

The decision-making dimension of the systems approach to management

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Abstract: Theoretically, a system is anything that is made up of various parts. These parts are known as subsystems. At every point in time, these parts should work in harmony so that objectives could be achieved successfully. A system could be inanimate or animate item. Examples of inanimate systems include vehicles, households, computer and institution. Examples of animate systems are human being, animal and insect. Both inanimate and animate systems are made up of various subsystems. Such subsystems are required to co-operate, collaborate and work together so that set objectives could be achieved successfully. From practical managerial point of view, business organizations are equally systems that are made up of subsystems which may take the form of departments, sections and/or units. There is supposed to be collaboration among the managers and other members in these departments, sections and/or units so that organizational objectives could be achieved successfully. All the managers in various departments, sections and/or units are required to work together as a team to make the system coherent and closely-knit to make disintegration impossible. Closely related to the systems approach to management is managerial decision-making. Decision-making is a very important function of every manager's job. The success and failure stories of many organizations are the result of the quality of decisions made. Many organizations have survived turbulent conditions. Others have also collapsed in spite of favourable conditions. These varying conditions are the result of the quality of decisions made by managers at positions of authority and responsibility. Therefore the systems approach to management enjoins top managers in particular to be very circumspect and cautious in certain decision-making activities. This is because, the quality of decision a manager makes can go a long way to determine the success or failure story of an organization as exemplified in the case study in this paper.

Key words: system; sub-system; synergy; open-system; closed-system; management; decision-making

1. Introduction

“And the two shall become one and inseparable until death separates them.” This statement is often heard at wedding ceremonies when the officiating minister has to consummate the marriage by making both the groom and the bridegroom aware that they are no longer individuals but a “combined and unified whole”. This is the biblical position of Genesis 2:18 which states: The Lord God said, “It is not good for the man to be alone. I will make a helper suitable for him”. Genesis 2:24 also states: “For this reason a man will leave his father and mother and be united to his wife, and they will become one flesh”. This is the core implication of the word “system” since the creation of the heavens and the earth by God. When the marriage is blessed with children, they also become inseparable part of the wholeness of the groom and the bridegroom. However, if the family engages a maidservant, even though she is part of the household, she is not part of the inseparable system being referred to. This is

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because the maidservant is not part of the strong bond of relationship that exists between the spouses and the children. This is the key underlying principle of a “system”. Other interesting dimensions of a system exist in various forms. For example, the governing bodies of a country (parliament, executive and judiciary), the human body (made up of the limbs, senses and metabolism), a company and all its stakeholders, students of a particular academic programme, people of a particular ethnic group, etc.

From the historical perspective, the term system is derived from the Greek work *synistanai* which means “to bring together or combine”. It is said that the word has been used for centuries. It addresses the key underlying principle of oneness and wholeness. It is even said that the concept of specialization takes its root from the word ‘system’ in the sense that a system could be divided into smaller components or subsystems allowing more specialized concentration on each component or subsystem. A more interesting explanation of a system could be approached from the angle of sand and car. A pile of sand is not a system. If you remove a sand particle from the pile, you still have a pile of sand which does not constitute a system. Also, a functioning car is a system. This is because if you remove a part such as the carburetor, the car can no longer function. Similarly, if part of the human body such as the nose becomes dysfunctional, the body as a system equally becomes dysfunctional and inoperative.

From the business perspective, the word “system” is equally important. It is an area where this paper will lay emphasis. Every business organization, either it is sole proprietorship, partnership, company, co-operative society or public corporation has strong characteristics of the systems approach to management. Every business entity could be seen as a system made up of interrelated parts (subsystems) such as departments, sections, units, employees, customers, machines and equipments. People in the system have defined roles and responsibilities to enable them achieve the objectives of the organization. These parts are expected to work in concert and harmony if the business is to achieve its objectives. Many businesses have either failed or collapsed because the element of system which is supposed to bind the business together to achieve the principle of ‘going concern’ is non-existent thus spelling the doom of the business. The principle of ‘going concern’ implies that every business organization will exist in the foreseeable future. The systems principle of management regards management as a team of experts to work as an inseparable body to ensure that all the interrelated parts of a business organization work in a harmonious and coherent whole to achieve organizational objectives. It also draws attention to the dynamic nature of an organization and the management task. Thus, it provides a framework within which a manager can plan actions and anticipate for both immediate and far-reaching consequences while allowing one to understand unanticipated consequences as they develop. With a systems perspective, general managers can more easily maintain a balance between the needs of the various parts of enterprises and the needs and goals of a whole organization.

