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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. A 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% response rate. The results indicated that recognition, respect, and job tenure were prominently perceived as the most influential extrinsic factors motivating academics to conduct research, whereas scholarly improvement, contributions, and interest were mostly perceived as the most influential intrinsic factors. The results also indicated that research support, culture, faculty size, and social network were perceived as the most contributing factors to academics' research productivity. This study suggests that incentive policies and support for academics should be created at different levels based on the actual needs. Teachers' teaching workload should be reduced for more time in conducting research. The universities should see the importance of creating a 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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1. INTRODUCTION

Over decades, research in universities worldwide has played a pivotal role in fostering new technological 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 (Barak, 2017). Universities act as vibrant centers of knowledge and innovation, where research efforts inspire the creation of groundbreaking technologies and scientific progress (Smilor *et al*., 2007; Youtie & Shapira, 2008). 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). Moreover, universities participate in entrepreneurial endeavors, in which scholars and researchers establish new enterprises aimed at the commercialization of their innovations, thereby facilitating economic expansion through employment generation and the introduction of new products into the marketplace (Smilor *et al*., 2007). 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 acknowledged that universities serve as centers of knowledge intensification, which cultivate and generate a workforce characterized by high levels of skill and specialization, thereby facilitating the advancement of a knowledge-driven economy within 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 substantially gained the high 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" (Lillis & Scott, 2007; Perkmann *et al*., 2013). 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 (McDonald, 2016). Such enhancements serve to elevate the academic reputation and status of institutions within global ranking systems, such as the Times Higher Education (Dill & Soo, 2005; Powell & Soiga, 2010). Consequently, scholars are frequently motivated, and in certain instances obligated, to engage proactively in research activities and enhance their scholarly output, especially via the means of publication (Nguyen *et al*., 2016).

Besides, as universities engage in competition for limited resources, the designation of a research university is becoming progressively significant. It has been observed that a multitude of universities, which were once regarded mainly as institutions dedicated to teaching, now require the submission of articles in peer-reviewed academic journals as an essential criterion for the achievement of tenure and promotion in rank (Chen *et al*., 2006). 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 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

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productivity of research is still low based on the issues of financial support, teaching load, research collaboration, and research policy-making and practices (Nguyen *et al*., 2016). Other critical factors, such as regional policy frameworks and the ability to utilize research outcomes effectively, are also vital for realizing the economic benefits associated with university research (Feldman, 1994).

Additionally, university researchers assume an important role in the advancement of scholarly inquiry, which is critical for resolving global concerns and fostering social well-being. Academics are expected to generate research evidence that informs national policies and strategies, improves service delivery, and achieves institutional objectives (Ahmed *et al*., 2024). However, the nature of academic research is often debated, with distinctions between basic and applied research remaining blurred (Kaweesi, 2018). Aligning academic staff with the institution's research strategy is crucial for success, as it fosters strategically aligned behavior that enhances research productivity and embeds research thinking into daily routines (Kapaanda & Benedict, 2019; Kipasika, 2024). Academic networks facilitate collaboration and knowledge management, enabling researchers to stay informed about institutional research advancements and actively participate in research projects. Academics also play a critical role in transferring knowledge and skills in emerging fields ensuring that curricula meet current and future industrial needs (Dec *et al*., 2022).

It is therefore most countries in the region, including Laos are investing money in terms of budgets for the development of research in higher education institutions. In a Lao context, particularly at the university level, the government has allocated research funds for its public universities to develop their research capacity, and universities utilize such funding for academic research projects on a competitive basis and based on an actual need of different faculties in each university (Hicks, 2021; Powers & McDougall, 2005; Debackere & Veugelers, 2005; Geuna & Martin, 2003). Academics in universities are encouraged to conduct research, write teaching textbooks, or create academic-related material to support their academic tasks (Adasi *et al*., 2020). At the same time, publishing their research paper in university academic journals or an international journal is further emphasized. As such, academic journals of different universities and 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 funds research infrastructure and facilities, and lacked incentive policies are also evident and responsible for the research productivity and quality.

Over a decade ago, though there were several funding research projects conducted by academics in Lao public universities, there are no studies to date exploring factors underpinning their motivation or forces for their research conduction and productivity in the Lao higher educational context, compared to universities in other ASEAN member states where 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). 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 to address two key research questions as follows:

(i) What are the main factors that are perceived by academics in motivating them to conduct research?
(ii) What factors are perceived as contributing to their research productivity?

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

(i) Are there any different perceptions between female and male academics regarding the factors that motivate research conduction?

(ii) Are there any different perceptions between female and male academics regarding the factors that foster their research productivity?

