

# 3<sup>rd</sup> International Conference on HUMAN CAPITAL AND KNOWLEDGE MANAGEMENT (ICHCKM 2017)

In conjunction with  
UTMRS 1<sup>st</sup> INTERNATIONAL CONFERENCE ON  
ADVANCED TECHNOLOGY 2017 (UTMRS-ICAT 2017)

10<sup>th</sup> October 2017

Renaissance Hotel, Kuala Lumpur

## Human Capital and Knowledge Management : Enablers For Digital Society



# e-PROCEEDINGS

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**PROCEEDINGS OF THE 3rd  
INTERNATIONAL CONFERENCE  
ON HUMAN CAPITAL AND  
KNOWLEDGE MANAGEMENT  
(ICHCKM 2017)**

**10th OCTOBER 2017**

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## **About ICHCKM 2017**

The 3rd International Conference on Human Capital and Knowledge Management (ICHCKM 2017) is held on 10th October 2017 at Renaissance Hotel, Jalan Sultan Ismail, Kuala Lumpur. The conference is organized by the UTM Razak School of Engineering and Advanced Technology (UTMRS) in conjunction with UTMRS - International Advanced Technology Conference (UTMRS-ICAT 2017) with the theme of “Human Capital and Knowledge Management: Enablers for Digital Society“.

This conference aims to become a platform of technology and idea-sharing between the government, industrial partners and UTM on issues related to human capital and knowledge management in digital society. On a par with one of the UTM Strategic Thrusts of enhancing UTM global outlook towards reputable international standing in the area of human capital and knowledge management, ICHCKM 2017 is inspired in providing smart partnerships and interactive platform between UTM and the members of public so that better understanding and awareness on the issues of human capital and knowledge management in Malaysia could be obtained.

A total of 27 papers that have been through blind review are accepted for the proceedings and the papers are grouped in two sub-themes: (1) Human Capital Development, Human Capital Management, and Information Technology and Humanity, and (2) Knowledge Management, Organizational Learning and Organizational Development, and Digital Society. An index of keywords from all papers is included at the end of the proceedings. All participants and readers can revel in reading the proceedings and gain motivations for further research and application into education and practice.

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# I

## **HUMAN CAPITAL DEVELOPMENT, HUMAN CAPITAL MANAGEMENT, AND INFORMATION TECHNOLOGY AND HUMANITY**



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## INNOVATIVE APPROACH IN UNDERSTANDING QURANIC LINGUISTICS MIRACLE USING METODOLOGY OF AI-TAHWILIAH / “ATaHM&Tf “

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### ABSTRACT

This study was to examine the teaching of Arabic linguistics “syntaxes, morphology, phonology, lexicology, semantics, etymology” skills to apply the method of ATaHM&Tf *Method* to students who are not speaking Arabic as a first language at four universities in Malaysia. This method is the main pedagogical principles to ensure that teaching and learning of Arabic linguistics place effectively. Researchers to build 319 items for the questionnaire uses five sub-scales based on the method of ATaHM&Tf *Method* to build using positive statements. Respondents had to respond according to the five Likert scale. Sub-scale questionnaire comprises lectures, methods of studying the Arabic linguistic (ATaHM&TfALM), speaking in Arabic (ATaHM&TfASS), Arabic listening skills (ATaHM&TfALS), reading in Arabic (ATaHM&TfARS), and Arabic writing skills (ATaHM&Tf AWS). The research sample consisted of 200 persons from the five public universities in Malaysia (USIM, IIUM, UKM, UMK and UPM) were chosen at random. The results obtained are highly reliable instrument with cronbach ALPA value of .99. The value of cronbach for each subscale ALPA also is high in the .96 to .99. The findings of this study showed a positive correlation between the methods of studying the Arabic linguistics with each sub-scale between the values of Pearson ( $r = .57$  to  $r = .64$ ,  $p < 0.01$ ). While the results of the five null hypotheses to test the differences in the study was rejected because there was a significant relationship between the universities for each Sub-scale. Similarly, five null hypotheses to test the differences in the learning process less as a test t-test showed significant correlation between genders for each sub-scale. This method has been applying in the Malaysian Universities locally and internationally universities and has been getting the

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intellectual property (IP) by USIM this method also has been recognized by the government of Saudi Arabia, UAE and university Beirut, Universities in Morocco.

**Keywords:** Innovative, Quranic Linguistics Miracle, Methodology of Al-Tahwiliah.

## INTRODUCTION

*Al- Tahwiliah Method* “ATaHM&Tf” is a method used to teach the Arabic linguistics skills to students who are non-Arabic speaking background. The method is based applying through holy Qur’an and Sunnah, covers all the Arabic linguistics skills such as speaking, listening, reading and writing. The researchers will discuss the research background, problem statements objective, research question, significant, operational definition and hypotheses.

Appeared in a variety of our many problems; a result of the rapid developments and the flow of humanitarian and scientific knowledge, so that the individual is unable to adapt to this huge number of ways and methods and means of modern education technology. The impact of foreign media and audio-visual and print; and check our computer network without criticism and scrutiny in the bright light output resulting in strange behaviour on our society, and the problems in the ways students learn the Arabic linguistics is increasing. The reform of this lies in the rules and methods to give education more attention to the quality and quantity; review of the rules and principles in teaching methods, the application of optimal and complementary way to jerk our curricula and audit and evaluation in content and teaching methods and the various methods and means, identify and make it up to the age of globalization, and the inculcation of the principle of learning Self-educated and at the same critical thinking to the behaviour of daily life, and attention to scientific research at various levels and fields of knowledge, and adherence to cultural heritage based on the Qur'an and Sunnah.

In an optimistic vision for the future of the quality of the learner to be prepared to cope with globalization and interact successfully with the rapid changes and global trends on the evolution of educational patterns of thinking, and behaviour science, and the use of knowledge and soft skills, however, and the introduction of teacher training and would lift for the advancement of the educational process, the best way of educational integration is the means effective to change the structure of the learning process in the community and its identity and cultural characteristics. The proposed experimental research investigates the problem among students of Arabic as a second language in Malaysian universities in applying Arabic linguistics *Al- Tahwiliah methods* skills. The effects of learning method versus “Teacher-Centered Instructions” will be compared. The Solomon Randomized Four Group Design will be used to examine a null hypothesis  $\mu_1 - \mu_2 = 0$ . A random procedure of cluster sampling will be applied in order to determine the four representative clusters from the accessible population. The interval scale of measurement will be used for interpretation of students’ scores in question. Discussions will consider both previous research results and current practical trends of Arabic as a second linguistics for the population in question. Whereupon, technical and professional recommendations will be provided for further Arabic Methods Teaching skills’ developments.

## MAIN RESULTS

The data was analyzed by using the Statistical Package for Social Science (SPSS) version 17. The statistical procedure used in this study was the tabulation for descriptive data for Arabic *Al- Tahwiliah Method* (learning method “ATaHM&Tf”), Arabic Listening Skills, Arabic Speaking Skills, Arabic Reading Skills, Arabic Writing Skills and summary of mean score.

This questionnaire was developed based on theoretical Foundation of Cooperative Learning or *Al- Tahwiliah Method* “ATaHM&Tf” in Arabic. The Arabic Learning Scales for Malaysian National Universities was used for the first time in this study. In order to evaluate and examine the reliability of Learning Scales for Malaysian National Universities, researcher used the Alpha Cronbach method. The result shows that Learning Scales for Malaysian National Universities has good value of reliability which the value of Cronbach’s Alpha is high, .99. Meanwhile the reliability value for the

five subscales of Learning Scales for Malaysian National Universities are as showed in the table below:

**Table 1.** The reliability value

Subscale	Number of Item	Cronbach's Alpha
Section a : scales for Arabic learning methods (alm ATaHM&Tf)	86	.97
Section b: scales for Arabic listening skills (als ATaHM&Tf)	31	.97
Section c: scales for Arabic speaking skills (ass ATaHM&Tf)	20	.96
Section d: scales for Arabic reading skills (ars ATaHM&Tf)	85	.99
Section e : scales for Arabic writing skills (aws ATaHM&Tf)	97	.99

## CONCLUSION

As a conclusion, this research has discussed all about the research *Al- Tahwiliah* “ATaHM&Tf” method based on the research objectives. All the hypotheses, theories for applying of this method, term or words that are used in this research are identified and defined by the researchers. The researchers covers the literature review of *Al- Tahwiliah Method* “ATaHM&Tf” in English and Arabic studies. This model has 13 IP and was pattern by Associate Prof Dr. Asma Abdul Rahman in USIM which was being practiced in five local universities IPTA and five international universities such as al- Azhar, Cairo, Mohamed IV Rabat al-Madinah, Akdal , al- Qarawiyyin Fes, Morocco, Beirut Universities and others universities locally and internationally.

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## EXPLORATORY FACTOR ANALYSIS OF SUFFICIENCY ECONOMY FOR THAI SMALL INDUSTRIES

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### ABSTRACT

The purpose of this study was to identify elements of sufficiency economy. The sample of this study were 337 small industry entrepreneurs derived from stratified random sampling. Questionnaire was employed to collect the data. Content validity of the questionnaire was validated by a panel of 5 experts. Cronbach's alpha coefficient of .975 indicates reliability of the measurement. Results of factor analysis showed that 10 factors were extracted; financial immunity, quality improvement, morale, building alliance, risk management, tools and information, local community oriented, employee welfare, customer oriented, and employee oriented. All elements can explain 62.650 percent in the variation of sufficiency economy.

**Key words:** Sufficiency economy, Small industry, Factor analysis

### INTRODUCTION

The philosophy of sufficiency economy was initiated by King Bhumibol Adulyadej of Thailand on the 4<sup>th</sup> of December, 1997. This philosophy consists of three principles namely moderation, reasonableness, and self-immunity (Mongsawad, 2010). Moderation refers to living life in the middle way or moderate practice. This cannot be happened without the second principle, reasonableness. According to this concept, reasonableness can be defined as having accumulated knowledge, experience, analytical capability, self-awareness, foresight, compassion, and empathy. The third principle of this concept is self-immunity. It refers to individual's ability to protect himself/herself from turbulent environment. Knowledge and moral are other main elements enhancing success of implementing sufficiency economy concept. Consequently, people will live their lives in the globalization era with harmony, security, and sustainability.

Some researchers had tried to identify elements or indicators to measure sufficiency economy (Puntasen et al, 2002; Sripadtha, 2006; Kantabutr, 2007; Yodpruetikarn, 2010; Supachanya et al., 2010; Vinit, 2014). However, their results provided different and various elements. This

study, therefore, would like to examine and identify elements of the sufficiency economy based upon empirical data gathered from small industry entrepreneurs. The results of this study would be beneficial for academicians and researchers who interested in this issue.

## **METHODOLOGY**

Samples of this study were 337 small industry entrepreneurs derived from stratified random sampling. Questionnaire was employed to collect the data. The efficiency economy measure was developed in accordance with the results of semi-structured interview. The authors had interviewed 5 entrepreneurs, who won Thailand Sufficiency Economy Philosophy Awards organized by the Office of the Royal Development Projects Board (ORDPB). According to the interview, 77 items were included in the questionnaire. Validity was test by a panel of 5 experts and Cronbach's alpha of .975 indicates reliability. However, 26 items were deleted during validity and reliability test and 51 items were remained. The exploratory factor analysis was applied to identify the elements of sufficiency economy. For this analysis, principle component analysis, and orthogonal rotation with varimax were employed. Eigen values greater than one were considered significant while other factors with latent roots less than one (Strang, 2016) were to be considered insignificant and hence discarded.

## **MAIN RESULTS**

All constructs were assessed using exploratory factor analysis. Principle component analysis and orthogonal rotation with varimax were employed (Kaiser, 1958). This analysis provided the Bartlett's Test of Sphericity Chi square (BTS) was 10384.964, Degree of Freedom (df) = 1275, Significant ( $p$ ) = 0.000, and Kaiser-Meyer-Olkin (KMO) = 0.946. In addition, measures of Sampling Adequacy (MSA) values were between 0.390 – 0.864.

According to the factor analysis, items with factor loading lower than 0.5 were excluded from the analysis. Consequently, 4 out of 51 items were excluded. Hence, 47 items were remained; 10 items for financial immunity, 7 items for quality improvement, 3 items for morale, 4 items for building alliance, 4 items for risk management, 6 items for tools and information, 3 items for local community oriented, 3 items for employee welfare, 3 items for customer oriented, and 4 items for employee oriented. The Eigen values of the constructs were 19.256, 2.452, 2.087, 1.791, 1.561, 1.343, 1.253, 1.147, 1.060, and 1.015 respectively. All components could explain 62.650 in the variation of sufficiency economy.

**Table 1.** Combination of the sufficiency economy elements

Factor	No. of items	Eigen value	Statements	Summary of the statement
1	10	19.256	37, 43, 44, 45, 46, 47, 48, 49, 50, 51	Financial immunity
2	7	2.452	9, 10, 11, 12, 13, 14,15	Quality improvement
3	3	2.087	18, 19, 20	Morale
4	4	1.791	21, 31, 32,33	Building alliance
5	4	1.561	22, 27, 28, 29	Risk management
6	6	1.343	23, 24, 25, 26, 35, 38	Tools and information
7	3	1.253	40, 41, 42	Local community oriented
8	3	1.147	2, 3, 4	Employee welfare
9	3	1.060	1, 34, 35	Customer oriented
10	4	1.015	5, 6, 7, 8	Employee oriented

## CONCLUSION

The philosophy of sufficiency economy initiated by King Bhumibol Adulyadej of Thailand consists of three principles namely moderation, reasonableness, and self-immunity. The measurement of sufficiency economy has been criticized since previous studies provided various and different results. Hence, this study would like to identify components of the sufficiency economy. Based on the factor analysis, 10 components of sufficiency economy were extracted and renamed as sufficient economy. Researchers, academicians, and related individuals could employ the results of this study for their future research and implication.

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## WORK-LIFE BALANCE AND INDIVIDUAL WELL-BEING: THE MODERATING EFFECT OF ORGANISATIONAL CLIMATE

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### ABSTRACT

This study aimed to investigate the moderating role of organizational climate on the relationship between work-life balance and individual well-being in the context of the ODL University in Malaysia. It also aimed to examine the direct relationship between work-life balance and individual well-being. The sample of the study consisted of 94 employees comprising of academics, academic support and operational staff. Statistical results confirmed that the work-life balance of employees seems to affect only their psychological well-being. It also observed that organisational climate do not to moderate the relationship between work-life balance and individual well-being. The results, besides indicating the suitability of the PLS in statistical analysis, have also contributed to a better understanding of work-life balance of ODL University's employees. Based on the findings, the limitations of the current study and suggestions for the future research would be discussed.

**Key words:** Work-life balance, Well-Being, ODL University, Organizational climate

### INTRODUCTION

Balancing work and personal life has always been a concern of those interested in the quality of working life and its relation to broader quality of life (Guest, 2002). It is believed that balancing a successful career with a personal or family life can be challenging and impact on a person's satisfaction in their work and personal life's roles (Broers, 2005). Multiple workplace roles by university employees alongside organisation and community pressures are likely to be viewed by both academic and administrative staff as significant triggers that influence their state of perceived work-life balance which in turn influences their individual well-being such as career satisfaction and psychological well-being.

## MAIN RESULTS

### Reliability Analysis

Reliability is a test of how consistently a measuring instrument measures whatever concept it is measuring, (Sekaran & Bougie 2010). As shown in Table 1, the internal reliabilities of scales were between 0.852 and 0.901, which is clearly acceptable (Nunnally, 1978).

**Table 1.** Result of reliability test

Constructs	Measurement items	Cronbach's alpha	Loading range	Number of items
Work-Life Balance	WLB_1, WLB_2, WLB_3, WLB_4, WLB_5	0.831	0.731 - 0.876	5
Organisational Climate	OC_1, OC_2, OC_3, OC_4, OC_5, OC_6, OC_7, OC_8, OC_9, OC_10, OC_11, OC_12, OC_13, OC_14, OC_15, OC_16	0.789	0.563 - 0.860	16
Career Satisfaction	CSAT_1, CSAT_2, CSAT_3, CSAT_4, CSAT_5	0.723	0.774 - 0.895	5
Psychological Well-Being	PsyWB_1, PsyWB_2, PsyWB_3, PsyWB_4, PsyWB_5, PsyWB_6, PsyWB_7, PsyWB_8	0.855	0.616 - 0.807	8

### Assessment of Structural Model

Following the assessment of the measurement model, the structural model was then analysed. The structural model comprises the hypothesized relationship between exogenous and endogenous variables in the model. Figure 1 shows the structural model of the study. Table 3 shows the results for the structural model.

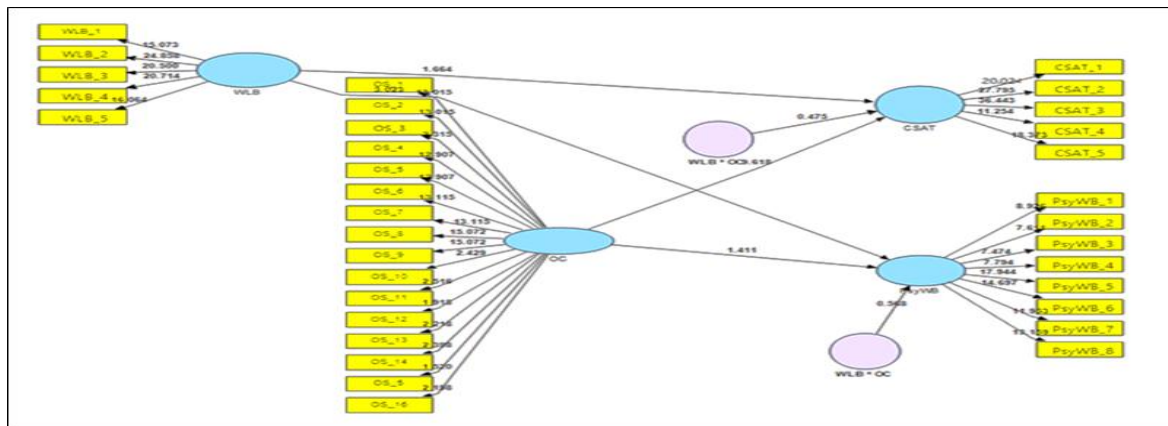


Figure 1: Structural model

Two hypotheses were postulated for the relationship between work-life balance and individual well-being (career satisfaction and psychological well-being). Out of two hypotheses tested, only one hypothesis was supported. Especially, work-life balance was found to have positive influence on psychological well-being ( $\beta = 0.328, p < .01$ ). Thus, this result provides support for hypotheses H2. In contrast, H1 ( $\beta = -0.142, p > .05$ ) was found not supported. Simultaneously, another two hypotheses were postulated for the moderating effect of organisational climate on the relationship between work-life balance and individual well-being (career satisfaction and psychological well-being). Nonetheless, was found that none of these hypotheses were not supported. The results indicated that H3 ( $\beta = -0.083, p > .1$ ), H4 ( $\beta = -0.156, p > .1$ ). Table 2 presents the results of path coefficient and hypotheses testing.

**Table 2.** Path coefficient and hypotheses testing

No	Relationship	Path Coefficient ( $\beta$ )	Std. Error	t-value	Decision
H1	WLB --> CSAT	-0.142	0.085	1.664	Not Supported
H2	WLB --> PsyWB	0.328	0.109	3.023***	Supported
H3	WLB*OC --> CSAT	-0.083	0.175	0.475	Not Supported
H4	WLB*OC --> PsyWB	-0.156	0.276	0.568	Not Supported

Note. \*\*\* $p < .01$  (2.33), \*\* $p < .05$  (1.645), \* $p < .1$  (1.28) (based on one-tailed test)

## CONCLUSION

This paper attempts to lead the first study in the interaction between work-life balance and individual well-being, moderated by organizational climate among ODL University's employees. Theoretically, the contribution is attributed to the moderating variables, namely organisational climate. This study believes that it is timely and critical to scientifically dwell into work-life balance and well-being in an ODL learning environment where the demands on the delivery and learning support requires digital literacy, competencies in Open Education Resource creation, usage and delivery, managing Open Learning Platforms such as Moodles. Organizational climate in this research represents leadership and policy that seemed to be unrelated, or insignificant. Although organizational climate was found not to moderate the relationship between work-life balance and employee well-being, choosing organizational

climate to be part of the proposed framework was to test previous findings in the context of ODL setting in which academic and operational staff were the study subjects.

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## IMPROVING SERVANT LEADERSHIP BEHAVIOR: EVIDENCES FROM LEADERSHIP LAB PROGRAM AMONG SUPERVISORS IN AN INDONESIAN PRIVATE UNIVERSITY

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### ABSTRACT

This study aims to examine the effect of LeadershipLAB program on Servant Leadership among supervisors in a private university in Bandung, Indonesia. LeadershipLAB is a combination of individual/group assignment and examination in assessment center (AC) exercises/simulations and discussion of the assessment results during feedback sessions. Seventeen newly assigned supervisors participated in the LeadershipLAB program and filled in a Sendjaya (2015) based servant leadership dimensional traits questionnaire, before and after the program. Servant leadership behaviors were also measured before and after the program using the 360° performance appraisal questionnaire which has officially been used by the university. The Wilcoxon Sign-Ranks Test showed marginally significant different in supervisors' servant leadership scores, before and after the program. Another Wilcoxon Sign-Ranks Test indicated significant improvement in their performance appraisal scores. These results suggest the effect of LeadershipLAB program in order to improve servant leadership behaviors and servant leadership traits. This study raise awareness about possibility of whether servant leadership is an innate personality trait, a learned behavior, or a combination of both. It is possible that one may grow his/her servant leadership behaviors through ongoing practice, and the practice would be more effective for someone who already has innate potential trait of servant leadership.

**Key words:** Servant, Leadership behavior, Leadershiplab program, Supervisors, Indonesia

### INTRODUCTION

Higher education as basis of science and technology has a strategic position in improving competitiveness and welfare of a nation. That improvement could only be happened through effective educational systems, including leadership in education. Leadership in education, especially in a higher education, is essential in order to be aware of both in successful practices to better serve students in operational level and in efficacious drives to achieve university's vision and mission in strategic level. University operational leaders, such as head of departments and head of divisions, are professionals who build relationships with and serve students, associates, and colleagues, based on their job descriptions. These operational leadership levels are important since they contribute most to make sure university functioning well in daily activities. To be more effective in their jobs, leaders in operational levels should

perform according to behavioral or competence standard in their organization. Consequently, their leadership behaviors should always be improved through leadership development program.

This study was conducted among leaders (i.e., supervisory level) in one of the leading private universities in Indonesia. The leaders were newly assigned as Chairman/Secretary of the Departments, Head/Secretary of Divisions, and Secretary of the Institutes. Most of them were not ready for their job based on Assessment Center (AC) results. However, due to the need and the lack of personnel availability, they are now already served as supervisors. Key indicators that were used in the AC program was referred to the basic foundation of values of Christian life, Integrity, Care, and Excellent (ICE) which have been determined as guidelines for the university in order to achieve their vision and mission. ICE has been integrated with Servant leadership theories (e.g., Spears, 1998; Patterson, 2011; Sendjaya, 2015) and has been converted into 12 competencies (e.g., Strategic Thinking, Impact and Influence, and Customer Service Orientation). Those competencies have been used as basic for 360° performance appraisal measure in the particular university. Servant leadership is a holistic approach to leadership that engages both leaders and followers through its (1) service orientation, (2) authenticity focus, (3) rational emphasis, (4) moral courage, (5) spiritual motivation, and (6) transforming influence such that they are both transformed into what they are capable of becoming (Sendjaya, 2015).

Since servant leadership is important and can be operationalized in behavioral indicators, it may be developed within individuals in organization. There are a lot of methods and techniques in developing leadership behaviors and one of them used behavioral approach such as Leadership Laboratory (LeadershipLAB). LeadershipLAB is a combination of individual/group assignment and examination in assessment center (AC) exercises/simulations and discussion of the assessment results during feedback sessions (Ginting, 2009). During simulations and exercises, participants in LeadershipLAB can demonstrate their competence through their behaviors which will be observed and evaluated by a group of trained assessors. Simulations and exercises LeadershipLAB are designed to be similar with job target of the participants. In LeadershipLAB feedback sessions, both individually and in group, will be repeated in a minimum of two sessions.

In this study, we examine the effect of LeadershipLAB program on Servant Leadership. LeadershipLAB program was customized with specific job of supervisors in a private Christian university in Bandung, Indonesia. Servant Leadership was measured before and after the program using a Sendjaya (2015) based servant leadership questionnaire and the 360° performance appraisal questionnaire as which has officially been used by the university. We hypothesized that the program could increase participants' scores in those two measurements.

## **MAIN RESULTS**

A Wilcoxon Signed-Ranks Test indicated that the median post-test rank of servant leadership questionnaire scores ( $N = 17$ ) was marginally significant higher than the median pre-test rank of the questionnaire scores,  $Z = -1.76$ ,  $p < 0.076$ . This result suggests that LeadershipLAB has a mild effect to increase servant leadership. Among six dimensions of servant leadership (Sendjaya, 2015), only spiritual motivation ( $p = 0.053$ ) and transforming influence ( $p = 0.011$ ) increased after LeadershipLAB. In addition, Another Wilcoxon Signed-Ranks Test indicated that the median post-test rank of 360° performance appraisal scores was

significantly higher than the median pre-test rank of the performance appraisal scores,  $Z = -3.621$ ,  $p < 0.001$ . This result suggests that LeadershipLAB program improved performance of the participants based on those 12 competencies that has been used as basis of performance appraisal in the university.

From the two main results in this study, it seems that the effect of leadershipLAB on performance (behavioral based servant leadership) is higher than its effect on servant leadership questionnaire (trait based servant leadership). Our explanation on this findings is based on a very general debate on leadership theories, whether servant leadership is nature, nurture, or combination of both (James, 2011). In his seminal work on servant leadership, Greenleaf (1977) believed an individual had to have potential to serve first before becoming a true servant leader, but he also suggested that an individual who aware in his/her leadership development needs can make some improvement to become a better servant leader. Servant leadership need not be limited to only those naturally gifted along the six dimensions of servant leadership articulated by Sendjaya (2015). Those dimensions might be integrated with innate personality and important potential to develop servant leadership behaviors. However, servant leadership behaviors can also be improved through learning (e.g., Engeström, 2001), such as repetitions, mimicking, and practicing, even it was not natural at first. Our results also demonstrated that Learning in LeadershipLAB could even gradually change servant leadership traits, started from spiritual motivation and transforming influence dimensions. Development in those two dimensions might also activate changes in other dimensions (i.e., service orientation, authenticity focus, rational emphasis, and moral courage) of servant leadership.

## CONCLUSION

This study suggests that LeadershipLAB program improved servant leadership. The effects of LeadershipLAB is more effective in increasing servant leadership behavior compared with servant leadership trait (innate personality). We argue that leadershipLAB would be more effective in developing servant leadership among individuals who already have innate potential trait of servant leadership.

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## MULTIPLE REGRESSION ANALYSIS ON MARINE FISH LANDING VALUE IN MALAYSIA

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### ABSTRACT

Fish is not only the main component of diet in Malaysia, but the fishery industry provides employments and helps in the preservation of food security. This study investigates the trend of changes in marine fish landing values, the number of fishermen and volume of marine fish for 1988-2014. Using values in 1988 as the base number, time series analysis of trend shows that the number of fishermen decreased from 1988 to 2002 but thenceforth steadily increased. The volume of fish appeared to have a steady and gradual increase, while fish value showed a substantial increase. Multiple Linear Regression technique is used to model the relationship between marine fish landing values, the number of fishermen and volume of marine fish. Results show the derived model is able to replicate the historical data very well. The outcome of this study could be used by related parties in the fishery industry to address the challenges in supplying fish.

