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# WILL TERTIARY LECTURERS’ RESEARCH MOTIVATIONS DIFFER FROM PUBLICATION TYPES IN DEVELOPING COUNTRIES? A CASE STUDY OF VIETNAM

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**Abstract:** *This research is based on expectancy theory to investigate “internal attraction” and “external attraction” and integrate “belief” into the research framework that motivates lecturers to publish their research. Findings of regression analysis from a sample of 475 lecturers in business and economics have revealed that lecturers are motivated by both “internal attraction” and “external attraction”; however, the impact of “internal attraction” is stronger than that of “external attraction” on international publication but weaker on national publication. Belief is found not to influence motivation for national research publications, but negatively influences motivation for international research publications. The research results also reveal that the motivation for international research publications of professors and associate professors is higher than the motivation of other lecturers, irrespective of age and gender. Based on the research results, proper implications for policies to foster motivation for international and national research publications have been suggested for developing countries with constant changes in science and education.*

**Keywords:** *Motivation, Tertiary lecturers, Publication*

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## 1. Introduction

Universities worldwide are often ranked based on criteria related to the quality of training and the academic activities of lecturers and students (Hu & Gill, 2000). Research activities have become increasingly important as competition among universities becomes more rigorous. Academic activities and publication productivity were used to measure the success of the universities. Motivating lecturers to put more effort into their research is becoming increasingly important at universities. The development of China's higher education system and significant policies on university governance since the 1980s have been discussed (Mai et al., 2019). How a lecturer is rewarded (e.g., finance, promotion and prestige, respect) is highly related to their research efforts (Chen et al., 2006). Most studies on lecturers' research motivations have focused on the influences of internal and external factors on motivation (Bailey, 1999; Chen et al., 2006; Tien, 2010); while others have investigated the transformation between external motivation and internal motivation (Ryan, 2014) while many others have found an association between other factors related to research contexts (Howson et al., 2018; BlackMore, 2011).

In recent years, in the context of Vietnamese universities, there have been changes in lecturers' work, including teaching, scientific research, training, and other tasks. Research hours refer to the number of hours lecturers spend on research activities to conduct research, especially to publish their research results. Based on universities' objectives, development strategy, specificity of subjects or fields of study, and their specific conditions, rectors or presidents determine the standard hours of teaching and conducting research for lecturers in a school year. Some universities have gained full autonomy, while others have partial autonomy or are in the process of gaining full autonomy. Therefore, they can autonomously set specific policies based on the requirements of the Ministry of Education and Training to achieve their objectives. In recent years, both national and international publications have increased significantly. In 2011, nearly 1600 research publications were published in ISI-indexed journals. By 2020, this number had increased by nearly eight times, with nearly 12500 research articles. The number of articles published in ISI-indexed journals in 2020 is larger than the sum of articles published in ISI-indexed journals in 2017, 2016, and 2015, and also larger than the sum of articles published in ISI-indexed journals of Vietnam in the five previous years from 2011 to 2015. The growth rate of articles published in ISI-indexed journals was 114% compared to 2015, 129% compared with 2018, 143% compared with 2019, and 144.7% compared with 2020. Among the articles published in ISI-indexed international journals, research articles in natural science accounted for 94.2%. Research articles on social science account for only 5.8%; however, their growth rate is still high. In 2016, 247 articles in the business and economics were published in Scopus and ISI-indexed journals, and this number rose by nearly 10 times in 2020, reaching 2340 articles.

This significant increase was due to a transformation in the university mechanism. This increase could be due to changes in the mechanisms of universities, especially in the training regulations and requirements related to doctoral training in 2017. Besides the core requirements related to the responsibilities of lecturers in research, many more

supporting activities of universities have been suggested to promote international publications rather than national publications. However, the above statistics still reveal very low productivity, especially in the business and economics fields, compared to other universities in the region. In general, in the world, a scientist, on average, tends to publish 2-3 articles/years while in Vietnam, one only publishes 0.2-0.3 articles/year (2019). This finding is evident in the business and economics fields, in which the number of international research publications is still limited when compared to other fields, such as natural science or technology.

