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The Effect of Research Culture on Private University Lecturers' Intrinsic and Extrinsic Motivations to Conduct Logistics Research

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Abstract

The purpose of this paper is to examine the effect of research culture on faculty members' intrinsic and extrinsic motivations to conduct logistics research. In this study, a self-administered questionnaire survey was used. The simple random sampling technique was employed in this study. Survey data were collected from faculty members of three private universities in Bangkok, Thailand (n = 224). Data analysis was performed using multiple regression analysis. The results found that the research culture has a positive influence on lecturer's intrinsic motivation to conduct logistics research in the aspect of motivation to accomplish and motivation to experience stimulation. The result also indicates the research culture extrinsically motivates lecturer to conduct logistics research in order to get reward or avoid punishment. This research also found that number of hours allocated for research has a significant relationship with almost all variables. The research culture is mandatory in higher education institutions. This study is perhaps the only attempts to investigate the impact of the research culture on the roles of intrinsic and extrinsic motivation to conduct logistics research among lecturers in private universities in Thailand. These research findings will also benefit the university's administrators to effectively construct the policy and lay out the action plans to develop and enhance research culture among their faculty members.

Keywords: Research Culture, Extrinsic and Intrinsic Motivation, Logistics Research
Type of Article: Research Article

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ผ่านการรับรองคุณภาพจากศูนย์ดัชนีการอ้างอิงวารสารไทย (TCI.) อยู่ในกลุ่ม 2 สาขามนุษย์ศาสตร์และสังคมศาสตร์

อิทธิพลของปัจจัยในวัฒนธรรมการทำวิจัยต่อแรงจูงใจภายในและภายนอกของคณาจารย์มหาวิทยาลัยเอกชนในการทำวิจัยด้านโลจิสติกส์

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บทคัดย่อ

บทความนี้มีวัตถุประสงค์ เพื่อตรวจสอบผลกระทบของวัฒนธรรมการวิจัยที่มีต่อแรงจูงใจภายในและภายนอกของอาจารย์ในการทำวิจัยด้านโลจิสติกส์ ในการศึกษาครั้งนี้ใช้แบบสอบถามในการเก็บข้อมูลและใช้วิธีการสุ่มตัวอย่างแบบง่าย กลุ่มตัวอย่างเป็นคณาจารย์ของมหาวิทยาลัยเอกชน 3 แห่งในกรุงเทพมหานคร จำนวน 224 คน วิเคราะห์ข้อมูลโดยใช้การวิเคราะห์การถดถอยพหุคูณ ผลการวิจัยพบว่า วัฒนธรรมการวิจัยมีอิทธิพลเชิงบวกต่อแรงจูงใจภายในของอาจารย์ในการดำเนินการวิจัยด้านโลจิสติกส์ในด้านของแรงจูงใจที่จะประสบความสำเร็จและแรงจูงใจด้านการสะสมประสบการณ์ ผลการวิจัยยังบ่งชี้ว่าวัฒนธรรมการวิจัยเป็นแรงบันดาลใจให้อาจารย์ดำเนินการวิจัยด้านโลจิสติกส์เพื่อรับรางวัลหรือหลีกเลี่ยงการลงโทษ การวิจัยนี้ยังพบว่าจำนวนชั่วโมงที่จัดสรรสำหรับการทำวิจัยมีความสัมพันธ์ที่สำคัญกับตัวแปรเกือบทั้งหมด วัฒนธรรมการวิจัยเป็นข้อบังคับในสถาบันอุดมศึกษา การศึกษาครั้งนี้มีความพยายามที่จะตรวจสอบผลกระทบของวัฒนธรรมการวิจัยต่อบทบาทของแรงจูงใจภายในและภายนอกเพื่อดำเนินการวิจัยด้านโลจิสติกส์ของอาจารย์ในมหาวิทยาลัยเอกชนในประเทศไทย ผลการวิจัยเหล่านี้จะเป็นประโยชน์ต่อผู้บริหารของมหาวิทยาลัยในการสร้างนโยบายและจัดทำแผนปฏิบัติการเพื่อพัฒนาและยกระดับวัฒนธรรมการวิจัยของอาจารย์ต่อไป

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1. Introduction

One of the many challenges facing private universities in Thailand is the small number of research publications. The solution to this challenge is to build sustainable research culture among their faculty members. "Research culture" is defined as the organization culture in which research became a fruitful and major feature (Hill, 1999). However, in developed countries, they traditionally have research-engaged culture in higher education institutions, on the contrary, in developing countries, most universities focus on teaching and learning, and they don't do well in producing academic research. This is also true for many universities in Thailand (Salazar-Clemeña and Almonte-Acosta, 2007).