**Key words:** Marine Fish, Fishermen, Volume, Value, Multiple Linear Regression

### INTRODUCTION

In many parts of the world, especially in Southeast Asia, fish is the main component of the diet. Fish is a source of animal protein and considered healthier to be consumed as whole food compared to other animal protein such as beef, lamb, and chicken. Fish is consumed not only as food, but fish meat also provides essential micronutrients to the human body. Malaysia has one of the highest intakes of fish in the world, approximately 60% of total animal protein intake (Azam-Ali et al. 2012). The fishery industry in Malaysia plays critical roles in lessening poverty and preserving food security. In 2014, about 1,482,900 tons of fish from the sea shore and deep sea, valued of RM8.785 billion was recorded (DOFM, 2017).

The local demand for fish is anticipated to expand, which is in line with Malaysia's population annual growth rate at 1.5% (DOSM, 2017). In 2010, Malaysia achieved a surplus

in the level of self-sufficiency in food fish; however consumer in Malaysia continue to face price hikes of fish (DOFM, 2017) especially marine fish. Other challenges faced by the industry are the assurance of adequate supply of fish and the human resources to catch fish. It is necessary for the fishery industry to meet local demand as well as for export. Thus, it is important to understand how the changes in the number of fishermen and volume of marine fish impacted the values of marine fish in the market.

The objectives of this study is to analyse the relationship of the number of fishermen and volume of marine fish landing to marine fish value with the use of a mathematical model. There are various studies on mathematical modelling on fish (e.g: Olden and Jackson (2002); Lewy and Kristensen (2009); Nielsen et. al (2014)) and such studies may help in the conservation and management of fish populations. The Malaysian fisheries sector is divided into capture fisheries (marine and inland) and aquaculture. However, this study only concentrates on marine fish. Data from 1988 to 2014 are obtained from Department of Fisheries Malaysia (DOFM) official webpage. The data consist of the number of fishermen, volume of fish landing and value of the fish. The analysis is conducted using Multiple Linear Regression technique.

Multiple Linear Regression (MLR) is an extension of simple linear regression. MLR is used when there is a single dependent variable,  $y$ , and two or more independent variables  $x$ .

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \dots + \beta_k x_{ki} + \varepsilon_i$$

This study involves two variables, which are the number of fishermen ( $x_1$ ) and volume of marine fish landing ( $x_2$ ) are the predictor variables while value of fish ( $y$ ) as the response variable.

## RESULTS AND CONCLUSIONS

Figures 1(a) and 1(b) show the time series (1988-2014) trend on the number of fishermen, volume and value of fish landing. Using data in 1988 as the base number, the percentage changes for each year are calculated. Analysis on historical data revealed that the number of fishermen (Figure 1a) from 1988 to 2002 decreased by 10% but steadily increased to about 60% in 2014. Nevertheless, the decrease in the number of fishermen did not affect the volume of fish and also the value of fish landing. The volume showed a steady increase from about 7% in 1989 to 76% in 2014. The value of fish showed a huge increase, from 21% in 1989 to about 540% in 2014. The correlation between number of fishermen and volume of fish is moderate at 67%.

The Multiple Regression model is found to be

$$Y = 2,477,611 - 157.1x_1 + 6.595x_2 + 0.000917x_1^2$$

$Y$  = value of fish

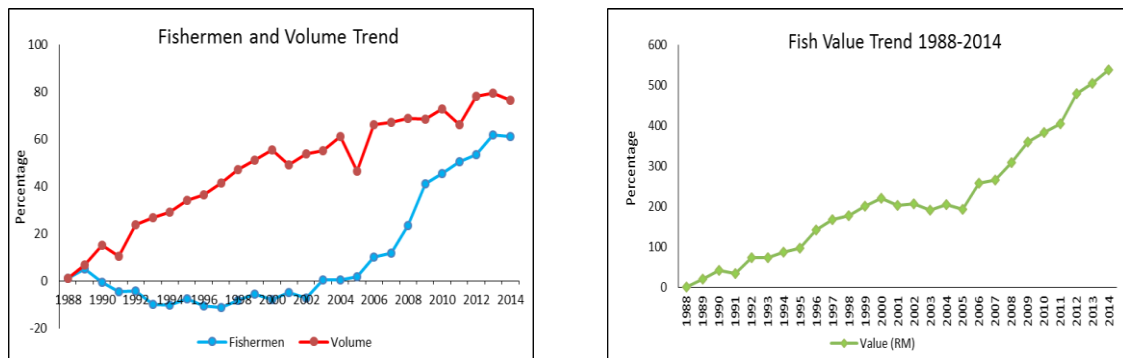
$x_1$  = number of fishermen

$x_2$  = volume of marine fish landing

This equation is a good fit with 98.99% of the variation in  $Y$  could be explained by the regression model. The graphical equation between observed and fitted value is presented in Figure 2. The graph shows that the model is able to replicate the observed data very

well. Results reveal that changes of fish value are closely associated with the volume and number of fishermen.

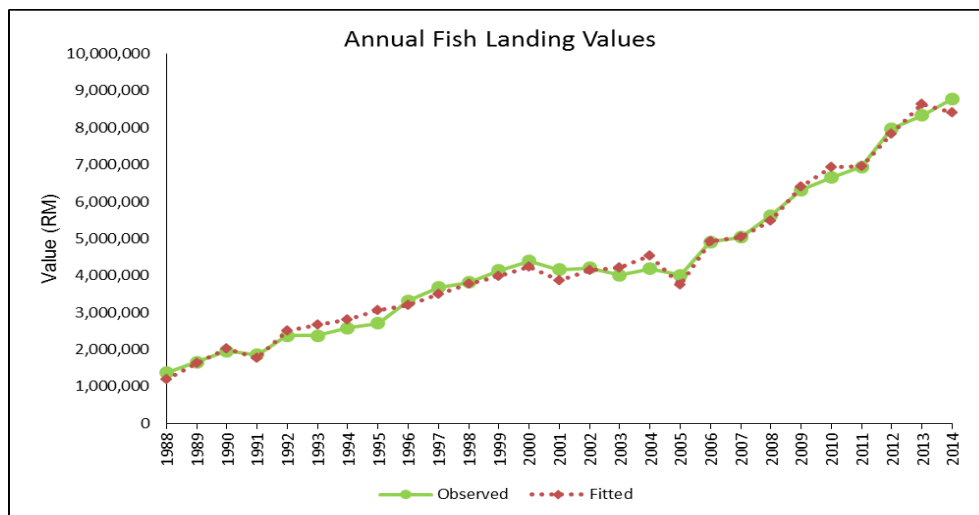
This study has successfully derived a model to describe the relationship between marine fish landing values, the number of fishermen and volume of fish. The model provides a practical approach in making predictions of fish value. It could also be used to examine the individual influence of predictor variables on the value of fish. The fishery industry provides an important source of animal protein to the population and has a large potential for further increases in fish supply. Results of this study and the adopted technique possibly might help related parties in the fishing industry to address the challenges in supplying fish.



(a) Fishermen and Volume

(b) Value

**Figure 1.** Trend of changes for fisherman, volume and value of fish landing



**Figure 2.** Comparison of observed data and fitted value

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## RELATIONSHIP AMONG PEOPLE LEVEL AND STRUCTURAL LEVEL OF THE LEARNING ORGANIZATION WITH INDIVIDUAL WORK PERFORMANCE

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### ABSTRACT

The purpose of this study is to explore if there are an empirically provable relationship among people level and structural level of the learning organization with individual work performance and the direction and the intensity of the relationship. Empirical research was conducted on a research sample of a local government in Indonesia. 250 questionnaires were distributed, and 132 usable surveys for an overall response rate of 52.8 percent were used for the analysis. Detailed analysis and result obtained from partial least squares (PLS) method are discussed, including the existence positive and significant link among those constructs. The result also revealed that structural level has partially mediated the relationship between people level to individual work performance. For the learning organization, there must be learning individuals and group in organizations; hence organization must create suitable process and structure for learning to improve individual work performance and it can be developed gradually while simultaneously emphasizing the importance of being an individual (people) learner in the learning organization. The pattern of learning organizations level and their relationships to individual work performance offers valuable and practical strategies for researchers and practitioners who work to create more effective learning organization mechanisms and increase individual work performance.

**Key words:** Partial least squares, Learning organization level, Individual work performance, Task performance, Contextual performance

### INTRODUCTION

Human assets are one of the most important resources available to any organization, and every organization needs to take account the employee performance as their focus (Iqbal et al., 2013; Prasetyo et al., 2015) by maintaining, improving, and optimizing individual work performance (Koopmans et al., 2014). Sonnentag & Frese (2002) suggested that learning was a prerequisite for performance and individuals need to be willing and able to engage in continuous learning processes to accomplish their present and future tasks successfully. (Hurley, 2002) In Aksu & Özdemir (2005) stated that for the learning organization there must be learning individuals in organizations and then concluded that organization must create appropriate process and structure for learning. Consequently, loads of organizations make an



effort to capitalize on learning organization and correcting its behavior to reflect new knowledge and insights (Garvin, 1993; Weldy & Gillis, 2010).

Studies (e.g. Awasthy & Gupta, 2012; Yang, Watkins, & Marsick, 2004) suggested that the relationship between people level (individual and team) learning dimension and organization performance outcomes (knowledge and finance) is entirely mediated by structural level learning dimensions. The question is then, how if the correlated variable is individual work performance rather than organizational performance, is structural level learning dimension playing the same role? According to this question, this research was commenced.

Accounting for those constructs extends the complexity, as they are multidimensional and process elements need to be regarded as latent constructs (composites) that are not observed directly. Applying PLS-PM, the purpose of this study is to explore the link among people-level and structural level of the learning organization with individual work performance dimensions and to determine if there is an empirically provable relationship among those constructs with a local government employee as participants rather than employees of business organizations.

## **MAIN RESULTS**

All measures were obtained from reports provided in SmartPLS and higher level of abstraction that testing second-order structure that contains two layers of constructs were performed (Ringle, C. M et al., 2015). Based upon the result, it can be concluded that reliability criteria at the construct and indicator level were fulfilled for the reflective measurement models. Convergent and discriminant validity were fulfilled and could be stated without caveat for all constructs. According to that, it can be stated that the measurement models were considered acceptable (reliable and valid) for evaluation of the structural model.

Evaluation of the structural model; the determinant coefficient ( $R^2$ ), path coefficients ( $\beta$ ), effect size ( $f^2$ ) and Stone-Geisser's test ( $Q^2$ ) revealed the presence of predictive relevance and the people level and structural level of learning organization were significantly and positively related to individual work performance. The result also revealed that structural level has partially mediated the relationship between people level to individual work performance differ from previous research when the correlate variable was organizational performance.

## **CONCLUSION**

This study revealed that both people level and structural level of learning organization have significant and positive direct relation to individual work performance. The result also revealed that structural level has partially mediated the relationship between people level to individual work performance distinct from previous research when the correlated variable was organizational performance. Despite that, this analysis establishes the role of the mediator variable in the model. Hence it could be coined two things; first, this result supports the ideas that for the learning organization there must be people learning (individual and group) in organizations and organization must create appropriate process and structure for learning simultaneously. Second, management effort to provide appropriate process and structure can be developed gradually while simultaneously emphasizing the importance of being an individual learner and learning organization. As natural outcomes, learning changes not only knowledge to increase core technical aspect (task performance) but also behaviors

that not directly related to core technical aspect (contextual performance) and takes places among individuals, teams, and organization.

The results of this study should be interpreted with caution due to several limitations. Through the lens of methodology, this study used the self-rating method. Consequently, leniency effect happened when the person is inclined to judge theirs' performance favorably and may be inflated by common method variance. Second, this empirical research has constrained itself to a cross-sectional survey method, that implies that the causality among the variables may be a prerequisite of speculation. Incorporating the mentioned aspects before, in the future research more complex measurement of individual work performance-i.e. supervisor and peer review, and the longitudinal study also could provide a more detailed understanding of the relationship among learning organization level and individual work performance dimensions.

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## EDUCATIONAL ORGANIZATION CONCERNS ABOUT EMPLOYEE RETENTION ISSUES

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### ABSTRACT

This survey was conducted to examine how far the organization's concern at the institute of higher learning on the issue of retaining skilled and knowledgeable workers. The study was conducted at Universiti Teknologi Malaysia (UTM) involving 4 senior management chosen by purposive sampling. Interviews were conducted against each respondent using a semi structured method within a period of about 30 minutes. The data of the study were analyzed using the Constant Comparison Analysis (Miles *et al.*, 2014). The findings shows that the organization gave high attention to the issue of employee retention. In conclusion, skilled and knowledgeable workers are important assets for an organization. Organizations have managed and implemented several strategies necessary to retain them.

**Key words:** Institution of higher education, Employee retention, Talent management

### INTRODUCTION

The loss of academicians has a negative impact on educational performance and research development in a university (Sawahe, 2016). Organizational concern over employee retention issues is a response to the needs for goals achievement. The study report by Right-Management (2014) was found that 84 percent of the human resource managers surveyed, felt the need for a study that could provide guidance on how to increase employee engagement in every organization's vision and mission. The study conducted by Groscurth (2014) was found that only 4 out of 10 employees understood the mission and direction of the organization.

Organizational concerns to retain their employees are heavily linked to the brain drain issues that occur among academics where it can affect the achievement of the university's vision to become the top ranked university in the world. According to Hoque *et al.* (2010), some universities are forced to attract foreign academics to meet the need to maintain their position in the world rank. Hence, this study will examine the extent to which the organization is concerned with this issue and how strategies implemented to fulfill their needs with the limited resources available to them.

## MAIN RESULTS

The interviews revealed that all respondents agreed employees retention was very important to ensure the university could be competitive and move forward to achieve their short-term and long-term vision and mission. They were also explained, the university has their strategies to retain the existing employees. All respondents agreed that employees retention is one of the key results in effective human resources management at this university. Based on the interviews conducted, some themes related to employees retention have been obtained. The themes are:

### 1. Employees Retention Issues Given Attention In Educational Organizations

The university took a high attention on the issue of employees retention. It was proved when in the interview session, there are respondents who give the following feedbacks:

Respondents of the Senior Deputy Registrar in the Student Affairs and Alumni Affairs Office explained:

*"UTM looks seriously how they want to retain their employees either academic staff or administrative staff."*

The Senior Deputy Registrar's Respondent at the Vice-Chancellor's Office supported by stating:

*"UTM is concerned with the retention of this talent."*

Respondent of the Deputy Registrar at the Human Capital Development Division supported by explaining:

*"In conclusion of the steps taken, UTM is concerned with the retention of their talent."*

The conclusions that can be made here are that UTM has high concern for employee retention issues, especially among lecturers at UTM.

### 2. The Employee Retention Strategy

The themes acquired under the issue of employee retention are some of the strategies stated by the respondents to retain the employee in UTM. The results of the interview found that the main strategy used was to provide an enabling work environment for employees to remain in UTM. The work environment described was in term of physically and psychologically. Physical aspects such as providing a conducive work space, while psychological aspects are the flexibility of a job. For example, hold back the post of academic administrators after returning to study leave. Among the feedback mentioned in the steps taken are:

Respondent of the Senior Deputy Registrar at the Vice-Chancellor's Office stated:

*"So when the place has been good and conducive, I think people will not go out of the place. In terms of opportunities and facilities, many are given to especially academic staff."*

Respondents of the Senior Deputy Registrar in the Student Affairs and Alumni Affairs Office explained:

*"this academic administrator does not have to resign if the course or sabbatical is less than six months. For example, if dean wants to make sabbatical, they can hold back the post when they finish their sabbatical. "*

Respondent of the Senior Deputy Registrar at the Vice-Chancellor's Office stated:

*"The ultimate strategy in retaining talent in UTM is to foster psychiatry and a sense of belonging to UTM"*

When viewed from the content of the feedback, UTM is trying to make the working environment and workplace in UTM desirable and happy to work by employees. Opportunities and facilities are always given to all staff especially academic staff to ensure they remain in the organization. Opportunities like continuing education do not abolish their privileges but are offered to continue to hold back academic administrator positions when completing the course. The term fosters a sense of belonging which was described shows the UTM taking certain steps in order for their staff, especially academic staff feel attached to their organization and feel part of UTM.

## CONCLUSION

In conclusion, the results of this study were indicated that the issue of employee retention should be given concern from various levels of management in the organization. This is because it needs to be dealt efficiently and uses limited resources. Negative impacts of expertise loss can have a major impact on educational organizations and may be suggested as future research proposals.

**Acknowledgment:** The writers wish to record our appreciation to the Malaysian Ministry of Higher Education which contributes funds to researchers and UTM authorities who grant permission for this study.

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## IMPACT OF INTELLECTUAL CAPITAL AS INTERNAL INNOVATION DRIVERS ON ORGANIZATIONAL PERFORMANCE IN IRANIAN AUTO PART MANUFACTURERS

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### ABSTRACT

This study examined the effect of internal innovation driver (i.e. intellectual capital) on organizational performance directly and through innovation capability. A quantitative method had been used to investigate the relationships paths. Using a cross-sectional survey method, data had been collected from 272 companies in the automotive sector in Iran. Hypothesized relationships were examined by using structural equation modelling (SEM) based on Partial Least Squares (PLS). The empirical results supported the hypotheses that three dimensions of intellectual capital namely, human capital, structural capital and relational capital have positive impacts on corporate performance directly and mediated by innovation capabilities. However, innovation capabilities positively moderate the relation between intellectual capital and organizational performance, which suggests that firms heavily invest in intellectual capital.

**Key words:** Intellectual capital, auto-part industry, innovation capabilities, organizational performance, Iran

### INTRODUCTION

The intellectual capital is the new core of economic progress in organizations (Cheng et al., 2010). Many specialists and experts considered it as an essential element to gain high performance in organization (Sydler, Haefliger, & Pruksa, 2014). The intellectual capital has positive effect on organization performance (Seleim, Ashour, & Bontis, 2004). This paper focuses on the importance of the intellectual capital to the company's performance. The aim of this paper is to examine the relationship between the intellectual capital and the performance of auto part companies in Iran. The objectives of this study are: (1) To examine to what extent intellectual capital influence organizational innovation capability in Iranian-auto-part-manufacturers. (2) To determine the effects of intellectual capital on organizational performance in Iranian auto-part manufacturers. (3) To examine the mediating effect of organizational innovation capability on the relationship between internal intellectual capital and organizational performance in Iranian-auto-part-manufacturers.

The conceptual model for this study is presented in figure 1. This model is derived from literature and theoretical framework of the intellectual capital where intellectual capital (IC), which consists of human capital, structural capital and relational capital, as independent variables and organizational performance (OP) as a dependent variable. The relationship between independent and dependent variables is mediated by organizational innovation capability (OIC).

Resource-based theory has been adopted as the main theoretical frame to justify and to interpret the proposed relationships in the theoretical framework. Therefore, according to this explanation, the framework of research is represented in Figure 1 as follows:



**Figure 1.** Conceptual research model

A quantitative survey strategy utilizing self-administered surveys was embraced to gather data for the variables proposed in the theoretical framework. Intellectual capital, organizational innovation capability, and organizational performance are the variables of the research. The questions utilized to gauge these variables were adapted from previously verified items. An English version questionnaire was developed in this study. The items were measured by using the five-point Likert scale. To ensure that the wordings of the instrument were clear and sensible, and the proportionality of the instrument was met, a pilot study was conducted. The pilot study is reflected as imperative to discover any issues in the instrument, and to choose face validity of the items. Taking after the pilot study, the final survey was conducted. In total, 272 questionnaires were disseminated among respondent companies. Data were analyzed by using two statistical techniques. The Statistical Package for the Social Sciences (SPSS) version 22 was used to analyze the preliminary data and provide descriptive analysis such as means, standard deviations, and frequencies. Structural Equation Modelling (SEM using Smart-PLS) using Confirmatory Factor Analysis (CFA) was utilized to test the measurement model. SEM was conducted using the two steps. The first step includes the assessment of the measurement model, while the second step includes assessment of the structural model. The measurement model was conducted in two steps which are the assessment of the unidimensionality and followed by the assessment of reliability and validity

of the underlying constructs. Validity criterion constructs, including convergent, discriminant and construct validity were also assessed.

## MAIN RESULTS

Table 1, Table 2 and Table 3 summarized the results of this study. In the research, t-value, q-square and f-square were calculated by means of blindfolding procedure. Götz et al. (2010) argued blindfolding procedure as a parameter estimation method where systematically some data for the particular items are eliminated from the sample and is contemplated as missing data. In the following phase, a construct set of questions of the missing data thought about as a component of the estimation procedure by dismissing another part of the data, and the system is repeated until each data point is neglected and assessed. The indices for the q-square are shown in Table 1. As can be seen that the significant paths towards the endogenous construct clarified extensively the over the threshold of predictive relevance and displayed substantial and medium effect. The indices for the f-square achieved through the blindfolding technique are displayed in Table 1. It is worth to remind that f-square is only figured for the path model to calculate the endogenous construct.

**Table 1:** Results of hypotheses T-value and F-Square

	Path Coefficient (t-value)	SE	$f^2$	$q^2$	Results
H1: IC -> OIC	0.3166 (9.1642)	0.0345	0.563	0.034	Supported
H2: OIC -> OP	0.3741 (2.3709)	0.1578	0.014	0.008	Supported
H3: IC -> OP	0.1795 (2.1018)	0.0854	0.023	0.01	Supported

**Table 2:** A Summary of hypotheses and results

Path	Hypotheses	Results
H1: IC -> OIC	There is a positive relationship between IC and OIC	Supported
H2: OIC -> OP	There is a positive relationship between OIC and OP	Supported
H3: IC -> OP	There is a positive relationship between IC and OP.	Supported



To examine the mediating effect of the OIC on the relationship between IC and OP Baron and Kenny (1986) criteria were exercised. Table 3 indicated that requirements regarding mediation specified by Baron and Kenny have been achieved. Firstly, IC is significantly related with OP ( $\beta = 0.3194$ ;  $t = 4.3361$ ). Second, IC is significantly related with OIC ( $\beta = 0.3409$ ;  $t = 9.666$ ). Third, OIC is significantly related with OP ( $\beta = 0.5342$ ,  $t = 3.9252$ ). Finally, the absolute effect of IC on OP is reduced from 0.3194 to 0.1608 when the mediating variable is introduced. Also stated in Table 3 is a Sobel z-value of 3.63619495 with p-value  $< 0.00013835$ . These results indicated that: first, since the Sobel z-value is large with a p-value less than 0.05, it suggests that the relationship between IC and OP is mediated by OIC. Second, partial type of mediation was also registered because the relationship between independent variable and dependent variable was reduced to a significant level (that is, from 0.3194 to 0.1608). Third, the ratio index of 49.66 percent given by  $(0.3194 - 0.1608) / 0.3194 * 100$ , implies that 49.66 percent of the effect of IC on the OP goes through the OIC and about 50.34 percent of the effect is direct.

**Table 3:** Mediating effects of OIC on the relationship between IC and OP

	IC -> OP	IC -> OIC	OIC->OP	IC->OP Mediated by OIC		
				IC -> OP	IC -> OIC	OIC -> OP
Beta	0.3194	0.3409	0.5342	0.1608	0.074	0.324
SE	0.0737	0.0353	0.1361	0.0534	0.016	0.1435
t-value	4.3361	9.666	3.9252	3.009	4.6278	2.258
Type of mediation : Partial						
Sobel Z value : 3.63619495 significance at $p < 0.00013835$						

## CONCLUSION

The results in Iranian auto-part industries indicated that all three paths representative of three hypotheses, were positive and significant. To explore the possibility mediation effect of organizational innovation capability on the relationships between intellectual capital and organizational performance; Baron and Kenny criteria and Sobel test were applied and were found that the relationships were partially mediated by the mediating variable. The results showed that the hypotheses were supported and three dimensions of intellectual capital; human capital, structural capital and relational capital have a positive impact on organizational performance directly and mediated by innovation capabilities. Meanwhile, innovation capabilities positively moderate the relation between intellectual capital and organizational performance, which suggests that Iranian auto-parts firms heavily invest in intellectual capital.

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## STUDY OF ALTERNATIVE BUSINESS MODELS FOR SUVARNABHUMI AIRPORT RAIL LINK PROJECT

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### ABSTRACT

The purpose of this research is to study an alternative business model for operation and maintenance management for Suvarbnarbhumi Airport Rail Link. The railway project is under State Railway of Thailand (SRT). It is a state enterprise of Thailand. The literature has acknowledge that the value of service is decreasingly produced by service systems. But solution for measuring the performance of the service for Suvarnabhumi Airport Rail Link still lacking. Methodology of research approach is a comparative study for four business models: 1) Business Unit under the State Railway of Thailand, 2) Subsidiary Company 3) Outsource Firm 4) Concessionary. The results are shown that the model for managing the business of a subsidiary and a business unit of the State Railway of Thailand (SRT) has the most possibilities. The instrumental analysis found that both models are most suitable for use in a time period comparable. When considering the ability to create opportunities for competition and the return on investment, the subsidiary will be better as follow the table.

Case	Business Unit	Subsidiary Company
Payback Period ;PB	16.4 year	16.9 year
Net Present Value ;NPV (Million baht )	44.21	44.21
Internal Rate of Return; IRR (%)	22.09%	19.52%
Return on Investment; ROI (%)	25.33%	17.05%

Practical implications: Empirical evidence illustrates the practical need to improve in service performance of the service system. The strategic emphasized in the management, efficiency and effectiveness improved reliability, availability, and safety that will improve the organization image of Suvarnabhu,I Airport Rail Link. Recommend for future study should be focused also on the economic and social impacts of the project that benefit to Thailand. These effects may be able to get a return to society or country besides the State Railway of Thailand itself.

**Key words:** Infrastructure development, Railway transportation, Business management models, Business models generative

## INTRODUCTION

From the past, Thailand has continued to develop its infrastructure by setting up policies and strategies then stipulated them in the National Economic and Social Development Plan. The Government of Thailand has also seen the importance of this issue. In order to rely less on car usage and reduce fuel use, we have shifted our attention to developing rail transport infrastructure with new innovations such as electricity powered rail system that could reduce petroleum imports from overseas, increase competitiveness, increase productivity and enhance the service sectors of the country. Moreover, it can also help reduce air pollution and protect the environment for the country.

In addition to this, the researchers have compared the extent and evaluated business management models to determine for the right business model and present a management alternative in order to survive and be effective.

## MATERIALS AND METHODS

### *Purpose*

To compare and evaluate the result of the business management format.

To determine the appropriate business model and presents a management alternative in order to survive and be effective.

### *Business Model Generation*

Business model generation was classified as follows (Mr. Prasit Sumethee, Risk Management Forum).

- Customer Segments. The philosophy that the customer voice is the voice of heaven was taken as its concept. Products and services offered were analyzed to serve the diversified target customers. Train services in each direction and each line have several target groups as customers. The service provider may be determining the target groups.
- Value Propositions. Organization seeks solutions to respond to customer needs by offering value. Value is a key reason that customers choose one company rather than another company. It can help solve customer problems or responding to customer demand. It is a value proposition that respond to the need of customers.
- Cost Leader Strategy. It is the philosophy to see what is needed to be done or is there other method that will cause a reduction in the cost of doing business and production cost without sacrificing the quality of its products and services. The users would also receive lower cost of consumption and services as well as a discount on the use of public transport.
- Channels. Organization can offer business value then sent to the customers via products and services communication and via direct and related business in various formats to increase revenue and place importance on coordination with the customer.
- Customer Relationship Management (CRM). Companies should clearly identify the patterns of relationship that it wants to establish with each group of customer. The relationship may be a private or automatic one. Customer relationship may be driven by motivation such as customer finding, customer retention and increase customer to increase sales.
- Revenue Streams. This is the result of a successful value proposition, which is the heart of the business model. Revenue streams are like blood vessel. Each income

stream may have different pricing mechanisms such as fixed pricing, price bargain, auctions, market-oriented pricing, volume pricing and yield management pricing.