The hypotheses that we used are: (i) H_1= There is no statistically significant difference between female and male academics for motivating factors; (ii) H_{1b} = There is a statistically significant difference between female and male academics for motivating factors; (iii) H_{2a} = There is no statistically significant difference between female and male academics for productivity factors; (iv) H_{2b} = There is a statistically significant difference between female and male academics for productivity factors.

2. METHODS

This investigation employed a cross-sectional quantitative methodology to examine the determinants that motivate academics to carry on research, alongside the elements that enhance their research productivity. The usage of this method is based on the fact that the research questions and objectives are in their nature quantitative aspect. Because its main goal is to test theories and hypotheses, the confirmatory scientific method is essentially followed by the quantitative research technique (Ketokivi & Choi, 2014). A self-administered survey instrument, created in alignment with insights derived from the literature review and congruent with the research objectives, was employed in this study for collecting research data. The instrument employed for data collecting was composed of three distinct segments; the preliminary segment related to the demographic characteristics of the research participants, the subsequent segment concentrated on the various elements that motivate academics to participate in research, and the final segment examined the factors influencing research productivity. There are altogether 38 items. To ensure its validity, the questionnaire was sent to three senior professors to seek their advice on the relevance and wording of the questionnaire. In return, there was a minor change based on professors' advice on having one single idea in a sentence, and not having a compound sentence in the statements. Upon the completion of the revision process, the questionnaire underwent a pre-testing phase involving a sample of 30 faculty members to assess its reliability. To analyze the data, Cronbach's Alpha statistical function was employed utilizing the SPSS software, yielding a coefficient of $\alpha = 0.801$, which is deemed acceptable (Sen & Yildirim, 2022). The questionnaire was then administered to 333 samples that were recruited. 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 accounted for 89.58% of the response rate. A computer software program, namely SPSS V29 was used to analyze research data, and both descriptive and inferential statistics were adopted to analyze the respondents' demographic information and test research hypotheses.

In conducting this study, the researcher highly paid attention to ethical considerations for various essential principles, such as doing no harm, voluntary participation, informed consent, avoiding deceit, and ensuring confidentiality and anonymity (Khan, 2015; Roulet *et al*., 2017; Millum & Bromwich, 2021). As a consequence, no participants in the study encountered any adverse effects stemming from their involvement, and participation in this research was entirely voluntary. Additionally, the researcher's contact information was provided within the informational document (Khan, 2015). Additionally, the researcher's contact information was provided within the informational document (Millum & Bromwich, 2021). Research

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participants involved in the survey were provided with an informational sheet alongside a consent form that indicated their willingness to engage in the research; concurrently, all study participants retained the prerogative to withdraw their involvement at any stage of the investigation (Onwuegbuzie & Collins, 2007).

3. RESULTS AND DISCUSSION

3.1. Demographic Profile

Table 1 indicates the demographic profiles of the research respondents who 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 hold 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, several academics are permanent personnel, 84.4%, and only 15.6% of the participants are in contract status. The results further reveal that a majority of academics in the studied universities have their work experience in the present university from 1 to 10 years, accounting for 72.1%, and from 11 to 20 years 18% accordingly. Among academic participants, most of the participants had a low publication rate, 34.9% compared to their unpublishing research paper, which accounts for 65.1%, and most of the published papers were published in their university's journal, 20.3%, while an international journal was accounted for 15.6%. It is also indicated that more than half of the academics in this study are planning to publish their research paper in the future, accounting for 52.8%, whereas no plan to publish an article 47.2% accordinglyindicates the demographic profiles of the research respondents who 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 hold 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, several academics are permanent personnel, 84.4%, and only 15.6% of the participants are in contract status. The results further reveal that a majority of academics in the studied universities have their work experience in the present university from 1 to 10 years, accounting for 72.1%, and from 11 to 20 years 18% accordingly. Among academic participants, most of the participants had a low publication rate, 34.9% compared to their unpublishing research paper, which accounts for 65.1%, and most of the published papers were published in their university's journal, 20.3%, while an international journal was accounted for 15.6%. It is also indicated that more than half of the academics in this study are planning to publish their research paper in the future, accounting for 52.8%, whereas no plan to publish an article 47.2% accordingly.

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Table 1. Demographic information of research participants.

Demographic profile		
Gender	**n**	**%**
Female	160	53.2
Male	141	46.8
Age	**n**	**%**
20 - 29	104	34.6
30 - 39	108	35.9
40 - 49	60	19.0
50 - 59	29	9
Education level	**n**	**%**
Higher education	0	0
Bachelor degree	139	46.2
Master degree	114	37.9
Doctoral Degree	48	0.9
Academic title	**n**	**%**
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	**n**	**%**
Permanent	254	84.4
In-contract	47	15.6
Years of working in the university	**n**	**%**
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 years	**n**	**%**
1	67	22.3
2	15	5.0
3	17	5.6
4	6	2.0
No publications	196	65.1
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
Plan for publishing an article	n	%
Yes	159	52.8
No	142	47.2

3.2. Factors for Motivating Research Conduction

Table 2 indicates that six extrinsic factors 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 scores 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

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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 respected by their superiors and colleagues or university when conducting and by completing their research and their research paper is published.

