

Factors Affecting Routine to Research (R2R) Production of Supporting Staff: Case Study of Mahidol University International College

Sasithon Panyanak, Mahidol University International College, Thailand

The Paris Conference on Education 2025
Official Conference Proceedings

Abstract

Academic work contains various types, such as research, academic articles, books that serve both public and private sectors. Typically, academic staff in higher education are the primary producers of such works, which they use for teaching or to share knowledge within the academic community. However, universities in Thailand, the support staff is getting more opportunity to contribute the academic work which is related to their job description. It called Routine to Research or R2R. Though these academic works are beneficial to their career path; they can use for academic promotion, few people succeed. Therefore, this research aims to investigate the Factors Affecting Routine to Research (R2R) Production of Supporting Staff at a Thai University International College. The research instrument is a questionnaire using a five- point Likert scale focusing on the Internal Factors and External Factors. An accidental random sample is employed to select the participants to complete the survey from 126 staff members. Later, the data is analyzed by the statistical program. The results show that the Supporting Staff think that producing research takes time, requires initiative and creativity. On the other hand, they think that the organization should create an environment that promotes research production and should provide funding and organize activities to provide knowledge. In addition, it would be better to expand the findings by focusing on a specific case study which could highlight strategies or outcomes that may be generalized the deeper insights.

Keywords: factor, routine to research (R2R), supporting staff

iafor

The International Academic Forum
www.iafor.org

Introduction

In Thailand, not only academic staff but also support staff are encouraged to do the academic works. The work produced by support staff is called Routine to Research (R2R). It refers to the process of transforming daily routine work into research outputs. This type of work arises from problems, limitations, obstacles, or challenges encountered in everyday tasks. They have to study, analyze, or investigate in order to improve and develop their routine tasks that are repetitive, complicated, and tedious into more effective work processes. After completing their studies, they can apply the results to improve their work. Additionally, they can present their academic work at the conference or publish it in an academic journal, which can later be used as part of their application for academic position for their career advancement.

At Mahidol University International College, we acknowledge the importance of academic work for support staff, and provide the support and assistance in terms of knowledge and funding. This includes organizing training activities focused on producing academic work, mentoring projects for research consultation, and providing funding for research initiatives that lead to tangible academic outputs.

However, the data shows that from July 2019 to July 2024, the average number of academic works produced by the support staff each year is about eight (Mahidol University, International College, Research Promotion and Management Office, 2024).

Therefore, the researcher intends to study the factors affecting the production of Routine to Research (R2R) by support staff at the International College of Mahidol University, along with the obstacles they face and suggestions for improvement in order to gather insights that can help enhance engagement and find the solution to increase the production of academic work among support staff.

Literature Review

Routine to Research (R2R)

Definition of Routine to Research (R2R)

Routine to Research (R2R) was coined by Prof. Vicharn Panich, M.D. in 2004. It refers to the process of transforming daily routine work into research outputs. It involves taking challenges or problems encountered in everyday tasks and developing them into research projects. R2R serves as a tool for human development, aimed at advancing work practices and propelling the organization towards becoming a learning organization (Chaikongkiat & Kumkong, 2017, pp. 250–270).

Components of Routine to Research (R2R)

Nuangchalerm (2015) stated that the components of routine to research (R2R) can be described into four components: research question, researcher, research outcome, and its implication.

This means the routine to research (R2R) should emerge from the researcher's regular duties and aim to improve or develop those tasks conducted by the person who directly responsible for the routine task and must also serve as the principal investigator in the research. While the

research outcomes must be measurable and reflect the impact, and the findings should be applicable to improve work processes and service delivery in the specific context of each organization.

Otherwise, the creation of Routine to Research (R2R) aims to generate new ideas and solutions that benefit the individual, colleagues, and the organization. The goal is to improve and develop routine tasks that are repetitive, complicated, and tedious into more effective work processes. The Routine to research (R2R) process includes defining challenges, creating solutions, developing prototypes, testing them, evaluating outcomes, and continuously improving the practices to ensure practical application.