- **Key Resources.** Key resources are the primary resources that are the factors of business operation. Readiness of the main resources is what used to offer and deliver to other components that we mentioned before. Every business model relies on primary resources, which enables companies to build and offer values, to access to the markets, to maintain relationships with customers, and to create revenue.
- **Key Activities** are the most important elements that companies need to execute in order to bring the business model to success. Every business model must comprise of a set of key activities as part of the management activity similar to the key resources. The key activities will vary depending on the type of the business model. For example, key activities of a software vendor such as Microsoft are to create software programs.
- **Key Partners.** Some activities were sent out to be executed by outside parties and some resources were sent in from outside the companies. Partnerships were built by a variety of reasons and the alliance has become a key element for many business models.
- **Cost Structure.** Components of business models have resulted in creating significant costs. Creation and delivery of value, maintaining client relationships, and revenue generation are associated with costs. These costs can be calculated quite easily after the key resources, key activities, and key partners were determined.
- **Regulations** are laws that associated with the business. In order to do a business, both domestic and international, laws and regulations including social, tradition and culture of the country must be studied. Learning and awareness on this issue is an important factor that companies will have to study.
- **Corporate Business Organization Risk model.** (Suvasarn, 2009). There are 7 types of risks as follow:
  - (1) Credit Risk
  - (2) Liquidity Risk / Financial Risk such as the lack of liquidity in the business, occurrence of non-performing loan (NPL) and possession of non-performing asset.
  - (3) Operation risk. Erroneous or negligence business execution and operation is also a risk that may lead to damages.
  - (4) Marketing Risk. A trading business dealing with foreign enterprises would face currency exchange rate risk and inflation Rate. Also, there is a risk of materials or raw materials shortage and price elevation.
  - (5) Country/political risk such as political instability, coup d'etat, our seizure of state power could result in damages.
  - (6) Strategic Risk is a risk from the management of business.
  - (7) Compliance risk is the risk associating to complying with contracts, laws, and regulations. It may lead to disputes and lawsuits that may cause damages.

### ***Definitions of Terms***

Urban Mass Transit and Suburban Mass Rapid Transit System refers to the electrical rail system that serves within the city limit and both inner and outer ring routes with the radius of distance of around 15-30 kilometers. The headway time is about 3-10 minutes and each station is around 1-3 kilometers away.

Airport Rail Links refer to the rail system that connects between airports and the city for convenient, speedy, safe, and efficient service.

Mass Transit System (MTS) refers to the public transportation that can transport many passengers at the same time. The system or machine uses for transportation may be in the form of buses or rail systems.

It could remain to be a subsidiary of the SRT or it could be a business unit of the SRT. It could also be receiving supported fund from the SRT (as a subsidiary) and the operation could be executed by an operator via outsourcing or concession.

### ***The concept of Management***

In this study, the researcher shall review the four business models previously and review the business model currently being conducted in order to analyze to see in which model the Airport Rail Link should be managed. The four business models are as follow:

#### **1. SRT Business Unit- BUs**

The business unit is a part of the SRT but its account receivable and payable is separated from the SRT. SRT executives shall responsible for fare pricing, operation, management, and financial matters of the project. The advantages of being a business unit in the SRT is that borrowing costs will be lower because the SRT, which is a state enterprise, and the government are the supporters. However, operation and business decision will be hard and slow because everything must be in compliance with bureaucratic regulations even fare pricing, which affects income of the organization. SRT has a lot of debts and constant expenses; for example, salaries of employees and executives, etc. Therefore, the repayment of long-term debt is difficult and there will be a lack of money to improve and maintain of the rail system that is a long-term demand. These factors will reduce the efficiency of the Airport Rail Link project.

#### **2. SRT's Subsidiary Company with the government as the sole shareholder**

For an establishment of an SRT's subsidiary which the government owns 100 percent of the shares, the company is regarded as a private company. The company can have its own work regulations and own administration of the Airport Rail Link project. However, it still has to be under the regulations of the RST and the government so it is more professional. The company can develop into a center of excellence Rail Company with more transparency.

#### **3. Outsourcing**

In outsourcing to and outside company, the outsourcing cost and term must be properly considered and must provide the most benefit to the SRT. If an experienced outsourcing agency is selected, it company shall be flexible with good business culture. However, the disadvantage is that SRT will have no bargaining power because if the outsourced company knows that it is the only company capable of executing the operation, the outsourcing cost will be high and would defer the defect warranty to the construction contractor. Therefore, the project will lose the opportunity to receive the transfer of

technology and lose the opportunities to experience the train operation and maintenance and may incur more expenses.

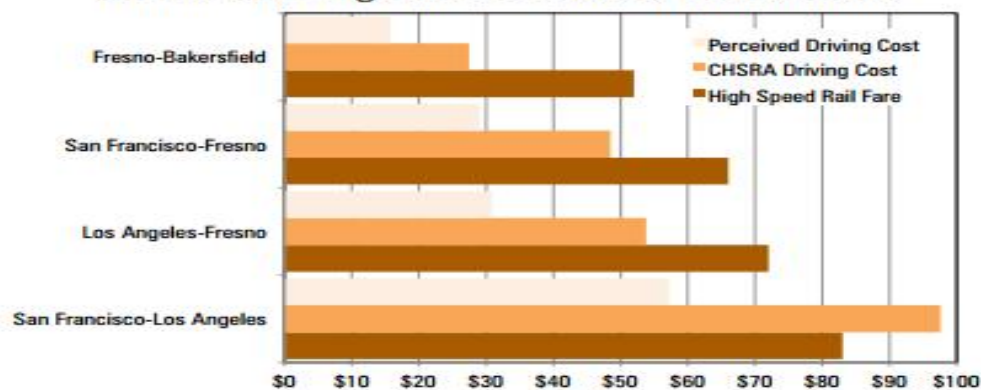
#### 4. Concessionary

The administration is quite similar to outsourcing.

For outsourcing, SRT must pay the fee to an outside company but in terms of the concession, the concessionaire shall pay the concession fee to the SRT for the amount as stipulated in the contract and condition. The concession fee per year is depending on the agreement. SRT is only responsible for preparing the document and the concession agreement. After the concession contract is signed, the responsibility will be on the concessionaire. SRT only has to oversee the concessionaire to work according to the contract. If the concessionaire has problems such as accessing the construction site or the performance of the concessionaire does not comply with the SRT's stipulation, SRT may help solve the problems similar to hiring an outsource company. However, transparency and honesty of granting a concession could be low because government personnel may have a conflict of interest of the Airport Rail Link project. Today, it seems too late for granting a concession for this project because the project has proceeded to the stage of actual operation. The possibility is very little because there are many documents to be prepared and it would take very long time.

Ridership projections and realities excessively optimistic and erroneous ridership forecasts have plagued high speed rail megaprojects similar to California's, resulting in overly optimistic revenue projections. CHSRA's ridership and revenue projections have been criticized by other agencies, university researchers, a peer review group and Reason's 2008 Due Diligence Report. Reviewers have outlined how ridership projections are unrealistically high because they are based on faulty models and flawed 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 CHSRA Stated, Not in Business Plan This Report: Optimistic This Report: Pessimistic Considered Unachievable Realistic Travel Time: San Francisco to Los Angeles Blended System: Travel Time in Hours assumptions, mainly about automobile travel costs. This report finds that the CHSRA has made consumer cost assumptions that unrealistically skew the cost of automobile travel to be high. In reality the out-of-pocket automobile costs would be approximately one-third to one-half less than high speed rail fares depending upon distance traveled and how many people are riding in a car. Hence, auto diversion to high speed rail will be lower than projected by the Authority. The Institute of Transportation Studies at the University of California Berkeley found that the CHSRA's ridership forecasts were "not reliable enough to support the expenditure of billions of dollars."

**Figure ES3: High Speed Rail and Car Costs: 2035  
(Excludes Parking and Access to and from Stations)**

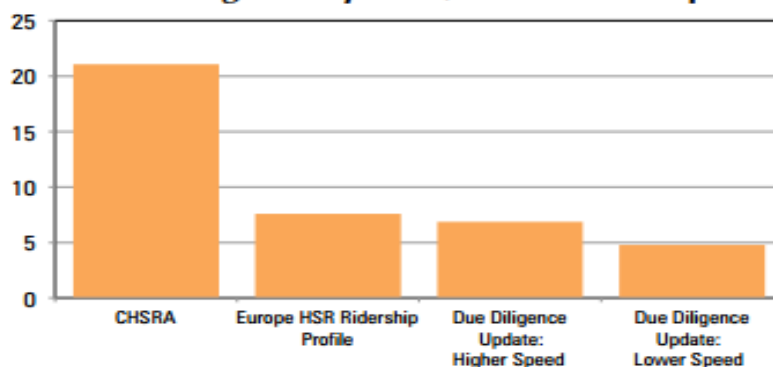


Sources: 2012 Business Report, Author calculations based on Cambridge Systematics data

Reason’s 2008 Due Diligence Report concluded that the CHSRA ridership projections could be as much as 200% high. Analysis of the data in the CHSRA 2012 Business Plan in this report finds the new ridership projections similarly optimistic. This report estimates that with appropriate modeling the ridership attraction from automobiles would fall by nearly 50%, while interregional ridership would lower by more than 35%—estimates that reflect international experience and which demonstrate that the California high speed rail auto attraction forecasts are implausibly high. Likely travel times along the Phase 1 corridor will be considerably longer than projected. For example, non-stop San Francisco to Los Angeles “one-seat” travel times will most likely be in the range of 3:50 to 4:40, compared to the often-repeated claim of 2:40. Any increase in travel time can be expected to make HSR less competitive with airlines, reducing its ridership and revenue. At the optimistic 3:50 travel time, inter-regional ridership should be forecast at approximately 25% lower than at the CHSRA projected 3:00. The pessimistic 4:40 travel time would likely cause a nearly 50% reduction in the ridership forecast. \$0 \$10 \$20 \$30 \$40 \$50 \$60 \$70 \$80 \$90 \$100 San Francisco-Los Angeles Los Angeles-Fresno San Francisco-Fresno Fresno-Bakersfield Perceived Driving Cost CHSRA Driving Cost High Speed Rail Fare High Speed Rail and Car Costs: 2035 Excludes Parking and Access to and From Stations CHSRA forecasts indicate a material percentage of the inter-regional ridership, at nearly 25% of the total, will originate outside the metropolitan areas that will have stations in Phase 1. This is far higher—by a factor of 3.5 times—share than was projected in a previous “investment-grade” ridership projection and may not materialize (the current ridership projection is not labeled as investment-grade by CHSRA).

This Due Diligence Update estimates that the cumulative effect of ridership projection irregularities and other factors could be substantial. For example, assuming the optimistic travel time projection of 3:50, the 2035 interregional ridership would be approximately two-thirds (67%) below CHSRA projected levels at 6.9 million annually. Assuming realistic automobile costs and more-plausible outside-the-corridor ridership, the 2035 interregional ridership would be 77% below the CHSRA forecast, at 4.8 million annually. Even if the number of automobile drivers switching to rail equals the European experience, ridership would still fall nearly 65% short of the CHSRA projection.

**Figure ES4: Interregional Ridership Forecasts: 2035  
CHSRA and Due Diligence Update (Annual Ridership in Millions)**



Sources: April 2012 *Business Plan* (CHSRA) and author’s projections.



Additional factors could lead to a larger gap between the forecasts and actual ridership, such as slower population growth and excessive air travel delay bias in forecasts. When all factors are combined, they skew high speed rail ridership much higher than is likely to occur. Present the research design, research type, research duration, inclusion/exclusion criteria, choice of subjects, etc. Describe the methodology completely, including sample collection, processing, lab analysis, statistical tests used for data analysis etc. Use section headings/subheadings in a logical order to entitle each category or method.

## CONCLUSION

IDOT sponsored a research team at the University of Illinois, including the Urbana-Champaign and Chicago Campuses, to study the feasibility of a 220 mph high speed rail service from O'Hare Airport through downtown Chicago to Champaign-Urbana and on to St. Louis and/or Indianapolis, including engineering, operational, ridership, economic and financial aspects.

This report presents the estimated construction, operating, and maintenance costs for various network alternatives, as well as the estimated ridership and revenues. Depending on the type of infrastructure and the implementation phase, the total cost to construct the HSR system would range from \$22 billion to \$50 billion (\$20 billion to \$39 billion for segments within Illinois only), in 2012 dollars. Express HSR services from downtown Chicago to Champaign would take about 45 minutes; to Springfield about 1 hour 18 minutes; and to either downtown St. Louis or Indianapolis about 2 hours. The expected annual ridership of the whole system is estimated between 8 million and 15 million people. The HSR trains are envisioned to run every half-hour during peak times and hourly during other times.

Analyses of several different cost and revenue scenarios indicate that the HSR system is expected to be operationally profitable. In addition, operations profits could be transformed through debt and equity to cover from 5 percent to 23 percent of the total construction cost. The economics analysis of the HSR system has been shown to provide substantial benefits to Illinois, including the creation of 409,000 to 792,000 job-years during five years of construction and creation of 10,890 to 13,820 jobs per year during the first 10 years of operation. Public private partnership (PPP) with substantial investments of public funds should be explored to make the HSR system a reality. An incremental or blended approach completed over a longer time period could also reduce initial capital costs and provide other nearer-term transportation benefits, while simultaneously improving intercity transportation quality and travel times. This is similar to the approach commonly used internationally and should be studied further.

### Transcript

1. The use of success factor. Business unit and subsidiary are the most likely models to be successful. This result has interested the researcher to study and compare both models' marketing and financial feasibility.
2. From the perspective of the researcher who is an expert in establishing organizations and has managed the Airport Rail Link for years and has studied projects and business models of metro train projects, the Airport Rail Link, besides gaining its main revenue from fare collection, can gain from relevant businesses such as retail space lease, advertisement spot lease, and parking service at the eight stations along the route. The spaces above are the area inside the station, below the station, around the station, and even inside the rolling stock itself. The study has shown that businesses can be conducted in these area by renting them out.
3. Return on investment.

**Table 1.** Comparison of return on investment.

Case Study	Business Unit	Subsidiary Company
Payback period	16 Years and 4 months	16 Years and 9 months
NPV (Million Baht)	44.21	44.21
IRR (%)	22.09%	19.52%
ROI (%)	25.33%	17.05%

The study also found that executives, both the government and the senior management of the SRT, rarely give precedence to solve problems. Moreover, it also found that the unclear status of whether to establish the company as a subsidiary or a business unit of SRT has caused all employees to lack confidence regarding security and lawful benefits such as salary, welfare, vacation, leave, etc. The government and parties in responsibility should address and solve before they lead to bigger problems. For the development of an alternative business models for Suvarnabhumi Airport Rail Project, there are issues to be discussed as shown below (Table 2).

**Table 2.** Comparison of return on investment.

Description	Weaknesses
1. Number of passengers and capacity of trains	Limited capacity and insufficient number of trains.
2. Number of passengers	The number of passengers is more likely to increase especially during rush hour
3. Fares	Similar to other countries such as Malaysia, Singapore, Hong Kong, South Korea.
4. Waiting time between trains	Long waiting time. Crowded and inconvenient cabin.
5. Access to stations.	Some stations are hard to access because they are far from the main road. Enter and exit routes have no lighting, which is risky and unsafe.
6. Service and ticket sales.	Ticket sales system is inefficient and has too little officers to serve.
7. Linking with other mass transit systems	Lacks connection to other mass transit systems (Bus feeder, Shuttle) and lacks coordination with other agencies such as Bangkok Metropolitan Administration, Tourism Board, aviation businesses, and tourism association, etc.
8. Number of trains and back up trains.	Train number is not enough. There are nine trains but only five trains are operational. The remaining four trains are not operational because of the lack of spare parts. There should be an adequate number of trains in service with one back up train and one or two back up trains to support major maintenance after 5 years of service.

A subsidiary of the SRT is a format in establishing a company to provide train service and system maintenance service. It was a study to determine the suitable business model to be the practical model for state enterprises in order to administer entities in new ways that granted freedom to the subsidiary in managing its business under the rule of safety in providing train service and vigilant trading principle. The company shall have a management freedom to gain high revenue in order to pay back to the RST, to support financial matters such as payment of employees' pensions, and to be able to enter into the stock exchange. SRT, as the sole shareholder, shall select the CEO and executives in various departments into the company's board of directors. The board of directors shall meet to stipulate plans, policies, and general

administrations pertaining to the agenda including issues relating to supervision of safety, providing service to passengers, and spending.

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## VALUE IMPLEMENTATION AND EVALUATION FOR CORPORATE CULTURE CASE STUDY IN SBM ITB

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### ABSTRACT

In SBM ITB corporate culture there are five values which are trust, .strive for excellence, harmony, integrity and innovation. These values in appropriate and inappropriate behaviour. The main goal of this paper is to evaluate the implementation and take necessary action to ensure the values are achieved. With the interactive planning approach, qualitative and quantitative research will compare the current condition and construct a strategy to achieve the desirable condition of the corporate culture.

**Key words:** Value analysis, Corporate culture, Interactive planning

### INTRODUCTION

SBM ITB corporate value is built from 5 values that proposed by the founder with the purpose of becoming a leading business school. These values are trust, strive for excellence, harmony, integrity, and innovation. These values are translated to appropriate and appropriate behavior. In daily basis the implementation is differ from one stakeholder and other stakeholder in SBM ITB. In that case an evaluative steps and development steps are needed in order to maintain the implementation of those values. It is hope that the quality of the culture can be preserved and developed to greater good.

In this paper the values theory is derived from Schwartz (1992) value theory and embed to corporate culture theory. For this value research a qualitative and quantitative method is applied, in other work this research using a mix methodology which is represented in interactive planning methodology. The reason why interactive planning (IP) is chosen is because according to Ackoff (2006) the natures of this methodology is evaluative and propose a solution and control for the future research. In each step of IP the qualitative and quantitative approach will be used to gather the appropriate data. In summary the research will be divided into 5 steps which are:

1. Mess formulation. Here the stakeholders, values and corporate culture will be described along with the current condition of value implementation by the stakeholders.
2. Ends planning, the ideal corporate culture condition will be derived from the exiting value that have been designed by SBM founder.

3. Means planning, here the gap between current condition (interview) and ideal future condition (founder expectation) are analyzed and findings the possibilities to filling the gap through knowledge cafe
4. Resource planning, in this step the possibilities will be considered based on the available resources. Ideas generated from the means planning are categorize by level of importance and level of possible implementation judging from the available resource.
5. Design of implementation and control, the purpose of this step is to ensure that the continuity of maintaining the ideal goals in ends planning will be achieved and preserved.

Communication is one of the key factors to achieve the ideal goal of implementing SBM value as SBM corporate culture. Therefore corporate communication strategy is important to be considered. But according to Schein (2004) culture and leadership are intertwined so therefore this research will also conduct a comprehensive research in leadership of the organization and how they maintain the values and beliefs in the organization.

## **MAIN RESULTS**

The SBM value consist of five values, they are trust, strive for excellence, harmony, integrity, and innovation. For the purpose of converting the five value into corporate culture the values are defined into the appropriate and inappropriate behavior. Those values and behavior are posted in SBM website.

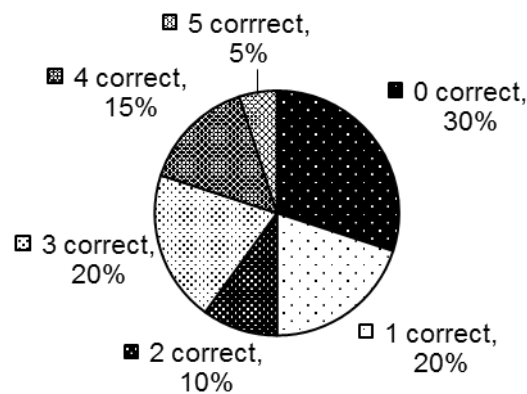
### **Mess Formulation**

For the mess formulation steps, the research has gathered the data from the employee of SBM which consist of two main groups, the lecturer, and the managerial staff (non-lecturer) as the main stakeholders. The data was gathered by using qualitative method (interview). In this interview researcher ask 16 question with first question is asking about participant regarding five SBM values in order to gain current condition about employee knowledge regarding the five SBM values. The other 15 question are asking participant about their opinion regarding existing value, appropriate behavior, and inappropriate behavior.

In mess formulation step, the research have founded most of the employee of SBM does not know all the value (five value) of SBM, it was described from the first question asking the participant to answer the value of SBM they know, however from the qualitative data it was discovered even though the employee does not know the exact SBM value but their behavior reflect the value of SBM, this condition is described in the other 15 questions of the survey and describe that all the employees have at least done the value of SBM as daily corporate culture without memorizing the five values. This situation support the finding in Thomsen (2005) regarding corporate governance “a company emphasize certain values over others not because those values are inherently better in a universal sense, but because of their governance structure which is ultimately derived from the nature of their activities.

The description for the data employee knowledge level regarding the five SBM values are shown on the figure below. Most of the employee around 30% of them cannot answer the five SBM value correctly. There are 20% of the employee who can answer only one value correctly. There are 10% of the employee that can mention two SBM value correctly, 20% who can mention three values correctly, 15% can mention four values correctly. There are only 5% of the participant which can mention all the value correctly, this number is so small, although the values have been broadcasted in SBM website and set as monitor wallpaper and could be seen every day.

Particularly for harmony value, the answer from participant can be divided into two groups with different opinion, in short participant have different understanding about harmony.



**Figure 1.** Employee knowledge about 5 SBM value

### Ends planning

For the ends planning step researcher has already set the goal for ideal corporate culture, judging from SBM vision to become leading business school, the ideal corporate culture should be competitive, the competitiveness is translated into five SBM values, and describe in appropriate and inappropriate behaviour. Ideally every employee knows all the values, understands the values correctly, implements it into work culture, and remind each other to enforce value implementation. In short the ideal condition is all stakeholders embedded SBM values on work.

### Means planning

From the data gathered means planning step is to analyse data, find the gap between ideal and current condition, and filling the gap. There are two gaps found, the first gap is in current condition only 5% of participants truly embedded five SBM values, this is far from expectation 100% participant embedded SBM values. Second gap is regarding the harmony value, from the previous step it is found that participant have two distinct understanding for harmony value, one group of participant is describing harmony as “follow the rule” and the other group is describing harmony as “rhythm of social relation”, this dualism of understanding emerge due to personal interpretation.

To fill the gap a focus group discussion (FGD) was conducted by using knowledge café approach. According to Gurteen (N/D) and Remenyi (2004) knowledge café is defined as a means of bringing together a group of people who have a common interest and who will be able to benefit and increase their knowledge by talking together and listening to each other on the subject of issues related to, and surrounding, that common interest. By using knowledge café approach, knowledge transfer process was accelerated. For the knowledge café focus group discussion, 20 participants from the managerial staff is invited to the FGD. Participants are divided into five groups of four and one of them is selected as facilitators. The purpose of dividing participants into five groups is to accommodate focus discussion on a specific SBM value in each group, the formation as describe below:

1. First group focus on value Trust
2. Second group focus on value Strive for excellence
3. Third group focus on value Harmony
4. Fourth group focus on value integrity
5. Fifth group focus on value innovation

The mechanism of knowledge café is start with each group assigned with three important questions for discussion around their specific value discussion. In each group consist of four participants and one of them is assigned as facilitator in group to maintain the discussion and knowledge sharing. Here are the questions for discussion among each group regarding specific SBM value:

1. Please describe the liability factors for implementing this value
2. Please provide solutions for overcome liability factors
3. Please provide some examples of the solutions

The knowledge café starts with presenter explaining the SBM values and provide all participants with the copy of SBM values complete with the appropriate and inappropriate behaviour. After the explanation each group discuss the three questions for each value, and the discussion session is divided into five sessions for each sessions taking 15 minute. At the end of each session, participant move from one group to another in order to discuss in these five groups. Except for the group facilitator, they remain in the group in order to maintain the discussion and look forward to development of the discussion, it is also to prevent repetition of answers.

Findings from the discussion is presented in tables below:

**Table 1. Trust findings**

Internal liability	External liability	Solution	Examples
<ul style="list-style-type: none"> <li>• Perfectionist</li> <li>• Bad experience from previous job</li> </ul>	<ul style="list-style-type: none"> <li>• Bad track record of team mate</li> <li>• Insufficient skill of team mate</li> </ul>	<ul style="list-style-type: none"> <li>• Teamwork training</li> <li>• Intensive team communication</li> </ul>	<ul style="list-style-type: none"> <li>• Delegate task to new staff with guidance from senior staff in teamwork</li> </ul>

**Table 2. Strive for excellence findings**

Internal liability	External liability	Solution	Examples
<ul style="list-style-type: none"> <li>• Personal and family problem</li> </ul>	<ul style="list-style-type: none"> <li>• Technology acceptance</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on job and distinct job problem with personal problem</li> <li>• Technology training</li> </ul>	<ul style="list-style-type: none"> <li>• Do not mix personal problem with job</li> <li>• Technology workshop, seminar and training</li> </ul>

**Table 3. Harmony findings**

Internal liability	External liability	Solution	Examples
<ul style="list-style-type: none"> <li>• Self-confidence</li> </ul>	<ul style="list-style-type: none"> <li>• Misunderstanding in communication</li> </ul>	<ul style="list-style-type: none"> <li>• Improving communication</li> </ul>	<ul style="list-style-type: none"> <li>• Improving communication between division among managerial staff and tutors</li> </ul>

**Table 4. Integrity findings**

Internal liability	External liability	Solution	Examples
<ul style="list-style-type: none"> <li>• Greed</li> <li>• Personal opinion</li> </ul>	<ul style="list-style-type: none"> <li>• Peer pressure</li> </ul>	<ul style="list-style-type: none"> <li>• Spiritual approach</li> <li>• Self-control</li> <li>• To be wiser in society</li> </ul>	<ul style="list-style-type: none"> <li>• Aware for self-potential and self-limit</li> <li>• Not easily seduced by temptation</li> </ul>

**Table 5. Innovation findings**

Internal liability	External liability	Solution	Examples
<ul style="list-style-type: none"> <li>• Comfort zone (low motivation, conservative, insufficient skill)</li> <li>• Pessimistic</li> <li>• Low commitment</li> </ul>	<ul style="list-style-type: none"> <li>• Unready system</li> <li>• Insufficient resources (man power, technology, and tools)</li> </ul>	<ul style="list-style-type: none"> <li>• Move from comfort zone and accept new challenge</li> <li>• Soft skill training</li> <li>• Training and workshop for new system implementation</li> <li>• System perfection</li> </ul>	<ul style="list-style-type: none"> <li>• Convert from manual documentation that take longer time to process into digital record for efficiency</li> <li>• Implementing centralizes electronic data processing for cutting down lead time in service</li> </ul>

## Resource Planning

Based on findings derived from FGD, there are two major problems which influence embedded value of the stakeholders, first is human factor and second is insufficient resources, technology and tools.

For the human factor problem the solution is through training and development, Table 6 shows value training solution:

**Table 6. Value training**

Trust	Strive for excellence	Harmony	Integrity	Innovation
<ul style="list-style-type: none"> <li>• Value training</li> <li>• Communication skill training</li> </ul>	<ul style="list-style-type: none"> <li>• Technology training</li> <li>• Self-improvement training</li> </ul>	<ul style="list-style-type: none"> <li>• Communication skill training</li> </ul>	<ul style="list-style-type: none"> <li>• Motivational training</li> <li>• Spiritual counselling</li> </ul>	<ul style="list-style-type: none"> <li>• Motivational training</li> <li>• Self-improvement training</li> <li>• Soft skill training</li> <li>• Technology training</li> </ul>

The second problem is insufficient resources, technology and tools, these problem cannot be fix immediately it will need times for SBM to make decision regarding resource management. But this suggestion can be considered as solution in the future.

