



## An investigation of factors that motivate academics to conduct research and research productivity in Lao public universities

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### ABSTRACT

This study is to investigate factors that motivate academics to conduct research and research productivity in Lao public universities. Quantitative research method was employed with a self-completed questionnaire was used and distributed to 336 academics in Lao universities, with valid and useable 301 forms were used for the data analysis, 89.58% of response rate. The results indicated that recognition ( $M = 3.54$ ,  $SD = 0.92$ ), respect ( $M = 3.46$ ,  $SD = 0.89$ ), and job tenure ( $M = 3.29$ ,  $SD = 0.91$ ) were prominently perceived as the most influential extrinsic factors motivating academics to conduct research, whereas scholarly improvement ( $M = 4.26$ ,  $SD = 2.24$ ), contributions ( $M = 3.93$ ,  $SD = 0.67$ ), and interest ( $M = 3.81$ ,  $SD = 0.702$ ) were mostly perceived as the most influential intrinsic factors. The results also indicated that research support ( $M = 3.85$ ,  $SD = 2.12$ ), culture ( $M = 3.57$ ,  $SD = 0.67$ ), faculty size ( $M = 3.44$ ,  $SD = 0.81$ ), and social network ( $M = 3.39$ ,  $SD = 0.73$ ) were perceived as the most contributing factors for academics' research productivity. This study suggests that incentive policies and supports for academics should be created at different levels based on the actual needs. Teachers' teaching workload should be reduced for more times in conducting research. The universities should see an importance of creating better research culture, establishing a rewarding mechanism at the faculty level, allocating more research funds, improving research facilities, as well as extending research collaboration with other universities in the country.

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### Introduction

Over decades, research in universities worldwide plays a pivotal role in fostering new technology invention that illuminates economic growth through various pathways, such as technology transfer, transforming research into commercial success, and bridging university and industry connections. Consequently, research has emerged as a predominant and critical element in economic advancement during the twenty-first century and has gained increasing significance within the university framework (Zhang, 2014). Universities act as vibrant centres of knowledge and innovation, where research efforts inspire the creation

of ground breaking technologies and scientific progress (Audretsch et al., 2006). The journey of transforming university research into market-ready innovations is vital for bringing academic breakthroughs to life as products and services, including patenting, licensing, and building spin-off companies, all of which are important for fostering economic development (Kelley, 2009). Furthermore, universities engage in entrepreneurial activities, where scientists and researchers start new firms to commercialize their innovations, thus contributing to economic growth through job creation and the introduction of new products to the market (Audretsch et al., 2006). The collaboration between universities and industries is another vital pathway through which university research influences economic growth, and such linkages can facilitate knowledge transfer and technology from academia to industry, enabling firms to leverage academic research for industrial innovation (Kim & Park, 2020).

It is noted that universities are knowledge intensive based institutions which train and produce highly skilled and specialized workforces contributing to the development of a knowledge-based economy of a nation (Jadhav et al., 2024; Nguyen et al., 2016). In this manner, academics directly and indirectly contribute values to national education, economic growth and potentially to societal well-being through their key tasks of teaching and research. Besides teaching, research has been substantially gained a highly attention of academics at most universities, especially at research-oriented universities (Nguyen et al., 2016). It is noted that “an academic is regarded as both a researcher and an educator concurrently within the contemporary university framework, and this classification is extensively acknowledged”(Arimoto, 2013, p. 19). The research output of academics is anticipated not only to contribute to the advancement of knowledge across various disciplinary domains but also to augment pedagogical efficacy and enhance student learning outcomes (Scott, 2004). Given that scholarly tasks and research output serve as indicators of university success, it has become increasingly imperative for academics to enhance their research productivity. Consequently, the compensation, promotion and tenure, status, and marketability of individual faculty members are closely intertwined with their research output (Chen et al., 2006). Researchers emphasize that academics address the importance of research, yet their productivity of research is still low based on the issues of financial support, teaching load, research collaboration, and research policies making and practices (Nguyen, Klopper & Smith, 2016).