Research culture is important in higher education institutions due to many reasons. Dundar and Lewis (1998) mentioned that positive reputation of the institution came from high productivity in research. Nowadays, all higher education institutions need to establish partnership with other decent universities through the accreditation. One of the best accreditations is The Association to Advance Collegiate School of Business (AACSB). In other to apply for AACSB, all faculty members must produce research (Khojasteh & Herring, 2002).

Recently, universities in Thailand are regulated by the Internal and External Quality Assurance systems which stated that Higher Education Institutions in Thailand have four main missions: (1) produce graduates, (2) conduct research studies, (3) provide academic services to the society, and (4) preserve art and culture (AU, 2013). Salazar-Clemeña and Almonte-Acosta (2007) also stated that the lecturers in higher education institutions conventionally have three roles consisting of being teachers, researchers, and service-oriented professionals.

If the faculty members fail to produce research output, the university will suffer from various negative consequences. First, the university may not pass the quality assurance and may need to close down. Second, it may lose the reputation and cannot get into the good rank which will lead to the loss in new student enrolment. Third, the university may not be able to form a partnership with other well-established institutions which results in lack of place to further education for its students. Lastly, the faculty members may lose their chance to update their academic knowledge through the research production process. Because of these reasons, the study should be directed to explore the motivation to conduct research.

Many universities are struggling to create research culture in their institutions with the expectation that it will influence lecturer's motivation to conduct logistics research since logistics and supply chain management in Thailand is now encountering the problems and high completions in various industries (5) as well as logistics research is insufficient due to unclear academic issues, such as logistics flexibility, as reviewed by Aunyawong (2020b). Khojasteh and Herring (2002) also indicated that usually the schools of business predominantly had teaching orientation

in which lecturers were not motivated to conduct logistics research papers. They mentioned further that both intrinsic and extrinsic motivation of lecturers to be more capable of conducting research must be established.

2. Research's Objective

The main objective of this research is to investigate the effect of research culture on faculty members of three private universities in Bangkok, Thailand's intrinsic and extrinsic motivations to conduct logistics research. According to Mirabela-Constanta and Maria-Madela (2011), intrinsic motivation was identified by the experts as being completing the task because of internal satisfaction rather than considering the separate outcome. On the other hand, the experts identified extrinsic motivation as being competing the task in order to achieve some separate outcomes.

3. Hypothesis

The study proposes six hypotheses as follows:

Hypothesis 1: Positive group climate in research culture has a positive influence on lecturer's intrinsic motivation (to know) to conduct logistics research such that the more positive group climate in research culture, the higher the lecturer's intrinsic motivation (to know), to conduct logistics research.

Hypothesis 2: Mentoring in research culture has a positive influence on lecturer's intrinsic motivation (to accomplish), to conduct logistics research such that the better the mentoring in research culture, the higher the lecturer's intrinsic motivation (to accomplish), to conduct logistics research.

Hypothesis 3: Mentoring in in research culture has a positive influence on lecturer's intrinsic motivation (to experience stimulation), to conduct logistics research such that the better the mentoring in research culture, the higher the lecturer's intrinsic motivation (to experience stimulation), to conduct logistics research.

Hypothesis 4: Rewards in research culture has a positive influence on lecturer's extrinsic motivation (external regulation) to conduct logistics research such that the better the rewards in research culture, the higher the lecturer's extrinsic motivation (external regulation), to conduct logistics research.

Hypothesis 5: The research emphasis in research culture has a positive influence on lecturer's extrinsic motivation (introjected regulation) to conduct logistics research such that the more research emphasis in the research culture, the higher the lecturer's extrinsic motivation (introjected regulation) to conduct logistics research.