## Design of Implementation and Control

In designing implementation and control, measurement tools in prepared to annualize the improvement of embedded value, there are three form of measurement will be used in the intervention and later on in the evaluation process.



## CONCLUSION

Although SBM organization has been established since 2003 and the SBM values has been introduced since then, in the recent research in 2017 shows around 30% of the respondent do not have any knowledge regarding SBM values, and only 5% of the respondent know the values very well. This result is disappointing, that SBM values were not embedded by 95% of the respondent. SBM values only presented in SBM website and poster in the office room, using this two communication method is inadequate, because they do not notice and simply do not see and read the media. On the other hand from the interview with SBM staff it is found that their daily behavior on daily work has been reflected the implementation of SBM values. It is concluded that SBM organization staff has been implementing SBM values culturally regardless the lack of SBM value knowledge.

In order to improve the knowledge of the SBM values among staff, knowledge café method was implemented as an intervention step. From the knowledge café it is found that the gap between the desirable result and the current condition can be fix. There are two major approaches to solve the problem, first is human resource approach and facilities approach. The human resource approach is conducted by training and workshops in communication, self-improvement, technology training, etc. The facilities approach is conducted by investing in new technology and facility that will improve efficiency and effectiveness in work.

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## RELIGIOUS ORIENTATIONS AND INFORMATION DISCLOSURE IN SOCIAL NETWORK SITES: A PILOT STUDY

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### ABSTRACT

Past studies indicate that certain cultural values influence the way people disclose personal information in social network sites. However, the inferences of observation made in majority of the studies were limited to the popular five values of Hofstede's cultural model. This study aims to evaluate the influences of religiosity, a cultural value pertinent to Malaysians, on information disclosure behaviours in social network sites. A self-administered questionnaire was piloted to 87 adolescents aged 16 years old in three schools in Melaka. Results indicate that Malaysian adolescents, overall, are highly religious internally while being religiously moderate externally. The two religious orientations significantly influence the attitudes of Malaysian adolescents towards social network sites and their information disclosure behaviours. Based on this evidence, the role of religiosity orientations are further investigated in terms of their mediation and moderation influences on information disclosure in social network sites.

**Key words:** Religiosity, Information disclosure, Social network sites, Adolescent

### INTRODUCTION

The second largest Internet users in Malaysia are teenagers (Malaysian Communications and Multimedia Commission, 2012) and spent more time on Facebook and adults (Christofides, Muise, & Desmarais, 2012). Needless to say that social network sites have formed an important part of adolescents' lives. The sites provide opportunities to interact with people around the world, and are impacting on the assimilation of cultural values (Robbins & Stylianou, 2009) including religion. History has shown that religion is the most important cultural influence which affected social norms in Malaysia (Ryan, 1971). The importance of religion has also been highlighted in the formation of Rukun Negara (Tambi, 2013). The first item in the Rukun Negara implies that every Malaysian should believe in a religion, and thus embrace the teaching of the religion as way of life. This study aims to investigate the

religiosity orientations embraced by Malaysia adolescents, and how the orientations influence their attitudes and behaviours in social network sites.

The religiosity of Malaysian adolescents was measured using Religious Orientation Scale (ROS) developed by Allport and Ross (1967). ROS measures two religious orientations: intrinsic (IO) and extrinsic (EO). Individuals whom are intrinsically religious, view religion as an end in and of itself where their actions are modeled according to religious doctrines and teachings and not using them to fit or justify their actions. Meanwhile, extrinsically religious individuals may utilize their religion for specific purposes in achieving personal goals.

The measurements for attitudes toward social network sites are classified into two categories: the perceived personal benefits gained from using the sites, and the perceived privacy risks they might experience due to information disclosure made on the sites. There are three constructs for perceived personal benefits namely self-presentation (SP) (Long & Zhang, 2014), entertainment (Ent) (Wijesundara, 2014), and relationship management (RM) (Ho & Li, 2011). Concerns for privacy violations (PV) and trust on providers (TP) (Krasnova & Veltri, 2010) are two constructs for perceived privacy risks. The behaviors of information disclosure consists of acquisitive disclosure (AD) (Jiang, Heng, & Choi, 2013) and protective disclosure (PD) (Feng & Xie, 2014). All measurement items were translated into Malay language, and were face validated by five professional experts prior to the execution of this pilot study.

## MAIN RESULTS

Descriptive analysis of religious orientations shows that the mean scores for internal and external are 4.17 and 3.34 respectively. The relationships between the two orientations and all constructs of personal attitudes and behaviors in social network sites were investigated using Pearson product-moment correlation coefficient. The total sums of all items for each construct were used as inputs for the correlation analysis. Preliminary analyses on the total sums were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Table 1 below summarizes the relationships.

**Table 1.** Pearson correlations between religiosity, personal attitudes and disclosure behaviors

	SP	Ent	RM	PV	TP	AD	PD
EO	.518**	.188	.378**	-.092	.185	.260*	.247*
IO	-.207	-.288**	.161	.178	.375**	-.176	.009

\*\*p < 0.001 (2-tailed), \*p < 0.05 (2-tailed)

## CONCLUSION

The internalization of religion in daily life negatively relates to participants perceiving the benefit of social network sites as an entertainment medium. The goodwill spirit teach by religious doctrines might contribute to positive perceptions towards service providers. On the contrary, the external orientation positively relates to the way participants presented themselves in social network sites and managed relationships with friends. As such, these relations significantly reflected in their disclosure behaviors on the sites. Additional analyses are necessary to further investigate the mediation and moderation influences of religion on information disclosure in social network sites.

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## RELATIONSHIP BETWEEN TRUST AND JOB-SEEKERS' INTENTION TO USE ONLINE RECRUITMENT WEBSITES

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### ABSTRACT

The purpose of this research paper is to study the relationship between job-seekers' intention to use online recruitment websites to assist in their job-seeking activities. With the increase in using online recruitment websites to assist in recruitment and selection activities, it is important for organizations to understand and determine the relationship between job-seekers to use certain online recruitment websites. By examining factors such as trust, and how this factor influence job-seekers' intention to use the online services, organizations and human resource managers can determine and select the most appropriate online recruitment website for their internal recruitment and selection activities. A total of 208 survey responses was received for the purpose of this study. The result of the study concludes that the trust is a factor influencing the intention to use online recruitment websites, which mean there is a significant relationship between trust and job-seekers' intention to use online recruitment websites. Online recruitment website providers, organizations and human resource managers can benefit from this study.

**Key words:** Recruitment and selection, Online recruitment websites, Trust, and Intention to use.

### INTRODUCTION

The purpose of this study is to investigate if the trust has a direct impact on job seeker's intentions using an online recruitment website to assist them in job search activity. Focus on variable that influence the intention of job seekers to use online recruitment websites. According to Kucukusta et al. (2015), the intention to use refers to the attitude of the user to the action to be used, to continue to use, and to recommend others using a particular system or service. Therefore, this study aims to evaluate the factors that influence job seekers' intention to use online recruitment websites with the hope that the recruitment portals and organizations that want to use online recruitment websites for their recruiting purposes will be able to make use of the information gathered from the study to enhance user experience when using online recruitment websites for job-seeking activities. For the purpose of this study, the information pertaining to the user's attitude towards the action intended for use, continue to use, and recommend others to use online retrieval web pages collected.

Trust refers to the overall perception of online users concerning the trustworthiness of online service providers (Amin, Razaei, & Abolghasemi, 2014). Since the enactment of the Personal Data Protection Act (2010) by the government of Malaysia to protect individuals' personal data in commercial transactions, users are increasingly educated on the importance of personal security especially in online transactional matters. Therefore, it is necessary to investigate how the users perceive whether online recruitment websites can be trusted with their personal information, if they feel secure from potential fraud, and whether users perceive if their privacy is at risk when accessing online recruitment websites.

Online recruitment gives many advantages to the company, and one of the most profitable advantages is its' cost. This provides a better organization to reach out to a wide range of applicants and thereby increase the group of eligible candidates. By using online websites, it also directs job search traffic to a specific recruitment platform and allows both organizations and job seekers to meet the hiring requirements. Online websites, on the other hand, allows all online job seekers to have access to such advertisements, as well as not limited in time and geography versus newspaper advertisements. Compared to posting ads in newspapers or involving recruitment agencies for candidates, online recruitment is just a fraction of the cost if the vacancies are posted on the company's own website and the cost is also far cheaper. The research objectives of the study are:

1. To investigate if there is a significant relationship between the trust and job-seekers' intention to use online recruitment websites.
2. To evaluate the factors that influence job-seeker's intention to use online recruitment websites.

## **MATERIALS AND METHODS**

This survey uses an online survey method that aims at online users who are looking for a job using an online recruitment website, or using an online recruitment website for job search purposes in the past, as part of a quantitative research method. Data collected will be analyzed using the version of IBM SPSS version 22.0.

### **Population and Sample Size**

For this study, a sample size of minimum 192 respondents is required, this is based on Krejcie & Morgan (1970) table. For data collection purpose, this survey uses online survey questionnaires as a major sampling tool. The sampling technique used for this study was a non-probability sampling, that is, Efficient Sampling and Snowball Sampling. This study is targeted at online users who are looking for a job using an online pickup site, or have used an online pickup site for the purpose of finding a job in the past.

### **Hypothesis on Trust and Intention to Use**

In the study done by Harris and Goode (2004) to determine if perceived value, satisfaction and trust leads to customer loyalty from two surveys of online customers, it is found that there is a positive and direct association between trust and loyalty of both book-purchasers and online flight booking users. Amin, Razaei, & Abolghasemi (2014) have also found that Trust to be an important factor when it comes to user satisfaction with mobile websites. On the other hand, Pavon and Brown (2010) found that trust has no significant influence on usage intention by job-seekers in South Africa, as trust is normally more associated with financial transactions rather than job-seeking. Nevertheless, due to the increasing importance

of data privacy and online security risk measures, it is deemed necessary to include Trust as a factor influencing job-seekers' intention to use online recruitment websites.

Therefore, the hypothesis will be:

- H0: There is no significant relationship between the Trust and the job seeker's intention to use online recruitment websites.
- H1: There is an important relationship between Trust and a job seeker's intention to use online recruitment websites.

A correlation study is done to determine whether two variables are correlated. It measures the strength and direction of the association that exists between two variables, and can indicate whether a positive or negative relationship exists between the two variables. A positive correlation means that an increase in one variable will cause the other variable to increase. On the other hand, a negative correlation means that an increase in one variable will cause the other variable to decrease.

## MAIN RESULTS

The Pearson correlation coefficient is indicated by the value  $r$  which ranges from -1.0 for a perfect negative linear relationship to +1.0 for a perfect positive linear relationship. A value of 0 (zero) indicates no relationship between the two variables. From the Pearson's correlation test results, it is determined that the independent variables of Trust ( $r$ -value = 0.414) have a positive relationship to the dependent variable of Job-seekers' Intention to Use online recruitment websites. However, it appears that trust may have a moderate relationship to Job-seekers' Intention to Use due to a higher correlation value. The Pearson's correlation analysis has indicated that the trust may have a lower significance to Job-seekers' Intention to use online recruitment websites.

**Table 3.** Coefficient Table

		Coefficients <sup>a</sup>						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta				Tolerance
1	(Constant)	1.361	.243		5.592	.000		
	TRUST	.201	.047	.269	4.235	.000	.887	1.128

a. Dependent Variable: INTENT\_TO\_USE

In the table 3, trust appears to be a low contributor to job-seekers' intention to use, by referring to the B-value of 0.269 to the dependent variable (i.e. intention to use). There is a significant relationship between the trust to job-seekers' Intention to use as indicated by  $p < 0.001$ .

## CONCLUSION

It is important for online recruitment sites to make continuous improvements to their systems and databases to appear to a larger population of job seekers, which in turn can attract larger

employer population to use their services to fulfill their hiring processes and hiring requirements. On the same note, human resource organizations and managers can also use findings to choose the most suitable online website that meets the needs and expectations of job seekers, thereby increasing the online job search group to reach their hiring and recruitment needs. By increasing the recruitment process to make it easier and more effective for job seekers, it can also improve the organization's image and attract more candidates to apply for vacancies with the organization.

Based on the above results, the trust has a significant relationship to the intentions of job seekers' using online recruitment websites. The findings were consistent with Harris and Goode (2004) and Amin, Razaee, & Abolghasemi (2014) that the trust has a significant relationship with the intentions to use. The findings indicated that the trust has a direct impact on job seeker's intentions to use online recruitment websites to assist with their job search activity. Online website providers, human resource organizations and managers can benefit from this study by looking at the quality of e-services provided by online recruitment websites that can provide more value-added benefits to registered members. As the trust is a key concern for online users today, it will also benefit online website providers to ensure users on data privacy and online security, such as providing more information on the security measures taken to protect member.

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## PRACTICE AT SITE FOR SAFETY AWARENESS DUE TO LANGUAGE BARRIER

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### ABSTRACT

Construction industry is widely acknowledged to play a big role in the development process of a country. Worldwide, construction industry is booming and is one of the major elements which contribute to the economic health of a country, including for Malaysia. Nevertheless, it is also ranked as one of the industries with the highest number of accidents and fatalities at the workplace, as recorded by DOSH. Safety and health remain critical issues to the construction industry due to its working environment and the complexity of working practices. Controlling hazard and preventing fatal injuries at construction site is a big challenge to the project team. One of the often practice way to increase the workers' awareness is through safety briefing which is aimed to develop knowledge and skills, and reinforce safe working practice. A traditional communication channel for this purpose is through 'toolbox talk'. However, past studies reveal that among the problems faced by foreign workers at the construction site is in understanding the information shared during this safety induction. This is because foreign workers usually do not understand Malay Language – a medium of choice for the local supervisor. These study aim to focus on whether the accident that occurs at WWT construction site was due to difficulty in understanding the information during toolbox talk, with the findings showing language barriers do exist at WWT construction site.

**Key words:** Toolbox talk, Language barriers, Construction industry

### INTRODUCTION

Construction industry plays a big role in the development process of a country. It also acts as one of the driving factors for the economic well-being for any nation, including Malaysia. However, with the rapid growth of the industry, the country experienced shortage of labour in this area. This phenomenon has forced Malaysia to rely on foreign workers in order to meet the needs of workforce. Datuk Seri Ismail Abdul Mutalib, Deputy Minister of Human Resources Malaysia said that the entry of foreign workers was driven by the country dependence on foreign workers in a critical sector which are manufacturing, construction, and services (Malaymail Online, 2015).

Billions of dollars are spent each year by the construction industry to mitigate risk associated with accidents and fatalities. All the accidents and fatalities that happened in the construction industry were caused by the failure of implementation of safety culture and practices at the construction site (Azita et al., 2015), which relates closely to the failure in communication. Olson et al. (2015) emphasised that toolbox talk is one of the effective ways to communicate

to the workers regarding safety because it is conducted on a daily basis. Toolbox talk focused on safety topics and usually delivered by the safety supervisor at the site. It has been identified as an effective component of the safety programme at the construction site, to enhance the knowledge and awareness of workers so that they could take appropriate steps to minimize risk.

Killingsworth et al. (2014), concluded that the toolbox talk was determined as the best method for presenting 'on the job' safety training in the construction industry, with the combination of written, verbal, and contextual presentation method proven to be the most effective. In most Malaysian construction projects, the toolbox talk usually was carried out in Malay Language for 10-15 minutes, even though the workforce comprised of workers from several countries. A study carried out by Demirkesen and Arditi (2014) amongst United States construction workers found that the language barriers experienced by non-English speaking workers are a common factor that interferes with learning in safety training. The language barrier is a serious issue which may result in low safety awareness and possibly led to the accident at the project site. Bust et al (2008), through his research amongst United Kingdom construction industry also identified language barrier does exist. Other examples is the number of accidents that occurred at construction site in Singapore was mainly attributed to language barrier amongst Bangladeshi and their supervisors, as evidenced through researched by Wah (2000).

## DATA COLLECTION AND FINDINGS

A questionnaire was used in this study to collect data and it was distributed to two groups of workers at WWT construction site in J1. There were 150 respondents which consist of Bangladeshi and Indonesian workers. The questionnaire that was distributed consisted of 3 section and all the respondents were required to answer the questions based on the Likert Scale provided. The questionnaire was distributed to the respondent after toolbox talk session and most of the questions asked were on content of the toolbox talk for that particular day. The toolbox talk was first conducted in Malay Language and respondents were then given questions in Malay. The second toolbox talk was then conducted in Banggali language with the same content as the Malay session. The purpose of this is to gauge the understanding level of the foreign workers on the content of the toolbox talk using two different languages.

From the independent sample T-test obtain, it showed that the Indonesian workers have high level of understanding on Malay Language as the language is not much different with their mother tongue as compared to Bangladesh workers. Study carried out by Nurul Azita et al (2015) also proves that there were barriers in educating the foreign workers at site who were not able to understand Malay Language, especially workers who are not from Indonesian although the training content is comprehensive.

Foreign Workers	Mean	Std. Deviation	t	Sig. (2-tailed)
Indonesia Answered Toolbox in Bahasa Malaysia	4.1853	0.35894	17.392	.000
Bangladesh Answered Toolbox in Bahasa Malaysia	2.0733	0.98849	17.392	.000

The second test used to evaluate the Bangladeshi answer in Malay Language and Benggali language are paired sample T-test. This test confirmed that the Bangladeshi workers score high when the toolbox talk is given in their mother tongue compared to in Malay Language. This proves that the toolbox talk is more effective when it is carried out in their mother tongue. Valithern (2014) in his study reveals that, language barrier is a very serious issue which led to safety problem amongst the Nepali workers but one way to solve the language problem is through using their mother tongue to communicate.

<b>Foreign Worker</b>	<b>Mean</b>	<b>Std Deviation</b>	<b>t</b>	<b>df</b>	<b>Sig (2-tailed)</b>
Bangladesh Answered in Benggali Language	42.3467	4.3759	18.536	74	.000
Bangladesh Answered in Bahasa Malaysia	20.7333	9.88492			.000

Next is the chi square test. From the test carried out, it shows that, the longer the period of time the Bangladesh workers stay in Malaysia, it will help the workers to understand Malay Language more. Karim et al (2014) also proves that language issues occurred among newly non-Indonesian foreign compared to those who have been living here for a few years – who could already communicate with the local people comfortably.

For the safety awareness section, the result showed the same outcome. The Bangladeshi workers who have been staying for more than three years at the construction site have higher safety awareness. The longer the foreign workers were exposed to the local languages, the better they can understand the safe practices they should adhere to (Valithern, 2014). Nevertheless the safety awareness of the foreign workers could be increase from time to time as long as the communication is carried out in their mother tongue language which may help them to understand the content better.

## **CONCLUSION**

In conclusion, this paper has proved that the existence of language barrier at WWT construction site between foreign workers and their supervisors resulted in the low safety awareness which then leads to accident on site. These on-site accidents are something that affected the company in term of direct and indirect costs. Keng and Nadeera (2014) study further solidify this issue with the same finding amongst foreign workers at other construction sites in Malaysia.

Hence, in order to improve the safety awareness of the foreign workers there are a few improvements that could made by WWT construction company. The use of translator for each group of foreign worker can helps the foreign workers to understand the content of toolbox talk which will make the site safer. Other short term effort that can be considered by the management is to use visual and signage in multi-languages on site. This will help

heightens the workers alertness during their time on site. And lastly, long term effort that WWT should consider is to provide compulsory basic Malay Language for all the workers. All these efforts will at the end help WWT to increase the safety awareness of their workers which then may reduce accident on site.

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# II

## **KNOWLEDGE MANAGEMENT, ORGANIZATIONAL LEARNING AND ORGANIZATIONAL DEVELOPMENT, AND DIGITAL SOCIETY**



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## EXAMINING A LINKAGE BETWEEN KNOWLEDGE MANAGEMENT AND DYNAMIC CAPABILITY

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### ABSTRACT

The aim of the study is to empirically confirm the linkage between knowledge management and dynamic capability in the context of knowledge-intensive manufacturing industry. To test the hypothesis, a sample of 200 was devised and questionnaires were distributed with 70% of returned rate and 112 data reliable for analysis. The result shows the relationship of knowledge management process to dynamic capability is significant providing support for the hypothesis. Practically, with strong effect size value, this study gives management confidence to manage knowledge management process and develop firm dynamic capability to boost its performance.

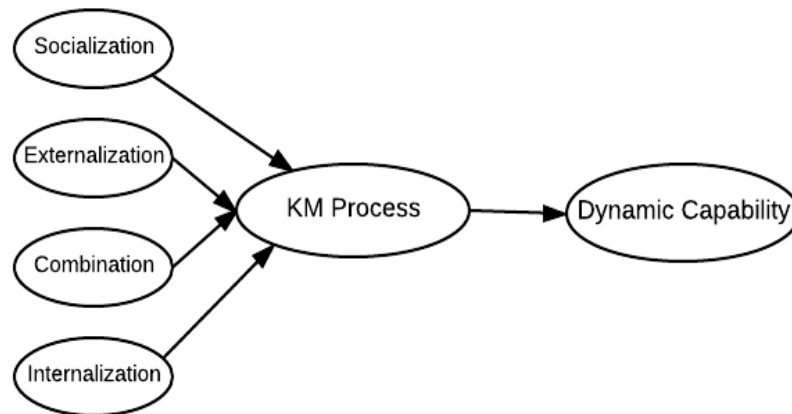
**Key words:** Dynamic capability, Knowledge management, Knowledge-intensive firm, Indonesia

### INTRODUCTION

Firms always try to extend, modify, reconfigure, or even completely revamp what they usually doing in order to create values in changing environment (Katkalo et al, 2010). In this regards, dynamic capabilities play an important role as a firm's ability to adapt its structural organization to create values in rapid changing environments (Teece et al., 1994). An earlier study by Ambrosini and Bowman (2009) has described dynamic capability as a process. In this study, the process of dynamic capability is defined as Teece et.al (2007) and Barreto (2010) as the capacity, combined competencies and abilities of a firm to (i) identifying/sensing external opportunity; (ii) Acquisition external resources, and (iii) configuring or renewing its internal resources.

Zollo and Winter (2002) proposed a knowledge evolution cycle as a dynamic process capability that includes: experience accumulation, knowledge articulation and knowledge codification as capability building and cognitive investment. In this regards, the author argue that dynamic capability should be based from the effective knowledge management process as depicted in Figure 1 below. Conceptual and empirical discussion about the relationship of knowledge management with dynamic capability are very few, among the few is Capeda and Vera (2007) portraying how knowledge management is the process behind the development and utilization of dynamic capability and see its effect on operational capability. Therefore, the aim of the study is to empirically confirm the linkage between knowledge management and dynamic capability.

Process of knowledge management summarized by Nonaka & Takeuchi (1991) in the model Socialization, externalization, Combination, Internalization (SECI) is the description of tacit and explicit knowledge transfer in the organization, the internalization of new knowledge inside workers mind, and how to develop new knowledge through a combination and reconfiguration of previous existing knowledge into a product or service for the company.

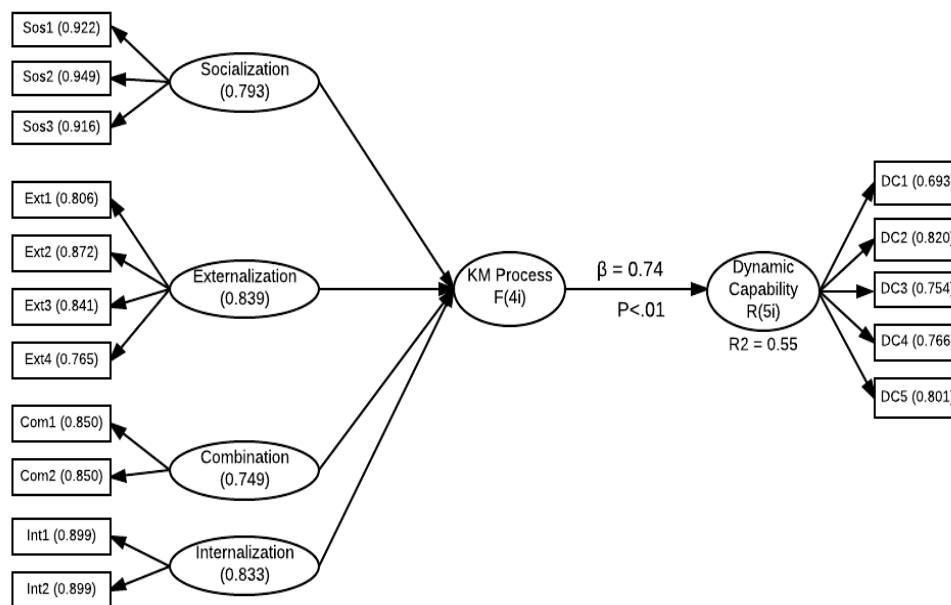


**Figure 1.** Conceptual Model the Linkage between Knowledge Management Process and Dynamic Capability  
(Source: Authors)

To test the hypothesis of the linkage between knowledge management and dynamic capability, we derived our sample from Indonesia state-owned knowledge intensive firm that successfully acquired knowledge and manufacture into technological products. Therefore, knowledge management process can be observed for the purpose of this study. To measure knowledge management process, we asked respondents to indicate their level of agreement using a 5-point Likert type scale, ranging from strongly disagree to strongly agree, on the 4 dimensions of knowledge management process (Socialization, Externalization, Combination, Internalization) with total of 11 items indicator that adapted from previous study by Lee and Choi (2003). The instruments of dynamic capability are the manifestation of dynamic capabilities definition: identification new opportunity, acquisition external resource, configuration and renewing internal resource that elaborated in which five items indicator. A sample of 200 was devised and questionnaires were distributed, together with a covering page explaining the purpose of study and assuring confidentiality. The survey was sent to respondents directly through paper based between April and June 2016. A demographic analysis of respondents revealed that the main categories of management functions were manufacturing 41%, human capital 25%, training and development 16%, quality assurance 18%. Most respondents operated at the middle and lower management levels.

## MAIN RESULTS

A structural equation modelling with partial least square (PLS) with 112 of reliable data was used for the analysis. To assess construct validity, two measurements are used: convergent validity and discriminant validity. Convergent validity is assessed by the average variance extracted (AVE) to be more than 0.50 for adequate convergent validity (Hulland, 1999; Fornell & Larcker, 1981). For this study, the AVEs for KM Process is 0.647 and Dynamic Capability is 0.590, therefore providing adequate convergent validity. In addition, the composite reliability coefficients for the constructs are 0.880 and 0.878, all above accepted level of 0.70 (Nunnally, 1967). We also tested convergent validity by extracting the factor and cross loading of all item indicators to their respective latent constructs. The measurement analysis of this study reveals that all measures are significant and above 0.60 loading level, depicted in the brackets in Figure 2, indicating the measures share more common variance with their respective constructs than with the error variance (Chin, 1998a, 1998b). The relationship of knowledge management process to dynamic capability is significant (coefficient 0.740,  $p < 0.01$ ,  $R^2 = 0.550$ ) providing support for the hypothesis.



**Figure 2.** Positive Correlation between Knowledge Management Process and Dynamic Capability  
(Source: Authors)

To assess the practical significance of the study and to estimate the extent to which our statistical findings exist in the population, we performed an effect size test as suggested by Hair et.al. (2006, p.2) and Huck (2000) that stated effect size indicates the practical significance of a study. The effect size ( $f^2$ ) of path KM process to Dynamic capability is 0.548. According to Cohen (1988) this figure shows a fairly large effect ( $f^2 > 0.35$ ). Practically, this study gives management insight on managing knowledge management process to develop firm dynamic capability to boost its performance.