Academics are expected to generate research evidence that informs national policies and strategies, improves service delivery, and achieves institutional objectives (Ahmed et al., 2024). It is obvious that most countries in the region, including Laos are allocating budgets for the development of research in universities. In a Lao context, the government has allocated research funds for its public universities to develop their research capacity, and universities utilize such funding for academics’ research projects on the competitive basis and based on an actual need of different faculties in each university (MoES, 2015, 2018, 2020). Academics in the universities are encouraged to conduct research, write teaching textbooks or creating academic-related material for supporting their academic tasks (Chanthy & Saynasine, 2020). At the same time, publishing their research paper in the university academic journals or in an international journal is further emphasized. As such, academic journals of different universities and of faculties are established as a vital platform for researchers, teachers and other academics to publish and disseminate their research outcomes. Yet, most established journals of the universities in the country are under indexing in the regional or international citation index. Similarly, inadequate research fund, lacked research infrastructure and facilities, and lacked incentive policies are evident and responsible for less motivation for research conduction and productivity. Over a decade ago, though there is a number of funding research projects conducted by academics in Lao universities, there are no studies to dates exploring factors underpinning their motivation or forces for their research conduction and productivity in the Lao context, comparing to universities in other ASEAN member states where a plenty of research projects is funded and enhancement of the research outcomes is prominently evident (Barrot, 2017; Gholizadeh et al., 2014; Ramos-Eclevia et al., 2018; Sukoco et al., 2023).

### **Research objectives and questions**

Therefore, based on the aforementioned gap in the literature on issues of research conduction and productivity in a Lao higher educational context, this study is to explore and examine factors underpinning academics’ motivation to conduct their research projects and factors that foster academics’ research productivity in Lao public universities. By doing so, this study aims at addressing two key research questions that are formed based on the literature review as follow:

1. What are the main factors that are perceived by academics in motivating them to conduct a research project ?
2. What factors that are perceived as contributing to their research productivity?

Apart from the main research questions, sub-questions were further generated with research hypotheses.

- a. Are there any different perceptions between female and male academics in regard to the factors that motivate research conduction?
- b. Are there any different perceptions between female and male academics in regard to the factors that foster their research productivity?

H<sub>1</sub>= There is no statistically significant difference between female and male academics for motivating factors.

H<sub>1b</sub> = There is a statistically significant difference between female and male academics for motivating factors.

H<sub>2a</sub> = There is no statistically significant difference between female and male academics for productivity factors.

H<sub>2b</sub> = There is a statistically significant difference between female and male academics for productivity factors.

### Research methodology

Quantitative research approach is used in this study in order to explore factors associated with academics' motivation in conducting research and factors for their research productivity. A usage of this method is based on the fact that the research questions and objectives are in their nature of quantitative aspect. Johnson & Christensen (2017) maintain that because its main goal is to test theories and hypotheses, the confirmatory scientific method is essentially followed by the quantitative research technique. This study thus used a self-completed questionnaire which was developed based on the literature review and the questionnaire was pre-tested with 30 faculty members for its reliability and validity. The questionnaire comprised three sections, section one was related to demographic data of the research participants, section two was related to factors that motivate academics to conduct research, while section three was factors for research productivity, and there are altogether 38 items. The questionnaire was administered to 333 samples that was recruited by using Krejcie and Morgan (1970)'s sample size calculation table. The samples included both administrative staff members and academics in four public universities in Laos. Meanwhile, 301 completed and useable forms were used for the analysis, which was accounted for 89.58% of response rate.

### Data analysis

Research data from the self-completed questionnaires was coded and entered in computer analysis software, SPSS version 26. Both descriptive and inferential statistics were adopted to analyze the data. The descriptive statistics were used to analyze the demographic profile of the respondents, and calculated for the mean and standard deviation values of the factors, while the inferential statistics, independent sample T-test, were used to test the hypothesis in order to assess the mean score difference of the two groups of research samples.

### Findings

**Table 1**

*Demographic profile of research participants*

Demographic profile		
Gender	n	%
Female	160	53.2
Male	141	46.8
Age		
20 - 29	104	34.6
30 - 39	108	35.9
40 - 49	60	19.
50 - 59	29	9
Education level		
Higher education	0	0
Bachelor's degree	139	46.2
Master's degree	114	37.9
Doctoral degree	48	0.9
Academic title		
Assistant Lecturer	54	17.9
Lecturer	126	41.9
Professor(associates)	34	11.3
Administrative staff	41	13.6
Academic staff	46	15.3
Type of staff		
Permanent	254	84.4
In-contract	47	15.6
Years of working in the		
1-5 years	118	39.2
5-10 years	99	32.9
11-15 years	39	13.0
16-20 years	45	15.0
Publications in the last 5		
1	67	22.3
2	15	5.0
3	17	5.6

4	6	2.0
No publications	196	65.1
<hr/>		
Places of publications	n	%
Own university journal	61	20.3
National journal	9	3.0
International journal	47	15.6
No publication anywhere	184	61.1
<hr/>		
Plan for publishing an	n	%
Yes	159	52.8
No	142	47.2

