

ROLE OF ORGANIZATIONAL CULTURE IN STIMULATING CREATIVITY AND INNOVATION AMONG ENGINEERING STUDENTS

Maz Jamilah Masnan¹, Noormaizatul Akmar Ishak², Noor Asliza Abdul Rahim³, Siti Aisyah Mohd Nor⁴, Nor Hazadura Hamzah⁵

¹*Institute for Engineering Mathematics, UniMAP
mazjamilah@unimap.edu.my*

²*Center for Communication Skills and Entrepreneurship, UniMAP
maizatul@unimap.edu.my*

³*Center for Communication Skills and Entrepreneurship, UniMAP
asliza@unimap.edu.my*

⁴*Center for Communication Skills and Entrepreneurship, UniMAP
sitiaisyah@unimap.edu.my*

⁵*Institute for Engineering Mathematics, UniMAP
hazadura@unimap.edu.my*

This paper presents theoretically the role of organizational culture that contributes a significance impact towards stimulating creativity and innovation among engineering students at UniMAP. Discussion on the relationship between creativity, innovation and culture is described in this context. Some components of organizational culture including strategic vision and mission, customer focus, means to achieve objectives, management processes and interpersonal relationship that have been outlined in the strategic mapping, strategic objective and performance measure by the UniMAP leadership are further discussed in a manner of how it may stimulates creative and innovative engineering students .

Keywords: Organizational culture; creativity; innovation.

1. INTRODUCTION

Universiti Malaysia Perlis or UniMAP is known as one of the technical university focuses on electronic-based engineering. It has always been a UniMAP mission to produce holistic human capitals that contributes to the nation's development and industrial competitiveness agenda. Among other way to materialize the noble mission is to stimulate creativity and innovation among the engineering students. To achieve that, every member of the university especially the lecturers and teaching engineers must be first creative and innovative in their function. Therefore, as a new university, it is very important for the leadership and top management of the university to provide the correct organizational culture to be absorbed by every member of the subordinates.

This paper presents theoretically the role of organizational culture that contributes a significance impact towards stimulating creativity and innovation among engineering students at UniMAP. Important keywords of organizational culture, creativity and innovation, and the link between these concepts will be presented based on the literature. Further discussions on the university organizational culture including strategic vision and mission, customer focus, means to achieve objectives, management processes and interpersonal relationship that have been outlined in the strategic mapping, strategic objective and performance measure by the UniMAP leadership are described in a manner of how it may stimulates creative and innovative lecturer and teaching engineers, and eventually able to produce creative and innovative engineering students.

2. ORGANIZATIONAL CULTURE

According to related literatures, it appears that organizational culture played an important role in promoting organizational success, and it could only be achieved by assuring an appropriate culture being developed or shaped in the organization that matches the manager's values, attitudes and behavior.

Organizational culture or corporate culture is defined in many ways by various authors and researchers. A common definition of organizational culture is a set of values, beliefs, and behavior patterns that form the core identity of organizations, and help shaping the employees' behavior (Deal and Kennedy, 1982). Organizational culture also acts as a cognitive map that influences the way in which the context is defined, for it provides the selection mechanism or norms and values which people events (Jones, 1983). It is also a pattern of beliefs, symbols, ritual, myths, and practices that evolved over time in an organization (Pheysey, 1993). Organizational culture is also the dominant values espoused by an organization or a set of values and assumptions that underline the statement: "this is how we do things around here" (Deal and Kennedy, 1982).

Schein (1992) defined organizational culture as a pattern of basic assumptions invented, discovered or developed by a given group as it learns to cope with its problem of external adaptation and internal integration. These values then taught to new members in the organization as the correct way to think and feel in relation to those problems. Culture is the sum total of all the shared, taken for granted assumptions that a group has learned throughout its history. Also, culture is

determined to be the residue of success. Culture is also the structure and control system to generate behavioral standards.

The dimension of culture defined by Martins (1997) partly includes mission and vision (determines personnel's understanding of the vision, mission and values of the organization and how these can be transformed into individual and team goals and objectives); means to achieve objectives (determines the way in which organizational structure and support mechanisms contribute to the effectiveness of the organization); management processes (focuses on the way in which management processes take place in the organization. It includes aspects such as decision making, formulating goals, innovation processes, control processes and communication); interpersonal relationships (focuses on the relationship between managers and personnel and the management of conflict); and leadership (focuses on specific areas that strengthen leadership, as perceived by personnel).

3. INNOVATION AND CREATIVITY

Definition of innovation found in the literature vary, some are general and broad, while others focus on specific innovations like the implementation of an idea for a new product or service. In an organizational environment, examples of innovation are the implementation of ideas for restructuring, or saving of costs, improved communication, new technology for production processes, new organizational structure and new personnel plans or programmes.