## CONCLUSION

We argue that that dynamic capability should be based from the effective knowledge management process. Therefore, our empirical contribution to academic field is supporting the relationship between knowledge management process and dynamic capability in the context of knowledge-intensive manufacturing industry. For continuation of the research, we suggest to expand external validity by adding performance variable related with dynamic capability.

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## TRANSFORMING KNOWLEDGE CULTURE – A JKR CASE STUDY

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### ABSTRACT

In a large public organisation where working in silos prevails and knowledge is treated like treasure well protected by process owners or even knowledgeable individuals, driving a knowledge sharing culture in an organisation like JKR is a gargantuan task. JKR has over 20,000 employees, of which approximately 3,800 are technical professionals from six (6) different disciplines: architects, civil engineers, electrical engineers, mechanical engineers, quantity surveyors and building surveyors. The introduction and implementation of knowledge management (KM) initiatives over the past years has been very challenging. The authors would like to share their experience in cultivating a knowledge sharing (KS) culture through some of the department KM efforts.

**Key words:** Knowledge, Knowledge culture, Knowledge management, Knowledge sharing

### INTRODUCTION

In the era of post-industrial Knowledge Age where knowledge is widely considered as the most critical organizational resources, there has been a significant shift among public sector organizations in recognizing the urgent need to deliberately manage their knowledge assets in a systematic manner (APO, 2013; Massaro, Dumay, & Garlatti, 2015). As public organizations are continuously seeking to become more operationally efficient and cost effective towards achieving their business goals amid the incessant call for public governance to become more responsive and accountable, KM is increasingly seen as a key transformational management tool to assist organizations in realizing increased productivity and efficiency (Henttonen, Kianto, & Ritala, 2016; Tangaraja, Mohd Rasdi, Ismail, & Abu Samah, 2015).

Nonetheless, despite the noble intention, taking into consideration the inherent issues widely reported in the literature pertaining to managing organizational knowledge, which if left unattended, may cause a profound impact on the organization, creating a dysfunctional silo workplace where knowledge is treated as a closely guarded secret by process owners or even knowledgeable individuals (APO, 2013), implementing KM is indeed a gargantuan task.

## **OBJECTIVES**

This paper aims to share some insights on KM implementation in Jabatan Kerja Raya Malaysia (JKR), highlighting key challenges faced and strategies that are adopted by the department to overcome the challenges.

## **RESEARCH METHODOLOGIES**

Data and output obtained from semi structured interviews and questionnaire surveys carried out are used in the discussion on the transformation of knowledge culture that has taken place in the department. Analytics of two major KM initiatives, JPedia and JCoP, are used to illustrate the knowledge sharing trends over the past three years.

## **LITERATURE REVIEW**

### **KM in the Public Sector**

As calls for better and improved public service delivery continue to be demanded by the public in recent years, public sector is continuously pursuing new and innovative ways in meeting the stakeholders' expectations (APO, 2013; EPU, 2015; Massaro, Dumay, & Garlatti, 2015b; UN, 2015b). In addition, persistent public pressure for government organisations to demonstrate greater accountability and transparency in their governmental activities, albeit at the expense of limited resources and the ever-changing landscape, has eventually necessitated the public sector to take a step back and re-evaluate their present procedures and policies (Riege & Lindsay, 2006). These predicaments aptly necessitate the integration of KM as a strategic organisational approach in better managing critical knowledge in a more systematic and organised manner.

### **JKR KM JOURNEY**

Formed in 1872, the Public Works Department Malaysia or better known as Jabatan Kerja Raya (JKR) is the technical arm of government responsible for the implementation and maintenance of government infrastructure assets such as roads and bridges, air and maritime bases, hospitals, schools, quarters and other government buildings. JKR embarked on its KM journey in 2009. A number of KM initiatives have been initiated includes JKR KM Handbook, Central Online Knowledge Repository (JPedia), Communities of Practice (CoP)/Virtual Communities of Practice (JCoP), Project Lessons Learned (PLL), Exit Interview, Expert Tech Talks and E-Learning.

## **MAIN RESULTS**

### **JPedia Adoption Rate**

Till date, there are 19 wikis in JPedia that are available for the employees' consumption around the clock. With more than 10,249 pages and 8,142 uploaded files, JPedia currently serves as the "go to" online resource for up to date information and latest resources. Based on the past three years' analytics, the trend indicates that there has been a marked increase in the number of visits with an average of 183 visits in the month of October in 2014 to 860 visits in August of 2017. Based on an online study that was administered to 612 respondents in 2017, the immense leap in visit statistics can be attributed to the demand for validated and verified knowledge in various technical and organisational domains (91.4%).

## JCoP Adoption Rate

The statistics usage of JCoP indicated that responses are promising. Since its inception in 2013, the virtual CoP has garnered more than 518,586 page views and 95,309 user visits with an average of 234 users in October of 2013 to a whopping 3,646 users in August of 2017. This observation justly uncovers the dynamics of crowd learning which has become increasingly popular among technical professionals.



*JCoP's Analytics – Users Statistics*

## Promoting KM in the Public Sector

The lessons we learned through our experience in implementing KM are shared with other government agencies that are interested in KM. EPF, MARA, MOF, UiTM, MATRADE, LLM, MAMPU, UNISEL, MTDC are among the agencies that have visited JKR to learn from us or to benchmark. JKR is part of the public sector KM special interest group initiated by MAMPU and participated in several workshops to develop the KM Blue print for Public Sector in 2010. JKR also was invited to participate in the Focus Group workshop initiated by MAMPU in 2012, to develop a CoP Guide for the public sector.

To promote awareness and understanding of KM among the agencies in the public sector, JKR has since 2016, jointly organised with The International Islamic University Malaysia and a KM consulting firm, an annual KM seminar for the public sector. This year's seminar attracted about 100 organisations from the public sector and attended by about 250 participants. This year, JKR is collaborating with the KM Institute, USA to run a KM certification program, customised for Malaysians in both the public and private sectors. The first batch of 17 candidates is scheduled to complete the program in November 2017.

## CONCLUSION

The authors conclude that there is a critical need for every public organization to create a sense of urgency to preserve and strengthen its institutional memory which would lead to increased performance and higher productivity level. This can only be achieved by securing buy-in from all levels within the organization, from the top to the bottom. In addition, develop and establish a robust change management strategy and communicate all knowledge-related activities regularly using a wide variety of mediums. Taken into consideration the multiple generations that makes up today's workforce, ranging from the baby boomers to the millennials, the KM initiative should be developed in such a way that it is able to accommodate each generation preferences in consuming and learning new knowledge. Innovative use of technology and digital channels, in particular social media, must be optimized to complement the traditional, face to face interaction which serves as important avenues in building employees' trust and camaraderie, crucial in KM.

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## ACCELERATING THE ACHIEVEMENT OF STRATEGIC PLAN THROUGH KM SCORECARD

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### ABSTRACT

Knowledge Management (KM) is a management tool for managing knowledge in particular to improve the effectiveness of new knowledge discovery / creation processes, then storage and distribution of knowledge within organization. KM plays a role for knowledge to be stored and distributed (stock and flow), so that employees can work more effective, to achieve the goals of the organization. Strategic Plan is a document that describe the organization programs in facing the challenges and improve their advantages. The achievement of this Strategic Plan can be accelerate by implementing the right KM program. However, the implementation of KM is said to be unique because each organization has their own challenges and issues. In order to help organization in developing their KM program, this research will propose and explain the concept of KM Scorecard which show the alignment of the strategic objectives, organizational capability gap, knowledge gap, knowledge strategy, and knowledge initiatives.

**Key words:** Knowledge management, Strategic plan, School of Business and Management

### INTRODUCTION

Knowledge Management (KM) is a management tool for managing knowledge with focus on how to discover/create, storage, share, and utilize knowledge for the benefit of organization. KM plays a lot of important role such as supporting the work of employees to become more effectively, increasing the innovation process, develop new knowledge, and strength the competitive advantage of organization. However, KM is said to be unique because the success of the design and implementation of KM in an organization is determined by the characteristics, objectives, and process in organization. Since the challenges and issues that organization face are unique, therefore the solutions to solve them are also unique. This is what make the implementation of KM is unique for every organizations.

Every big organization has their own Strategic Plan which describe the mission, vision, and objectives of organization along with the programs and targets to achieve them in certain time frame. In order to running those programs, the organization needs to integrate the resources they have which consist of people, process, technology, budget, and organization policy.

With the help of KM, organization will be easier in synergizing these resources. One organization that needs to pay attention in the KM implementation is business school.

As the role of business in supporting the economy is important, the quality of business school, which produce the business player, becomes more important. In order to become the top business school and winning the competition, business school need to develop Strategic Plan that can face the challenge business world which divided into educational programs, research programs, and community services programs. However, the implementation of Strategic Plan has their own obstacles. In order to accelerate the achievement of targets in strategic plan, the implementation of KM become key success factors. Based on this situation, this research will describe the role of KM, in enhancing the progress of strategic plan by using a framework known as KM Scorecard.

## **LITERATURE REVIEW**

### **The Concept of Knowledge Management**

Knowledge has become something that is crucial, therefore it should be managed properly in the context of improving organizational performance. Knowledge is a "collection of experiences, values, contextual information and expert experience combined into a framework to evaluate and create new experiences and information" (Davenport & Prusak, 1998). Therefore, knowledge is part of the information and be a part of one's experience. Everyone has different experiences so as to solve a problem by using different approaches. Knowledge management becomes important aspect in the learning process of an organization. Knowledge of the organization should be able to provide for the advancement of the organization itself. In order to survive, it requires a strong management so that the knowledge entrenched in every individual in the organization and combined with the technology infrastructure that supports the dissemination of information.

Knowledge is the most unpredictable in human behavior. It relates to humans, particularly knowledge which is the most complex and dynamic subject (Erickson & Rothberg, 2015). Businesses look at the colossal data for knowledge in which they operate. Top corporate executives recognize knowledge as the greatest corporate asset source. They want to keep talent and high-skilled people in organization. Knowledge becomes rare and precious asset for many organizations in both private and public sectors (McNurlin, Sprague & Bui, 2009). Managing knowledge in the form of another people can be readily available so as to encourage them to share their personal knowledge. Concerning manage knowledge and make sound decisions is critical. The primary interest of knowledge management in the knowledge economy intangible holds a competitive advantage. Knowledge management is emergent as one of the most important aspects of a fast growth market locally and globally (Birasnav, Goel & Rastogi, 2012).

## **Strategic Management**

Strategic management is the formulation and implementation of the major goals and initiatives taken by a company's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organization competes. (Klein, 2009). Strategic management is divided into several schools of thought. A prescriptive approach to strategic management outlines how strategies should be developed, while a descriptive approach focuses on how strategies should be put into practice. These schools differ over whether strategies are developed through an analytic process in which all threats and opportunities are accounted for, or are more like general guiding principles to be applied (Thompson & Strickland, 2001).

## **METHODOLOGY**

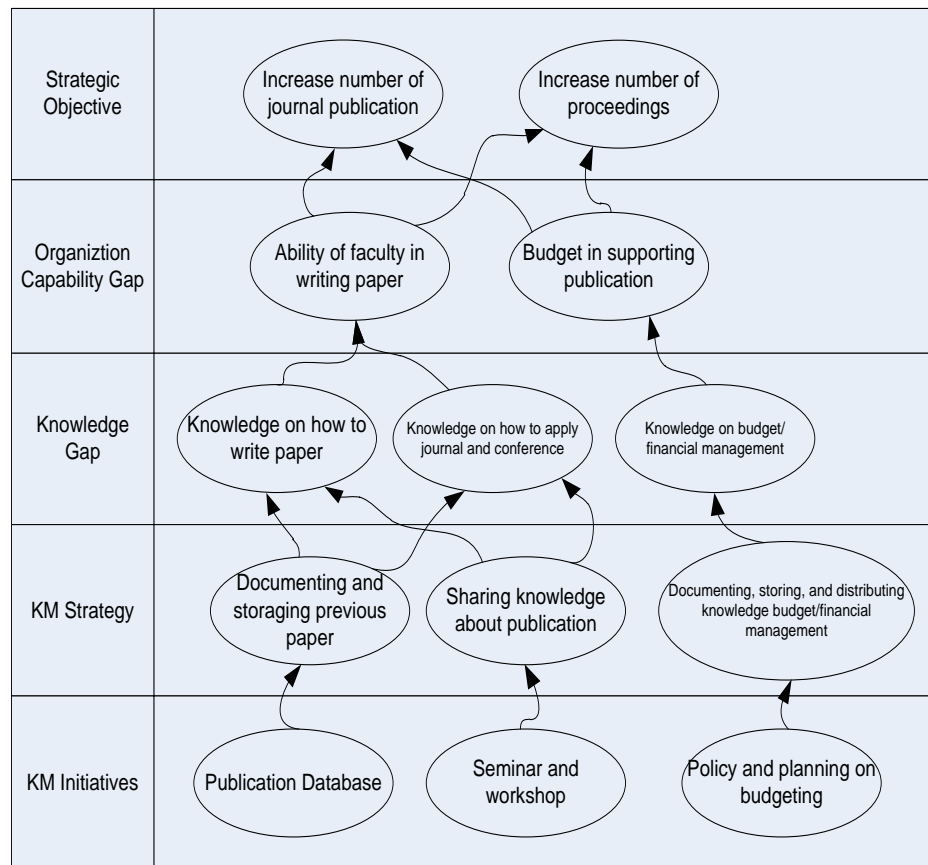
As mention in introduction section, this research developed a framework known as KM Scorecard to accelerate the achievement of business school Strategic Plan. KM Scorecard is a tool that describe the alignment between organization strategic plan, organization capability gap, knowledge gap, KM Strategy, and KM Initiatives. In order to develop KM scorecard, this research used qualitative approach. The KM Strategy involving the cycle of KM which are documenting, storing, sharing/distributing, and creating knowledge. Finally, from KM Strategy, KM Initiatives were generated.

## **MAIN RESULTS**

Through KM Scorecard, all the KM initiatives can be link to strategic objectives. Therefore the effectiveness of KM programs can be measure by seeing how the implementation of KM initiatives can help organization in closing the knowledge gaps, and the fill the gap of organization capability. Finally, the improvement of organization capability can help organization in achieving their strategic objectives. In this case of business school, the example of KM initiatives aligned with strategic objective is depicted on Figure 1.

Furthermore, this KM Scorecard also shows how the elements of KM (people, process, policy, technology, and budget) support each others. This will help organization in allocate their resources and prevent overlapping between program. Moreover, since the KM Scorecard in this research depart from the strategic goals, it most likely this KM Scorecard can be implemented in any kind of organization. However, KM Scorecard is only the tools. The commitment of all stakeholders in running the KM initiatives still held important keys in succeeding KM implementation in organization.





**Figure 1.** KM scorecard

## CONCLUSION

This research proposes the concept of KM Scorecard which show the alignment of the strategic objectives, organizational capability gap, knowledge gap, knowledge strategy, and knowledge initiatives. By taking a case study of a business school which needs to develop Strategic Plan that can face the challenge business world, it is found that the implementation of Strategic Plan programs sometimes face difficulty because there are a lot of challenges and obstacles. One way to overcome those challenges and issues is by implementing the right KM programs or initiatives. The effectiveness of KM initiatives can be measured through KM Scorecard by analyzing how the implementation of KM initiatives can help organization in closing the knowledge gaps and filling the gap of organization capability. The improvement of organization capability can help organization in achieving their strategic objectives. Furthermore, the KM Scorecard also shows how the elements of KM (people, process, policy, technology, and budget) support each other to help organization in allocating their resources as well as to prevent overlapping between programs.

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## MEASURING EXPECTED PARTICIPATION IN PROJECT KNOWLEDGE MANAGEMENT ON SOCIAL MESSAGING APPLICATION USING GUSC MODEL

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### ABSTRACT

The advancement of technology has allowed a variety of tools for knowledge workers and managers to choose as communication tools, especially for managing project teams. Instead of the old way of communicating and updating project progress through emails and short messaging system, social messaging applications are the current daily choice among them. WhatsApp<sup>TM</sup> has been over-utilised, giving an opportunity for a research on project knowledge retention within project team. This paper looks into how project knowledge is managed by analysing the communication patterns against a measurement metrics based on personal knowledge management (PKM) theory called GUSC Mode. The communication patterns found existed in the social messaging application are qualitatively identified and mapped against the matching PKM processes within, with weighted score assigned to each process to quantitatively measure the overall project knowledge management participation. The presentation of result shows the participation expectation of members in the social messaging application groups. The outcome of this research recommends the future intervention on social messaging application usage and the application of knowledge management concept in current communication tool.

**Key words:** Social messaging application, Communication pattern, Personal knowledge management, GUSC model, Project knowledge

### INTRODUCTION

The advantage of mobile social messaging applications, such as WhatsApp<sup>TM</sup>, has been taken for granted, due to the perceived ease of use of the features and functions. Knowledge workers and managers are so used to rely on groups created in WhatsApp<sup>TM</sup> for almost every project or work group. As an example, an operation manager may have WhatsApp<sup>TM</sup> Group for operational tasks involving his/her subordinates, for management decision making team with members across departments, for branch operation managers, and for special task force or project, on top of having other groups for personal tasks and communication.

A number of communication patterns are found exist (Gilson 2013; Barrett, 2006; Steinmueller, 2012; Steele, 2011) within this communication tool and virtual groups, in which these patterns could help trace the level of participation of members in knowledge managed within a project. It is deemed important to be able to measure this participation in project knowledge in order to gauge the performance of the group project. In order to measure the project knowledge management participation, Get-Understand-Share-Connect (GUSC) Model (Ismail & Ahmad, 2012) is used, since this model has been proven to be usable for designing score models or measurement metrics (Ismail & Shaikh Ali, 2017) based on personal knowledge management theories (Jarche, 2010; Martin, 2000; Razmerita, Kirchner & Sudzina, 2009; Ismail & Ahmad, 2012). Since a social messaging application is used at personal level (Ismail & Ahmad, 2015), this model for personal level of knowledge management is proposed in this research.

## MAIN RESULTS

The aim of this study is to measure the expected participation in project knowledge management on social messaging (SM) application. In order to achieve this, an analysis is done on the communication scripts of three significant teams in a case organization that formed SM application groups for managing project knowledge. The content analysis is performed to: identify the communication patterns in the groups; identify the PKM processes exist in the communication patterns; analyses the differences in communication patterns among the organizational communication levels; and analyses the differences in participation expectation in SM application groups communication.

The selection of the three social messaging groups is based on certain criteria: the groups are formed for constant communication across sections/departments and institutes, especially in solving ad hoc issues and for making decision on-the-go. The details of the criteria are as stated in the footer of Table 1.

Sixteen (16) significant scenarios are identified from the entries in the communication scripts extracted from the social messaging groups. These scenarios are coded with descriptive themes, or communication patterns, as suggested by Jamaludin and Hussain (2015) on WhatsApp<sup>TM</sup> usage by upper and lower levels of communication. Each coded scenario varies in the number of active participants, as shown in Table 1.

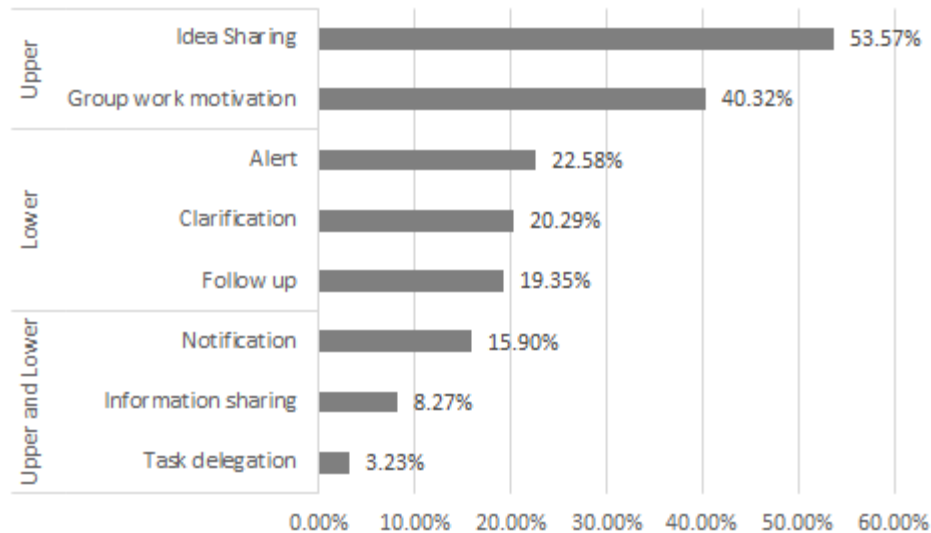
The scenarios are categorized according to the identified eight (8) communication patterns (as shown in column *WhatsApp<sup>TM</sup> Usage* in Table 1, and y-axis in Figure 1). The weighted score sheet is designed to map the personal knowledge management (PKM) processes (i.e. get, share and understand knowledge, and connect to knowledge source) with these organizational communication patterns. Content analysis is performed using the weighted score sheet to derive the result of participation percentage for each identified scenario (Table 1). Further conclusion is derived to produce the overall result as shown in Figure 1.

**Table 1.** Members' participation in project knowledge management

Scenario Code	WhatsApp™ Usage	Active Members	Participation (%)
MGT001 <sup>a</sup>	Idea sharing	7	50.00%
MGT002 <sup>a</sup>	Idea sharing	8	57.14%
MMC001 <sup>b</sup>	Clarification	8	34.78%
MMC002 <sup>b</sup>	Notification	5	21.74%
MMC003 <sup>b</sup>	Clarification	3	13.04%
MMC004 <sup>b</sup>	Notification	3	13.04%
MMC005 <sup>b</sup>	Clarification	3	13.04%
MMC006 <sup>b</sup>	Information sharing	2	8.70%
STF001 <sup>c</sup>	Task delegation	1	3.23%
STF002 <sup>c</sup>	Group work motivation	6	19.35%
STF003 <sup>c</sup>	Alert	7	22.58%
STF004 <sup>c</sup>	Information sharing	4	12.90%
STF005 <sup>c</sup>	Follow up	6	19.35%
STF006 <sup>c</sup>	Information sharing	1	3.23%
STF007 <sup>c</sup>	Notification	4	12.90%
STF008 <sup>c</sup>	Group work motivation	19	61.29%

<sup>a</sup> Members are from management team (i.e. top level and middle level of organisational structure), with 14 members registered; <sup>b</sup> Members are from middle management committee (i.e. middle level and significant middle-low level management of a sector), with 23 members registered; <sup>c</sup> Members are from special task force (i.e. top level, middle level and significant middle-low level management of various branches, centres, departments and sections), with overall 31 active participants since the rest of the registered members are idle and untraceable.

The overall result (Figure 1) shows that members of the WhatsApp™ groups participate actively for idea sharing (53.57%) and group work motivation (40.32%), with members less than 15, mainly for upper level of project knowledge management. The least percentage of participation is found to exist in a group of mixed upper and lower level, with the most number of registered members (i.e. 31 active members).



Upper: Members are from management team (i.e. MGT); Lower: Members are from middle management committee (i.e. MMC); Upper and Lower: Members are from special task force (i.e. STF)

**Figure 1.** Participation expectation for communication patterns in WhatsApp™ usage

## CONCLUSION

The result of this research shows the members' participation expectation in the social messaging application groups, which would recommend future intervention of knowledge management concept in communication tools and virtual groups. The key performance index (KPI) of a project can also be measured based on this, since the project knowledge participation can be gauged to reflect the performance of the group projects using the method presented in this research. This measurement would provide an information on knowledge health of a project, which is common in project management status report (Turbit, 2005). Nevertheless, the purpose of forming the virtual group, i.e. based on the communication patterns, should be clearly planned and communicated to the team members to ensure full participation.

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## KNOWLEDGE TRANSFER PROGRAMME: MALAYSIAN PERSPECTIVE

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### ABSTRACT

Knowledge Transfer (KT) is a term used to encompass a broad range of activities to support mutually beneficial collaborations between universities, businesses and the public sector. In Malaysia, KT has been one of the critical agendas under the Ministry of Higher Education. The KT Program in Malaysia started since 2011 with five categories of roll-out. This paper provides the information of the KT programme in Malaysia. At the moment, this programme could be categorized into 5 rolling through the involvement of public higher education institutions in Malaysia with total allocation of RM 56, 342, 804.54 for 458 projects. Thus, this agenda of KT programme mainly in Malaysia could be presented to monitor the trend of this programme based on its rolling from the first year it was established in 2011, until rolling 5 in 2017.

**Key words:** Knowledge transfer, Higher education, Malaysia, University

### INTRODUCTION

Knowledge transfer is a process by which an organization makes an extended knowledge and it is an effective way of the transformation (Kalling, 2003). Besides focusing in teaching and sole research, the exchange knowledge and contribution of industry also increase the economic activities and expose the student as well as lecturer to the industrial sector. Thus, the knowledge transfer has received a great attention on the strategic management literature (Anatan, 2013).

KTP was established based on University-Industry/Community Partnership Strengthening Plan which is aimed at promoting involvement and closer partnership between academia and industry/community. It provides the platform for the exchange of tangible and intangible intellectual property, expertise, learning and skills between academia, industry and the community. The forms of interactions may include joint research, consultancy, education, training, graduate development, conferences, sharing of physical facilities and student placements.



This paper provides information on the KTP in Malaysia since its establishment in 2011. Through the contribution of 14 public higher education institutions with 458 projects, the trend of projects for the completed rolling could be presented.

In Malaysia, Knowledge Transfer Programme (KTP) is the 23<sup>rd</sup> Critical Agenda Project (CAP) in the National Strategic Higher Learning Plan (PSPTN). The policies of KTP could be classified into four as listed below (Ministry of Higher Education, 2011):

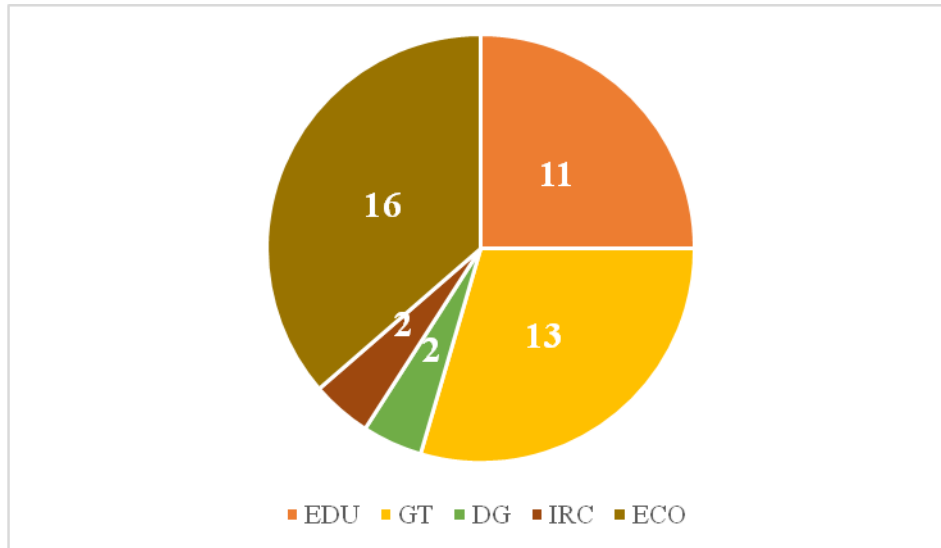
- i. To encourage and recognize engagement between industry/community and academia in order to support the implementation of New Economic Model (NEM) of Malaysia in creating a knowledgeable and high income nation,
- ii. To provide a meaningful platform of exchange that facilitates the identification and matching of appropriate expertise in Public Higher Education Institutions (IPTA) to address industry and community needs,
- iii. To optimize the potential of Public Higher Education Institutions (IPTA) expertise through coordinated interactions with stakeholders, and
- iv. To nurture interactions between the stakeholders for sustainable and productive partnerships.