Expectancy theory provides a theoretical foundation for building a general concept, as well as a mathematical equation that can measure motivation. The relevance of expectancy theory has been evidenced in previous (Tien, 2000; House & Wahba, 1972) but there are still some limitations and confusing results regarding the components of this theory. Some conclusions in the previous model were not affected when the number of outcomes changed (i.e., the number of rewards). Moreover, the research findings are not consistent regarding expectations (belief in effort). Some research (Mitchell & Albright, 1972; Chen, 2006) has shown that belief in effort does not make a better model of predicting motivation than a few others have empirically tested and found contrasting results (Chiang & Jang, 2008). Changes in the context can change lecturers' perceptions of the valence of rewards, perception of the instrumentality of receiving rewards, and especially belief in their own effort. This belief has been highlighted as very important and can greatly influence motivation to work, especially when the work is challenging (Bailey 1999). Therefore, in developing countries, there have been many changes in science and education in terms of policies related to scientific research activities, especially research publications in national journals and international publications, and this belief will change. Thus, this research direction aims to test the relationship between belief and motivation for publication and test differences in the impacts of factors on motivation for international publication and national publication of lecturers.

## **2. Literature review and research framework**

### ***Motivation for publication***

Theories about people's motivation have been understood from the perspectives of behaviour and psychology. Researchers and psychologists have proposed different definitions of this concept. Motivation is defined as an internal state which drives a person to behave to achieve their objectives (James, 2011), which is a reason for a behaviour. Lockwood (2005) refers to motivation as the sum of the external or internal forces that urge an individual to act. From the perspective of a process, the research motivations of lecturers can be considered as a process in which lecturers are stimulated, directed, made efforts, and persist with their research activities (Mitchell, 1997).

Academic research conducted by lecturers, which contributes new knowledge about rules or phenomena, is considered the scientific research of lecturers (Creswell, 1986;

Lertputtarak, 2008). Lertputtarak (2008) defines the scientific research activities of lecturers as any academic activity that lecturers do when conducting research, such as defining the research problem, searching for information, collecting data, analyzing data, and writing reports. In developing countries, the education system is rapidly integrating internationally and many changes in mechanisms or policies related to university education policies have been introduced. Publishing research results in international journals is on the rise and is motivated more rigorously than publishing in national journals. Therefore, this research focuses on investigating the factors that influence motivation for international and national publications. International publication is the process of publishing scientific articles in prestigious international journals, whereas national publication is the process of publishing scientific articles in national journals within the country. In this study, motivation for publication is referred to as a process in which lecturers are stimulated, directed, make efforts, and persist in their publication Mitchell (1997).

### *Expectancy theory and hypothesis development*

Several theories have been applied to explain lecturers' research activities. Significant studies, such as Chen et al. (2006) and Tien (2000), used expectancy theory (Vroom, 1964) as a foundation. While other theories explain internal and external motivational factors, expectancy theory provides a more detailed description of these factors. This theory is explained briefly in equation (1) as follow: The model of predicting motivation for conducting a behavior:

$$M_i = f_i \left[ \sum_{j=1}^n (E_{ij} A_j) \right] \quad (i=n+1 \dots m) \quad (1)$$

$M_i$  is the motivation for conducting the behavior  $i$

$E_{ij}$  is the expectation. Expectation is defined by Victor Vroom (1964, 20) as a "temporary belief related to a certain action  $i$  will lead to a certain outcome  $j$ ," related to a person's perception that effort is positively associated with outcomes, if a person makes more effort, will their work outcomes increase or not?

$A_j$  is the outcome "attraction"  $j$  for any individual, which is illustrated in Equation (2) by Vroom (1964) as follows:

$$A_j = f_j \left[ \sum_{k=1}^n (V_k I_{jk}) \right] \quad (j=1 \dots n) \quad (2)$$

Vroom (1964, 20) defines "attraction as a monotonic function that increases as the sum of all valences of the outcome  $V_k$  and an individual's perception of instrumentality to achieve those outcomes  $I_{jk}$ ".

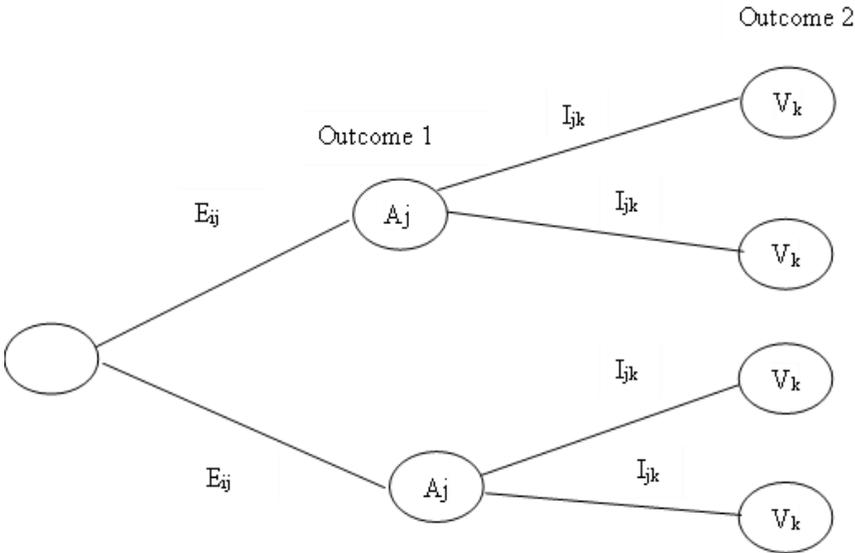
$V_k$  is "valence". Vroom (1964, 17) refers to "valence" as "the pleasure and importance or a valence that an individual associates with a reward  $k$ ". A reward has a low valence or no valence if the individual does not want to receive that reward and vice versa.