Hypothesis 6: The research emphasis in research culture has a positive influence on lecturer's extrinsic motivation (identification) to conduct logistics research such that the more research emphasis the research culture, the higher the lecturer's extrinsic motivation (identification) to conduct logistics research.

4. Conceptual framework

As shown in Figure 1, the conceptual framework portrayed independent variables, comprising positive group climate, mentoring, reward, and research emphasis, that affect dependent variables, consisting of intrinsic and extrinsic motivations.

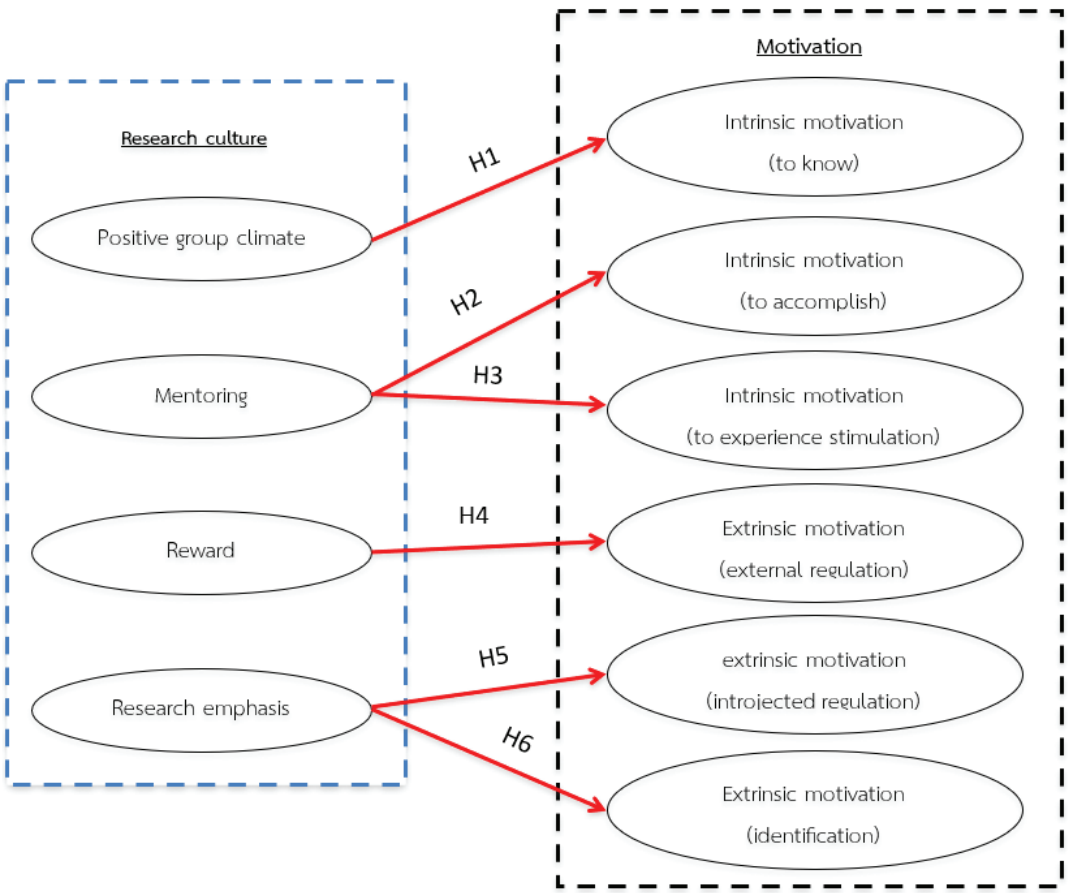

Figure 1 Conceptual Framework

5. Literature review

5.1 The importance of research culture

The literature review revealed that the production of research is essential in higher education for many reasons. Firstly, the research productivity was greatly linked to institution's positive reputation (Dundar & Lewis, 1998). Muller (2005) also stated that maintaining a research culture is a common practice in higher education institutions since it is one of their missions. The idea is supported by Pratt et al. (1999) that research publication in well-established journal is listed as the success factor for faculty members. Sunder (2008) mentioned that the Ministry of Education in Asia imposed the rule entailing universities

to publication in international journals in order to develop research culture in aged institutions that did not have solid practice of research. Jahangir (2012) indicated that successful countries have established a research culture in their higher educations. Bland (2005) also noted that faculty members are constantly forced by external pressures to produce research productivity. Thirdly, the production of research fostered the faculty development as cited by Blackburn (1991) that faculties from teaching-based universities were also forced to conduct research and have their papers published in renowned journals. Salazar-Clemeña and Almonte-Acosta (2007) noted further that in order to secure faculty members' academic profession, they must be efficient in term of teaching, producing research, as well as being an effective institution citizen.