Factors

Characteristics of Factors

Wonganutoj (1992) discussed the factors influencing individual work behavior, stating that individual differences inevitably affect job performance. Each person possesses unique characteristics and qualities that influence their work behavior differently, including: Aptitude, Personality Traits, Physical Characteristics, Interests and Motivation, Age, Gender, and Life Stage, Education, and Experience.

Factors in Career Path Development

Hoppock (1935, as cited in Pimolsiri, 2012, p. 15) stated that human have both physical and psychological needs such as food, clothing, and the need for acceptance and recognition from others. These diverse needs influence one's career choices. An individual becomes aware of their own needs through self-understanding, life experiences, external information, and satisfaction derived from their chosen occupation.

Kecharanan (2006, pp. 159–160) identified several key factors related to career development. These include: the development of resources through experience, support for capable, competent, and committed personnel, aligning human resources with suitable roles, fostering morale and motivation, and preparing for change.

Theories Related to Factors

Herzberg proposed the Two-Factor Theory, which is relevant to job performance. This theory summarizes two key factors that relate to individual preferences for work:

Motivational Factors. Motivational factors are directly related to the job and serve to encourage individuals to enjoy and take pride in their work. These factors stimulate satisfaction and enhance work effectiveness, including:

- **Achievement:** an individual's ability to complete tasks to the best of their ability, solve problems, and prevent potential issues. The successful completion of work leads to feelings of satisfaction and pride in those accomplishments.
- **Recognition:** this involves receiving acknowledgment and respect from supervisors, peers, and others seeking advice. Recognition can take various forms, such as praise, congratulations, encouragement, or any expression that indicates appreciation for an individual's capabilities upon achieving success.

- **The Work Itself:** this pertains to the nature of the work being engaging, requiring creativity and initiative, and providing challenges that motivate individuals to take action. It also includes jobs that can be performed independently from start to finish.
- **Responsibility:** the satisfaction derived from being assigned new responsibilities and having full authority over those responsibilities without close supervision or control.
- **Advancement:** this signifies promotions and upward mobility within the organization, as well as opportunities for further education and training to acquire additional knowledge.

Hygiene Factors. Hygiene factors are those that support the existing motivation to work. If these factors are not aligned with the needs of individuals within the organization, it can lead to job dissatisfaction. These factors originate externally to the individual and include:

- **Salary:** the salary and the possibility of salary increments within the organization that are satisfactory to employees.
- **Possibility of Growth:** this not only includes promotions within the organization but also encompasses opportunities for professional skill advancement.
- **Interpersonal Relations:** this pertains to the quality of relationships between supervisors, subordinates, and peers, indicating effective communication and mutual understanding.
- **Status:** the recognition and respect associated with a particular profession, indicating its honor and dignity in society.
- **Company Policy and Administration:** this relates to the management and administrative practices within the organization and how effectively communication is conducted internally.
- **Working Conditions:** the physical environment of the workplace, such as lighting, noise, air quality, working hours, and the availability of tools and equipment.
- **Personal Life:** this relates to the overall feelings an individual has towards the organization based on their work experience.
- **Job Security:** an individual's feelings regarding job stability and the sustainability of their profession or the organization.
- **Supervision-Technical:** the ability of supervisors to manage and oversee operations effectively, including fairness in administration.

From Herzberg's Two-Factor Theory, it can be concluded that both motivational factors and hygiene factors are interrelated elements that significantly influence employee performance. Motivational factors enhance job satisfaction and drive employees to perform better through achievements, recognition, engaging work, responsibility, and opportunities for advancement. While Hygiene factor are essential for preventing dissatisfaction. They include aspects such as salary, opportunities for growth, interpersonal relationships, job status, company policies, working conditions, personal life balance, job security, and the effectiveness of supervision.

Together, these factors create a work environment that can either foster or hinder employee motivation and performance.