*Note.* (From self-completed questionnaire analysis)  
 Table 1 indicates the demographic profiles of the research respondents who had participated in this study, which range from their gender, age, education level, academic title, staff type, working experience in the present university, research publication, place of publication, and the plan for publishing an academic article. Among the research respondents, female participants represent 53.2% while male respondents represent 46.8%. The results indicate that most of the participants are between 20 to 40 years old, which account for 34.6% and 35.9% respectively, and a majority of academic participants holds their bachelor’s degree, 46.2%, master’s degree, 37.9%, while holding a doctoral degree only 0.9%. Prominently, most academics in the study are entitled as a lecturer, nearly 42%, as assistant lecturer, nearly 18%, and as an academic staff member, 15.3%. Meanwhile, 11.3% and 13.6% are entitled as associate/professors and administrative staff members. likewise, a number of academics are permanent personnel, 84.4%, only 15.6% of the participants is in-contract status. The results further reveal that a majority of academics in the studied universities has their work experience in the present university from 1 to 10 years, accounts for 72.1%, and from 11 to 20 years are 18% accordingly. Among academic participants, most of the participants has low publication rate, 34.9% while comparing to their unpublishing research paper, which accounts for 65.1%, and most of the published paper was published in their university’s journal, 20.3%, while with an international journal was accounted for 15.6%. It is also indicated that more than half of academics in this study is planning to publish their research paper in the future, which is accounted for 52.8%, whereas with no plan to publish an article is 47.2% accordingly.

**Factors for motivating research conduction**

**Table 2**

*Extrinsic factors*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Rank</i>
Recognition	301	3.54	0.92	1
Respect	301	3.46	0.89	2
Job tenure	301	3.29	0.91	3
Performance appraisal	301	3.16	0.76	4
Financial rewards	301	3.15	0.80	5
Promotion	301	2.98	0.92	6

*Note.* (from self-completed questionnaire analysis)

Table 2 indicates that there are six extrinsic factors that were found related or motivated academics to conduct research based on the literature review. These include factor recognition, respect, job tenure, performance appraisal, financial rewards, and promotion. Among these factors, recognition, respect, and job tenure were mostly prominently perceived by the research participants to be more likely to motivate them to conduct research, with the mean score  $M = 3.54$ ,  $SD = 0.92$ ,  $M = 3.46$ ,  $SD = 0.89$ , and  $M = 3.29$ ,  $SD = 0.91$  respectively. Meanwhile, factor performance appraisal, financial rewards, and promotion seem to be perceived by academic participants as slightly important for their motivation to conduct a research project in their university,  $M = 3.16$ ,  $SD = 0.76$ ,  $M = 3.15$ ,  $SD = 0.80$ , and  $M = 2.98$ ,  $SD = 0.92$ . The findings show that extrinsic factors are mainly perceived to be associated with academics’ motivation in pursuing their research projects, especially recognition and respect, meaning that academics are more likely to be recognized and be respected by their superiors and colleagues or university when conducting and toward completing their research and their research paper is published.

**Table 3**

*Intrinsic factors*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Rank</i>
Scholarly improvement	301	4.26	2.24	1
Contributions	301	3.93	0.67	2
Interest	301	3.81	0.70	3
Responsibility	301	3.78	0.75	4
Autonomy	301	3.61	0.79	5
Sense of achievement	301	3.51	0.96	6

*Note.* (From self-completed questionnaire analysis)

Table 3 illustrates those six intrinsic factors including scholarly improvement, contributions, interest, responsibility autonomy and sense of achievement were reviewed in the literature and found associated with academics' motivation for conducting their research projects. Among the factors, scholarly improvement, contributions, and interest were prominently perceived by the research participants as the most motivating factors for them to pursue their research, with the mean score and standard deviation of  $M = 4.26, SD = 2.24, M = 3.93, SD = 0.67,$  and  $M = 3.81, SD = 0.70.$  Yet, other three factors were also found slightly motivated them in conducting their research work,  $M = 3.78, SD = 0.75,$   $M = 3.61, SD = 0.79,$  and  $M = 3.51, SD = 0.96$  respectively. The findings indicate that academics in the studied universities are also motivated by intrinsic or internal factors for them to conduct their research, which means that academics have their intrinsic motivation, particularly they want to improve their scholarly work, want to contribute to the university research performance, as well as their self-interest and it is their own responsibility to conduct research.