From the above perspectives, it is obvious that the principle of system has interesting and relevant applications in social, business and other areas of human endeavours. It has to do with single and holistic approach to doing things rather than separation and individualistic approaches which may lead to disintegration.

2. Theoretical framework

According to Stoner et al (1995) and Cite Man Network (2008), a better understanding of the systems approach to management should begin with the understanding of some key concepts and principles such as system, subsystem, synergy, open system, closed system, system boundary, flow and feedback.

2.1 System

System is a collection of interrelated or interdependent parts or activities that function collectively to achieve a purpose or an objective. For example, the human body is a system made up of various parts - limbs, senses, metabolism, etc. A breakdown of a part, such as the eyes, will affect the general functioning of the entire body. There is, therefore, the need for a harmonious working relationship among all the various parts of the human body. The same analysis applies to a business, social and other forms of organizations and institutions. All organizations and institutions are systems with well-defined roles and responsibilities to achieve stated objectives. The classical and pioneering role played by Bertalanffy (1951), a biologist on the concept of system is so significant that any discussion on it should begin with the contribution he made in it. Bertalanffy used the term system in an article published in 1951. He also developed the outline of 'General Systems Theory' addressed in "*Problems of general systems theory: A new approach to the unity of science*" and "*The history and status of general systems theory*". These and other contributions by Bertalanffy have made him a key figure in the field of systems studies. He defined a system as "an organized or complex whole". That is, a system is anything whose parts are intertwined or interwoven to the point that it becomes unworkable when the parts are split apart. It is interesting to note that all definitions by other authorities in the field have the same implication of "interrelated parts" coming together to form a coherent whole to become functional.

The position of Donnelly, et al (1992) is that "a system is a collection of objects united by some form of regular interaction and interdependence". This implies that a system is any object which has various parts. That is any phenomenon which has various parts and these parts at every point in time should combine in appropriate proportions to become functional. They contend that every organization is simply one element in a number of elements that depends on each other. That is, the element of symbiotic relationship exists in the concept of system. This is the underlying principle of organizational departmentalization. Organizations are made up of various parts. These parts may be departments, sections, units or other forms of classifications. All these parts come together to form a coherent whole to enable the organization perform its functions. According to Chacko (1989), the basic concepts of systems theory can help managers simplify and deal with the complex interactions of internal and external environments. In the opinion of Chacko, every system has to internally convert inputs into outputs to be utilized by the external environment. The external environment is equally made up of other systems that would also use the outputs as inputs and in turn convert them into outputs for other systems. This makes input-output conversion cyclical to other systems.

The concept, system has developed into systems approach to management which was promoted by the Tavistock Institute of Human Relations in London. Stoner, et al. contend that "rather than dealing with the various segments of an organization, the systems approach to management views the organization as a unified purposeful system composed of interrelated parts". According to them, this approach gives managers a way of looking at the organization as a whole and as a part of the larger external environment. This implies that managers, no matter what departments they belong, should work in concert towards the achievement of organizational objectives. Managers are required to mesh their departments, sections and/or units with the whole enterprise. Managers must relate to and communicate with their counterparts in other departments, sections and/or units. Under the systems approach to management, managers cannot function wholly within the confines of their traditional organization charts (Tiles, 1963). They must integrate their activities with the overall objectives of the organization. The systems approach to management was developed to reconcile the two opposing views of organization without people (classical) and people without organization (behavioural).

Recent advocates of systems approach to management such as Mullins (2006) also hold the view that more recently, attention has been focused on the analysis of organizations as “systems” with a number of interrelated sub-systems. Schermerhorn, et al. (1995) also states that, because the external environment is very crucial to every system, managers should be alert to external changes. Managers should have sensitive feelers that will help them to scan the environment to be able to detect challenges and deal with them, as and when they emerge. Managers are required to view the organization both as a whole and as part of a larger environment. For example Lever Brothers as a multinational and conglomerate has subsidiaries in many countries including Ghana. This makes Ghana subsidiary a subsystem. Internationally, Ghana subsidiary and others in other countries become subsystems of the international headquarters of Level Brothers International. The same principle applies to Coca Cola International and several others.