$I_{jk}$  is "instrumentality". This is the relationship between performing the work  $j$  and the reward  $k$ . Vroom (1964, 22) states that "instrumentality illustrates an individual's perception about the possibility that their work outcomes will bring them a worthy reward".

$k$  is the  $k^{\text{th}}$  reward, and  $k$  ranges from 1 to  $n$ , indicating that rewards are unlimited, which has been empirically tested in some previous studies.  $k$  includes both the external and internal rewards. Landy and Becker (1990) proposed that the key to improving expectancy theory could lie in the number of outcomes or rewards.

From the perspective of this theory, lecturers will have motivation for publish their research if firstly, they believe that their effort will lead to better performance, and secondly, they perceive the "alternatives" of their research outcomes ( $A_j$ ). This "Attraction" is achieved because they perceive that if they get a reward from the organization ( $I_{jk}$ ) from their scientific research results which reflects relevance of themselves ( $V_k$ ). Therefore, Mitchell and Albright (1972) and Chen et al. (2006) multiplied reward valence ( $V_k$ ) by the instrumentality of receiving the reward ( $I_{jk}$ ) of each reward to produce the attraction of the outcome  $j$  ( $A_j$ ). Therefore, the model of motivation for conducting a behavior (1) and the model of attraction (2) were integrated by Galbraith and Cummings (1967) (see Figure 1).

*Figure 1. Research model of Galbraith and Cummings (1967)*

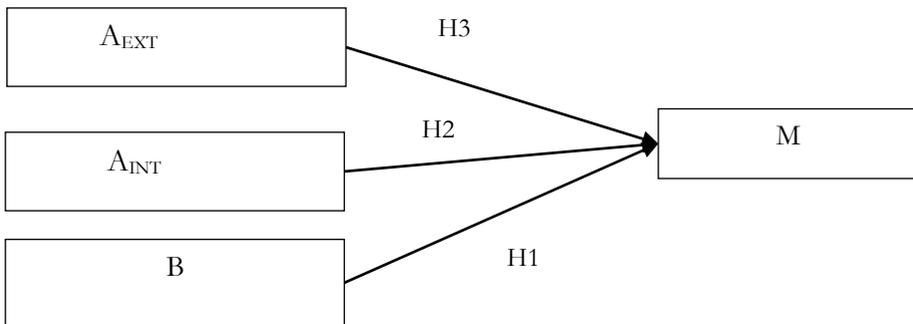


Belief is the main factor in exchange relationships and is characterized by uncertainty and vulnerability (McKnight et al., 2002). Previous research has revealed that beliefs have a significant impact on intention and behavior (Winch and Joyce, 2006). However,

in the process of publishing research results, especially in international publications, belief plays a very important role because limited knowledge and uncertainty in international research contexts may lead to greater perceived risks. Lack of trust is also considered one of the main obstacles to behavior (Jarvenpaa et al., 2000; international publication Monsuwe et al., 2004). If a belief is not formed, behavior is not conducted (Bart et al., 2005; Winch and Joyce, 2006). Therefore, lecturers' beliefs in their success in publication will be the basis for motivating their publication activities.

Therefore, in this research, the authors integrated “attraction” (A) and “belief” (B) to investigate their impacts on motivation for publication (M). External attractions (A<sub>EXT</sub>) refer to the situation when the “attraction” of research publication is due to external rewards while internal attractions (A<sub>INT</sub>) refer to attraction of research publication due to internal rewards. The research framework is proposed (Figure 2) with three independent factors: “belief” (B), “external attraction” (A<sub>EXT</sub>), “internal attraction” (A<sub>INT</sub>) and the dependent factor of “motivation for publication” (M).