Culture involved people's attitude and the way they do thing over time from generation to generation, thus, it is very hard and time-consuming in changing the culture in an academic organization, yet, possible to achieve (Muller, 2005). Pratt et al. (1999) also stated that the formation of research culture needs time, thorough planning, resources and supportive setting.

5.2 Factors that support good research environment

Barnacle (2002) identified three key factors that might foster or hinder research culture for postgraduate students, which are (1) human environment, (2) resources, infrastructure and support, and (3) physical environment.

According to Bland (2005), the research supportive environment was characterized by 12 factors, which were (1) clear goals for coordination, (2) research emphasis, (3) distinctive culture, (4) positive group climate, (5) decentralized organization, (6) participative governance, (7) frequent communication, (8) resources, particularly human resources, (9) group age, size and diversity, (10) appropriate rewards, (11) recruitment emphasis, and (12) leadership with both research skill and management practice.

5.3 Organizational culture and motivation

Castro and Martins (2010) cited that culture has huge effect on employee's motivation and behavioral pattern in an organization, which included common values, beliefs, and idea. Sokro (2012) also mentioned that an organizational culture forms the rules in which people behave. Mahal (2009) indicates that there is a connection between organizational culture and the level of motivation of employees. The motivational factors are fundamental for the organizational and individual's performance (Rivai et al., 2019). Therefore, it suggests the idea that the motivational factor is one of the significant effects from research culture.

5.4 Motivation

Thomas et al. (2009) described motivation as an internal desire that can be aroused by internal or external factors that resulted in one's actions or behavior. This research

proposes that the two types of motivation, which are extrinsic motivation and intrinsic motivation, might be an impact from developing research culture in the university. The intrinsic motivation implicates engaging in a behavior because that person finds it pleasurable, while extrinsic motivation implicates engaging in an action because of external factors rather than self-satisfaction (Deci & Ryan, 1985; Deci, 1971; Thomas et al., 2009) The differences of these two types of motivation and how they are the consequences from developing the research culture will be discussed as follow:

5.4.1 Intrinsic motivation

Intrinsic motivation refers to the conducting of an activity for its internal enjoyment and satisfaction rather than for some detachable outcomes. A person is aroused to do an action because it is fun or pleasurable to do rather that because of external forces such as rewards or pressure (Deci, 1971; Deci & Ryan, 2002). Vallerand et al. (1992) classified intrinsic motivation into three different drives, the intrinsic motivation to know, to accomplish, and to experience stimulation.

Chen and Zhao (2013) noted that individual satisfaction from solving research riddles is one of intrinsic reward. People conduct research based on various reasons including the personal's curiosity. By engaging in research culture, a faculty member learns and acquires new knowledge to satisfy their intrinsic motivation. McKeachie (1979) argued that lecturers publish their research papers because of the enjoyment in inquiry process rather than because of extrinsic rewards. Bland et al. (2005) identified that positive group climate as high morale, innovative culture, open to new ideas, and high degree of teamwork. Therefore, the positive group climate can intrinsically motivate faculties to conduct research because they are driven to be innovative. Thus, the first hypothesis is presented as follow:

Bland et al. (2005) cited that mentoring program helps fostering research culture. In research – oriented culture, a person sometimes needs to conduct challenging research topic. When he can do it, he can feel the achievement and feels happy about his ability. However, new researchers tend to need advice and guidance from experienced researcher to increase their self-confident and feel competent that they can do it. Thus, it is proposed that mentoring program tends to intrinsically enhance lecturer's motivation to conduct research as presented in the second hypothesis:

