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# Developing Model for e-Collective Management Practice: A Participatory Action Research Case in Kolej Universiti Selatan

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#### **Abstract**

The present study is designed to develop a model for electronics collaborative management practice which deals with the management of teaching and learning content (TLC) at Kolej Universiti Selatan (KUS). Its aim is to underscore how researchers who works in higher education institutions (HEI) could cultivate the practice to upbuilding and sustaining the necessary niche. By applying co-constructing, appreciating, and sustaining three continuous participatory action research (PAR) cycles to fifteen KUS lecturers, department heads, deans, and academic supporting colleagues, data sources are collected from participant observation, in-depth interview and document mining to justify the model of e-collaborative management. The study concludes that 'cooperative working behavior' and 'substantial reciprocal practice' are the two motivating factors that foster e-collaborative management practice, and that the advantage of e-collaborative management concerns grouping of the right profession, recruiting of right partner, catch right timing, and creating the right conditions for e-collaborative management.

Keywords: Collaboration, e-collaboration, collaborative management, e-collaborative management

#### 1. INTRODUCTION

Workplace is a logical place for collaboration to take place. Many organizations, however, fail to encourage collaboration among their employees. Moreover, organizational working cultures actively discourage teamwork (Sanker, 2012). Because bureaucracy organization created hierarchy management, which excludes internal departmental cooperation, and added to that, paternalist culture limits collaborative relationships among lecturers, deans and academic supporting colleagues (Hecker, 2007). Therefore, knowledge based institution like higher education institute (HEI) needs to develop viable ways to enhance collaborative relationship and working culture.

HEI main intellectual asset is teaching and learning content (TLC). TLC is the critical curriculum resources which deliver to the HEI customers. It is accumulated from various sources of professional knowledge, case studies, lessons learnt, best practices, practical know-how, lecturers' experiences and others. Its format includes lecture notes, study guides, illustration slides, audio and video material that are used for dissemination of knowledge and skills (Seldin, 2004); (MQA, 2008). The unavailability, inaccessibility, inadequacy and outdated TLC leads to the following setbacks: (1) difficulty in sharing, updating and auditing; (2) incompliance to the programme accreditation audit; (3) inferiority of curriculum delivery; (4) bad word of mouth quote; (5) distractive to prospective students; (6) insufficient reference for novice lecturers; and (7) losing competitive advantage in markets.

Based on the above articulated issue, the researchers would like to explore 'the motivating factors in e-collaborative management practice' in the first and foremost internet era. Internet has created an economical and convenience way of managing information and integrating people. It opens an opportunity for improving and enhancing the collaboration of work. Nevertheless, the achievement of e-collaborative management is far more inferior to expected (Southern, 2013), including HEI in Malaysia (Grapragasem, Krishnan, & Mansor, 2014). This

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condition highlights the need to understand the factors that motivate HEI colleagues to participate in the e-collaborative management by collecting, updating, sharing, maintaining and auditing the collaborative information system (CIS).

#### 2. LITERATURE REVIEW

#### 2.1 Defining E-Collaborative management practice

E-collaborative management practice is defined in the present study as inter-functional departments of administrative colleagues with collective tasks for mutual interests through information, communication, and technology (ICT). It is meant to integrate e-collaboration and collective tasks through CIS. It also coordinates multiple entities or parties for sharing their knowledge, talents, skills, information, risks, and resources in CIS to achieve their common goals. Workforce complements each other capability in order to make the whole synergy greater than sum of a whole (Shah, 2012), and contributes to organizational development and growth.

The collaboration mentioned refers to two or more stakeholders who could pool and appreciate their tangible resource such as information, human, capital in order to solve a complex problem that cannot be resolved individually (Gray, 1989). Next, electronic collaboration (e-collaboration), as argued by Kock, Davison, Wazlawick, and Ocker (2001), can be defined as applying electronic technologies to collaborate among individuals who engage in a common project. It refers to the collaboration mediated by ICT. Electronic devices could therefore accomplish a common task with collaboration regardless of its geographical distance, duration, and occasion (Kock, 2007).

#### 2.2 Emerging e-collaborative management setting

E-collaborative management introduces a new perspective on the concept of collaboration and management studies. Jones (2001) stresses on the organizational needs to embrace a systematic practice that provides persistent and well-indexed tools for collaborative knowledge management (KM), social, and knowledge network analysis. The systematic practice tool is capable of monitoring organizational performance, anticipating and attending to feedback and outcome measures, and in turn design the change of avenues and action taken effectively. It is to ensure information technology supports organizational learning (OL) effectively.