2.2 Subsystem

As has already been noted, every system is made up of several interrelated parts. Each part constitutes a subsystem within the bigger system. This is the underlying principle of the Lever Brothers and the Coca Cola examples stated above. If an organization made up of departments, sections and/or units, the units may be subsystems in the sections and the sections may also be subsystems within the departments and the departments may also be subsystems within the entire organization as a bigger system. The entire organization may also be a subsystem within the conglomerate or multinational. The conglomerate may also be a subsystem of an industry, the industry being a subsystem of an economy and the economy being part of the world and the world being a subsystem of the universe.

2.3 Synergy

The main theoretical basis of synergy is that the whole is greater than the sum of the parts. The practical implication of synergy is that organizations are made up of separate departments, sections and/or units. These departments, sections and/or units are required to co-operate and interact in a harmonious manner for the purpose of achieving organizational objectives. When they co-operate and interact, they become more productive than if each department, section and/or unit were to act in isolation. For example, in a small organization, it would be more effective and efficient for all the departments, sections and/or units if any to deal with a centralized human resource management department instead of each department, section and/or unit having a separate human resource management department. This will lead to unnecessary duplication of duties, which will be waste of avoidable human resources.

2.4 Open system

A system is said to be open when it is exposed to and connected to the external environment. An organization is said to be an open system when it interacts with and deals with the external environment. That is, it deals with social institutions such as pressure groups (trade unions), customers, suppliers, government agencies and institutions such as police station, law courts and revenue offices. It is worth noting that the degree of interaction of a system with the external environment varies from one organization to another. For example, the degree of interaction between an organization that manufactures drugs with hospital patients may not be the same as its interaction with prison inmates.

2.5 Closed system

At the extreme end of the open system, is the closed system. Closed system is a system that has very little to do with the external environment. The behaviour of people in such a system is not in any way influenced by the external environment. Inmates of prisons and monasteries to a large extent fall under this type of system.

2.6 System boundary

According to the Cite Man Network, each system has a boundary that separates it from its environment. In a closed system, the system boundary is very rigid and does not easily allow penetration of other elements into the system. The reverse is the case for an open system which is easily susceptible to penetration by other elements in the system. Many organizations are gradually moving away from the closed system to the open system. This is a healthy development because of the widely trumpeted slogan of the world becoming a global village. No organization can afford to totally shut its doors to the external environment. Inasmuch as organizations must open their doors to the external environment, they cannot afford the luxury of opening their doors so wide that any element can easily enter to disturb them. There should therefore be a limit to the extent to which system boundary should be applied.

2.7 Flow

Flow in a system has to do with release of information from one system to another. Information flows from the external environment as inputs to another system like a computer. The computer will take the inputs as raw materials and process them into finished output to be used by another system as inputs. For information to flow smoothly from one system to another there should not be any impediments to obstruct the flow of such information. Information flows into a system as raw materials, goes through transformation processes and released as output.

2.8 Feedback

Any system that does not make use of feedback will stagnate or become extinct. Communication, which is the vehicle that transports information from one system to another, is no doubt a very important element of a system. Effective communication thrives on feedback. In the absence of feedback, communication will be seen to be one-sided which does not promote symbiotic relationship. Feedback has also been noted to be a controller of the element of system.

3. Decision making and systems approach to management

The systems approach to management has very important application in decision-making. Decision-making is the act of making a choice out of a number of possible alternatives. Decision-making is one of the key challenges of managers. Many business organizations have failed because of the type of decision that a manager might have made about a particular issue. The type and quality of decision that a manager makes can go a long way to determine the success or otherwise of a business organization. On the basis of wholeness and oneness under the systems principle, every manager is enjoined to exercise the greatest degree of circumspection and caution in decision-making. As have been noted already, the system principle postulates that all organizations are made up of interrelated parts. These parts are expected to work in harmony to enable the organization to achieve its objectives and mission. Like the example of a car and its carburetor, if the carburetor of a car is faulty, the car as a system will not be functional. This is because the carburetor constitutes a very important component of the car. The same example applies to the human body. If a part of the human body such as the eye is faulty, the human body cannot function effectively. Linking these examples to decision-making, it could be noted that there is direct relationship between systems approach and decision-making.

Organizations are made up of departments, divisions, sections and/or units. These segments of organizations should work in concert to enable such organizations achieve their strategic objectives, vision and mission. Every

head of department has the right to make certain decisions that apply to his department. There is no doubt that such decisions could affect other departments of the organization, and invariably the entire organization. This practically demonstrates the need for all managers in positions of authority and responsibility to be very cautious in the decision-making process, since a faulty decision made by a manager has the tendency and potential of disintegrating an entire organization.