Lastly, intrinsic motivation to experience stimulation happens when a person engages in an activity for enjoyment, pleasurable, and positive feelings (Vallerand, 1992). Moreover, Deci (1971) stated that constructive performance feedback can also boosted intrinsic motivation. If the faculties have skilled researchers to mentor, they can have more positive feelings toward conducting research. Considering this supportive notion, the mentoring aspect in research culture can result in lecturer's intrinsic motivation to conduct

research. Therefore, the third hypothesis is presented as:

5.4.2 Extrinsic motivation

While intrinsic motivation is undoubtedly an essential type of motivation, some activities could not be motivated intrinsically to some people. Ryan and Deci (2002) stated that as the people grow older, they do not have freedom to perform only intrinsically motivated activities, instead, they are framed by social calls and responsibilities. Thus, the extrinsic motivation became crucial. Ryan and Deci (2002) defined extrinsic motivation as the concept that concerns when people perform an action in order to achieve separate consequence. Amabile (1993) mentioned that extrinsic motivators involve work-related matters such as rewards, incentives, and deadlines.

According to the self-determination theory tradition, extrinsic motivations are classified into four types: external regulation, introjected regulation, identification, and integrated regulation (Ryan & Dect, 2000). Tremblay et al. (2009) clarified that external regulation is the most typical type of extrinsic motivation, which means the participation in an activity to get rewards or to escape from punishment. In Bland et al. (2005)'s model of Institutional Characteristics that Facilitate Research Productivity proposed that rewards aspect is one of the vital factors contributing to research culture in the university. Chen and Zhao (2013) stated that a person engages in conducting the research because he aims to have better salary or get promotion later on. Thus, the fourth hypothesis is presented as follow:

The second type of extrinsic motivation, introjected regulation, happens when a person is more internalized in engage in an activity. In this type, a person is pressured to do an action in order to avoid guilt and to enhance ego and maintain self-esteem. Bland et al. (2005) mentioned that research emphasis is an integral part in fostering research culture in university. The research emphasis means the research production is more important than other goals and the faculties are expected to produce research on regular basis. Muller (2015) stated that the university lecturers have two main missions, which are teaching and conducting research to prove that they are competent. The fifth hypothesis, therefore, is presented as follow:

The third one is identification, which refers to a more self-determined type of extrinsic motivation. In this type, the actions are valued and considered essential. As being a lecturer in university, it is assumed that teaching ability alone is not sufficient, a lecturer needs to be excellent in research production responsibility (Salazar-Clemeña & Almonte-Acosta, 2007). In research emphasis culture, faculties must be aware that they are expected to regard research production as one of the key objectives (Bland et al., 2005). Thus, one must identify research as what he needs to do, and he values that it is important for his career in higher education institution.

Considering the supported ideas, the research emphasis aspect in research culture tends to extrinsically persuade faculties to conduct research. Therefore, the sixth hypothesis is presented as:

Lastly, the most independent type of extrinsic motivation refers to integrated regulation, which is considered to be the most autonomous. The integrated regulation happens when a person identifies with the value of an activity until it turns to be part of the individual's sense of self.

5.5 Logistics Research

Logistics research is the works relating to logistics and supply chain management. For supply chain context, it comprises supply chain integration, supply chain collaboration, supply chain performance, supply chain costs, supply chain agility, supply chain responsiveness, supply chain flexibility, supply chain efficiency, supply chain effectiveness, and supply chain relationship (Aunyawong et al., 2020a). For the context of Logistics, it includes logistics flexibility, logistics capability, logistics competence, logistics postponement, and logistics performance (Phrapratanporn et al., 2019). It also contains routing inventory, transportation, and warehouse management system (Moryadee et al., 2019).

6. Methodology

6.1 Research method

This study was based on explanatory quantitative research to study how research culture affects motivation to conduct logistics research.

6.2 Population and sample

The population was approximately 500 lecturers in three private universities in Bangkok, which were selected as the sampling frame because of two main reasons. First, some of them are considering and some are in the process of applying for AACSB accreditation which required a lot of research publications from the faculty members. Second, the research team has connection and can collect the data from these universities. Simple random sampling was used to select the sample of 224 lecturers.