From this programme, there are five key results area that are identified in the field of education (EDU) with the main target is to raise level of education in certain areas, economic gains (GT) for sector/s of industry in identified sector, sustainability and green technology initiatives (DG), the disadvantage groups (IRC) and developing industry relevant curriculum for high impact sector (ECO). The KTP of rolling 1 was granted from 2011 to 2013, for rolling 2, the granted year was 2012 to 2014. Rolling 3 has been allocated for year 2013 to 2015. Meanwhile for rolling 4 and 5, the projects are still active which for rolling 4, the project was granted for year 2012 to 2016, whilst year 2015 to 2017 was for rolling 5.

Thus, the findings only reported for the rolling 1 to 3 which all the projects were completed with total allocation received was RM 15,872,984.00.

## **MAIN RESULTS**

The findings discussed on the KTP based on each rolling. The rolling 1 was granted in the year of 2011 to 2013 with 44 projects. The projects involved collaboration with industries and community within the IPTA in Malaysia. Out of 44 projects, about 28 projects were collaborated with industries and 16 for community collaboration. Meanwhile, based on key results areas the highest number of project was from ECO and followed by GT with 13 numbers of projects, respectively. EDU has 11 numbers of projects and the smallest projects were found from DG and IRC with 2 projects of this rolling as shown in Figure 1.



**Figure 1.** Example of figure for the extended abstract

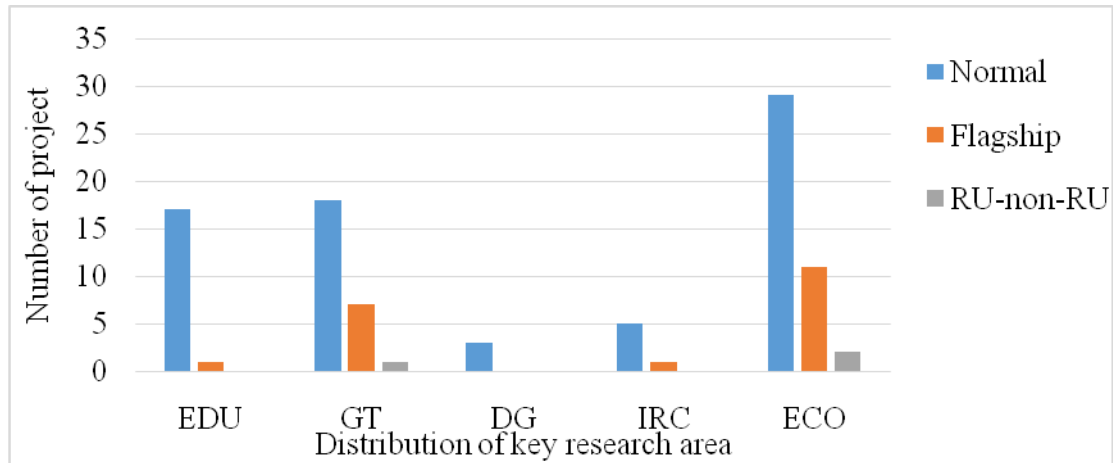
A number of projects have also been identified based on state in Malaysia which involve 11 states. From Table 1, projects in Selangor had shown the highest number with 8 projects due to many IPTA located in this state. About 6 projects were collaboration with industries. Pulau Pinang has 7 projects and all of the projects were collaborated with industry only. The smallest project was located in Terengganu and it came from the collaboration with community.

**Table 1.** Number of KTP projects from rolling 1 by state distribution

No	State	Industry	Community	Number of project
1	Pulau Pinang	7	0	7
2	Selangor	6	2	8
3	Kedah	3	1	4
4	Perak	1	2	3
5	Kuala Lumpur	4	1	5
6	Sabah	3	1	4
7	Johor	3	0	3
8	Perlis	1	2	3
9	Kelantan	0	4	4
10	Pahang	0	2	2
11	Terengganu	0	1	1
<b>Total</b>		28	16	<b>44</b>

The KTP projects in Rolling 2 rely on 3 types; normal, flagship and non-research university (RU). Total number of projects in this rolling, were 95 projects including collaboration with industry and community. As shown in Figure2.0, the highest number of KTP project for

rolling 2 was obtained by normal category which those projects have collaboration with either industry or community. The highest normal project was categorized from ECO project, followed by GT, EDU, IRC and DG. The smallest contribution of KTP projects came from non-RU with total projects were 3 only.



**Figure 2.** Number of project in Rolling 2 based on key results area

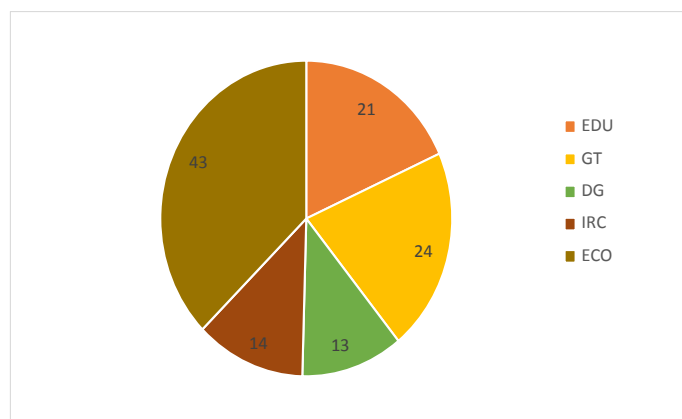
Table 2 has shown the number of KTP projects from rolling 2 by state distribution. It was concluded that the highest project was held in Selangor with 14 projects categorized under normal type and has industry collaboration. Meanwhile, the project that has contribution with community was 8 projects out of 31 projects in Selangor. The smallest project was held in Negeri Sembilan by collaboration with industry.

**Table 2.** Number of projects from rolling 1 by state distribution in Malaysia

State	Normal		Flagship	RU/Non RU		Total projects
	Industry	Community	Industry	Industry	Community	
Pulau Pinang	4	1	1	0	0	6
Selangor	14	8	9	0	0	31
Kedah	3	3	0	0	0	6
Perak	1	2	0	1	0	4
Kuala Lumpur	7	3	4	0	0	14
Sabah	0	1	1	0	0	2
Johor	3	0	2	0	1	6
Perlis	2	3	0	0	0	5
Kelantan	1	1	1	0	0	3
Pahang	1	2	0	0	0	3

Terengganu	1	0	0	0	1	<b>2</b>
Sarawak	0	3	1	0	0	<b>4</b>
Melaka	4	0	1	0	0	<b>5</b>
Putrajaya	2	1	0	0	0	<b>3</b>
Negeri Sembilan	1	0	0	0	0	<b>1</b>
<b>Total</b>	<b>44</b>	<b>28</b>	<b>20</b>	<b>1</b>	<b>2</b>	<b>95</b>

For the KTP project breakdown in Rolling 3, the types of projects were the same as Rolling 2. The total projects in this rolling were 115. Figure 3 displays the number of project based on key results area. It showed that the highest project relies on ECO category. The smallest project was DG with 13 projects.



**Figure 3.** Number of KTP project in rolling 3 based on key results area

As summarize based on the state in Malaysia distribution and types of projects, the highest number of projects was 29 and held in Selangor as shown in Table 3. From all the types of projects, the collaboration with industry observed higher contribution compared to collaboration with community. The flagship projects have 15 and 17 projects from industry and community, respectively. It also could be concluded that normal type and industry collaboration has the highest number of projects (49 projects). However, in this rolling, no project was applied under non-RU for both industry and community collaboration.

**Table 3.** Number of projects in Rolling 3 based on types of project and state in Malaysia

Negeri	Normal		Flagship		RU/Non RU		Total projects
	Industry	Community	Industry	Community	Industry	Community	
Pulau Pinang	9	2	1	0	0	0	12
Selangor	15	6	6	2	0	0	29
Kedah	3	6	1	2	0	0	12
Perak	1	3	1	1	0	0	6
Kuala Lumpur	6	3	0	2	0	0	11
Sabah	3	1	1	2	0	0	7
Johor	4	2	0	1	0	0	7
Perlis	0	2	0	0	0	0	2
Kelantan	3	0	0	1	0	0	4
Pahang	1	4	3	1	0	0	9
Terengganu	1	0	2	2	0	0	5
Sarawak	0	1	0	1	0	0	2
Melaka	1	2	0	1	0	0	4
Putrajaya	0	1	0	1	0	0	2
Negeri Sembilan	2	1	0	0	0	0	3
<b>Total</b>	<b>49</b>	<b>34</b>	<b>15</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>115</b>

## CONCLUSION

Based on the rolling of the KTP that was reported, the increment of the number of projects showed that, this programme have gained interest among the IPTA as well as industry and community. As the number of projects increased over a year, the allocation amount was also increased. Each rolling has also shown that Selangor dominated the KTP projects because of many IPTAs are located in this state.

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## KNOWLEDGE MANAGEMENT INFRASTRUCTURE CAPABILITIES, KNOWLEDGE MANAGEMENT PROCESS CAPABILITIES AND ORGANIZATIONAL PREFORMANCE RELATIONSHIP STRUCTURAL EQUATION MODEL

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### ABSTRACT

This research proposes to investigate the relationship between knowledge management infrastructure capabilities, knowledge management process capabilities and organizational performance at the private higher education institutions in Oman. In order to conduct this research, Gold *et al.*, 2001 model was selected to measure knowledge management infrastructure capabilities, knowledge management process capabilities. Furthermore, balanced score model was used to evaluate organizational performanc. A sample of 163 management staff were selected from 20 private higher education institutions in Oman. The data was collected using a quantitative approach and analyzed using Structural Equation Modeling (AMOS). Research results revealed that there is a non-significant positive causal effect relationship between the knowledge management infrastructure capabilities and organizational performance and a significant positive causal effect relationship between knowledge management process capabilities and organizational performance at the private higher education institutions in Oman. The main limitation of this research was that the literature was severely deficient considering observance of the knowledge management capabilities in all dimensions of knowledge management infrastructure capabilities, knowledge management process capabilities and organizational performance at the private higher education settings.

**Key words:** Knowledge management infrastructure capabilities, Knowledge management process capabilities, Organizational performance, Private higher education institutions, Oman

### INTRODUCTION

Knowledge management (KM) is a multidimensional process that acquires, convert, apply and protect knowledge. However, many related studies focused only on fragmentad or limited knowledge-management perspectives. In order to make KM more effective, it is important to identify the qualitative and quantitative issues that are the foundation of effective KM in organizations (Cho, 2011).

KM strategies are becoming the major vehicle for the organizations to achieve their goals, compete and perform well. Linking KM to performance could make a strong organization case in convincing senior management of any organization about the need to adopt a KM strategy. Organizational performance (OP) is the key issue and performance measurement models provide the basis for developing a structured approach to KM. In this respect, organizations need to assess their knowledge management capabilities (KMC) and find ways to improve their performance (Zaied, 2012).

Higher education plays a vital role in countries economic growth and shaping the future of the nation. Nowadays educational institutions are experiencing challenges such as rapid growth of information technology, globalization, increased competition and resource constraints. The successful realization of these institutions on the educational services market play a necessary role in attainment their defined goals, therefore focus and hence the performance assessment of higher education institutions become essential. So strategic planning and performance tracking has got great importance for such institutions (Al-Zwyalif, 2012). Higher educational institutions (HEIs) create and apply knowledge during their processes and activities. The growth in the number of HEIs in the last decade has increased competition and the pressures for performing better. This has forced the institutions to recognize the need for knowledge management (KM) initiatives which is a key asset (Bhusry and Ranjan, 2012).

According to Bhusry and Ranjan (2012), KM plays an important role in the improvement of organizational competitive advantage through sharing of best practices, achieving better decision making and faster response to key institutional issues, better process handling and improved people skills. In turn this means less reinvention of the wheel, relevant and focused policies in compliance with institutional goals and objectives, the ability to access information more quickly, improved academic and administrative services, reduced costs and prevention of mistakes and failures. In practice however, few higher education institutions (HEIs) achieve all or even most of these benefits. The apparent failure in KM initiatives is primarily caused due to lack of sharing culture, lack of awareness of the benefits of KM and a failure to integrate KM into everyday working practices. One of the main reasons universities invest in KM is to build a knowledge capability that facilitates the effective management and flow of information and knowledge within the university (Fattahiyan et al., 2013).

Scholars had attempted to evaluate the contribution of the knowledge management infrastructure capabilities (KMIC) and knowledge management process capabilities (KMPC) in organizational performance by different models and mostly in business context. There is a lack in research in exploring the relationship between knowledge management infrastructure capabilities, knowledge management process capabilities and organizational performance at the higher education settings more specifically private higher education institutions in Oman.

Privatization of higher education in the Sultanate of Oman is a recent phenomenon. A Royal Decree was issued in 1996 to promote the development of private higher education colleges in the country. The national documents related to education in Oman emphasize the role of the private sector in developing education. Most privatization concentrates in academic rather than technical education. The issue goes beyond general education to higher education as private universities and colleges are increasing in number in Oman, but their quality is questionable (Issan, 2013). According to Al Lamki (2006), although there has been a significant increase in research and publication about private higher education in the west



however, this topic remains peripheral on the higher education research agenda in the Arab world including the Sultanate of Oman.

KM initiative and implementation at higher level of education is not an easy task, various implementation challenges at higher education institution as following: (1) Lack of awareness and learning about KM, (2) the adoption of new system provides resistance , (3) short of finance for implementation of KM application, (4) lack of understanding about the appropriate technology used for implementing KM in practice, (5) lack of Top management initiative , (6) adoption of new system will create additional cost, (7) lack of motivation and initiatives, (8) Inability to determine the advantage created after using KM system (9) shortage of resources and expertise, (10) KM application may reduce work efficiency under situation, (11) system hanging can create big problem and training and time availability (Mathew, 2010).

## **MAIN RESULTS**

Literature reviewed offered most of the empirical studies in the knowledge management infrastructure capabilities (KMIC) and the knowledge management process capabilities (KMPC) contribution to organizational performance in the business settings and few were in the higher education context.

Cho (2011) examined the effects of KMIC which consisted of (technology, organizational structure, organizational culture and incentive) and KMPC which included (knowledge acquisition, knowledge conversion, knowledge application, and knowledge storing and knowledge protection) on organizational performance (OP). The research findings showed that there is a positive relationship between effective KM and OP. However, no empirical evidence was found to suggest that knowledge management capabilities (KMC) are linked to the objective financial performance, which remains a topic for future review. This research was in business setting.

Fattahiyan et al. (2013) studied the impact of specific KMIC which consist of technology, organizational culture and organizational structure and KMPC which consist of knowledge acquisition, knowledge conversion, knowledge application and knowledge protection on organizational performance (OP). The research findings showed that some knowledge resources (e.g. organizational structure, knowledge acquisition, knowledge application and Knowledge protection) are directly related to OP while others (e.g. technology, organizational culture and knowledge conversion), though important preconditions for KM are not directly related to OP. This research was in the setting of higher education institutions.

Al-Qarioti (2015) investigated the KM infrastructure at Kuwait University and saw how faculty members evaluate KM influence on organizational performance. The findings revealed that faculty members evaluate KM as very good which indicated that KM components are highly related to OP. This study was in higher education context.

Zaied (2012) presented an integrated knowledge management capability (KMC) framework for assessing organizational performance. The KMIC consisted of; knowledge-based structure, knowledge-based technology, knowledge-based human resources and knowledge-

based culture. The KMPC consisted of; knowledge acquisitions, knowledge conversions, knowledge applications, knowledge protections and knowledge storing. The knowledge management functions consisted of; knowledge creation, knowledge sharing and knowledge utilizations. The findings showed that there is positive correlation between KMC and OP. The results also showed that the proposed framework can be used to evaluate OP and also can be used as decision tool to decide which KMC should be improved. This research was in business settings.

In summary, although the relationship between KMIC and OP and the relationship between KMPC and OP has been investigated by (Al-Qarioti, 2015; Fattahiyan et al., 2013; Zaied, 2012; Cho, 2011). According to Seleim and Khalil (2011) even though organizations have implemented KM and offer inconsistent support that KM enhances firm performance the significant empirical research has yet to produce satisfactory evidences on the nature of the relationship between KM and firm performance. KM has spread its wings across many fields but it still lacks its implementation in higher education institutions (Zahrawi and Yahya, 2014).

The objectives of this research are as following;

- i. To identify the causal effect relationship between knowledge management infrastructure capabilities (KMIC) and organizational performance (OP) at the private higher education institutions (PHEIs) in Oman.
- ii. To examine the causal effect relationship between knowledge management process capabilities (KMPC) and organizational performance (OP) at the private higher education institutions (PHEIs) in Oman.

The following hypothesis was tested:

*Hypothesis 1:* There is a significant relationship positive knowledge management infrastructure capabilities (KMIC) and organizational performance (OP) at the private higher education institutions (PHEIs) in Oman.

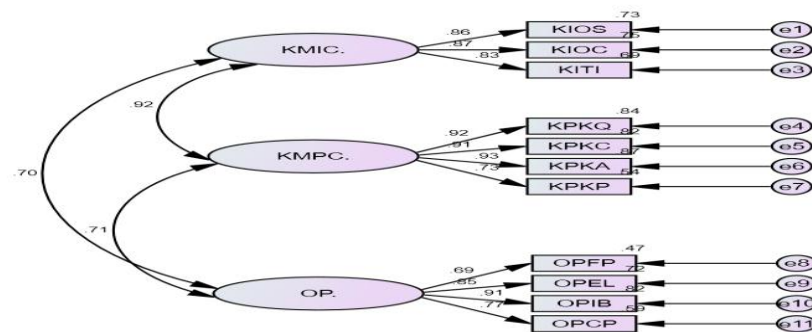
*Hypothesis 2:* There is a significant positive relationship knowledge management process capabilities (KMPC) and organizational performance (OP) at the private higher education institutions (PHEIs) in Oman.

This research carried out within a quantitative correlation method using a survey questionnaire to fulfill the research objectives. The research sample was 163 management staff from 20 private higher education institutions in Oman. The questionnaire was divided into five parts to specifically address the objectives determined in this research. Part one consisted of the demographic information of the respondent. Part two and three contained statements of measuring KMIC and KMPC adopted 81 items from Gold *et al.*, (2001) measure. Part four consisted statements of measuring the organizational performance (OP) adopted 40 items from Chen and Liang (2011). The research measure had coefficient alpha of .810-0.965 in previous studies and in actual research scored 0.892-0.925. The research questionnaire was based on a five-point Likert-type scale with anchors from “5- Strongly agree” to “1- Strongly disagree”. The IBM SPSS Statistics 20 and IBM SPSS AMOS 20 software were used to analyze the research data. The research data was screened for errors and missing data by inspecting the frequencies for each of the research variables.

The first and second of the research objectives were presented in Hypothesis 1 and 2 which focused on the relationship between KMIC, KMPC and OP at the PHEIs in Oman. First, the measurement model was constructed for all of the research variables and the factor loading were good and the data was normal with an acceptable skew and kurtosis range. The results of the measurement model fit were revealed in Table 1 and Figure 1.

**Table 1.** The measurement model fit

Name of Category	Fit Indexes	Level of Acceptance	Index Level CFA	Index Level SEM
Absolute Fit	Chisq $X^2$		72.613	72.613
	RMSEA	RMSEA < 0.08	0.069	0.069
	GFI	GFI > 0.90	0.927	0.927
Incremental Fit	CFI	CFI > 0.90	0.979	0.979
	TLI	TLI > 0.90	0.972	0.972
	NFI	NFI > 0.90	0.953	0.953
Parsimonious Fit	Chis/df	Chis/df < 5.0	1.771	1.771

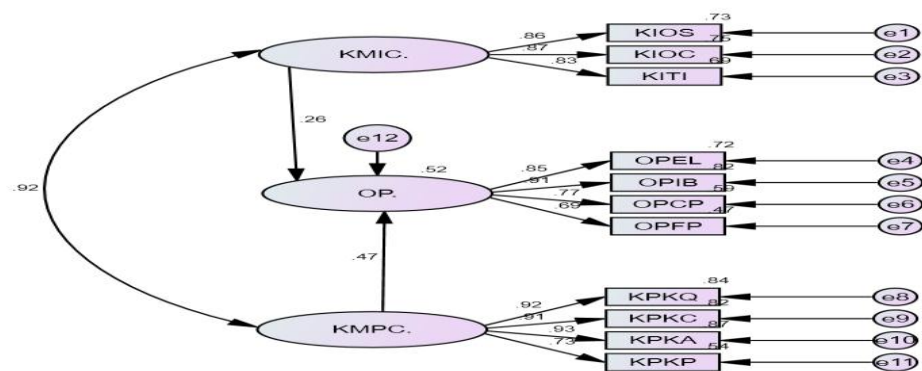


**Figure 1.** The measurement model of the relationship between KMIC, KMPC, and OP

Second, the structural equation model (SEM) was constructed and the model fit results are shown in Table 1 and Figure 2. Furthermore, the hypothesis assessment was shown in Table 2. The results showed that there model fit measurement model and SEM was same and in an acceptable level and proved that there was a non-significant positive relationship between KMIC and OP with a P value of  $0.249 > 0.05$ . Additionally, the results showed that there was a significant positive relationship between KMPC and OP with a P value of  $0.033 < 0.05$  at the private higher education institutions (PHEIs) in Oman.

**Table 2.** The Hypothesis tests are of the KMIC, KMPC and OP structural equation model

Hypotheses Path	Estimate	S.E	C.R	P	Estimate Standardized Regression Weights $\beta$	Result
KMIC $\rightarrow$ OP	0.114	0.099	1.154	0.249	0.260	Non-Significant
KMPC $\rightarrow$ OP	0.168	0.079	2.126	0.033	0.474	Significant

**Figure 2.** The structural equation model of the causal effect relationship between KMIC, KMPC, and OP

## CONCLUSION

This research aimed to determine the causal effect relationship between KMIC and OP. Additionally, to examine the causal effect relationship between KMPC and OP, at the PHEIs in Oman. The findings are summarized as following:

- There was a non-significant positive relationship between KMIC and OP at the PHEIs in Oman.
- There was a significant positive relationship between KMPC and OP at the PHEIs in Oman.

The findings through the statistical analysis could contribute practicality on the implementation of KMIC and KMPC at the PHEIs in Oman in order to develop and utilize the KMIC (organizational structure, organizational culture and technology infrastructure) in way that its contribute to the OP. Furthermore, KMPC (knowledge acquisition, knowledge conversion, knowledge application and knowledge protection) plays a crucial role since the results showed the significant causal effect with OP. The PHEIs should look into several

factors that may encourage the successful utilization of KMIC (organizational structure, organizational culture and technology infrastructure) as following;

- a) Introducing the knowledge management at the PHEIs organizational structure in a way that promotes knowledge utilization, creation, sharing and implementation among the management staff collectively.
- b) Encouraging the knowledge management organizational culture among the management staff and employees in the way of understanding the benefits of knowledge management and promote the knowledge culture that values the individuals' expertise, training, job learning, teamwork in the PHEIs vision and mission.
- c) Utilizing technological infrastructure in a way that allows employees to collaborate, learn and retrieve knowledge with each other and monitor the competitors and generate opportunities with PHEIs allies and partners.

In conclusion future work is recommended to identify the reasons why KMIC did not contribute in the PHEIs OP.

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## INTEGRATING KNOWLEDGE MANAGEMENT PRACTICES AND INNOVATION TO INCREASE SMEs PERFORMANCE: A CONCEPTUAL PAPER

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### ABSTRACT

This is a conceptual paper aim to study the relationship between knowledge management practices, innovation and the performance of small and medium enterprises (SMEs) in Malaysia. SMEs has been recognized because of it play an important role to the economy, accordingly numerous government programmes have been and are being implemented over the years, all of which are aimed at the development of SMEs and enhancing their performance. Knowledge management is a process that transforms individual knowledge into organizational knowledge. The effective management of knowledge resources is fundamental for organizations those who want to leverage their knowledge management components assets and improved performance. However, in the era of globalization and also the government's open door policy has given a greater challenges to the SMEs to operate their business in Malaysia. The competition from foreign company has forced SMEs to be more competitive and innovative in order to compete and sustain. Thus, this study also will examine innovation as mediator between knowledge management practices and SMEs performance. This study will be selected four types of innovation as mediator namely product innovation, process innovation, administrative innovation and marketing innovation. SMEs performance was measured from the perspective of financial and non-financial.

**Key words:** Knowledge management practices, Innovation, Product innovation, Process innovation, Administrative innovation, Marketing innovation, Small Medium Enterprises, Malaysia.

## **INTRODUCTION**

The competitive advantage of SMEs would lie in developing knowledge management practices, which would allow them to present greater innovation flexibility in dynamic business environments (Liao and Barnes, 2015). SMEs need to develop an effective knowledge management practices to facilitate the present of innovation in their organization. Innovation capability is actually one of the most important dynamics that enables SMEs to achieve a high level of competitiveness both in the national and international market (Saunila, 2016). Innovation has challenged the people in business to think out of the box, to create new ideas, new process, new product, market and essentially transforms their business to the most innovative organization. It is believed that innovation contribute accomplishment to the organizations. In the literature, many researchers acknowledge the importance of innovation and agreed that innovation can be considered one of the key drivers to ensure sustainability and organizational success (Darroch, 2005: Christofi, Vrontis, and Leonidou, 2014: Al-Husseini, Sawasn and Elbeltagi, 2015). Moreover, according to Saunila (2016) and Abbasi, Belhadjali, and Whaley (2012) capability to innovate is important to increase competitive advantage of the organization. Innovation does not mean the organizations need to develop new product but includes implementation of new business practices, business process, explore new market, develop new network, reducing administrative cost and transaction costs, improving workplace satisfaction, reducing costs of supplies, and many others (OECD, 2005). Thus, it is important for SMEs to explore all types of innovation. This study focus four types of innovation namely product innovation, process innovation, administrative innovation and marketing innovation.

## **LITERATURE REVIEW**

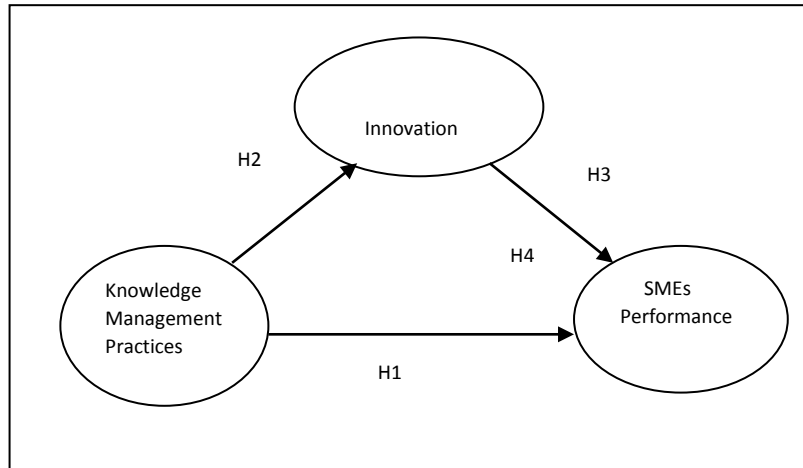
Gray (2006), Edward (2007) and Valkokari and Helander, stated that the major innovation driver is an appropriate knowledge management practice. Thus, SMEs need to strengthen their knowledge management practices in order to increase innovation capabilities. Moreover, Gray (2006) stated that appropriate knowledge management system is needed for managing the existing organizational and technical knowledge. Since, knowledge management system is a most important innovation drivers, therefore SMEs have to face major challenges in keeping the firm's capabilities, acquiring new knowledge, which raises issues concerning the source of information, absorbing the new information and the use of the new knowledge, creating new knowledge, which also raises very interesting and challenging issues concerning innovation. In addition, Gray (2006) said that the average knowledge base in the SME sector is low compared with larger organizations. The report summarized that workforce learning in SME is very important in developing knowledge in the firm necessary to its survival and growth. In addition, Mothe and Thi (2010), said that the first category of organizational innovation refers to the introduction of knowledge management systems. Knowledge management includes practices such as management skills or sharing, coding and storing knowledge, and is usually associated with higher flexibility, adaptability, competitive advantage, and organizational performance. Organizations have opportunities for higher innovation capabilities and performance when they are able to expand, disseminate, and exploit organizational knowledge internally, as well as to share knowledge from external partners. However, not many research done to investigate on how knowledge management system would increase innovation performance particularly in developing country such Malaysia.