The following case study can amply portray the practical reality of this assertion.

Okumkom Ltd. is a company that processes wood into furniture for export. It has six departments namely finance, procurement, quality control, production, human resource and administration and marketing. On the basis of a marketing research analysis, the marketing manager made a decision that the company should manufacture 3,500 units of sitting room furniture instead of the normal quantity of 2,500 for its European market. Having technical mind in marketing intelligence issues, management accepted the suggestion to produce the 3,500 units of sitting room furniture without any form of departmental consultation. The other departmental managers were not happy that they were not consulted on the implementation of the marketing manager's decision which has the tendency of affecting the fortunes of the entire organization negatively. Their concerns were ignored by the marketing manager, claiming that he was in control of the marketing department and had the prerogative right to make decisions he deemed fit.

Since the availability of the 3,500 units of furniture was time bound, the human resource and administrative manager was charged with the responsibility of hiring additional casual hands to augment the existing staff to produce the furniture on schedule. The finance manager was also directed to apply for an overdraft facility of \$20,000 to enable the company procure the necessary inputs for the job. The company's bank granted the facility which was given to the procurement manager to purchase all the required inputs to produce the 3,500 units of furniture. The inputs were given to the production manager, who in collaboration with the quality control manager churned out the 3,500 units of the furniture on schedule.

All the units of furniture were ready on schedule, since all the departmental managers played their respective roles in spite of the fact that they were not happy with the decision of their colleague marketing manager. The marketing manager was given the mandate to distribute and sell all the furniture in the European market. Regrettably, the marketing manager was able to sell 2,700 units of the furniture leaving a difference of 800 units. It became difficult for the marketing manager to dispose of the difference of 800 units. All the marketing strategies employed by the marketing manager to sell the 800 units proved futile. Disaster stared glaringly in the face of the company. Comments of "We told you so" ostensibly directed at the marketing manager flowed from all angles. The marketing manager was full of remorse for a wrong decision which is likely to bring untold hardship to the company. He regretted refusing to subject the decision to increase production from 2,500 to 3,500 to comments and discussions with his departmental colleagues.

The following are some of the probable unavoidable costs that are likely to characterize the inability of the marketing manager to dispose of the unsold furniture on time:

- (1) accumulation of interest on the overdraft facility of \$20,000;
- (2) warehousing cost at the distribution centre in Europe. The Company rented bonded warehouse;
- (3) difficulty in meeting payment of wages and salaries for the additional casual hands that were employed;
- (4) accumulation of some unpaid overhead expenses.

The marketing manager was given the option of doing everything possible to dispose of the 800 units of furniture or get fired.

The case is a typical example of how a decision from a manager which is not subjected to ratification by the other managers can collapse an organization.

The decision-making dimension of systems approach to management does not apply to only business organizations. It is equally applicable to family units, communities, nations, sub regions and at continental levels. At the family unit level, members in the family constitute the subsystems. They are required to collectively contribute towards the achievement of the family objectives. Consequently, the decision that a member makes without any form of consultation with the other members may have far reaching consequences like the case study cited above. The consequences may be positive or negative depending on the outcome of the decision. In the same vein, the chief who is in control of the community may make a decision that could affect the entire community positively or negatively. It is therefore incumbent upon the chief to consult his elders when he is making a decision that could affect almost every member of the community. At the sub-regional and continental levels, bodies such as Economic Community of West African States and the African Union could also make decisions that could affect all the member states of the respective bodies. Collectivity should therefore be the guiding principle when decisions are to be made at the sub-regional and continental levels.

The unprecedented genocide that took place in Rwanda in 1994 was the result of a singular decision that was made by one political figure. If the decision was ratified by all the stakeholders, thousands of lives that were lost would have been avoided.

4. Conclusion

From the above case study, it is evident that the systems approach to management has very important practical applications at various levels of human endeavour. Since a manager is not a repository of knowledge and ideas, it is always desirable to subject all managerial decisions to comments and discussions, bearing in mind that a faulty decision has the potential and probability of affecting the entire organization as a system. It is worth noting that if the singular decision of the marketing manager to increase production had been successful, he would have taken greater part of the credit that would have accrued from such a decision. His colleagues would have also benefitted from the success of the decision in the form of bonus from increased sales. In the same vein, a manager who makes a faulty decision that leads to untold hardships should be held liable for such decisions.

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