staffs in the organization.

The immediate problem posed by the earthquake demands a spontaneous decision or problem to be solved aimed at :

Ensuring the safety of the passengers or customers, the runways and buildings.

Assure the general public and stakeholders of the continuity of the company.

Ensure a rapt response towards the repair of the runways and other infrastructure damaged by the earthquake

Ensure quick resumption of flights amidst fears and uncertainties, reschedule booked flights .

Ensure that there is stability in the number of travelling customers

Ensuring that all departments are involved and soliciting for help from other airlines that are unaffected by the earthquake.

The situation above reiterates at first the position of Adair (1999) and Rayment (2001) which advocates for a systematic and logical process . The application of logical or systematic processes has its deficiencies, so soft system and intuitive approaches such as lateral thinking and mind games might be crucial (Rayment 2001). Challenging specific assumptions that were considered in solving the problem , flexible thinking and unconventional approaches , suspending judgement are considered in this approach and are mostly crucial in developing new ways of thinking(Rayment 2001; Hicks 2004).

The problem posed by the earthquake infers that there would be certain organizational changes; meaning that certain departments would have to perform additional duties or responsibilities . The situation brings up an organizational change aimed towards new responsibilities and future tasks aimed at been prepared for uncertainties.

Decision Making in organizations is mostly done within teams or group decision making and expertise based intuition takes a major role (Salas et al 2010; Chong &Benli 2005). The crucial aspects in decision making according to (Daellanbach &McNickle 2005 p. 17) fits perfectly with the unexpected situation of the earthquake which limited service delivery (Daellanbach &McNickle 2005 p. 17). Identifying the desirable outcomes and undesirable outcomes of choices and eliminating unfavourable choices or outcomes

alongside counterintuitive outcomes. Determining the stages of decision making is crucial at this stage.

Organizational approach to problem solving- Christ Church International Airways Limited

Adair(1999, p. 38) submitted that the perception of problem solving or decision making is an exclusive reserve of leaders. He disclosed diverse ways in which a problem can be solved or decision can be taken.

Fig 1: Organization chart

Table 1: Managerial staffs involved in the Earthquake stability Scheme

Commercial

Non-commercial

Manager Commercial Analysis

Manager Airport facilities /project director

Financial Controller , Manager communication.

Manager quality and security, Manager Land transport, Chief fire officer

Financial Accountant

Manager Air side operation and safety

Data Analyst

Manager Aeronautical Analysis and development

The situation of the airline as depicted by the six point problems that demands a rapt decision making and solution; alternatively brings to fore the urgency. At this stage, a short meeting is called by the CEO (Jim Boult) in response to the problems emanating from the natural disaster, the ultimate question is what to do next?

The approach adopted by the managerial staff represented by Table 1 and Fig 1 is the classic decision making approach which are ; define the objective , collect relevant information, generate feasible option, make the decision, implement and evaluation. From this perspective comes the crucial variable which Frishammar (2003) depicted as information, at this point what seems to be the urgent source of alarm is safety, risks and ensuring continuity. The questions reiterated by Frishammar (2003) are why is information used? What kind of information does management require or need? How do they obtain it? Where do they obtain it? This was crucial in the decision making process. The steps or processes identified above towards decision making aligns with the perspective of (Rayment 2001) morphological and mind problem and decision making analysis.

From the classical decision making approach, the managerial staff discussed the objective , been the six point resolution. The collection of relevant information which includes gathering of information related to risk , loss, injured clients or personnel, damages to runways and infrastructure , passengers involved in delayed or rescheduled flights. In this process the non commercial managers disclosed in table 1 were mainly involved (www. christchurchairport. co. nz).

The generation of feasible options is based on the identification of the problem (six point problem) and the information gathered. From this three major decisions are made which are the safety of customers and security of the airport premise, possible repair of runways , mobilizing junior workers towards coordinating flight schedules and missed flights prior to the re-opening of the airline(www. christchurchairport. co. nz). The latter has to do with ensuring stability in terms of passengers flying with the airline after the natural disaster.

Gore et al (2006, p. 927) posits that the feasible options from the Natural Decision Making model perspective or the feasible options are based on four crucial factors which are ; the characteristics of the task and setting , the nature of the research participants (which in these situation are the people gathering the information) , the intention of the research and the point of interest within the decision period.

Success or failures of approaches

Based on the decisions taken and the 3 major point of emphasis , the airlines major decision and its implementation yielded a positive result as disclosed in the website of the airline. Fig 2 presents the evidence of the decisions taken as it help in maintaining a steady return to the number of people flying with the airline.