According to West and Farr (1990), innovation is regarded as something new which leads to change. It is also the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society.

Some definitions of creativity focus on the nature of thought processes and intellectual activity used to generate new insights or solution to problems. Other definitions focus on the personal characteristics and intellectual abilities of individuals, and still others focus on the product with regard to the different qualities and outcomes of creative attempts (Arad et al., 1997).

Ford (1995) explained creativity as a context-specific evaluation can vary from one group, one organization and one culture to another and it can also change over time. Evaluating creativity should therefore be considered at the level of a person, organization, industry, profession, and wider.

4. LINK BETWEEN ORGANIZATIONAL CULTURE, CREATVITY AND INNOVATION

According to Martins and Terblanche (2003), organizational culture seems to be a critical factor in the success of any organization. Successful organizations have the capacity to absorb innovation into the organizational culture and management processes. The basic elements of an organizational culture (i.e. shared values, beliefs,

and behavior expected of members of organization) influence creativity and innovation in two ways. First, through socialization process in organizations, individuals learn what behavior is acceptable and how activities should function. Norms develop and are accepted and shared by individuals. In accordance with shared norms, individuals will make assumptions about whether creative and innovative behavior forms part of the way in which the organization operates.

Secondly, the basic values, assumption and beliefs become enacted in established forms of behaviors and activity and are reflected as structure, policy practices, management practices and procedures. These structure impact directly on creativity in the workplace, for example by providing resource support to pursue the development of new ideas. In this way individuals in organizations come to perceive what is considered valuable and how they should act in the workplace.

Martins and Terblanche (2003) described an integrated interactive model that synthesis the cultural values and norms that influence creativity and innovation. The model shows the dimensions that describe organizational culture have an influence on the degree to which creativity and innovation take place in the organization. The influence can be divided into five determinants of organizational culture. It includes:

- i. Strategy – the origin of creativity and innovation lies in a shared vision and mission, which are focused on the future. It is also important that employees should understand the vision and mission (which support creativity and innovation) and the gap between the current situation, and the mission and vision to be able to act effectively and innovatively.
- ii. Structure – co-operative teams are identified by some authors as having an influence on the degree to which creativity and innovation take place in organizations. Well-established work teams which allow for diversity and individual talents that compliment one another should promote creativity and innovation. Team member should be able to trust and respect one another, understand one another's perspectives and style of functioning, solve differences of opinion, communicate effectively, be open to new ideas and question new ideas.
- iii. Support mechanisms – support mechanisms should be present in the culture of an organization to create an environment that will promote creativity and innovation. With the appearance of rewards and recognition, and the availability of resources mainly time, information technology and creative people, are mechanisms that play this role.
- iv. Behavior that encourages innovation – values and norms that encourage innovation manifest themselves in specific behavioral forms that promote or inhibit creativity and innovation. It include the way in which mistakes are handled, encouragement to generate new ideas and continuous learning orientation, taking risk and experimenting, and handling conflict constructively.
- v. Communication – an organizational culture that supports open and transparent communication, based on trust, will have a positive influence on promoting creativity and innovation. An open-door communication policy, including open communication between individuals, teams and departments to gain new perspectives, is therefore necessary to create a culture supportive of creativity and innovation.

5. CASE STUDY AT UNIMAP

Studies in the literature have explored the elements of organizational culture such as strategic mission and vision, means to achieve objectives, customer focus, management processes, and interpersonal relationship that contribute to the success of an organization, in which creativity and innovation are exhibited. Discussion of the related elements will be based mainly on the strategic mapping, strategic objectives and performance measure that have been outlined under the academic strategic planning recently officiated under the university.

5.1 Mission, Vision and Strategic Goal

UniMAP boasts itself as a true-blue technical university which fulfills the interest of students who are inclined towards practical-based engineering education. UniMAP graduates are budding engineers who have been groomed to be competent and confident enough to explore entrepreneurial possibilities upon graduation. They are expected to not only exhibit excellence in knowledge and skills directly related to their engineering fields of study, but also proficient in communication and ICT skills, as well as possessing unsurpassed traits of professionalism and patriotism. It is hoped that because their education has been excellent, they will become the engineering leaders of tomorrow.

Therefore UniMAP will always strives to achieve its mission to produce a holistic human capital that contributes to the nation's development and industrial competitiveness agenda, and continuously fight to be an internationally competitive academic and research institution as outlined in its vision. And for the year 2010 UniMAP aims to be the best university among the "satisfactory" group of university.

5.2 Customer Focus

In pursuing excellence in education, top management of UniMAP has decided to enhance the quality of undergraduates and graduate students. It include responding to recommendations identified through quality enhancement activities and developing the professional capability of all those involved in the delivery of teaching and learning. Besides, develop new and more flexible ways of learning, teaching and assessing, and exploiting new technologies whenever necessary. UniMAP is also working very hard to earn trust from the government so as to increase confidence from the industry. These can be achieved through numerous rewards awarded by other qualified organizations, and increase percentage of graduates accepted in the job market. UniMAP is also ready to raise the number of MOU with well respected agencies, and improve the industrial satisfactory index towards UniMAP students who embark the industrial training.