Figure 2. The proposed research framework



In publishing their research, belief refers to the expectation that lecturers have of their own ability to accomplish their work. The expectation that their own efforts will help them fulfill their work will motivate them to conduct the behavior (Vroom, 1964). This belief was highlighted by Bailey (1999) as having a very important and strong influence on the motivation to fulfill work, especially challenging ones. Therefore, H1 is posited as follows.

**H1:** *Belief is positively associated with lecturers' motivation for publication*

From the perspective of Vroom's expectancy theory (1964), “external and “internal attractions” are positively associated with lecturers' research motivations. In addition, based on a literature review, “internal attraction” has a stronger impact on motivation for publication than “external attraction” (Tien, 2000; Chen et al., 2006). Therefore, H2, H3, and H4 are posited as follows:

**H2:** *“Attraction of internal factors” are positively associated with motivation for publication.*

**H3:** *“Attraction of external factors” are positively associated with motivation for publication*

**H4:** “Attraction of internal factors” have a stronger impact on motivation for publication than “Attraction of external factors”

In developing countries, science and education have experienced changes in the mechanisms and policies related to publication activities. For example, international research publications have been scarce in previous years. However, recently, this has improved and become increasingly popular. However, research publications in national journals still accounted for a higher percentage of publications. Therefore, “internal attraction”, “external attraction, and “belief” will have different impacts on motivations for international and national publication. To investigate these differences, this study aims to test the hypotheses with these two types of research publications.

### **3. Research methods**

#### ***Research sample and data collection***

Using a convenient sampling method, this study collected data from tertiary lecturers. The survey questionnaires were distributed directly to lecturers at universities in the business and economics fields. A total of 475 responses were valid for further statistical analysis. 69.7% Of the respondents, 69.7% were female and 30.3% were male. 33.9% Of the lecturers, 33.9% were under 34 years of age, 61.1% were between 35-55 years of age, and 5.1% were above 55. Only 9.7% were professors and associate professors.

#### ***Measurement scale***

The measurement items for rewards from research activities included nine external and eight internal rewards. The items are measured on a 5-Likert scale from 1 (totally disagree) to 5 (totally agree). The multiplication between scores of reward valence ( $V_k$ ) and the possibility of receiving rewards ( $I_k$ ) forms the relevant valence of “external attraction” ( $A_{EXT}$ ) and “internal attraction” ( $A_{INT}$ ); therefore, the valence of  $A_{EXT}$  and  $A_{INT}$  will be from 1 to  $5 \times 5 = 25$  and is coded corresponding to the rewards specified in Table 1.

“Belief” is measured from four items proposed by Chiang & Jang (2008). These items are related to *reinforced efforts, improved performance, increased productivity, increased quality, and improved publication effectiveness.*

The measurement scale of “motivation for publication” (M) Wright (2004) was used to ask respondents to indicate their own perception of *the level of participation, guidelines, work intensity, and persistence at work.*

The survey questionnaires were developed based on the measurement items specified in the framework. Eleven lecturers were interviewed to test the concepts and validity of the measurement items. Demographic questions about sex, age, and professorial titles were also asked. Subsequently, a pilot test was conducted with a small sample to ensure the validity of the survey questions, and the questions were finalized. The final measurement items used to collect the data are listed in Table 1.

**Table 1.** Measurement items

Constructs	Measurement items	Sources
<b>External attraction (<math>A_{EXT}</math>):</b> equals to multiplication of reward valence and the possibility of receiving external reward		
$A_{EXT1}$	Increase in salary	Chen et al. (2006)
$A_{EXT2}$	Bonus	Tien (2000); Chiang & Jang (2008)
$A_{EXT3}$	Achieve a higher professional title	Adopted from Chen et al. (2006) and Tien (2000)
$A_{EXT4}$	Achieve a professorial title	
$A_{EXT5}$	Promotion to management positions	Chen et al. (2006)
$A_{EXT6}$	Increased academic prestige in the field	Chen et al. (2006)
$A_{EXT7}$	Reduced heavy teaching load	Chen et al. (2006)
$A_{EXT8}$	Maintaining work positions in the university	Chen et al. (2006)
$A_{EXT9}$	Pursuing a better job in another organization	Chen et al. (2006)
<b>Internal attraction (<math>A_{INT}</math>):</b> equals to multiplication of reward valence and possibility of receiving internal rewards		
$A_{INT1}$	is respected by colleagues and students	Chen et al. (2006)
$A_{INT2}$	Satisfies the need to contribute to development	Chen et al. (2006)
$A_{INT3}$	Satisfies the need of curiosity	Chen et al. (2006)
$A_{INT4}$	Satisfying the need to cooperate with others	Chen et al. (2006)
$A_{INT5}$	Satisfying the need to develop myself	Chen et al. (2006)
$A_{INT6}$	Pleasure gained from doing research	Tien (2000)
$A_{INT7}$	Feeling of overcoming challenges	Chiang & Jang (2008)
$A_{INT8}$	Good perception of myself	Chiang & Jang (2008)
<b>Belief (B)</b>		
B1	Publication productivity will improve relatively if I make effort.	Chiang & Jang (2008)
B2	I believe I will have a higher quality publication research if I were more hard-working.	
B3	I will be recognized as an effective lecturer if I am hardworking.	
B4	I will not have a better publication even when I try my best.	
<b>Motivation for publication (M)</b>		
M1	I tried my best even when I encounter some challenges in publishing research results.	Wright (2004)
M2	I always try my best any time regardless of staying up late or getting up early to thinking about publishing research results.	
M3	I find it hard to focus to do research and publish research results.	
M4	I tried to do my best to publish research results.	
M5	I feel I am not as hardworking as other colleagues in publication	