Fig 2: rise in total passenger movements before and after the earthquake

Source : www. christchurchairport. co. nz/content

Fig 2 shows how drastically the number of passengers dropped during the 4th of September 2010 with a significant drop to only five thousand passengers. However after the incident a general progression can be seen as disclosed in Fig 2.

The outcome of the decision taking however reiterates the position of Kourdi (2003, p. 65)that the significance of decisions taken are inversely proportional to the number that they make; succinctly the senior managers in this respect only highlighted few important options that matters.

The success of the decision taken from the perspective (Heikkila & Isset 2004, p. 14; Baron 2000) of inter organizational coordination which is aimed at meeting the major demands posed by the problem. The foregoing can be related to Rausch (1996) submission that participative decision making which involves senior managers and other subordinates facilitates decision making and eventually produces a successful outcome.

From the theoretical submission to the practical results gained from the decisions taken by the airline, a combination of elements such as the composition of decision makers , coordination and communication could explain the reasons for the success attained after the natural disaster.

The degree of success after implementing the strategic choices (which are three fold) is clearly disclosed in the media archive of the airline. Other International airports praised the airport for its swift response to resolving the problem posed by the earthquake (www. christchurchairport. co. nz)

The approach explored by the airline which is mainly a classical model of decision making eventually reached the primary target which is firmly disclosed in Fig 2. The impact of the communication alongside interdepartmental coordination after the 4th of September could be linked to the Institutional Model decision making, which according to Heikkila & Isset (2004, p. 9) which is subject to assessment, initial choices, exogenous factors, endogenous factors , operational choices, collective adjustment , and stability.

Performance after the earthquake from fig 2 shows that the total numbers of passengers was fluctuating. For instance, the 4th of September witnessed a drastic fall of 5, 000 passengers, the next day was close to 20, 000 while the 6th of September , 15, 000 and the 7th and 8th of September was below 15, 000 passengers(www. christchurchairport. co. nz).

The situation represented here, however suggest that the decision taken were meant for temporary periods. The data indicates that the approach used for CIAL is not sustainable, that variations of other processes or models can be explored. The most important aspect of measuring the success aligns with the financial report of 2010, which still showed the year as the one with the highest success in the history of the airline.

Critical analysis of approaches and alternative models discourse

Having examined the airline case and the specific process through which the problem was solved and decision was taken, it is crucial to evaluate other theories or models with the decision making process or the way the problem

was solved . The application of classical decision making theories by the management board aligns with the limited period and urgency demanding a rapt response.

Hicks (2004) categorises the classical approach as a hard system methodological way of dealing with problem solving and decision making. In the same vein, he recognized that in the dynamic business environment, there is not a single best way of decision making or problem solving, but varieties with strategic decision making and problem solving becoming imminent. The most crucial part of his submission relates with how creativity enhances decision making and problem solving processes which is classified in the hard approaches to decision making and problem solving (TRIZ , potential problem analysis, Osborne-Parnes Creative Problem Solving Process, group problem solving).

In a similar context to the argument over the best way of decision making or problem solving , is the digression to system methodologies, which could be represented by either hard or soft system methodologies. Wang & Ahmed (2004, p. 1284) posited that understanding the organization as a system made of component parts but organized and connected ; which means a particular component can’t survive without the other.

Fig : Hard and soft system methodology

Source : Wang & Ahmed 2004, p. 1286

Distinguishing between a hard and soft system depends on the elements of a system which differentiates it from either utilizing hard or soft system

methodologies. Hard system however focuses basically on the hard structural components alongside the relationship between these components, with a great emphasis on the organization as an interacting system (Wang & Ahmed 2004, p. 1284) . The soft system methodology however emphasises more on the underterministic , behavioural , pluralistic and deontological elements of a system. The hard system methodology however is deterministic , rational, unitary and teleological which implies that hard systems methodology have a well defined problem which means the problem can be determined. The soft system methodology however with ill defined problems , allow for investigations or inquiry and uncertainties at the later stage.

Jennings &Wattam (1998) and Robinson (2001) with Hicks (2004) emphasised the modernity of creative problem solving models ; which are based on how contemporary organizations respond to problems and creative decision making. Morphological analysis is one of the techniques they solicited for, which is similar to the submission of (Rayment 2001) which emphasises creative thinking and idea generation. Systems theory is another, which has been disclosed earlier featuring hard and soft methodologies. However, unlike (Rayment 2001 and Robinson 2001) , Jennings &Wattam (1998) submitted that morphological analysis involves certain techniques like voting, clustering, hurdles, weighting methods and gut feel techniques. With numerous models and theories, the question remains which one can be used in certain situations and why are they used, and do they produce significant outcomes?