**Factors for research productivity**

**Table 4**

	Female		Male		t	p	Cohen's d
	M	SD	M	SD			
Promotion	3.03	0.94	2.92	0.90	1.01	0.311	0.92
Respect	3.42	0.89	3.51	0.89	-.82	0.409	0.89
Job tenure	3.43	0.88	3.14	0.92	2.75	0.006*	0.90
Financial rewards	3.11	0.79	3.20	0.80	-1.01	0.313	0.80
Performance appraisal	3.03	0.75	3.30	0.75	-3.06	0.002*	0.75
Recognition	3.58	1.10	3.48	0.66	0.91	0.359	0.92

Note.  $p < 0.05$

An independent-sample t-test was conducted to compare female and male academics' perceptions toward extrinsic factors that motivate them to conduct research in their universities. The results indicate that there was no statistically significant difference between female ( $M = 3.03; 3.42; 3.11; 3.58; SD = 0.94; 0.89; 0.79; 1.10$ ), and male academics' perceptions ( $M = 2.92; 3.51; 3.20; 3.48; SD = 0.90, 0.89, 0.80, 0.66$ ) on factor promotion, respect, financial rewards, and recognition;  $t(299) = 1.01; -.82; -1.01; 0.91,$  and  $p = 0.311; 0.409; 0.313; 0.359$  respectively. Meanwhile, the results further indicate that there was a statistically significant difference in the scores for factor job tenure and performance appraisal for female academics ( $M =$

*Factors contributing to research productivity*

	N	M	SD
Research support	301	3.85	2.12
Culture	301	3.57	0.67
Faculty size	301	3.44	0.81
Social network	301	3.39	0.73
Self-efficacy	301	3.22	1.07
Age	301	3.06	4.36
Teaching load	301	2.84	0.80

Note. (From self-completed questionnaire analysis)

Table 4 shows that there are seven factors that were reviewed from the literature and found contributing to research productivity of academics in an academic institution. The results indicate that most of the factors were perceived by academic participants in the studied universities as being important and contributed to their research productivity, particularly research support, culture, faculty size, social network, and self-efficacy, with the mean score and standard deviation value of  $M = 3.85, SD = 2.12, M = 3.57, SD = 0.67,$   $M = 3.44, SD = 0.81, M = 3.39, SD = 0.73,$  and  $M = 3.22, SD = 1.07$  respectively. Meanwhile, age and teaching load are more likely to be less contributed to the productivity of research,  $M = 3.06, SD = 4.36,$  and  $M = 2.84, SD = 0.80.$

**Hypotheses Test**

**Table 5**

*Extrinsic factors*

3.43, 3.03;  $SD = 0.88, 0.75$ ), and male academics ( $M = 3.14, 3.30; SD = 0.92, 0.75$ );  $t(299) = 2.75; -3.06; p = 0.006; 0.002$  respectively. These results suggest that female and male academics were differently motivated by their tenure and their performance in order to conduct their research projects, on the other hand the results suggest that most of both groups, female and male academics similarly thought that they were motivated by most of extrinsic influences, involving promotion, respect, financial rewards and recognition.

**Table 6**  
*Intrinsic factors*

	Female		Male		<i>t</i>	<i>p</i>	Cohen's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Scholarly improvement	4.41	2.99	4.08	0.72	1.34	0.179	2.24
Contributions	3.97	0.68	3.88	0.66	-0.49	0.280	0.67
Interest	3.79	0.82	3.83	0.52	0.48	0.618	0.70
Responsibility	3.83	0.76	3.72	0.74	1.24	0.215	0.75
Autonomy	3.53	0.77	3.71	0.80	-2.05	0.041*	0.79
Sense of achievement	3.54	1.11	3.48	0.77	0.48	0.625	0.97

Note. *p* < 0.05

An independent-sample t-test was conducted to compare female and male academics' perceptions toward intrinsic factors that motivate them to conduct research. The results indicate that there was no statistically significant difference of the scores between female and male academics' perceptions towards factors scholarly improvement, contribution, interest, responsibility, and sense of achievement; with the mean scores and standard deviation values for female (M = 4.41; 3.97; 3.79; 3.83; 3.54; SD = 2.99, 0.68; 0.82; 0.76; 1.11), and for male (M = 4.08; 3.88; 3.83; 3.72; 3.48; SD = 0.72; 0.66; 0.52; 0.74; 0.77); *t* (299) = 1.34; -0.49; 0.48; 1.24; 0.48; *p* = 0.179; 0.280; 0.618; 0.215; 0.625, respectively. The results however indicate that there was a statistically significant difference between female and male academics' perception on factor autonomy (M = 3.53, SD = 0.77 for female, and M = 3.71, SD = 0.80); *t* (299) = -2.05, *p* = 0.041.