Research Objectives

1. To study the factors that affect the production of routine to research (R2R) by support staff at the International College of Mahidol University.
2. To examine the problems and obstacles affecting the production of routine to research (R2R) by support staff at the International College of Mahidol University.

Hypothesis of the Study

1. The support staff who differ in age has a different factor that affect the production of routine to research (R2R).
2. The support staff who differ in educational level has a different factor that affect the production of routine to research (R2R).
3. The support staff who differ in working experience has a different factor that affect the production of routine to research (R2R).

Methodology

Respondents

In this research, a sample size of 156 individuals was selected using accidental sampling. To mitigate the risk of drop-out, the researcher increased the sample size by 10%, resulting in a total of 172 participants.

Research Instrument

The research instrument was a questionnaire with closed-ended using a five- point Likert scale and open-ended questions. In order to answer the research questions, the questionnaire was developed to investigate the factors affecting routine to research (R2R) production. The questionnaire items were developed by the researcher for this study, and has been approved by Mahidol University Central Institutional Review Board.

Data Collection

The participants were selected by an accidental random sample to complete the survey during October 2024. The data were collected from 126 participants, which met the expected response rate for the questionnaires. The questionnaires were distributed using a self-administered method, with an anticipated average response rate of 60–70%. This response rate is considered to be very good (Berdie et al., 1986).

Data Analysis

The respondents were required to complete the questionnaires and submit them after finishing. Once all the questionnaires had been collected, the data were entered into a database and analyzed using a statistical program. The analysis included general information and questions related to factors influencing the production of routine to research (R2R). Open-ended questions seeking suggestions, issues, or obstacles affecting the production of R2R were summarized using content analysis.

Findings

The findings presented below represent the Factors Affecting Routine to Research (R2R) Production of Supporting Staff at Mahidol University International College. This study employed a quantitative research approach. Data were collected through a questionnaire from a sample of 126 participants.

The researcher employed statistical methods to analyze the data and present the findings in the following order:

- Part 1: Personal Information
- Part 2: The evaluation of the factors affecting routine to research (R2R) Production
- Part 3: Hypothesis test results
- Part 4: Open-ended questions

Part 1: Personal Information

Table 1
Frequency and Percentage of Affiliation

Affiliation	Frequency	Percentage
The Office of the Dean (secretary)	10	7.90
Finance & Accounting Section	11	8.70
Procurement Section	8	6.30
Human Resources Section	11	8.70
Planning Monitoring & Evaluation Section	5	4.00
Research Promotion and Management Section	3	2.40
Admissions and Registrar Section	12	9.50
Educational Affairs Section	15	11.90
Library Section	4	3.20
International Affairs Section	5	4.00
Central Administration Section	7	5.60
Student Affairs Section	8	6.30
Information Technology Section	5	4.00
Educational Technology Section	4	3.20
Corporate Communications Section	3	2.40
Strategy and Academic Development Group	3	2.40
Academic Services Group	5	4.00
Operation and Environment Section	7	5.60
Total	126	100.00

As shown in Table 1, the majority of the respondents (15 individuals, or 11.90%) worked in Educational Affairs Section. This was followed by 12 individuals (9.50%) worked in Admissions and Registrar Section. The Finance & Accounting Section, as well as Human Resources Section, each had 11 employees (8.70%). While the smallest groups were Research Promotion and Management Section, Corporate Communications Section, and Strategy and Academic Development Group, each with 3 employees (2.40%).

Table 2*Frequency and Percentage of Gender*

Gender	Frequency	Percentage
Male	28	22.20
Female	98	77.80
Total	126	100.00

As shown in Table 2, the majority of the respondents were female (98 individuals, or 77.80%), while 28 individuals (22.20%) were male.

Table 3*Frequency and Percentage of Age*

Age	Frequency	Percentage
25 and 34 years	29	23.00
35 and 44 years	49	38.90
45 and 54 years	40	31.70
54 years and above	7	5.60
not respond	1	0.80
Total	126	100.00

As shown in Table 3, the majority of the respondents were aged between 35 and 44 years (49 individuals, or 38.90%). This was followed by 40 individuals (31.70%) aged between 45 and 54 years. Next, 29 individuals (23.00%) were aged between 25 and 34 years. There were 7 individuals (5.60%) aged 55 years and above. The smallest group consisted of those who did not respond to this question (1 individual, or 0.80%).