The case of the airline specifically indicated that the classical approach was applied, so at this point a critical appraisal of the models or theories would be worthwhile.

Critical Appraisal and comparison

From the positives of the approach or model adopted by the senior managers of the airline, one can ultimately subscribe to the submissions of (McFadzean 1996) that a substantial part of a managers time is utilized on problem solving and decision making, with some problems well structured, common and quantitative, ill defined or unique or qualitative. From that perspective, what is then the deficiency of adopting a classical approach?

The classical approach at first can be perceived from the cognitive processing perspective which O'Loughlin and Mcfadzean (1999) submits prompts the managers to respond spontaneously to the information presented at first and later to more information provided. The basis of the cognitive processing alignment with the classical approach basically stems from the rational perspective. The rational perspective to decision making or problem solving could be linked to the classical approach and models or theoretical aspects engaging in qualitative analysis of a specific situation.

Faulting the classical approach to decision making and problem solving as depicted by Lee et al (1999, p. 18) that decision makers act as if they live in a world of complete certainty. This is contrary to the dynamic business environment situation which is filled with uncertainties. This complies with the assumption that decision makers are objective, they possess complete

information and examine all likely alternatives alongside their consequences before coming to a suitable conclusion (Huczynski &Buchanan 2001, p. 738).

Robbins (2003) further disclosed that the classical model of decision making cannot fully depict the process through which decisions are taken in organizations because they do not have accurate data or information or perhaps quantitative elements such as probabilities and weights. In comparison to the classical approach adopted by the airline, the departmental staffs responsible for gathering the information needed can be used as a source of debunking the claim that the quantitative elements are not involved in the analysis aimed towards decision making or problem solving.

Robbins (2003) however critically submitted that considering the level of complexity involved in organizational decision making and problem solving, it can be inferred that the classical decision making model does not fully represent the way or approach decision making is taken in organizations. His argument can be analysed as his position was basically extended from individual decision making to group decision making. The individual perspective of decision making can be faulted from the position that accurate data’s are not gathered to make decisions , and also the reliability of estimates of the probabilities and how they would be useful to solve the problem . The twist to this argument however stems from the consideration of group decision making or corporate organization decision making, though deficiencies might exist, one can still argue that group decision making considers risks which might affect corporate goals.

Based on the deficiencies accredited to classical decision making and problem solving; a model with more quantitative analysis such as Multi Attribute Utility model , Osborne-Parnes Creative Problem Solving Process, Situation Appraisal – Kepner-Tregoe can be applied.

Alternative decision making model

If classical decision making is regarded as deficient, then what other models would have done better or achieved a higher level of result? Three decision making models would be considered; Osborne-Parnes Creative Problem Solving Process , ASK SIRL decision making model and Multi Attribute Utility model .

The Osborne Parnes Creative Problem solving process synonymously termed as mess finding can also be adopted by the airline considering the short time needed to make a decision or solve the six point problems (Hicks 2004, p. 177). The first part referred to as mess finding is objective finding, which is followed by fact finding, problem finding, idea finding, solution finding (idea evaluation) and acceptance finding (idea implementation). The situation of the airport however cannot be fully considered as an innovation centred problem, rather it can be referred to as a problem demanding stability and safety. So why the Osborne Parnes Creative Problem solving process? Why is it different from the classical model of decision making?

Another examination of the Osborne Parnes Creative Problem solving process reveals that the steps to be taken are clear enough and could surpass mere individual decision making level. Hartmann&Patrickson(1998)

believes that today’s business environment is characterised by dynamism and as such immediate responses are needed to certain organizational problem. This reflects the situation of the airline, which as mentioned earlier is a situation demanding urgent stability and quality management. Nevis et al (1995) indicates that decision making strategies should be based on logical handling of information and the use of problem solving and decision making techniques that could measure the means of certain alternatives and choices.

The mess finding step however could be applied to identify a specific situation that presents a challenge ; which in this case is ensuring the safety of passengers and personnel’s and stability of the airline. Data finding, refers to getting the facts related to the situation or which might hinder the operations of the airline. Problem finding stems from the information gathered which states what needs to be done urgently , while idea finding and solution finding is the decision making process. Implementation of the solution is based on the acceptance finding phase.