Table 2. Extrinsic factors.

	N	M	SD	Rank
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

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 to slightly motivate 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 responsibility to conduct research.

Table 3. Intrinsic factors.

	N	M	SD	Rank
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

3.3. Factors for Research Productivity

Table 4 shows that seven factors were reviewed from the literature and found to contribute to the 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.

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Table 4. 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: $p < 0.05$

3.4. Hypotheses Test

An independent-sample t-test was conducted to compare female and male academics' perceptions of 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 = 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 (See **Table 5**). These results suggest that female and male academics were differently motivated by their tenure and their performance in conducting 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 the extrinsic influences, involving promotion, respect, financial rewards, and recognition.

An independent-sample t-test was conducted to compare female and male academics' perceptions of 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 (See **Tabel 6**). The results however indicate that there was a statistically significant difference between female and male academics' perception of factor autonomy (M = 3.53, SD = 0.77 for females, and M = 3.71, SD = 0.80); t (299) = -2.05, p = 0.041.

Table 6. Intrinsic factors.

	Female		Male		t	p	Cohen's d
	M	SD	M	SD			
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

According to **Table 7**, an independent-sample t-test was conducted to compare female and male academics' perceptions toward factors contributing to the research productivity of

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academics in the studied universities. The results indicate that there was a statistically significant difference in the scores between female and male academics' perceptions of 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 in the scores between female and male academics' perceptions towards factors of 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 of most of the factors that influence or foster their research productivity when they conduct research, especially in terms of research support, workload on their teaching, size of the faculty, and self-efficacy. Meanwhile, the results reveal that both groups have different perceptions regarding research culture, their social networking, and their age.

Based on independent sample t-test statistics in **Tables 5**, **6**, **and 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 differently at the same time. Hypothesis 2a and 2b are also partially supported because 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 of other factors.

The findings of this study reveal that various factors were perceived by the research participants as being motivated to conduct research in their respective institutions, both extrinsic and intrinsic factors, such as recognition, respect, job tenure, scholarly improvement, contributions, interest, and responsibility. On the other hand, the results also indicate that most academics in this study value their perceptions of factors of research support, culture, faculty size, social network, and self-efficacy as influencing and fostering their research productivity. The findings are consistent with previous studies (Albert *et al*., 2018; Chen *et al*., 2006; Barak, 2017) in which the researchers assert that factors motivating academics to conduct research differ, both intrinsic and extrinsic motivation. The findings are also consistent with a previous study (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 their research participants as fostering research conduction and productivity. It is important to note that in the studied universities, most academics emphasize that the funds for their research activities are necessary to cover research expenses, such as buying research material for experiments, buying scholarly resources, and paying for publication fees. The findings are further similar to the study (Bentley, 2015) in there was a positive correlation between the 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 some public universities had inadequate financial support to well-equip their laboratories which could impede research faculty members' passion for 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 access to current research literature in the field is a prerequisite for conducting research. Academics are more likely to conduct more research and publish more articles if they can access scholarly resources in their related field (Jadhav *et al*., 2024; Khalid *et al*., 2024; Nguyen *et al*., 2016). Yet, there are great challenges for academics in Lao public universities regarding scholarly resources since such academic resources are not

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sufficient for research, such as updated academic books, journals, and access to reliable regional and global academic journal databases. As a result, most academics who have internal motivation to conduct research have to rely on their expenses for books, journals, or research articles, and their publication fees. Academics, hence, might not be able to take part in more research projects if they have insufficient budgets and are unable to afford such expenses.

4. CONCLUSION

This study revealed key factors associated with academics' motivation for conducting their research, including both extrinsic and intrinsic factors, and factors for research productivity. Prominent factors, including recognition, respect, and job tenure were prominently perceived as the most motivating extrinsic factors that motivate academics to conduct research, whereas scholarly improvement, contributions, and research interest were mostly perceived as the most motivating intrinsic factors. The study also indicated that research support, culture, faculty size, and social network were perceived as the most contributing factors for academics' research productivity in Lao public universities. This study suggests that incentive policies and support for academics should be generated at different levels based on the actual needs, while teachers' teaching workload should be reduced for more time in conducting research. Meanwhile, the universities should see the importance of establishing a 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 the international level.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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