Many scholars (Bessagnet, Schlenker, & Aiken, 2005) claim that e-collaborative technologies improve management through a platform on which individual and collaborative team work, share knowledge, and communicate collaboratively. Sampson (2009) asserts that Microsoft SharePoint Technologies made seamless teamwork which cultivates well-being collaborating team, health working environment and organizational culture through enriched information sharing. Campbell and Brown II (2012) endorse the deployment of Microsoft SharePoint that is based on organization-wide CIS to accelerate collaborative organizational knowledge sharing, updating, preserving, and work flowing. They aver that mature and powerful collaboration platform could give big result in a low budget if it is fully utilized through diffusion of innovation (DOI) and training (Rogers, 1983).

# 2.3 Undergirding theories and the way forward

Gray (1989) constructed collaboration theory based on the negotiated order theory (Strauss, 1978). Santos, Santoro, and Borges (2008) have argued that negotiated order is a process of mutual adjustment among the actors and hereby forges an interpretation of understanding and actions. Domenico, Tracery and Haugh (2011) summarized Blau's (1964) socio-economic perspective of social exchange theory that is rooted in economics and assumed that individuals engage in social exchange because of the need or desire to acquire intrinsic or extrinsic rewards that are unable to obtain by themselves. Integration of negotiated order theory, social exchange theory, and collaboration theory to accomplish collaborative management practice are in view in the present paper to fill the gap of previous studies which did not include social exchange theory in collaboration process.

E-collaborative management as proposed grounded on Gray's (1989) collaboration theory as negotiated order, and social exchange theories, but to extend Kezar and Lester' (2009) HEI collaboration model in electronic collaborative working platform, and further develop Walsh and Kahn's (2010) HEI collaborative working model on electronic dynamic collaborative management process model. To understand the above e-collaborative management practice, the researchers have adopted participatory action research (PAR) (refer to Table 1). The discussion on action research will be offered in the next section.

Table 1: Preliminary PAR guideline for e-collaborative management practice

<b>Evolution Route</b>	Evolvement from theories into practices
<b>Underlying theories</b>	<ul> <li>Facilitating e-collaborative management practice with 'Collaboration Theory';</li> <li>Catalyzing e-collaborative management practice with 'Negotiated Order Theory';</li> <li>Sustaining e-collaborative management practice with 'Social Exchange Theory'.</li> </ul>
Strategy in e- collaborative management process	<ul> <li>'Collaboration Theory' to convene different disciplines of professionals working together to contribute their efforts toward e-collaborative management.</li> <li>'Negotiated Order Theory' to develop the proactive helping attitude, friendly relationships, capability and competency of individual from complementary support members;</li> <li>'Social Exchange Theory' to work cooperation and leverage to collective accountability as well as to inherit the spirit of collaboration.</li> </ul>
Participatory action research cycles	<ul> <li>Co-constructing cycle by working together toward individual and HEI competitive advantages.</li> <li>Appreciating cycle to promote e-collaborative management effort through reciprocally learning, doing, and synergizing.</li> <li>Sustaining cycle toward community of e-collaborative management practice.</li> </ul>

#### 3. RESEARCH METHOD

# 3.1 The scope

There are fifteen key samples taken from Kolej Universiti Selatan (KUS). The made up of participants are the six respective faculties, including Faculty of Art and Design (FAD), Faculty of Engineering and Information Technology (FEIT), Faculty of Humanities and Social Science (FHSS), Computer Centre Office (CCO), Planning and Development Accreditation Office (PDA), and Centre of Innovation for Teaching and Learning (CiTL). Since these are lecturers, department heads, deans and academic supporting colleagues, they are critical actors playing different roles to drive forward e-collaborative management practice.

# 3.2 Underpinning philosophical assumption

The present study involves various functional departments, professional individuals who are equipped with different intention, interest, skill, and knowledge. Qualitative interpretive research approach is apt for this study because its aims are as follows: (1) to understand participants' motives, actions, and intentions (Saunders, Lewis, & Thornhill, 2012); (2) to understand what is taking place in the social situations in social exchange and negotiate meanings on an agreed-upon order (Mcniff & Whitehead, 2011); (3) to seek meanings and understandings about e-collaborative management practices; and (4) to generate new theoretical model for e-collaborative management practice (Klein, 2012). The researchers and practitioners collaborate for practical judgments and solutions (Willis, 2007); and hence, the present study's qualitative data collecting approach is comparatively subjective, intersubjective dialogue and eventually makes e-collaborative management studies more workable.