### **Research analysis**

To test the proposed hypotheses, we conducted multiple linear regression analysis with motivation for publication as the dependent variable. “External attraction” ( $A_{EXT}$ ), “internal attraction” ( $A_{INT}$ ), and belief (B) were the three independent variables. In Model 1, control variables including age and sex professional titles were included. In Model 2, besides the control variables, “external attraction” ( $A_{EXT}$ ), “internal attraction” ( $A_{INT}$ ) were included. In Model 3, the full model, belief (B), was added. Multiple linear regressions were separately analyzed for international publications and national publications.

Before testing the hypotheses, the reliability of the measurement scales was tested with Cronbach’s alpha, and an EFA was conducted with all measurement items of the independent and dependent variables. The research results were used for linear regression analysis to test the research hypotheses.

## **4. Research results**

### ***Reliability and validity of the measurement scales***

To test the measurement scales of “Research motivations” (M), “external attraction” ( $A_{EXT}$ ), “internal attraction” ( $A_{INT}$ ) and “belief” (B), an EFA was conducted to test the reliability with Cronbach’s Alpha. Cronbach’s alpha for M was 0.771, that for  $A_{EXT}$  was 0,811; that for B was 0.874, and that for  $A_{INT}$  was 0.910. Measurement items whose reliability did not meet the threshold were removed, including  $A_{EXT9}$ , B4, M3, and M5. The reliability of other measurement items is acceptable, with the alpha value being higher than 0.6, and the corrected item-total correlation is higher than 0.3 (Hair et al., 1998).

After  $A_{EXT6}$ ,  $A_{EXT7}$ , and  $A_{EXT8}$  were removed due to low factor loading, the final EFA results showed the discriminant and convergent validity of the measurement scales. The KMO was proper ( $0.5 \leq KMO = 0.892 \leq 1$ ). Bartlett’s test of correlation with other variables was significant (Sig. =  $0.000 < 0.05$ ), indicating that the variables were closely related. EFA was conducted for three independent variables ( $A_{EXT}$ ,  $A_{INT}$ , and B). The results in Table 2A (international publication) and Table 2B (national publication) all formed three factors, explaining 66.028% of factors influencing international publication) and 67.042% of factors influencing national publication; the total variance explained met the threshold of being higher than 50% (Anderson & Gerbing, 1988). The remaining items had factor loadings greater than 0.5.

**Table 2A.** Finalized rotated component matrix (International publication)

Component	Factor		
	F1	F2	F3
$A_{EXT1}$		0.853	
$A_{EXT2}$		0.783	
$A_{EXT3}$		0.566	
$A_{EXT4}$		0.604	

Component	Factor		
	F1	F2	F3
$\Lambda_{EXT5}$		0.570	
$\Lambda_{INT1}$	0.528		
$\Lambda_{INT2}$	0.796		
$\Lambda_{INT3}$	0.751		
$\Lambda_{INT4}$	0.743		
$\Lambda_{INT5}$	0.784		
$\Lambda_{INT6}$	0.838		
$\Lambda_{INT7}$	0.791		
$\Lambda_{INT8}$	0.702		
B1			0.774
B2			0.914
B3			0.808