According to Cavusgil, Calantone, and Zhao (2003), innovation has become increasingly complex due to economic environment changes and this complexity of innovation has also been increased by growth in the amount of knowledge available to organizations as a basis for innovation. Moreover, according to McAdam and Rand Reid (2001), SMEs often has a limited understanding of knowledge management strategies, thus, lead to lack of investment in knowledge management approaches and implementation. So for that reason, many aspects of business and management, the knowledge management issues that SMEs will face may not be simply same as large company experiences. Lim and Klobas (2000) said that lack in the adoption of computer based systems and techniques, both for storing and acquiring knowledge is the main issues for SMEs in knowledge management strategies. In SMEs, new knowledge created in the organization needs to share and creatively need to transform into an idea that support innovation activities. Innovation is extremely dependent on the availability of knowledge and therefore the complexity created by overload information and chaos of managing knowledge has to be identified and managed to ensure successful innovation. Due to the fact that very little clarity exists in current literature, especially in small organization in developing countries, this study aims to clarify the role of knowledge management to facilitate innovation in SMEs.

Most studies on knowledge management and innovation in Malaysia had focused more on public sectors and large private companies, whereas there is limited research on SMEs development in Malaysia (Kassim and Sulaiman, 2011; Arham, 2014; Saleh and Ndubisi, 2006). Therefore, to remedy this gap, there is a need to study on the area of knowledge management and innovation in SMEs. The proposed conceptual framework is developed based on the knowledge management attributes that lead to the innovation success and SMEs Performance. Contributing attributes to knowledge management among SMEs are categorized into five practices which are knowledge creation, acquisition, knowledge sharing and knowledge storage and knowledge application whereas innovation types intended to explore in this study are product innovation, process innovation, administrative innovation and marketing innovation. The proposed model for the study shows in Figure 1. The study has developed research hypotheses as follows:

- H1: There is a significant relationship between knowledge management practices and SMEs performance.
- H2: There is a significant relationship between knowledge management practices and innovation.
- H3: There is a significant relationship between innovation and SMEs performance.
- H4 - H17: Innovation mediated the relationship between knowledge management practices and performance.
- H4: Innovation mediated the relationship between knowledge management practices and SMEs performance.





**Figure 1.** The proposed model

# H10

## PROPOSED METHODOLOGY

This paper is conceptual and it would obviously be subjected to an empirical research study. Thus, it is proposed to be conducted quantitatively where a Likert-scale questionnaire would serve as the survey instrument. Questionnaires using the Likert scale would be suitable instrument in gathering responses from SMEs Owner or top management of the organization. The questionnaire will be split into various sections to operationalize each of the construct. Where possible, previous established questionnaire items that have been verified its reliability and validity will be applied. It is significant to mention that all constructs and standards will be adapted by previous work. It is warranted that the owner or manager is the best spot to evaluate innovation performance outcomes as they are the person who hold the information close to the system. Before extending the main analyses, the questionnaire items shall be examined for its reliability and robustness. Cronbach's Alpha value shall be calculated to find the value of dependability to ensure all constructs falls within the satisfactory range. Face validity shall be achieved by showing the questionnaire to researchers and academicians knowledgeable in the innovation performance field as well as in the knowledge management area, prior to data collection. Considering the statistical analyses, Structural Equation Model (SEM) SmartPLS would be the main analyses to be conceived to test and answer the hypotheses, and to build a relationship between variables. Initially, to contribute a general description of the data collected, of course descriptive statistics such as frequency distributions, measures of central tendency and variability may be used, all of which are obtained from the employment of the SPSS software.

## CONCLUSION

The outcomes of knowledge management towards innovations have been studied in earlier literature. Liao and Barnes (2015) stated that several studies have been carried out on the importance of knowledge management in innovation, especially in the area of utilizing and sharing knowledge effectively across the organization and study done by Liao and Barnes (2015) shows empirical evidence that in order to build flexibility in innovation for long-term competitive advantage in SMEs, the emphasis should be on developing effective processes to effectively acquire knowledge from outside the firms. Innovations improve coordination and co-operation in the organization, and they have been indicated as better results in efficiency

measures, improve the organization's competitiveness, and they have been shown to have a positive impact on the results of effectiveness measures. Past researchers have highlighted the need to have more research in the innovation area, in particular SMEs in developing countries. According to Hine and Ryan (1999), if small businesses are innovative, then it can be expected that they will be creating benefits to their industry beyond their own profitability. They should be creating an environment in which their innovations can be commercialized and diffused as rapidly as possible. If this is not the case, then there is little justification for the existence of small businesses. This study also could increase the understanding of the reasons relating to business failure among SMEs, even though having government assistance in contributing to economic growth. This study also would enhance the understanding of knowledge management practices and innovation and its contribution to performance and growth. To management practitioners, this study may have direct perceptive because they may use the findings to guide their innovation decisions, to identify, define and prioritize the steps needed to take-forward innovation and hence achieve business success especially for small business.

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## RECONSIDERING CURRENT PRACTICES OF OCCUPATIONAL SAFETY AND HEALTH (OSH) TRAINING: EVALUATION ON THE EFFECTIVENESS TRAINING METHOD

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### ABSTRACT

The implementation of self-regulation in OSH Act 1994, relies heavily on the effective of OSH training programmes. Current practices of OSH training among the local industries shows ineffective training since the accidents and injuries are still at the alarming rate. On the other hand studies show that there are consistent findings of the successful of technology integration of OSH training. Aim of this study is to evaluate the effectiveness of OSH training among three major approach in training which are pedagogy approach, andragogy approach and heutagogy approach. Results shows that pedagogy approach is insignificant and to be applied as effective OSH training approach. Findings of the study justified for future research for the development of high technology simulation to be tested as effective OSH training approach within the local setting.

**Key words:** Training, Evaluation, Safety and health training

### INTRODUCTION

Training evaluation in OSH is an integral part of most training programs. It is important for the assessment of tools and methodologies applied in OSH training especially this guide the self-regulation implementation of OSH act 1994 in the local context OSH training successful. Evaluation is the systematic assessment aim. The act of judging the activity to be evaluated This is essential to change the scopes of the training needs to manage up with those changes and to keep with the pace of rapid technology and society development and the most important part of OSH training is to create awareness among workers in safety and health so that accidents and injuries at workplace can be reduce. Most of the studies on training evaluation directed on the impact of the training in improving efficiency and productivity of employees. (Games & View, 2014)(Ho & Dzeng, 2010). Limited work has been reported on

concentrating the core and central aspect of the training, its content and methodology. This study focussed on evaluating the training program characteristics using three independent variables and its impact OSH training program effectiveness (Sicw et al., 2015).

Subsequently, there are three main intentions for OSH training evaluation that are crucial to be examined at this level of study. This is to help on identifying ways to improve you're the implementation of safety and health training especially among the training providers the development of safety and health content which are related to the local industry.. (Bahn & Barratt-Pugh, 2012) Gathering responses among the osh trainees will assist to determine the training transfer that enables for the the training improvement. and 2) To enable to determine training is aligned with the training assessment 3) To aware that the value that training is adding to the participant's safety and health knowledge (Tixier & Hallowell, 2016).

The training evaluation questionnaire was divided into two sections, for Section A, used to collect on the demographic data of the respondents this includes information on background information and any details related to OSH training and each of the personnel. For the Section B of questionnaire was used to collect the information on three major independent variables and a dependent variable, the OSH training effectiveness. This part contains 50 questions, related to Topic specific independent construct such as pedagogy training method, andragogy training approach and heutagogy training approach with the dependent variable OSH Efficiency (Dijk, Bubas, & Smits, 2015).

Based on identified issues and gaps in the current practices of OSH training, the following hypothesis were formed;

- H<sub>1</sub>:** OSH Trainee perceive there are some mean difference in OSH training implementation owed to Paedagogy approach
- H<sub>2</sub>:** OSH Trainee perceive there are some mean difference in OSH training implementation owed to Andragogy approach
- H<sub>3</sub>:** OSH Trainee perceive there are some mean difference in OSH training implementation owed to Heutagogy approach

### ***Data Collection***

*Sample Size:* The research sample size is only 200 participants who attended the occupational safety and health training conducted by various certified OSH providers. The demography of the participants provided as below:

### ***Demography***

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
<b>Male</b>	160	70
<b>Female</b>	40	30
<b>Total</b>	200	

### *Data Analysis*

For the purpose of empirical evidence, statistical techniques were applied to analyse the data for drawing inductive so that further research can be extend. For the data integrity the necessary and appropriate analysis using relevant were fully utilized. The descriptive statistics are used to summarise the data and to investigate the survey questionnaire and this will follow us to help on formulating the hypotheses the inferential statistics. means, variance and standard deviation were used, on the other hand the internal consistency reliability of the research instrument, the survey questionnaire and to maintain similar and consistent results for different items with the same research instrument. After the data collection completed, the total score each divided group was calculated to evaluate the correlation between the total scores.

### MAIN RESULTS

Variable	Mean	SD	SE
Pedagogy approach	4.02	0.71	0.068
Andragogy approach	3.99	0.65	0.055
Heutagogy approach	4.45	0.89	0.070

Mean, standard deviation and standard error values of the primary data

	Pedagogy approach	Andragogy approach	Heutagogy approach
Pedagogy approach	0.05		
Andragogy approach	0.30	1.00	
Heutagogy approach	1.00	0.25	1.00

\*\*Correlation is significant at prob<0.01; \*Significant at prob<0.05

### *Differences of efficiency towards the variables*

**Pedagogy:** The t-test portray there was no statistically significant in difference of means among Lecture and Efficiency of the training program. The calculated t-value 0.534 is less than the t-tabular value (1.984) at DF (198) and p-value (0.59) also greater than the significance level of p-value (0.05) and lower (-0.1716) and upper (0.0976) values are between positive and negative numbers at 95% confidence interval of the differences. Therefore the results shown non-significant difference of means and we reject the null hypothesis.

**Andragogy:** The t-test results confirm for the variable Practical statistically significant difference in means is among Practical and Efficiency (p < 0.0001) which is less than

significance level of p-value (0.05) and lower (-1.1191) and upper (-1.191) values were between negative numbers at 95% confidence interval of the differences (Therefore the results show the statistically significant in difference of means between Andragogy and Efficiency).

**Heutagogy:** The t-test results confirm for the variable Demos statistically significant difference in means is between the heutagogy approach and Efficiency ( $p < 0.0001$ ) which is less than significance level of p-value (0.05) and lower (-0.5606) and upper (-0.2476) values were between negative numbers at 95% confidence interval of the differences Hence the results show the statistically significant in difference of means between Heutagogy approach and OSH Efficiency.

Findings of the study confirm on the previous study that for the efficiency of OSH training, the integration of suitable simulation and technology are essential besides the acknowledgement of adult's learner as one training approach is crucial towards successful OSH training.

## CONCLUSION

Findings of the study are important since that this will be strong justification for further research on the utilization of technology on OSH training. This will be further extend to test the efficiency of technology simulation integrated on OSH training.

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## MAPPING OF THE ENGAGEMENT FACTORS FOR THE LECTURERS IN A HIGHER EDUCATION INSTITUTION

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### ABSTRACT

Mapping engagement factors for the lecturers in higher education is a method to predict performance in the organization. The case study in this research is the lecturers in Institut Teknologi Bandung (ITB). In this research we found that more incentive for the applied research related to the industry is the first factor for the lecturer's engagement. Lack of total supportive for the lecturers whose business or startup is the second one. The last one is the obedience to the superiors.

**Keywords:** Engagement, Higher Education, ITB lecturers

### INTRODUCTION

Employee engagement is one major categories of Human Capital Management (HCM) to predict organizational performance as explained by Bassi and McMurrer (2007). MacLeod and Clarke in *Engaging for Success* which describes engagement as “*a workplace approach designed to ensure that employees are committed to their organization's goal and values, motivated to contribute to organizational success, and are able at the same time to enhance their own sense of well-being*” (AoC, 2014). The report used Institute of Employment Studies definition of engagement as “*a positive attitude held by the employee towards the organization and its values.*”

Baumruk and Gorman (2006) as cited in Markos and Sridevi (2010) explained that engaged employee consistently demonstrates three general behaviours which improve organizational performance. *First*, say – employee advocates for the organization to co-workers, and refers potential employees and costumers. *Second*, stay – the employee has an intense desire to be a member of the organization despite opportunities to work elsewhere. *Third*, strive – the employee exerts extra time, effort and initiative to contribute to the success of the business.

Employee feel engaged when they find personal meaning, high motivation in their work, receive positive interpersonal support and operate in an efficient work environment (Bernthal, 2007 in Febriansyah, 2010). Meanwhile, employee who are not engaged are

likely to be spinning (wasting their effort and talent on tasks that may not matter much), settling (certainly do not show full commitment, not dissatisfied enough to make a break) and splitting (they are not sticking around for things to change in their organization), have far more misgivings about their organization in terms of performance measures such as customer satisfaction (Blessing White, 2006; Perrin Report, 2003 in Markos and Sridevi, 2010).

This research will explore the engagement factors for the lectures in Institut Teknologi Bandung (ITB). As cited in The Book of Strategic Plan 2016-2020 (p.40-42), ITB enforcement as Research University to Entrepreneurial University (excellence in teaching, excellent in research, and excellence in innovation) by developing innovation ecosystem and increasing entrepreneurship programs. ITB defines entrepreneurial university as a university with pioneering spirit whose real role in innovation and economic growth. The data in this initial study are explored from depth interview with content analysis as its method of data analysis.

## MAIN RESULTS

There are four basic ideas for content analysis (Mayring, 2000). *First*, fitting the material into a model of communication. *Second*, rules of analysis: the material is to be analyzed step by step, following rules of procedure, devising the material into contentions and analytical units. *Third*, categories in the center of analysis: the aspects of text interpretation, following the research questions, are ousted into categories, which were carefully founded and revised within the process of analysis (feedback loops). *Fourth*, criteria of reliability and validity: the procedure has the pretension to be intersubjectively comprehensible, to compare the results with other studies in the sense of triangulation and to carry out checks for reliability.

In this pre-elementary study we have interviewed six informants that can be divided into three categories: senior lecturer (2 people), lecturer-entrepreneurs (2 people), and ITB leaders (2 people). Senior lecturers refer to the lecturers that have been teaching at least 15 years, lecturer-entrepreneurs are lecturers whose business or patents related to their field, and ITB leaders means people whose position to create policy for all academia in the institution. In this research, we interviewed leaders of Directorate of Human Resource ITB.

**Table 1.** Engagement factors of ITB lecturers

Informant	Categories	Engagement Factors	
		Engaged	Disengaged
A	Senior Lecturer		Practical site of EU is unidentified, Program of Research, Community Service, and Innovation (P3MI) for Research Group (KK) and program of digitalization not well realized because of lack of good administration
B	Senior Lecturer	Program of Research, Community Service, and Innovation (P3MI) for Research Group (KK) is good for increasing collectivity between members of group	
C	Lecturer-Entrepreneur		1. Strict roles of the projects including entrepreneurial projects 2. Institution does not well support lecturers-entrepreneur and entrepreneurial activities like



			business mentoring for students
D	Lecturer-Entrepreneur	The vision is related with the topic of research (applied research for industry)	The research led by Institution for Innovation Development and Entrepreneurship (LPIK) is not interesting because of low research funding
E	Leaders of Institution	The educational staff (Tendik) does like usual, there is no special goal (related to EU) to be achieved.	
F	Leaders of Institution	Additional incentive for the professor motivates lecturers to achieve that position	1. Low salary for the lecturers in general 2. Tight competition to get research grants

For the findings (see Table 1), we got three engagement factors of ITB lecturers. *First*, the lecturers engage to the vision of ITB because of more incentive they will get after doing selected topic of research proposed by ITB (Informant A, B, D, F). *Second*, the disengagement happens because of lack of caring from ITB to the entrepreneuring activities (Informant C). *Third*, the obedience to the superiors (Informant E).

## CONCLUSION

This research, we explored to the three factors of engagement in the Higher Education Institution; the more incentive for research, total supportive of entrepreneuring activities, and the obedience to the superiors. The other factors of engagement will be identified by interviewing more informants and distribute questionnaire of UWES-17, a standard questionnaire including three constituting dimensions of work engagement: vigor, dedication, absorption (Schaufeli et al, 2006), to measure engagement level of the lecturers.

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## ETHICAL ISSUES IN SOCIAL MEDIA FROM AN ISLAMIC PERSPECTIVE

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### ABSTRACT

Social media is computer-mediated tools that allow people to create, share or exchange information, ideas, pictures/videos and participate in virtual communities and networks. The viral booming of social media led to the raise of many ethical concerns and vacuums. The primary objective of the study is to highlight major ethical issues related to social media such as privacy, integrity, terms of service clearance, bad content, and to analyze these issues from Islamic perspective. The paper also suggests some ideas for managing these ethical issues in Islamic way.

**Key words:** Social media, Ethics, Privacy, Integrity, Islamic perspective

### INTRODUCTION

Social media is a generalized term for a group of online software tools that allow for increased interaction, authorship, and development of online content by any web user [1]. Social media includes Social networking sites (Such as Facebook, Twitter, and Myspace), Blogs (Such as Wordpress), Video sharing sites (such as YouTube), Photo sharing sites (such as Instagram and Flickr), Crowdsourcing (such as Wikipedia), User reviews (such as Amazon, Yelp), Streaming sites (such as Ustream), and Social bookmarking (such as Digg, del.icio.us).

Social media are changing the way people and organizations communicate. The social media statistics are amazing: Facebook has 1,931 million monthly active users [2]. Twitter now has almost 700 Million registered users, with an average of 58 Million tweets per day [3]. On one hand social media have multiple advantages such as, Low cost, simplicity, unlimited access, global reach, fast way of communication, excellent way for marketing and branding, and a great way to enhance social and professional networking. On the other hand, this booming of social media led to the raise of multiple ethical issues and vacuums that need to be addressed. The primary objective of the study is to address main social media ethical issues and to suggest some ideas for managing these ethical issues in Islamic way in point of Quran and

Hadith. It worth to highlight that when citing from Quran we use English translation of the meanings as Muslims believe that Quran is Allah's words and it was sent down in Arabic, while translations of the meanings are done by the humans and may carry some imperfections.

## MAIN RESULTS

With the booming rise of social media, ethical dilemmas are growing in number. In the following we analyzed some important issues from Islamic perspective.

### *Privacy*

Privacy, while having always been an issue, has garnered even more attention and anxiety with the advent of the social media age. The invasion of privacy would include any non-permissive approach taken to get any kind of personal or any other kind of information about an individual [5]. In principle, invasion of privacy is not authenticated in Islam. Nobody is entitled to spy on others **“O you who believe! avoid most of suspicion, for surely suspicion in some cases is a sin, and do not spy nor let some of you backbite others.”** [English translation of the meanings of Quran 49:12].

However, when going through details, the issue of defining private data is debatable. For example, behavioral targeting is a questionable area to consider while talking about privacy. The advertisers tracking our shopping behaviors and click through patterns to use that data in retargeting campaigns. The positive point is that the viewers may appreciate the relevance of the material being advertised to them but this is a kind of invasion of privacy. So the big question here: what is the extent to whether social media data should be considered public or private data? Key to this argument is the standpoint that social media users have all agreed to a set of terms and conditions for each social media platform that they use, and within these terms and conditions there are often contained clauses on how one's data may be accessed by third parties, including researchers [6]. Surely, if users have agreed to these terms, the data can be considered in the public domain. In Islam this is more or less a contract between the user and the social media service provider. In this contract the user is entitled to use the platform of corresponding social media for free, in return he is yielding the access to some of his private data. **“O ye who believe! fulfil (all) obligations”** [English translation of the meanings of Quran 5:1 ]

Definitely this is given that the contract abides to Islamic contract rules mainly in terms of clearance and the acceptance of both sides. This will be discussed with some details in coming section.

### *Terms of Service Clearance and Fairness*

When joining a social network, you are likely to spend more time considering which photo you will use on your profile than reading the lengthy terms of service document. And yet, off-putting though Facebook's 14,000-word terms of service and data use policy might be, it is a legal contract between you and the social network. Do you know what you've signed up for? [7]

Terms of service clarity is an area of concern with social media. Usually social media terms of service is a sort of contract of adhesion, which is a standard form contract drafted by one party (usually a business with stronger bargaining power) and signed by the weaker party

(usually a consumer in need of goods or services), who must adhere to the contract and therefore does not have the power to negotiate or modify the terms of the contract. Adhesion contracts are commonly used for matters involving insurance, leases, deeds, mortgages, automobile purchases, and other forms of consumer credit. Also known as adhesive contract; adhesory contract; take-it-or-leave-it contract; leonine contract [8].

Although this sort of contracts is not preferred because there is sort of compulsion, it is still acceptable in Islam according to International Islamic Fiqh (I.I.F) Academy because the buyer accepted contract items. This is given that the price or return is reasonable [9], which is usually the case of terms of social media in which the user surrender some of his privacy in return of getting the service.

Another condition for the terms of service is that it should be clear and readable for general community (not experts). In multiple cases it is observed that terms of services are sophisticated enough so that social media users are not able to read properly or critical consent is embedded within 100s of lines. Jim Killock, director of the Open Rights Group, a non-profit group who campaign for users rights online, believes that many terms of service are confusing and misleading for users. He says: "A lot of the time it really isn't transparent what these agreements mean. People haven't really understood what they have entered into. Often companies will over-egg what they need, and it's a land grab for users' rights and content." [7]. This makes the contract not right from Islamic perspective. Abu Hurairah (May Allah be pleased with him) said: The Messenger of Allah (ﷺ) said, "He who cheats us is none of us." [Muslim]. Accordingly the contract should be clear, with clear "informed consent" for accessing private data. It is suggested to have sort of international standards for the terms of service and to have it reviewed by authenticated by well-known international law agencies to guarantee its clearance from any sort of bluffing.

### ***Data Ownership***

Another challenge also exists, who owns the data user create in social media sites? You are the exclusive owner of your data right up until the point where you hand it over to a party and agree they also own your data. For example, Facebook claims the rights to any data collection from participants created within it [10]. The most striking example of such a 'land grab' can be seen on professional networking site LinkedIn. LinkedIn makes broad claims over users' content, giving it the ability to "copy, prepare derivative works of, improve, distribute, publish, remove, retain, add, process, analyze, use and commercialize, in any way now known or in the future discovered..." LinkedIn applies this claim not only to users content, but also all data, concepts or even ideas passed through their service. A photo posted on Twitter remains the intellectual property of the user but Twitter's terms give the company "a worldwide, non-exclusive, royalty-free license (with the right to sublicense)". In practice, that gives Twitter almost total control over the image and the ability to do just about anything with it. The company claims the right to use, modify or transmit it your photo any way [7]. Callum Sinclair, partner in the Intellectual Property and Technology group of law firm, DLA Piper, says that Twitter's terms, to which every new member must agree, "grant extremely broad rights over your content... With these terms companies are saying 'you own your content, but we can just use it however we want.'" [7]

Back to the discussion in "Terms of service" paragraph, this sort of contract is Adhesion one which is more or less recognized in Islamic terms within the context we discussed earlier. So as long as the user accepts it that means he is accepting all terms including yielding the ownership of his data. Definitely given that the terms are clear and not hidden within the lines

in a way that a person can easily recognize and identify. The example as listed earlier shows that many social media platforms terms and conditions do not comply with this condition which make it an open ethical issue. Unfortunately this leads to the conclusion that “If there is content you don't want social media provider to own, simply don't upload it.”

### ***Distribution of Misguiding / Non-ethical Content***

Once a piece of content is published in social media it goes viral, there is no limit to the amount of people it could potentially reach. This raise another ethical issue for social media is which the content itself. On one hand, People are invented to share useful knowledge and information in a way to profit the society. While keeping knowledge to oneself and refusing to share with those who want it is measured a sinful. The Prophet (SAW) was reported to have said that 'whoever was asked about something he knows, but he refused to disclose it, he shall be tied in the hereafter with ties from the hellfire [A hadlth narrated by, among others, Abu Dawud, al-Turmudhi, IbnMajah and Ahmad]. Muslims are encouraged to spread good content that leads to the benefit of community and will be reflected positively on ones position in the hereafter. In Quran **“And they had been guided [in worldly life] to good speech, and they were guided to the path of the Praiseworthy.”** [English translation of the meanings of Quran 22:24]

On the other hand Islam strictly prohibits distributing any information or content that leads to harm the community. This, for example, involves any roomers that harm the community. In Quran:

**“And when there comes to them information about [public] security or fear, they spread it around. But if they had referred it back to the Messenger or to those of authority among them, and then the ones who [can] draw correct conclusions from it would have known about it. And if not for the favor of Allah upon you and His mercy, you would have followed Satan, except for a few. Confidentiality is regarded as a trust (Amana) in Islam.”** [English translation of the meanings of Quran 4:83]

Another verse:

**“And do not pursue that of which you have no knowledge. Indeed, the hearing, the sight and the heart - about all those [one] will be questioned. ”** [English translation of the meanings of Quran 17:36]

Also, harmful content involves distribution of any bad content that does not match Islamic ethics and rules. This includes, for example, pornography, hatred, or any content that leads to disputes and does not give any added value to the community. In Quran

**“Indeed, those who like that immorality should be spread [or publicized] among those who have believed will have a painful punishment in this world and the Hereafter. And Allah knows and you do not know. ”** [English translation of the meanings of Quran 24:19]

Consequently, any distribution of misguiding or non-ethical content should be considered as a crime and aggressive legislations should be considered as the negative effect of spreading such content over social media highly exceeds those of traditional channels, because of the global reach and viral spread of social media, along with the enormous difficulty to identify and sue bad-content users due to higher possibility of anonymity over the virtual world of social media.

### ***Integrity***

Integrity risk is the main ethical challenge with regard to social media related to business area. When an employee uses social media in an irresponsible way either on behalf of the company or through their personal social media account, it can undermine the company's commitment to ethical practice and expose it to integrity risk. According to a research done by Deloitte 74% employees believe that social media can easily damage a company's reputation.

The case of Nestle provides an example. In March 2011, an employee who was managing content on the company's Facebook Fan Page posted offensive comments in response to negative remarks by fans. The employee's behavior violated the company's business principle of integrity and their commitment to "avoid any conduct that could damage or risk Nestle or its reputation" and provoked a consumer backlash. Calls to boycott Nestle were initiated. Members of the general public also joined the Fan Page specifically to criticize the company [11].

Alternatively, employees might post negative comments about the company on their personal social media profile. This is harder for companies to control. From Islamic point of view, if somebody (the employee in our case) betrays the trust of somebody else who entrusts him (the company in our case), this is a big sin and indication of hypocrisy. Abu Hurairah (RAA) narrated that the Messenger of Allah (ﷺ) said:

"There are three signs of a hypocrite: when he speaks, he tells lies; when he makes a promise, he breaks it; and when he is entrusted, he betrays his trust." [Al-Bukhari and Muslim].