**Table 7**  
*Factors for research productivity*

	Female		Male		<i>t</i>	<i>p</i>	Cohen's d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Research support	4.05	2.78	3.62	0.87	1.72	0.071	2.11
Culture	3.68	0.62	3.46	0.71	2.83	0.005*	0.66
Teaching load	2.82	0.83	2.88	0.77	-0.65	0.512	0.80
Faculty size	3.36	0.81	3.53	0.80	-1.74	0.082	0.81
Social network	3.23	0.80	3.56	0.61	-3.95	0.001*	0.72
Self-efficacy	3.20	1.31	3.25	0.70	-0.39	0.684	1.07
Age	3.59	5.88	2.47	0.85	2.23	0.019*	4.33

Note. *p* < 0.05

According to Table 7, an independent-sample t-test was conducted to compare female and male academics' perceptions toward factors contributing to research productivity of academics in the studied universities. The results indicate that there was a statistically significant difference of the scores between female and male academics' perceptions factors culture, social network, and age, for female (M = 3.68; 3.23, 3.59; SD = 0.62; 0.80; 5.88), and for male (M = 3.46; 3.56; 2.47; SD = 0.71; 0.61; 0.85), with *t* (299) = 2.83; -3.95; 2.23, *p* = 0.005; 0.001; 0.019. The results also indicate that there was no statistically significant difference of the scores between female and male academics' perceptions towards factors research support, teaching load, faculty size and self-efficacy (M = 4.05; 2.82; 3.36; 3.20; SD = 2.78; 0.83; 0.81; 1.31) for female, and (M = 3.62; 2.88; 3.53; 3.25; SD = 0.87; 0.77; 0.80; 0.70) for male, with *t* (299) = 1.72; -0.65; -1.74; -0.39, *p* = 0.071; 0.512; 0.082; 0.684. The results suggest that female and male academics are more likely to have similar perceptions for most of the factors that motivate their research productivity, especially in terms of research support, workload on their teaching, size of the faculty, and their self-efficacy. Meanwhile, the results reveal that both groups have different perceptions in regard to research culture, their social networking and

their age. Based on an independent sample t-test statistics in Table 5 and Table 6 and Table 7, the results indicate that Hypothesis 1a and hypothesis 1b are partially supported because the results show that female and male academics both perceive the extrinsic and intrinsic factors similarly and different at the same time. Hypothesis 2a and 2b are also partially supported due to the fact that most academics, female and male participants both perceived the factors for research productivity in the same manner for some factors while at the same with a different perception in other factors.

### Discussion and conclusion

The findings of this study are consistent with previous studies by (Albert et al., 2018; Chen et al., 2006; Zhang, 2014) in which the researchers assert that factors motivating academics to conduct research differ, both intrinsic and extrinsic motivation. It is noted that tenured faculty members are motivated more by intrinsic motivational rewards, whereas untenured faculty are more motivated by extrinsic rewards. The findings are also consistent with previous study by (Nguyen et al., 2016), in which they pointed out that financial support for research activities, teaching load, research collaboration and research policy making, and practices were mainly expressed by the research participants as fostering research conduction and productivity. In Lao universities, most academics emphasise that the fund for their research activities is necessary to cover research expenses, such as buying research material for experiment, buying scholarly resources, and paying for publication fees. The findings are further similar to the study of (Bentley, 2015) that there was a positive correlation between research productivity of academics and their satisfaction with the research support provided by a university in the areas of laboratories and research equipment. However, it appears that in some public universities had inadequate financial support to well-equip its laboratory that could impede research academics' passion of doing research and its progress. At the same time, financial constraints of the studied universities led to a significant shortage of scholarly resources in the library while the access of current research literature in the field is a prerequisite for conducting research. Academics tend to be more committed to research and publish more if they could access up-to-date scholarly resources in their field (Jadhav et al., 2024; Khalid et al., 2024; Nguyen et al., 2016). Yet, there are of great challenges for academics in Lao universities pertaining to scholarly resources because the resources are inadequate for research, such as updated academic books, an access to regional and international academic journal databases. As a result, most academics who have internal motivation to

conduct research have to rely on their own expenses for books, journals or research articles, and for their publication fees. This is important to note that academics might not be able to engage in more research projects if they have a limited budget and unable to afford such expenses.

### Suggestions

This study suggests that incentive policies and supports for academics should be generated at different levels based on the actual needs. Teachers' teaching workload should be reduced for more times in conducting research. Meanwhile, the universities should see an importance of establishing better research culture, establishing a rewarding mechanism at the faculty level, allocating more research funds, improving research facilities, as well as extending research collaboration with universities in the country, the region and in the international level. This would in turn assist in enhancing and promoting the competitiveness of research productivity and innovation of Lao public universities.

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