*Source: Author's calculation*

**Table 2B.** Finalized rotated component matrix (National publication)

Component	Factor		
	F1	F2	F3
$\Lambda_{EXT1}$		0.823	
$\Lambda_{EXT2}$		0.793	
$\Lambda_{EXT3}$		0.668	
$\Lambda_{EXT4}$		0.634	
$\Lambda_{EXT5}$		0.605	
$\Lambda_{INT1}$	0.626		
$\Lambda_{INT2}$	0.685		
$\Lambda_{INT3}$	0.761		
$\Lambda_{INT4}$	0.775		
$\Lambda_{INT5}$	0.766		
$\Lambda_{INT6}$	0.826		
$\Lambda_{INT7}$	0.774		
$\Lambda_{INT8}$	0.731		
B1			0.782
B2			0.903
B3			0.768

*Source: Author's calculation*

### *Pearson correlation matrix*

Table 3 shows the Pearson correlation matrix for the variables. At the 1% significance level, the results indicate that  $\Lambda_{EXT}$ ,  $\Lambda_{INT}$ , and B are all positively associated with motivation for international publication (M) ( $r = 0.258, 0.485, \text{ and } 0.383$ , respectively) and national publication ( $r = 0.106, 0.326, \text{ and } 0.225$ , respectively). The Pearson correlation matrix indicates the relationship between M and other independent variables (Sig. < 0,000).

**Table 3.** Pearson correlation matrix

	A <sub>EXT</sub>		A <sub>INT</sub>		B		M	
	International publication	National publication						
A <sub>EXT</sub>	1	1						
A <sub>INT</sub>	0.329**	0.187**	1	1				
B	0.324**	0.234**	0.536**	0.415*	1	1		
M	0.258**	0.106**	0.485**	0.326*	0.383**	0.225**	1	1

Note: Dependent variable: M; \*\* sig. < 0,05

Source: Author's calculation

### Regression analysis results

The regression analysis results show that collinearity does not exist because all VIF are less than 10. The hypothesis testing results are summarized in Tables 4 and 5.

**Table 4.** Regression analysis results

	Model 1		Model 2		Model 3	
	International publication β	National publication β	International publication β	National publication β	International publication β	National publication β
Age	0.016	-0.013	0.014	-0.004	0.017	-0.016
Gender	-0.013	0.031	-0.013	0.039	-0.010	0.034
Professorial title	0.023**	0.091	0.025**	0.093	0.028**	0.093
A <sub>EXT</sub>			0.083**	0.216**	0.113**	0.412**
A <sub>INT</sub>			0.345***	0.139**	0.445***	0.145***
B					0.075**	-0.154***
R <sup>2</sup>	0.008	0.008	0.247	0.228	0.264	0.248
Adjusted R <sup>2</sup>	0.005	0.004	0.236	0.214	0.259	0.244
Durbin-Watson	1.759	1.762	1.904	1.858	1.907	1.862
Sig. F	0.049	0.000	0.000	0.000	0.000	0.000

Note: dependent variable: M; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Author's calculation

**Table 5.** Summary of research findings

Hypotheses	Types of publication	Hypothesis testing results
H1: B ---->M	international publication	Not supported (B is negatively associated with M)
	national publication	Supported
H2: A <sub>INT</sub> ----> M	international publication	Supported
	national publication	Supported
H3: A <sub>EXT</sub> ----> M	international publication	Supported

Hypotheses	Types of publication	Hypothesis testing results
H4: $A_{INT}$ has a stronger impact than $A_{EXT}$ on motivation for research publication	national publication	Supported
	international publication	Supported
	national publication	Not supported ( $A_{INT}$ has a weaker impact than $A_{EXT}$ on motivation for national research publication)

Three regression models were analyzed (Model 1, Model 2, and Model 3) regarding international publications and national publications, with research motivations (M) as the dependent variable. All three regression models in international and national publications were statistically significant. Durbin-Watson ranges from 1.5 to 2.5, indicating that these models do not have collinearity.

The results of the research analysis supported H1 with a national publication ( $\beta = 0.075$  and  $p\text{-value} < 0.05$ ). Regarding international publications, H1 was rejected, but B was negatively associated with M ( $\beta = -0.154$  and  $p\text{-value} < 0.01$ ).

The regression results in both Model 2 and Model 3 reveal a significant role for  $A_{EXT}$  ( $\beta = 0.113$ ;  $p\text{-value} < 0.05$ ) and  $A_{INT}$  ( $\beta = 0.445$ ;  $p\text{-value} < 0.01$ ) for international publication and  $A_{EXT}$  ( $\beta = 0.412$ ;  $p\text{-value} < 0.05$ ) and  $A_{INT}$  ( $\beta = 0.145$ ;  $p\text{-value} < 0.01$ ) for national publication. Therefore, both  $A_{EXT}$  and  $A_{INT}$  were positively associated with M, supporting H2 and H3. However, the regression results show that with international publications,  $A_{INT}$  has a stronger impact on M than  $A_{EXT}$ . On the other hand, for national publications,  $A_{EXT}$  has a stronger impact on M than  $A_{INT}$ . This result supports H4 regarding international publication but does not support international publication.