Table 4*Frequency and Percentage of Educational Level*

Educational level	Frequency	Percentage
Below bachelor's degree	4	3.20
Bachelor's degree	63	50.00
Master's degree	56	44.40
not respond	3	2.40
Total	126	100.00

As shown in Table 4, the majority of the respondents held a bachelor's degree (63 individuals, or 50.00%). This was followed by 56 individuals (44.40%) who held a master's degree. Meanwhile, 4 individuals (3.20%) had an education level below a bachelor's degree, and the smallest group consisted of those who did not respond to this question (3 individuals, or 2.40%).

Table 5*Frequency and Percentage of Work Experience*

Work Experience	Frequency	Percentage
1 - 5 years	31	24.60
6 - 10 years	18	14.30
more than 10 years	75	59.50
not respond	2	1.60
Total	126	100.00

As shown in Table 5, the majority of the respondents had worked at the International College for more than 10 years (75 individuals, or 59.50%). The next largest group had 1 - 5 years of experience (31 individuals, or 24.60%), followed by those who had worked for 6 - 10 years (18 individuals, or 14.30%). The smallest group consisted of respondents who did not answer this question (2 individuals, or 1.60%).

Table 6

Frequency and Percentage of Academic Position

Academic position	Frequency	Percentage
Senior Professional Level	8	6.30
None	118	93.70
Total	126	100.00

As shown in Table 6, the majority of the respondents did not hold any academic positions (118 individuals, or 93.70%), while 8 individuals (6.30%) were classified as Senior Professional Level.

Part 2: The Evaluation of the Factors Affecting Routine to Research (R2R) Production of Supporting Staff at Mahidol University International College

Table 7

Descriptive for Overall the Components of the Research Productivity (R2R) Among Support Staff at Mahidol University International College

Factors	$\bar{x}$	S.D.	Level
Internal factors	3.74	0.62	high
External factors	3.63	0.68	high
Average	3.68	0.60	high

According to Table 7, the overall result shows that the research productivity (R2R) among support staff at Mahidol University International College was high level (mean = 3.68, S.D. = 0.60). Internal factors obtained the highest mean score (mean = 3.74, S.D. = 0.62) followed by external factors (mean = 3.63, S.D. = 0.68).

Table 8

Descriptive for the Routine to Research (R2R) Production Among Support Staff at Mahidol University International College in Term of Internal Factors

Factors	$\bar{X}$	S.D.	Level
I think that producing routine to research (R2R) is an interesting task.	3.95	0.88	high
I think that producing routine to research (R2R) is a challenging task.	4.08	0.93	high
I think that producing routine to research (R2R) is an important task	3.64	0.96	high
I think that producing routine to research (R2R) is a necessary task.	3.33	1.00	moderate
I think that producing routine to research (R2R) is a way to use personal knowledge and abilities.	3.98	0.89	high
I think that producing routine to research (R2R) takes time.	4.57	0.69	highest
I think that producing routine to research (R2R) requires initiative and creativity.	4.23	0.80	highest
I think that producing routine to research (R2R) is admirable and pleasing.	4.10	0.89	high
I think that producing routine to research (R2R) is commendable and respectable.	3.90	0.96	high
I think that I have sufficient knowledge and understanding to produce routine to research (R2R).	3.15	0.91	moderate
I think that I am ready to produce routine to research (R2R).	2.80	0.98	moderate
I think that I have enough resources if needed for producing routine to research (R2R).	3.15	1.08	moderate
Average	3.74	0.62	high

According to Table 8, the overall results show that the level of routine to research (R2R) production among support staff at Mahidol University International College, in terms of internal factors, was high (mean = 3.74, S.D. = 0.62).