## 3.3 Participatory action research (PAR)

Since e-collaborative management has collaborative characteristics which involve inter-subjective relationships, PAR is fitting for the present study. James, Milenkiewicz, and Bucknam (2008) claimed that PAR process lays in its iterative cycles which cause people to work collaboratively and to seek democratically solutions to the problems that they encounter and to produce new knowledge from personal and professional lessons they have learnt. O'Brien (1998) emphasized that action research is an ongoing process by which knowledge is derived from the review of the practice learned from previous experience. Three PAR cycles are taken into consideration in the present study, namely, co-constructing, appreciating, and sustaining. Within each cycle there are four activities, namely, action planning, learning and realizing, observing and inquiring, analyzing and reflecting (Denscombe, 2010); (Coghlan & Brannick, 2010).

Co-constructing cycle is to integrate CIS in the e-collaborative management practice. The researchers and participants work together in e-collaborative management of TLC. Appreciating cycle is to accept e-collaborative management practice for managing TLC. It is to reinforce and appreciate the process of learning, doing, and

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synergizing. Sustaining cycle is to adapt the effective way of e-collaborative management practice. This cycle develops the e-collaborative management culture among colleagues.

#### 3.4 Data collection and analysis

Data triangulation includes observation, in-depth interview, and documents data mining. The three collection techniques are conducted concurrently to complement one other. All these data are scrutinized and categorized using the grounded theory method (Boeije, 2010). The progress of the data analysis is formed by open encoding, axial encoding, selective encoding, and eventually theoretical encoding. Richards and Morse (2007) have made the assertion that qualitative data analysis starts with the sorting out of collected encoded research data in order to identify the variables.

# 4. RESEARCH FINDINGS

## 4.1 Co-constructing cycle

The researchers acted as facilitator to convince the participants, and work together with the latter to co-construct an e-collaborative management practice and collaborative relationships. The collaboration accomplishes the e-collaborative management practice goals. Meanwhile, the synergy also develops participants' competency in e-collaborative management. Four findings are obtained from the co-constructing cycle mentioned above. First, computer center colleagues stated that securing and sharing the TLC are value adding processes to KUS. The TLC is flowing across various faculties and supporting departments. E-collaborative management colleagues need to take care of TLC as KUS monetary assets. Second, PDA colleagues recognized that synchronizing TLC is essential to ensure the availability, consistency, accuracy, credibility and validity of TLC; and therefore, KUS requires e-collaborative management in order to provide high-quality education management. Third, CiTL colleagues also recognized that developing and synthesizing TLC is capable of promoting TLC improvement opportunities. Lecturers of differing disciplines also have their unique style of authoring TLC. Fourth, various faculty colleagues that e-collaborative management increases cohesive works among colleagues and academic supporting departments. It is in cognizance of the lecturers know each other's TLC and in turn enhance mutual learning.

#### 4.2 Appreciating cycle

The key to promote e-collaborative management effort through reciprocal learning, doing and synergizing. This hinges upon appreciating cycle is to evoke cohesive teamwork among e-collaborative management participants. By encouraging positive thinking and appreciation of others in the building process of e-collaborative management, the researchers also gave appreciation to the participants for their efforts and dedication. The practice thereby shapes the possibilities of cooperation and collaboration among e-collaborative management participants who have developed a positive rapport and relationship of trust in their virtually based collaborative working environment. Four interpretations are developed from the appreciating action cycle mentioned above.

First, TLC needs to have tightly organized and secured storage. Indeed, it is organizational asset and intellectual property. This in turn requires a highly reliable, efficient, and accessible CIS software, hardware and support team. Moodle is Shareable Content Object Reference Model (SCORM) which complies with the open source course management system (CMS). TLC in SCORM has the characteristic of reusability, accessibility, interoperability, and durability. Second, PDA colleagues highlight e-collaborative TLC management as pivotal for controlling every subject's TLC changes and progress. This means that an up-to-date TLC has an impact on a student's competence. Third, CiTL colleagues are making TLC as organizational knowledge management and SharePoint as memory device of an organization. This contrives TLC to contribute more in innovative teaching and learning development but go beyond their CiTL duties and responsibilities. Fourth, TLC preparation for every semester exhibits lecturers' advancement in the organization of teaching activities. These activities eventually help their students have progress in utilizing TLC.