Research results also show that age and gender do not influence motivation for publication. Professorial titles have a positive influence on motivation for international research publications ( $\beta = 0.028$  and  $p\text{-value} < 0.01$ ) but do not influence motivation for national research publications ( $\beta = 0.093$  and  $p\text{-value} > 0.1$ ).

## 5. Discussion of research results

### *Discussion*

Regarding international publication, “internal attraction” has a stronger positive impact on “motivation for international research publication,” which corroborates the findings of Tien (2000) and Chen et al. (2006). Meanwhile, “external attraction” has a weaker impact, which indicates that external rewards such as bonus, professorial title for international publication are not strong and attractive enough or there are still other hindrances that prevent lecturers from getting access to external rewards.

On the other hand, regarding national publication, “external attraction” has a stronger positive impact on “motivation for national research publication” while “internal attraction” internal attraction’ has a weaker impact, which is not in line with the research findings of Tien (2000) and Chen et al. (2006). This indicates that the nature of

the current process of national publication does not satisfy internal valence, such as pleasure, enjoyment, challenge, or significant value. The current performance of national publications aims only to meet the fundamental requirements of lecturers' research hours.

Especially, this research has indicated the difference in the relationship between "belief" and motivations for international publication. The performance of international publications in countries where there are still challenges such as limited research competence, qualification, information, or knowledge about international journals. These difficulties have posed huge challenges to the persistence of the process of conducting international publications, even when lecturers believe that they can succeed in international publications. This shows that this unsustainable belief and uncertainty of success lead to a loss of motivation for international research publications. Regarding national publications, most of these challenges are not too big; lecturers can easily get access to information about national journals; therefore, they have a sustainable belief, and they are certain about their success; therefore, this belief will motivate them to conduct national publications.

Lecturers' motivation for international publication increases when they achieve professorial titles. Changes in personal career path objectives have also been studied in previous research (Englebrecht et al., 1994; Read et al., 1998). Lecturers' research motivations tend to increase when preparing for advancement in their professorial title in their career path (Chen et al., 2006; Tien, 2000). The results of this study differ from those of previous studies in terms of the research approach. Tien (2000) applied expectancy theory and measured research productivity in the periods before and after they achieved professorial titles. These changes could be due to the fact that, in developing countries, science and education are not fully developed and in the transformation process research, which may lead to differences in the research capability of lecturers. The lecturers were recruited at the beginning of the research period. When they achieve professorial titles or doctoral titles, their research capability has increased, and they can motivate their future motivations for publication.

### ***Practical implications***

Based on the results of this research, managers need to gradually handle challenges such as qualifications, research competence, information, and knowledge of prestigious journals in the world. These challenges will not intervene in the persistence of lecturers in the process of publishing research results in international journals, because this will form a sustainable belief in success in international publications. Universities can organize training courses on research methods, sessions of sharing experience of international publications, and create an international research network and cooperation.

Tertiary institutions can combine methods to reinforce lecturers' motivation for international research publication by stimulating internal attraction, especially for professors and associate professors. In addition, managers need to provide more external attraction and gradually handle obstacles so that lecturers can access rewards

such as finance, promotion, or administrative procedures. To reinforce international publications, managers must focus on policies and regulations regarding the research requirements of lecturers at tertiary institutes.

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## Ethical Compliance

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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We declare, on our own responsibility, that there is no conflict of interest in the production and publication of this article.

## References

- Anderson, J. & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411-423.
- Bailey, J. (1999). Academics motivation and self-efficacy for teaching and research. *Higher Education Research & Development*, 18(3), 343-359. <https://doi.org/10.1080/0729436990180305>
- Bart, Y., Shankar, V., Sultan, F., & Urban, G. L. (2005). Are the drivers and role of online trust the same for all web sites and consumers? A large-scale exploratory empirical study. *Journal of marketing*, 69(4), 133-152. <https://doi.org/10.1509/jmkg.2005.69.4.133>
- Blackmore, P. & Kandiko, C. (2011). Motivation in academic life: A prestige economy, *Research in Post-Compulsory Education*, 16(4), 399-411. <https://doi.org/10.1080/13596748.2011.626971>
- Chen, Y., Gupta, A. & Hoshower, L. (2006). Factors that motivate Business Faculty to conduct research: An expectancy Theory Analysis, *Journal of Education for Business*, 81(4), 179-189. <https://doi.org/10.3200/JOEB.81.4.179-189>
- Chiang, C. & Jang, S. (2008). An expectancy theory model for hotel employee motivation, *International Journal of Hospitality Management*, 27(2), 313-322. <https://doi.org/10.1016/j.ijhm.2007.07.017>
- Creswell, J. (1986), *Measuring faculty research performance*, Jossey-Bass Inc, San Francisco.