5.3 Means to Achieve Objectives

UniMAP believes that hard work and dedication alone are not enough to ensure excellence. There has to be a concerted and systematic effort in integrating, timing, and aligning all the hard work performed by UniMAP staff, so as to optimize the fruits of the labor. One way to do it is through the strategic planning of the core business such as the academic strategic planning initiative. Among of the efforts are enhancement of the variability and quality of academic programs, boost up the university image and reputation, being the selected university to further study, improve in the number of contribution towards the commercialization agenda, enhancement of the administration operation efficiency, and finally increase the number of academic research and publication.

5.4 Management Processes

The management processes portray very much the university culture in practice. Current agenda under the academic strategic planning for the management processes comprise the effective budgeting, and diversify and optimize sources of fund. To attain that, performance measures to be implemented are to increase grant acquisition, consultancy based on expert, number of product commercialize, and of course to reduce in utility cost.

5.5 Interpersonal Relationship

One of the key factors for this strategic mapping is to enhance internal communication among UniMAP members, either from within the department or within the university. It is important for every university member to accept and practice open communication in performing their function to ensure every message send and accepted clearly. Satisfaction in communication indexes will be used to measure the performance.

6. DISCUSSION

Based on the literature and current scenario at UniMAP, in general this university has already demonstrates the organizational culture to be absorbed, followed and practiced by the subordinates. Some of the components of organizational culture have been discussed which display directly what the university is doing. The component of organizational culture outlined in the mission and vision, is indirectly consist of the factor that might stimulates students to be innovative and creative. However, one may hardly recognize the components of organizational culture that can stimulates innovation and creativity in the customer focus, means to achieve objectives, management processes and interpersonal relationship.

Organizational culture is an image formed to portray the strength and success of it organization. It is also the way people do things at their workplace. Thus, it fairly important for UniMAP to outline an effort towards stimulating innovation and

creativity in the university culture, so that the end products (engineering students) are exposed to a culture that help develop the intended values. To be more specific, UniMAP may design the performance measure that closely facilitates the lecturer to encourage students to exhibit the values.

However, it is a good start to look at the organizational culture to examine whether or not the existing culture is the right one that is helpful to produce the innovative and creative end product. It is suggested for the next strategic planning, issues on creativity and innovation should be considered while setting up the performance measure.

7. CONCLUSION

Individuals at every level form the culture of UniMAP. In attempting to create a culture supportive of creativity and innovation, it appears that it will only flourish under the right circumstances in the university. The way in which the elements of organizational culture encourage creativity and innovation is much depending on the values, norms and beliefs shared by the individuals and groups. To conclude, it may be practical to perform empirical research to support the theoretical research findings on the elements of organizational culture that support creativity and innovation in the university.

References

- Deal, T.E., Kennedy, A.A., (1982). *Corporate Culture*, Addison-Wesley, Reading, MA.
- Jones, G., (1983). "Transaction costs, property rights, and organizational culture: an exchange perspective", *Administrative Science Quarterly*, 28, 454-67.
- Pheysey, D., (1993). *Organizational Culture: Types and Transformation*, Routledge, London.
- Arad, S., Hanson, M.A. Schneider, R.J., (1997). "A framework for the study of relationships between organizational characteristics and organizational innovation", *The Journal of Creative Behavior*, 31, 1, 42-58.
- Schein, E.H., (1985). *Organizational Culture and Leadership*, Jossey-Bass, San Francisco, CA.
- Ford, C.M., (1995). "Creativity is a mystery: clues from the investigators' notebooks". Ford, C.M., Gioia, D.A., *Creative Action in Organizations: Ivory Tower Visions & Real World Voices*, Sage, Londodn, 12-52.
- Lock, E.A., Kirkpatrick, S.A., (1995). "Promoting creativity in organizations". Ford, C.M., Gioia, D.A., *Creative Action in Organizations: Ivory Tower Visions & Real World Voices*, Sage, Londodn, 115-120.

Martins, N., (1997). "Organizational Culture survey". Johannesburg.

Martins, E.C., Terblanche, F., (2003). Building organizational culture that stimulates creativity and innovation. *European Journal of Innovation Management*, Vol 6 (1), 64-74.

West, M.A., Farr, J.L., (1990). "Innovation at work", West M.A., Farr, J.L., *Innovation and Creativity at Work: Psychological and Organizational Strategies*, Wiley, Chichester, 3-13.

UniMAP Academic Strategic Planning (2008), Unit Pembangunan Korporat (UNIQUEK).