6.3 Research instruments

The questions items were designed to be basic, precise, and concise to avoid the possibility of common method bias (CMB) as recommended by Podsakoff et al. (2003). The independent variables of research culture, namely research emphasis, positive group climate, mentoring, and rewards were measured adopting scale originally developed by Bland et al. (2005). All questions were scored on five-point likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The dependent variables, motivational factors, were measured by adjusting the scales of Fullerton (2014). The author made adjustment by superseding the content with research production and crossing out the motivational questions, as it is not related to the study. There were altogether 24 questions using likert scales on five-point, ranging from 1 (strongly disagree) to 5 (strongly agree).

The research instrument passed reliability test since its Cronbach's Alphas

exceed 0.8 (0.815-856), as suggested by Streiner and Norman, (1995). In addition, the variance inflation factor (VIF) analysis was conducted to check for multicolinearity. The result indicates that VIF values range from 1.508 to 4.235, which are lower than maximum limit of 10. The next step, bivariate correlations among variables is analyzed using Pearson correlation coefficients.

Demographics and nature of the teaching profession were included in the conceptual framework as the control variables in case they might associate with the study. The control variables were gender, education background, job title, academic title, work experiences, numbers of peer-reviewed article, hours in teaching, and hours in conducting research.

6.4 Data collection

A total of 300 questionnaires were distributed and 250 questionnaires returned by email. The response rate is 83.33 percent. Of this amount, 26 of them were removed due to incomplete information. Overall, there were 224 completed surveys ready for data analysis. Demographics and work-related information of the respondents are summarized as follows – the majority of the respondents aged between 31-40 years old (56.7%). The female respondents (56.7%) are a bit higher than male respondents (43.3%). Regarding to their status, 59.8% were married while another 40.2% were single. 59.8% of the respondents do not have any children and 19.6% has only one child and another 20.6% has two children. The majority of them are master's degree earner (76.8%), followed by PhD earner of 23.2%. Only 2.7% hold Associate Professorship and another 2.7% hold Assistant Professorship. The mean for their working experience is 7.57 (s.d. = 4.759).

6.5 Data analysis

Data analysis was performed using multiple regression analysis. Multiple regression analysis is implemented in the prediction of value of one variable based on the value of two or more other variables (Zikmund et al., 2013).

7. Results

The multiple regressions analysis was performed to test the hypotheses. Hypothesis 1 predicts a positive influence of positive group climate in research culture on lecturer's intrinsic motivation (to know) to conduct logistics research. Although it shows that these two variables are positively related, it is not statistically significant (β=0.521; p=0.526). Thus, hypothesis 1 is not supported.

Hypothesis 2 predicts a positive influence of mentoring in research culture on lecturer's intrinsic motivation (to accomplish) to conduct logistics research. The results reveal that there are positive relationships between these two variables, and it is statistically significant (β=0.405; p=0.001). Therefore, hypothesis 2 is supported.

Hypothesis 3 predicts a positive influence of mentoring in research culture on lecturer's intrinsic motivation (to experience stimulation) to conduct logistics research. From the result,

there is a positive relationship between these two concepts, and it is statistically significant (β=0.385; p=0.002). Thus, hypothesis 3 is supported.

In addition to these hypotheses, mentoring in research culture also has positive relationship with another two dependent variables as following. The results show a positive relationship between mentoring in research cultures and extrinsic motivation (introjected regulation) and it is statistically significant (β=0.392; p=0.001). It also has a positive relationship with extrinsic motivation (identification) and it is statistically significant (β=0.218; p=0.014).

Hypothesis 4 predicts a positive influence of rewards in research culture on lecturer's extrinsic motivation (external regulation) to conduct logistics research. The result reveals that these two variables are positively related, and it is also statistically significant (β=0.632; p=0.034). Therefore hypothesis 4 is supported.

Besides hypothesis 4, rewards in research culture additionally has a positive relationship with other dependent variables as following. As shown in the result, rewards aspect in research culture is positively related to lecturer's intrinsic motivation (to know) to conduct logistics research and it is statistically significant (β=0.840; p=0.009). Moreover, it is also positively related to extrinsic motivation (identification) and it is statistically significant (β=0.772; p=0.000).

Hypothesis 5 predicts a positive influence of research emphasis in research culture on lecturer's extrinsic motivation (introjected regulation) to conduct logistics research. The results turn out that these two variables are not positively related, and it is not statistically significant (β=-0.504; p=0.031). Thus, hypothesis 5 is not supported.