At this stage , quantitative minded analyst would firmly criticise the model, but the same model also under the solution finding step, affords that both convergent thinking and divergent thinking is utilized(Daellenbach 1994). This requires implementing a 3 point scale to weight the ideas which means 3 is the highest and the comparison of each choice against another produces the best decision making choice. The weighing option in the classical approach is absent and as such does not reveal what alternatives the managers have and why they chose a particular choice.

The ASK SIRL decision making model as depicted by the table below;

Table 2: ASK SIRL decision making model

A

Appreciate

that there is a problem

S

Specify

its nature and scope

K

Causes

identification thereof

S

Solutions

generation and selection

I

Implement

chosen programmes

R

Review

whether the problem has been solved

L

Learn

how to avoid repetition

Source : Rayment 2001

From the perspective of Rayment (2001) the basic focus of this model as it relates to business decisions tends to be on the last phase in the model ‘ SIRL’- the phase with the selection , implementation and reviewing solutions while the ‘ ASK’ part can be perceived as overemphasised by other models or theories. Totally neglecting the first phase (ASK) although would be a blunder and might affect the outcome. However, in previous models, similar fact finding phases have been overemphasised. In the case of the airline, the ‘ SIRL’ phase can be all rounded up as a process of learning or organizational learning, which is futuristic (in case such happens again in future, a knowledge of how to deal with it).

Sinofsky and Iansti (2010) however submitted that the application of a systematic, logical approach to decision making or problem solving mostly has its weakness as such soft system and intuitive approaches like mind games , games theory , utility theory are crucial in challenging assumptions or unconventional approaches in the process of decision making.

Collins et al (2006, p. 432) and Lock and Thomas (2007) opines that the Multi Attribute Utility Theory (MAUT) is a mathematical model that evaluates trade-off issues which are associated with risks and benefits of considering multiple alternatives in decision making process. MAUT also provides a comprehensive set of both quantitative and qualitative approaches to substantiate between alternatives , as well as range of consequences of particular alternatives , just as probability theory does for uncertainties. The quantitative technique in this approach utilizes an arbitrary measures called

utiles -with the utiles value range from a low of 0 to 1, while 0 represents the worst case or worst alternative, while 1 is the best case. In line with the airlines problem, issues such as what choice to take can be derived with MAUT depending on the level of information that is available from different variables. Apart from the limited time in the case of the airline, one can favourably say that the MAUT would have stood as the best model to use, considering its advantage of been a quantitative tool as well as qualitative tool.

Despite the positives of the MAUT , one of the deficiencies is the limitation of time, as gathering variables and information that would be used in the process is not revealed, the effect of simulated or probability based data's is questionable.

New theoretical models have been developed which move from the traditional way of thinking or making decision to more socio-cultural, institutional perspective which consider interdependent sets of variables in comprehending problems (Heikkila & Isset 2004). Theoretical models such as system methodologies, Naturalistic decision making , institutional theories, IBM ILOG, cognitive model of moral decision making to mention but a few. The qualitative scope of the case study however addresses crucial elements needed by the managers.

Conclusion

Considering the qualitative perspective adopted by the case study. The concept of learning in organization is as crucial as quality management,

efficiency and competitiveness is for stability or continuity of an organization.

Traditional models have been able to explain what areas to focus on in decision making, while the new models especially the quantitative models have been able to clarify and analyse situations based on numerical, mathematical and qualitative basis. The crucial point in this case, is the pressure to respond to certain situations with flexibility and urgency or perhaps a spontaneous solution to problems. In this case study, the mobilization and coordination of the staffs and managers was crucial in within a short time and decision making or problem solving also demanded rapt response.

Approaches such as the hard and soft system methodologies and the Multi Attribute Utility Theory appears to be a more concrete approach towards decision making and problem solving. The soft and hard systems methodologies address both the quantitative and qualitative aspects of decision making or problem solving, while the Multi Attribute Utility Theory is of the same perspective (Wisniewski 2005).

The organization (airline) considered has continued to improve in performance after the natural incident (the earthquake). The financial report disclose that 2010 is a remarkable year in the history of the company as profits soared, awards and recognition was accredited to some of the managerial staff by external bodies or institutions.

The module from a personal perspective has imbibed a logical , analytical approach of considering situations and problems. Making a choice from the traditional or classical approach might seem simple but in organizations no matter what approach is involved, more analysis and critical or quantitative reasoning and analysis is required.

Another crucial element observed in the process of research , is the communication with the public, in the sense of customer relationship management or customer feedback. In 2009, customers offered their view concerning the expansion of the retail expansion underway. This implies that contemporary business engages in communication with its customers before deciding what is marketable or profitable.