- Englebrecht, T., Iyer, G. & Patterson, D. (1994). An empirical investigation of the publication productivity of promoted accounting faculty, *Accounting Horizons*, 8(1), 45–68.
- Galbraith, J., & Cummings, L. L. (1967). An empirical investigation of the motivational determinants of task performance: Interactive effects between instrumentality-valence and motivation-ability. *Organizational Behavior and Human Performance*, 2, 237-257. [https://doi.org/10.1016/0030-5073\(67\)90020-7](https://doi.org/10.1016/0030-5073(67)90020-7)
- House, R. & Wahba, M. (1972). Expectancy theory in industrial and organizational psychology: An integrative model and a review of literature, In *Proceedings of the Annual Convention of the American Psychological Association*, American Psychological Association.
- Howson, K., Coate, K. & Croix, T. (2018). Mid-career academic women and the prestige economy, *Higher Education Research & Development*, 37(3), 533-548. <https://doi.org/10.1080/07294360.2017.1411337>
- Hu, Q. & Gill, G. (2000). Is faculty research productivity: Influential factors and implications, *Information Resources Management Journal*, 13(2), 15-25. <https://doi.org/10.4018/irmj.2000040102>.
- McKnight, D., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information systems research*, 13(3), 334-359. <https://doi.org/10.1287/isre.13.3.334.81>
- James, I. (2011), Effective motivation of paraprofessional staff in Academic libraries in Nigeria, *Library Philosophy and Practice*, 1-10
- Jarvenpaa, S. L., Tractinsky, N., & Vitale, M. (2000). Consumer trust in an Internet store. *Information technology and management*, 1(1), 45-71.
- Landy, F. J., & Becker, W. S. (1990). *Motivation Theory Reconsidered, Work in Organizations*. Greenwich: Jai Press, 1-38.
- Lertputtarak, S. (2008). *An investigation of factors related to research productivity in a public university in Thailand: A case study*, Doctoral dissertation, Victoria University.
- Lockwood, P. (2005). Promoting success or preventing failure: Cultural differences in motivation by positive and negative role models, *Personality and Social Psychology Bulletin*, 31(3), 379-392. <https://doi.org/10.1177/0146167204271598>
- Mai, A., Do, H., Mai, C., Nguyen, H., & Nguyen, N. (2019). Policies for Higher Education Development in the People's Republic of China. *Journal of Economics and Development*, 21 (Special Issue), 175-194.
- Mitchell, T. & Albright, D. (1972). Expectancy theory predictions of the satisfaction, effort, performance, and retention of naval aviation officers. *Organizational Behavior and Human Performance*, 8(1), 1-20. [https://doi.org/10.1016/0030-5073\(72\)90033-5](https://doi.org/10.1016/0030-5073(72)90033-5)
- Mitchell, T. (1997). Matching motivational strategies with organizational contexts, *Research in organizational behavior*, 19, 57-150.
- Read, W.J., Rama, D. & Raghunandan, K. (1998). Are publication requirements for accounting faculty promotions still increasing? *Issues in Accounting Education*, 13(2), 327–339.
- Ryan, J. (2014). The work motivation of research scientists and its effect on research performance, *R&D Management*, 44(4), 355-369. <https://doi.org/10.1111/radm.12063>

- Tien, F. (2000). To what degree does the desire for promotion motivate faculty to perform research?, *Research in Higher Education*, 41(6), 723-752. <https://doi.org/10.1023/a:1007020721531>.
- Vroom, V. (1964), *Work and motivation*, John Wiley & Sons, New York.
- Winch, G., & Joyce, P. (2006). Exploring the dynamics of building, and losing, consumer trust in B2C eBusiness. *International Journal of Retail & Distribution Management*. 34(7), 541-555. <https://doi.org/10.1108/09590550610673617>
- Wright, B. (2004). The role of work context in work motivation: A public sector application of goal and social cognitive theories, *Journal of Public Administration Research and Theory*, 14(1), 59-78. <https://doi.org/10.1093/jopart/muh004>