Hypothesis 6 predicts a positive influence of research emphasis on research culture on lecturer's extrinsic motivation (identification) to conduct logistics research. As shown in the result, even though there is statistically significant, there is a negative relationship between these two variables (β=-0.796; p=0.000). Therefore, hypothesis 6 is not supported.

Lastly, one control variable, namely hours in doing research, shows significant relationship with almost all dependent variables as following. The hours in doing research positively associates with intrinsic motivation (to accomplish) (β=0.860; p= .040), with intrinsic motivation (to experience stimulation) (β=1.343; p=0.003), with extrinsic motivation (external regulation) (β= 1.478; p=0.004), with extrinsic motivation (introjected regulation) (β=0.848; p=0.021), and with extrinsic motivation (identification) (β= 1.326; p=0.000).

Table 1 Regression Results

Variables	IMK (H1)	IMA (H2)	IME (H3)	EME (H4)	EMR (H5)	EMI (H6)
Constant	3.844	7.891	9.068	7.051	9.024	5.560
PGC	.521	-1.022	-.789	1.179	-.391	.393
REM	.514	-.475	-.435	-.593	-.504*	-.796*
MEN	.231	.405*	.385*	.229	.392*	.218*
REW	.840*	.313	.342	.632*	.302	.772*
R-square	0.680	.782	0.825	0.729	0.814	0.864
Adjusted R-square	0.473	.641	0.712	0.554	0.693	0.776

Note: Standardized estimates were shown, * P-value ≤ 0.05, ** P-value ≤ 0.01, *** P-value ≤ 0.05

8. Discussion and conclusions

This study intended to investigate the effect of research cultures in association with intrinsic and extrinsic motivational factors among faculty members' in conducting research. Results from the findings provided supporting confirmation that mentoring in research culture has a positive influence on both lecturers' intrinsic motivation to accomplish and to experience stimuli in conducting research. In addition, the results also support the prediction that rewards have positive association with extrinsic motivation (external regulation) to conduct logistics research. Generally, the results regarding these concepts are reasonably consistent with previous literatures (Bland et al., 2005; Vallerand et al., 1992).

On the other hand, the finding did not show significant relationship between some concepts; as following, the positive group climate in research culture and lecturer's intrinsic motivation (to know) to conduct logistics research, the research emphasis in research culture and lecturers' extrinsic motivation in term of both introjected regulation and identification to conduct logistics research.

In addition, the analysis revealed some other keys points. Firstly, the findings suggested that the number of hours spending on doing logistics research has significant relationship with almost all variables except the lecturers' intrinsic motivation to know. Thus, if the lecturers have more time to do research, they will be intrinsically and extrinsically motivated to conduct logistics research. Secondly, the rewards aspect has a strong association with two more variables besides mentioning in hypotheses, namely, lecturer's intrinsic motivation to know and extrinsic motivation (identification). Therefore, it gives the signal that reward system is also one of the fundamental considerations in

order to motivate lecturers to conduct more logistics researches. Lastly, the mentoring in research culture also indicated positive relationship with two more concepts, which were extrinsic motivations in both introjected regulation and identification. Consequently, to promote lecturers to do logistics research, experienced researchers should be assigned to mentor new researchers.

9. Recommendation

9.1 Recommendations for implementing

Regarding the managerial implication, the results from this study provide insight for the university's administrator to construct and adjust the policy in order to enhance the research culture among the faculty members. The research suggests that mentoring and reward systems are importance factors to encourage more research production. The university should assign the experienced faculty members to do group research with junior researchers in order to help boost their confidences in conducting research. Also, the compensation for research publication should be addressed in the policy. The workload should be balanced and allows the faculty enough time to produce academic work.

9.2 Future research direction

In spite of these findings, this study has some constraints (sample size, cross-sectional data, and self-reported questionnaire) that need to be taken into consideration.

For further study, the research should be conducted with larger sample size in order to draw meaningful conclusion. Moreover, in the next study, the data should be collected from both private and public universities as the results may be different from having only sample respondents from only private universities. Additionally, future research should be done in more wide-ranging manner by covering more factors of research culture to allow the momentous findings.

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