So if a company entrust an employee to controls it social media account he should do it in the best way that matches the company guidance, otherwise he is doing a major offensive deed. Again misuse of company trust should be considered as a crime and aggressive legislations should be considered. Employment contract should include clear items dedicated to this point with clear referral to legal implications in case of miss use.

### ***Negative Real Life Social Impact***

When overused, social media have multiple social impact that is reflected on human lives, starting from elimination of human contact and productivity reduction, and ending with sort of addiction. Despite its importance and high impact on community, this topic is not covered well in literature. According to a 2012 study posted on the National Institutes of Health website, "Internet Addiction Disorder (IAD) ruins lives by causing neurological complications, psychological disturbances, and social problems." It is still not officially listed as a psychiatric disorder in the bible of psychiatric disease, the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), though the more narrowly defined Internet Gaming Addiction was added in May 2013. Other subtypes of internet addiction, such as social media addiction have not been studied enough to receive their own clinical definitions or treatment recommendations.. Symptoms for Internet addiction can be similar to addiction to anything else, and fall into two types of behaviors: an ever increasing need to engage with the object of the addiction, and a bad feeling when not getting enough of it. According to several recent brain imaging studies, severely Internet addicts show structural and functional brain abnormalities similar to those found in people with substance abuse problems. Other research has shown that Internet addiction frequently coexists with anxiety, depression, or an addiction to other things like alcohol or drugs [12]. Facebook, in particular, was found so addictive as we are essentially narcissistic and want to be the center of attention.... "I want them to pay

attention to me, to 'like' me..." In fact, Facebook addiction shows up in brain scans of those who can't stay off the site, affecting grey matter in a similar way that cocaine does [13].

Similar to drug addiction or drinks, any action that leads to mental disorder is prohibited in Islam. In Quran it is clearly mentioned that one is not entitled to do any action that leads to self- destruction

**“And spend in the way of Allah and do not throw [yourselves] with your [own] hands into destruction [by refraining]. And do good; indeed, Allah loves the doers of good.”**

[English translation of the meanings of Quran 2:195]. Another verse states clearly anything evil is prohibited **“Those who follow the Messenger, the unlettered prophet, whom they find written in what they have of the Torah and the Gospel, who enjoins upon them what is right and forbids them what is wrong and makes lawful for them the good things and prohibits for them the evil”** [English translation of the meanings of Quran 7:157]. Even if it did not reach addiction level overusing social media is still dangerous in multiple aspects such as but not limited to reduction of productivity due to waste of time and elimination of Human contact.

For the productivity part, Islam considers humans representatives for Allah on earth and they are obliged to act in a way to build towards the benefits of all creatures.

**"Indeed, I will make upon the earth a successive authority."** [English translation of the meanings of Quran 2:30]. In Sunnah, we can find clearly that one is responsible about the way he consumes his life which should be in the most efficient and fruitful way. Abu Barzah (May Allah be pleased with him) reported: Messenger of Allah (ﷺ) said, "Man's feet will not move on the Day of Resurrection before he is asked about his life, how did he consume it, his knowledge, what did he do with it, his wealth, how did he earn it and how did he dispose of it, and about his body, how did he wear it out." [At-Tirmidhi].

On the “elimination of reduction of human contact” end, Islam recommend increasing it as much as possible given that this will lead to positive impact on community. It was narrated from Ibn ‘Umar that the Messenger of Allah (ﷺ) said: “The believer who mixes with people and bears their annoyance with patience will have a greater reward than the believer who does not mix with people and does not put up with their annoyance.” [Sunan Ibn Majah - patience at the time of calamity]. This gain even further momentum when this is related to relatives. Building strong relationships with relatives (or what so called in Islamic Terms ties with relations or silaturrahim) is strongly recommended and encouraged. Anas (May Allah be pleased with him) reported: Messenger of Allah (ﷺ) said, "He who desires ample provisions and his life be prolonged, should maintain good ties with his blood relations". [Al-Bukhari and Muslim].

Consequently it is good to have relations on social media given that this will not abandon actual ones especially when talking about relatives and specifically closest ones such as parents, brothers and sisters. Briefly, social media has the ability to make life and relationships both easier and more difficult. The bottom line, use in a way that you gain its benefits but one has to stop when the usage reach a level that ruin his/her life or relationship.

## CONCLUSION

This discussion concludes that where there are enormous benefits of social media, there is still an increasing challenge of ethical issues. This paper highlighted major ethical issues related to social media and analyzed those issues from Islamic perspective. It also suggested some ideas for managing these ethical issues in Islamic way. Privacy and data ownership topics were analyzed and it was concluded that the social media provider's right to use data published by users or the usage of private information is directly related to contract between social media provider and users represented in the terms of service. Some Islamic rules for fair terms of services were presented. Also, the distribution of bad content or miss trust business to hurt a company integrity by its own employees were discussed, and it was proven that similar actions are considered big sins in Islam and those who commit such bad deeds should be subject to legal questioning. Lastly, negative real life social complications resulting from over use of social media, such as social media addiction or elimination of direct human contact were discussed. It was suggested that direct human contact needs not to be suppressed and that a wise person needs to put smart limitations to social media usage that guarantee gaining its benefits while avoiding its drawbacks.

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## MANAGEMENT OF JUVENILE CRIMINAL ACTIVITY USING GEOGRAPHICAL INFORMATION SYSTEM APPLICATIONS

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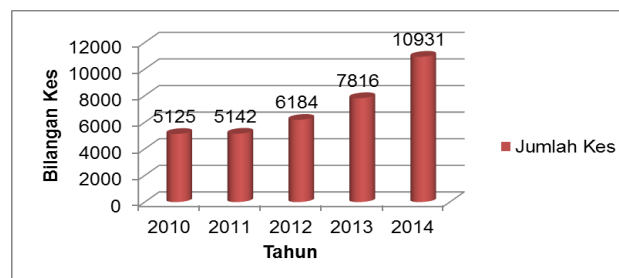
### ABSTRACT

Based on statistic, crimes perpetrated by juveniles are annually increased and this has been an unsettling issue especially for parents and the community. Juvenile is vulnerable to threats in various forms. Understanding the distribution of juvenile crime incidence is important for the formation of effective juvenile crime prevention interventions by including aspects of geography, spatial and social. This study was carried out on children under 18 years and young offenders from 18 to 21 years covering Peninsular Malaysia using geographic information system (GIS). GIS is a tool that can manage juvenile criminals' activities such as the location of criminal occurrences and determine geographical factors such as infrastructure, environmental and linkages between the address and occurrence location by a criminal suspects. Index crime data has been supplied by the Royal Malaysia Police Department which includes statistics from the years 2010 to 2014. Cluster analysis and location of incident address by criminal suspects were carried out. The main findings of this study found that 83% of juvenile offenders commit a crime within 25 kilometers or less from the address of residence of those who have the same physical and infrastructure factors.

**Key words:** Management, Juvenile, Crime, Location of the incident, Geographical Information System

## INTRODUCTION

Crime is a serious problem faced by every nation, regardless of the economic and political status. Various intervention approaches have been taken but juvenile crime remained contributor to the increase of the crime index in Malaysia. If this problem is not solved, it could affect social development, human capital and well-being of the country. Juvenile crime in Malaysia showed a gradual increase from year to year. Figure 1 shows the number of cases reported in 2010 to 2014 of 5,125, 5142, 6184, 7816 and 10,931 cases respectively. As stated by the Vice Chairman of *Malaysia Crime Prevention Foundation (MCPF)*, Tan Sri Lee Lam Thye, the increase of juvenile involvement in criminal cases is a concerning issue.



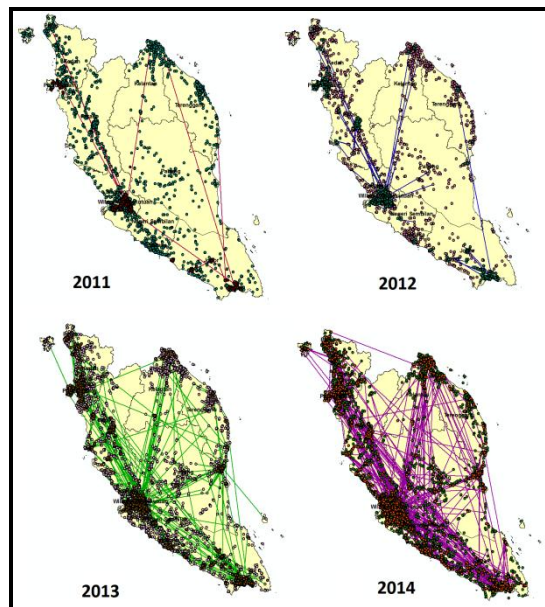
**Figure 1.** The number of juvenile criminal cases from the year 2010 to 2014  
(Source: Ong Han Sean, 2014b and *Jenayah dalam Kalangan Generasi Y*, 2014)

Although various studies on juvenile crime have been carried out by Jamri Awang Besar et.al. (1998), Hasan Bahrom et.al. (2003) and Yayasan Pencegahan Jenayah Malaysia (2004) including lots of prevention programs and interventions have been proposed and implemented, the number of cases for the period still increased. Geographic information system (GIS) technology was used to combine geographical and social factors. The management of the juvenile criminal activities and creation of prevention programs and interventions are more focused on the actual cause of the juvenile crime problem by using the GIS system. This study discusses on how the GIS technology could be used to manage the juvenile criminals such as identification of the hotspot incident crime location and grey area. GIS technology can also specify physical factors and infrastructure of an area that can contribute to the incidence of juvenile crime and relationship between the address and location of the occurrence of alleged crime where juvenile criminals' road travel can be obtained.

## MAIN RESULTS

Analysis of GIS have resulted in four main maps namely distribution of the crime incidence map, map of the suspect addresses, hotspot map and grey area map. Cluster analysis to the suspect location address and criminal incidents location are also conducted. Analysis to identify the distance taken by juvenile suspects were carried out with the juvenile crime suspects address and locations data. Both of these data are connected by the name of the suspect and both these coordinates are mapped and connected by lines. The distance between two points is generated and the percentages of suspects less than 25 kilometers have been formulated. However, the number of criminal occurrences location data found to be

somewhat reduced as compared to the number of data address of the suspect. Figure 2 shows the journey of offenders (juvenile suspects address) to the location of the event for 2011, 2012, 2013 and 2014 (Figure 2).



**Figure 2.** Suspects Mobility Distance from 2010 to 2014

## CONCLUSION

In summary, this study has mapped data crime juvenile index from the year 2010 to 2014, which covers the entire State in Peninsular Malaysia. Apart from that the study has shown that GIS can be used as a tool to manage the juvenile crime activities by producing several of maps such as hotspot map, grey area map, suspects' crime distance map, distribution of the crime incidence map and map of the suspect addresses. The main finding in this study shows that 83% of the juvenile offender does not commit crime more than 25 km from their residential area.

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## UNDERSTANDING THE WEB CONTENTS IN MALAYSIA MUNICIPALS GOVERNMENT WEBSITE

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### ABSTRACT

Website content evaluation becomes one of assessment tool in examining the effectiveness of the web-based information systems. The facet of web content always has been neglected as a measure in predicting the website usage and its effectiveness. The article explores the nature of website contents that resided in selected Municipal websites in Malaysia. Using the self - evaluation of ten (10) municipal websites using web analyzer metric tool, type of website content and the amounts have been determined. Ten (10) selected municipal websites owned content elements such images, html, cascading stylesheet (CSS), JavaScript and font property. Images were the biggest content amount in the municipal websites and its triggers that image was the important element in the municipals website.

**Key words:** Website content, Municipal website, Content management, Website credibility, User engagement

### INTRODUCTION

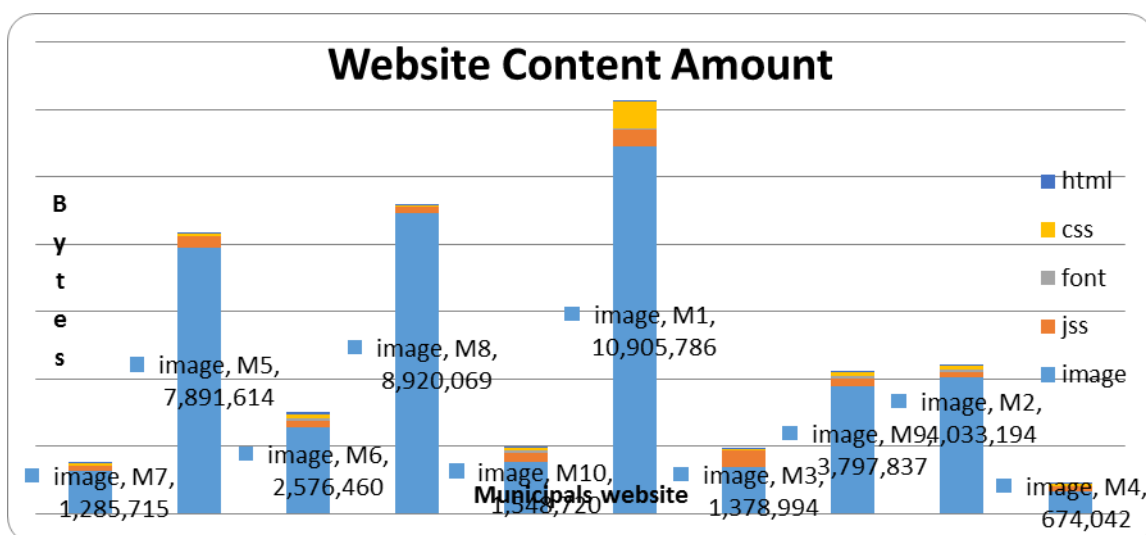
The critical uses of online resources on the webs makes website content design vital in order to assure that user get the right information especially upon searching. Online users and potential customers was proven affected with appealing website content which include balance of image, appealing of design, easy to navigate and useful of information content provided (Udo, Bagchi1 and Kirs, 2010; Kim and Fesenmaier, 2008; Rahardjo, Mirchandani & Joshi, 2007). Rosen and Purinton (2004) also identified web content as the main factors contributed to repeat visit for website with simplicity in design not too overload with information and adhere with object that catch user attention. Website content is overall of website presence which includes object of presentation and layout of the information and features (Udo, Bagchi1 and Kirs, 2010). Web content can be further subdivided into content

elements and content features. Website content element is the basic building blocks of website interfaces such as text, link, and graphic elements (Ivory and Megraw, 2005) whereas website content features are the formatting or technical design of the website elements that understandable and make affect by the user such as search option, hyperlinks to other content or other website, site map, RSS feeds and its can be further categorize as navigation features, interactivity features etcetera (Braddy et al. 2005; Yabing, Raghupathi, and Raghupathi, 2009). Website content features found to be second most features that affect the usability of e-commerce websites (Panda, Swain and Mall, 2015). Using web content management such as blog, organizational website able to tie the relationship with customer and typologies of content such as organizational content, promotional content and relational content can be easily manage and captured by the respective audience (Ahuja & Meduri, 2010). Thus, understanding a nature of web content in specific website is important for creating attention from respective website users.

This preliminary study was design to explore the initial phase of larger research. Investigative and self-evaluative method as used by Fogg et al., (2003); Jayasundari and Jeyshankar (2014) and Khatri & Baheti, (2013) was applied to evaluate ten (10) Malaysia municipal websites using web analytic tool namely as webpagetest.com for estimate website content amount and other measure that not reported here. This method was included review related literatures, designing a check list or criteria and evaluation of the content. The study was taken three (3) months at the end of first year of larger research duration.

## MAIN RESULTS

Figure 1 show the website content amount on selected Malaysia municipal website that been capture from online analyze tool call webpagetest.com. Most websites contain large contents which includes images, java scripts, font property, and stylesheet document and html tag. Among these five types of web content, image content was the biggest contribution in term of bytes which were on Municipal M1, M8 and M5 respectively.



**Figure 1.** Website content amount on selected Malaysia municipal website

This study found that amount of web content in these ten (10) websites does not affect its website popularity ranking in Malaysia nor the engagement measures such bounce rate and duration of user on the website. However, high volume of web content especially image content may slow down the loading time and permit to compatibility issues.

## CONCLUSION

This study gives an overview of the web content types and its role contributes to website effectiveness. Measures such type of website content and web content amount may affect user preferences on website usage in term of its content accessibility and web performance. This study may signify for web content management team preferences in emphasizing some web content management strategies such selecting appropriate content to fulfill target population of onsite visitors information need and host content that is attractive to user. Method used in this study is practical in term of ease as use, cost savvy and assortment of choices. In the future, it is advisable the similar method and measures can be used for various numbers of websites for better finding and results.

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## TAX COMPLIANCE ATTITUDES OF SOCIAL MEDIA USERS

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### ABSTRACT

Malaysia is heading towards a digital lifestyle where social networks are used to connect with family and friends in an easy and convenient way. This new lifestyle is debated to bring positive and negative elements to the society. This is because social media offers enormous amount of information that can easily be shared between their connections. Even though the reliability of information communicated and accessed is arguable, the information might be influential. This phenomenon probably may also affect the compliance attitudes of taxpayers. In the prior studies, the interaction of people in a society or community is viewed as one of the possible factors to influence the behaviour of people. Therefore, this study aims to understand the attitudes of social media users towards tax compliance in Malaysia. An online survey was used in this study to capture the true attitudes of social media users on tax compliance. The finding of this study has shown that Malaysian taxpayers are still considered as highly compliant despite the change of their lifestyle. However, the trend to remain neutral on tax avoidance attitudes for most of the respondents might be an alarming situation. The findings of this study might help the tax authority to consider the role of social media in influencing taxpayers in designing the tax compliance program.

**Key words:** Tax compliance, Tax avoidance, Social media, Internet

### INTRODUCTION

Malaysia is heading towards a digital lifestyle. This can be clearly viewed based on the report made by the Deputy Communications and Multimedia Minister Datuk Jailani Johari that the number of active internet users in Malaysia has exceeded 20.1 million and out of that total, 16.8 million being active on social media (The Sun Daily, 2015). Internet is interactive technologies that have significant role to provide information and knowledge with the specific characteristic such as interactivity, information availability, trust, satisfaction, commitment and cost reduction (Michaelidou et. al, 2011). The network which created and connected between individuals, group of people, department



or organization has led to the creation of social networks (Wasserman & Faust 1994). Internet has provided a new option for people to socialize, communicate and search for information easily and fast (Hughes et. al, 2012). The top active social media in Malaysia based on the percentage of the Malaysian population are as follows: Facebook (41%), WhatsApp (39%), Wechat (23%), Instagram (22%), and Twitter (16%) (Kemp, 2016). Facebook is evident to continue dominating the lead in digital era as reported by Statista (2016) that the Facebook user in Malaysia has increased from 9.24 million (2014) to 10.92 million (2016). It is also expected that by 2021, the Malaysian user of Facebook will go up to 15.45 million.

A new digital lifestyle is debated to bring positive and negative elements to the society. As it is defined, social media allows the creation and exchange of user generated content (Kaplan & Haenlein, 2010). The way people are communicating and socializing is virtual, not in face to face setting but rather on the web. Therefore, sharing news, personal stories, photos and videos are among the popular activities for the social media users. This phenomenon probably may also affect the compliance attitudes of taxpayers. This is because in the prior studies, the interaction of people in a society or community is viewed as one of the possible factors to influence the behavior of people. The influence of societal perceptions of tax compliance is possibly best explained by pro-social behavior theories where the behavior of others is taken into consideration. One of the pro-social behavior theories is reciprocity theory which refers to responding to a positive attitude with another positive attitude and responding to a negative attitude with another negative attitude (for example: Rabin, 1998; Fehr and Falk, 2002). Reciprocity in a tax compliance context implies that a taxpayer will feel uncomfortable for not paying taxes if others are paying their taxes or vice versa.

Malaysian taxpayers are reported to have a high tendency to comply voluntarily with tax laws (for example: Mohdali and Pope, 2014; Loo et al., 2010). Similarly, in 2004, Malaysia was ranked at the 8th highest tax compliance rate in 30 countries (Riahi-Belkaoui, 2004). Voluntary tax compliance is described as taxpayers' attitudes that "originate from spontaneous willingness to cooperate, emanating from the taxpayer's moral obligation to contribute to the public welfare" (Kirchler and Wahl, 2010, p. 343). Based on this definition, the sense of responsibilities to other people and strong moral values are recognized as driving factors to influence taxpayers' attitudes towards making appropriate decisions according to tax laws.

It is revealed that the most influential factor in influencing taxpayers' compliance attitudes is a combination of taxpayers' own values together with the values of others in their surroundings (Bobek et al., 2007). Thus the perception by a taxpayer of other taxpayers' behaviour gives a strong indication of his/her next action (Kaplan and Reckers, 1985 & Witte and Woodbury, 1985). A survey in three countries, namely Australia, Singapore and the USA, found that besides taxpayers' own moral beliefs, the beliefs of people who are close to taxpayers such as friends have a strong influence on taxpayers' attitudes (Bobek et al., 2007). Likewise, taxpayers are expected to be influenced by information about how other taxpayers handle their tax matters (Torgler, 2004). The findings from the interviews conducted by Mohd Ali (2013) with individual taxpayers indicate that the source of the influence of social interactions may come not only from families, friends or even neighbors from the same residential area in the taxpayers' surroundings but also from information that can easily be accessed from the internet. This is clearly evident in a study conducted by Quadrangle (2010) that networking highly

influence taxpayers' behavior based on the information and knowledge received from networks.

Since social media offers enormous amount of information that can easily be shared between their connections, it is highly likely for taxpayers to be strongly influenced by the information that they access when using social media that might change their attitudes towards tax compliance. The forecast made by Statista (2016) indicates a rapid growing number of social media users and since the reliability of information that can be accessed via social media is arguable, it is crucial to study the attitudes of taxpayers in a new culture that is digital lifestyle. Further, the finding made by Mohd Ali (2013) has provided the evidence of the influence of Internet on taxpayers. However, there is no specific definition provided to explain the term 'Internet' in this study in influencing the attitudes of taxpayers. Since social media is an Internet based applications and tools in sharing information among people, therefore this study aims to understand the attitudes of social media users towards tax compliance in Malaysia.

## MAIN RESULTS

A survey was used in this study to collect data and it was distributed online to social media users via various platforms namely Facebook, Instagram, Email, WhatsApp and Twitter. The items for tax compliance and social media were adopted from previous studies (Bobek et al, 2007 & Hughes, 2016). The usable responses received were 334. More than half of the respondents are in the age range of 20 to 29 years old with income less than RM5,000 per month and have no experience in paying tax. The remaining are those between 40 to 60 years old. Majority of the respondents are heavy users (that include those who used social media in a range of above average and high) of social media specifically WhatsApp (88.3%), Facebook (63.5%), Instagram (46.1%), and Google+ (42.5%). Approximately 77% respondents spent 8 hours and less per day using social media. The remaining are those who spent more than 8 hours per day on social media. The mean for tax compliance attitude is 4.06 and tax avoidance attitude is 2.70. The cross tabulation between the frequency of tax compliance attitudes of social media users and hours spent on social media is presented in Table 1.

**Table 1.** Social media users' tax compliance attitudes

Tax Attitudes Hours Spent on Social Media	Tax Compliance			Tax Avoidance		
	Disagree (%) (1.00 – 2.33)	Neutral (%) (2.34 – 3.67)	Agree (%) (3.68 – 5.00)	Disagree (%) (1.00 – 2.33)	Neutral (%) (2.34 – 3.67)	Agree (%) (3.68 – 5.00)
Less than 8 hours	1.2	17.4	58.0	27.5	42.8	6.3
Between 8 to less than 16 hours	0.0	3.6	15.3	3.0	10.5	5.4
Between 16 to 24 hours	0.0	1.2	3.3	1.2	0.9	2.4

## CONCLUSION

Malaysians are still appeared to be highly compliant despite the change of culture in communicating. However, the attitudes towards tax avoidance, even though it is inclined towards disagreement to avoid, the percentage of the disagreement is smaller as compared to those who prefer to have a neutral stance on this issue. There is a possibility that the information received from the social media have a strong influence to shift their opinion towards tax avoidance. This finding can probably give some insight to the tax authority so that the positive tax attitudes of Malaysians can be ensured in their new digital lifestyle. Since the majority of this study involved the young people who have less experience in paying taxes, it is recommended for the future study to focus more on the social media users with more experience in paying taxes to indicate their true opinion on tax compliance attitudes.

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## **FRAUD RISK MANAGEMENT OF THE INTERNAL PROCESSES FOR MOTOR INSURANCE CLAIMS AT SYARIKAT TAKAFUL MALAYSIA BERHAD**

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### **ABSTRACT**

Claims cost has been increasing over time and the insurance industry has been trying to develop new strategies to manage the cost. Fraudulent claims handling and processes have been identified as factors. Many researches have been done on fraudulent claims by policyholders but not much has been studied on the incidences of frauds within the internal processes of claims handling in an insurer. There are opportunities for frauds in the Motor Insurance Claims supply chain and this research will outline the points for extra scrutiny to avoid frauds. The concept of Risk Management is applicable in these instances to reduce the incidences of frauds within the confine of an insurance company that contributes to the overall claims cost. The insurance supply chain is discussed in detail and claims handlers are engaged to determine opportunities for abuse in the value chain. The discussion with claims experts contribute to the design of the risk framework. The implementation Risk Management concept and control will alleviate if not totally do away with the incidences or internal fraud, abuse and unethical behaviour.

**Key words:** Fraud, Insurance, Risk management, Risk register

### **INTRODUCTION**

Takaful (Islamic Insurance) is an idea whereby a pool of partakers commonly assures each other against misfortune or harm. Every partaker satisfies their commitment by allocating a specific measure of endowment or also known as tabarru into a reserve, which is overseen by an outsider - the takaful operator.

In case of misfortune or impairment endured, the Takaful operator will dispense the assets as required by the partaker and any extra charges or surplus is paid out simply after the commitment of helping the participants has been satisfied. Through this rule, Takaful serve

the customers or the partakers as a profit sharing endeavour and a protection plan following the specified policies between the Takaful operator and the partakers.

There are many differences between a Takaful Operator and an Insurance company but this research will not delve too much into this. Simply put, Takaful is Islamic insurance (ERAE Ali et al, 2008) but one of the major similarities between a Takaful Operator and an Insurance Company is the claims handling which will be a key point of discussion in this research.

## **MAIN RESULT**

Findings of this study have suggested five main categories of internal fraud for indicating type of fraud in risk identification which are credit abuse, breaches of policy, procurement of fraud, data theft and money laundering supported by various studies on internal fraud identification, management and prevention. Most importantly, this study highlights that the three main fraudsters in internal fraud are claim adjusters, claim handlers and workshop, described in this study as third party relationship.

Findings of this study suggested a comprehensive fraud risk framework with detailed anti-fraud map for implementation and adoption of insurance company. The creation of risk database must involve the advancement of technology and the use of IT specialist to create an integrative risk databases. Besides, encouragements on the uses of technology advancement to create an integrative risk database approach to facilitate risk identification, risk assessment, risk prevention and responds have been emphasized in both chapter 4 and 5 in this study. This study focuses on current STMB risk framework in order to suggest for the adoption of an improved framework thus might not be conclusive enough and require more investigation and enhancement using the theoretical and empirical structure that can be applied to this issue.

## **CONCLUSION**

In conclusion, this study has successfully achieve all three research objectives (to identify fraud risk along motor claims supply chains, to construct fraud risk framework, to create risk database for risk assessment and management) through qualitative in-depth interview session with claim assessors and senior managers of STMB and also through qualitative content analysis of related publications on internal fraud and the development of risk framework for better management and prevention strategies.

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