#### 4.3 Sustaining cycle

The researchers integrated human and ICT resources to establish e-collaborative management to ascertain best practice. There are a number of feasible actions that had been taken to secure its success. First, the researchers encouraged the participants to appreciate one another in the collaborative efforts. Next, the participants were assisted in inventing best practice of e-collaborative management. This was followed by the process of cultivating the concept of community-based e-collaborative management. There are four interpretations that can be made from the findings of the above sustaining action process.

First, colleagues from computer center continuously improve both Moodle and SharePoint portal accessibility, which exhibits their contributions to e-collaborative management. Continuous application of their ICT knowledge and skills shows their devotion to the e-collaborative management. Their commitment to quality service boosts effectiveness of e-collaborative management. Second, PDA colleagues are keen to train, audit and advise faculty colleagues in syllabus writing and TLC development. They remarkably increase the syllabi and TLC consistency to comply with MQA and other external audits. Third, CiTL colleagues have created more resources for lecturers to produce quality TLC and by doing so, they have an excellent relationship with them. Their willingness in helping faculty colleagues to enhance better performance in TLC composition and delivery shows their spirit of team collaboration. Fourth, lecturers are given role for creating, updating, sharing and exchanging knowledge of TLC. This increases writing quality and in turn attracts TLC followers and cultivates more collaborative culture in the community of e-collaborative management.

#### 5. RESEARCH ANALYSIS

The researchers also make reflections, reviews and learnt lessons from the above interviews, observations, and documents data mining. The researchers have scrutinized all data and categorized them using the grounded theory method as show in Figure 1. The coding paradigm of Boeije (2010) has been used as a mold for organizing the data. It consists of four discriminative elements: context, conditions, interaction/strategies, and consequences. These categorized elements also satisfy the mutually exclusive and collectively exhaustive (MECE) characteristics. The process results in the establishment of two categories, which are 'cooperative working behavior' and 'substantial reciprocal practices'.

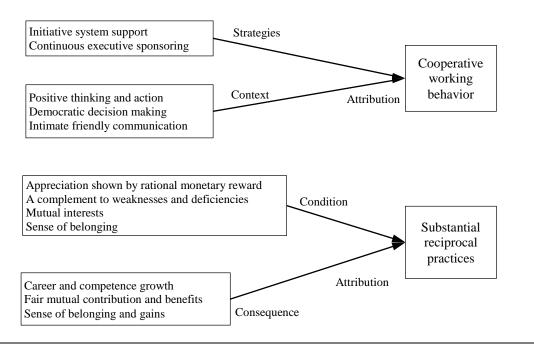


Figure 1: Constructing categorical theme of e-Collaborative management practice

The researchers have further incorporated the above categories into one core category theme, which fosters collective management practice. The diagram is as illustrated in Figure 2 represents the model as proposed by the present research. The developed model illustrates human perspective motivational factors that can be utilized to promote e-collaborative management in KUS in particular and HEI in general. Motivational factors are

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cooperative working behavior, and substantial reciprocal practices. It is argued that these factors can inspire and improve HEI e-collaborative management practice.

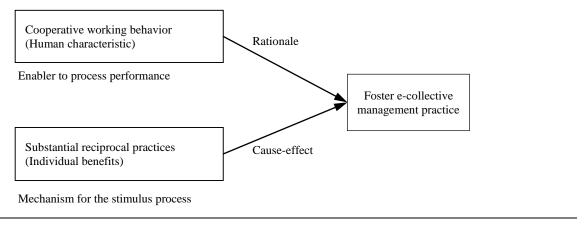


Figure 2: The model of e-collective management practice

#### 6. RESEARCH CONCLUSION

'Substantial reciprocal practices' and 'cooperative working behavior' are the factors that have been uncovered by the present research. These factors can create competitive advantage to HEI if staff members are working together. For example, the facilitator directs e-collaborative management into the right track, effort, performance, effect and pace; individual participants fulfill their own needs and career development; participants are encouraged to achieve e-collaborative management objectives whole-heartedly. Added to that, the collaborative organizations that embrace social, collaborative technologies and strategies stand the best chance of success (Morgan, 2012). Similarly, e-collaborative working is creating greater benefits than the sum total of individual work, and its benefits can be shared by all (Shah, 2012).

Last but not least, e-collaborative management practice has become the most frequently employed form of management because the world is becoming smaller, human relationships are becoming more sophisticated, and an increasing number of works need to be accomplished in virtual setting. E-collaborative management practice arguably best sustains the effectiveness and efficiency of e-collaborative work environment. Therefore, the model of e-collaborative management practice is worth considering by other researchers and practitioners as it will probably provide a shoulders for them in order to accomplish e-collaborative management practice in various fields, organizations, or industries expeditiously.

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