When considering each item individually, the statement ‘I think that producing routine to research (R2R) takes time’ received the highest mean score (mean = 4.57), followed by ‘I think that producing routine to research (R2R) requires initiative and creativity’ (mean = 4.23). However, the lowest-rated item was ‘I think that I am ready to produce routine to research (R2R)’ (mean = 2.80).

Table 9

Descriptive for the Routine to Research (R2R) Production Among Support Staff at Mahidol University International College in Term of External Factors

Factors	$\bar{X}$	S.D.	Level
I think that producing routine to research (R2R) is a professional advancement.	4.15	0.93	high
I think that producing routine to research (R2R) is job security.	3.45	1.23	high
I think that producing routine to research (R2R) is an opportunity for salary advancement.	3.71	1.12	high
I think that producing routine to research (R2R) is an opportunity for promotion.	3.53	1.17	high
I think that the regular tasks I am responsible for have interesting topics for routine to research (R2R) production.	3.72	0.98	high
I think that the regular tasks I am responsible for have beneficial topics for routine to research (R2R) production.	3.83	0.93	high
I think that producing routine to research (R2R) should be assigned by a supervisor.	2.48	1.21	low
I think that producing routine to research (R2R) should come from the policies or strategies of the organization.	2.82	1.26	moderate
I think that the organization should provide funding for routine to research (R2R) production.	4.01	0.98	high
I think that the organization should organize activities to provide knowledge for producing routine to research (R2R).	4.00	0.92	high
I think that the organization should create an environment that promotes routine to research (R2R) production.	4.05	1.02	high
Average	3.63	0.68	high

According to Table 9, the overall results show that the level of routine to research (R2R) production among support staff at Mahidol University International College, in terms of external factors, was high (mean = 3.63, S.D. = 0.68).

When considering each item individually, the statement “I think that producing routine to research (R2R) is a professional advancement” received the highest mean score (mean = 4.15), followed by “I think that the organization should create an environment that promotes routine to research (R2R) production” (mean = 4.05). Conversely, the lowest-rated item was “I think that producing routine to research (R2R) should be assigned by a supervisor” (mean = 2.48).

Part 3: Hypothesis Test Results

Hypothesis 1: The support staff who differ in age has a different factor that affect the production of routine to research (R2R).

Table 10

One-Way Anova Between the Age and the Routine to Research (R2R) Production Among Support Staff at Mahidol University International College

Factors	Age	Sum of Squares	df	Mean Square	F	Sig.
Internal factors	Between Groups	1.323	3	.441	1.134	.338
	Within Groups	47.037	121	.389		
	Total	48.360	124			
External factors	Between Groups	2.208	3	.736	1.571	.200
	Within Groups	56.675	121	.468		
	Total	58.883	124			
Routine to research (R2R) production	Between Groups	.963	3	.321	.881	.453
	Within Groups	44.069	121	.364		
	Total	45.032	124			

*Significant at level 0.05

Table 10 shows that there is no statistically significant difference at the 0.05 level in overall of routine to research (R2R) production and internal factors and external factors among supporting staff from different age at Mahidol University International College.

Hypothesis 2: The support staff who differ in educational level has a different factor that affect the production of routine to research (R2R).

Table 11

One-Way Anova Between the Educational Level and the Routine to Research (R2R) Production Among Support Staff at Mahidol University International College

Factors	Educational level	Sum of Squares	df	Mean Square	F	Sig.
Internal factors	Between Groups	3.958	2	1.979	5.557	.005*
	Within Groups	42.730	120	.356		
	Total	46.688	122			
External factors	Between Groups	2.716	2	1.358	2.956	.056
	Within Groups	55.127	120	.459		
	Total	57.843	122			
Routine to research (R2R) production	Between Groups	3.254	2	1.627	4.824	.010*
	Within Groups	40.479	120	.337		
	Total	43.733	122			

*Significant at level 0.05

Table 11 indicates a significant difference at the 0.05 level in the overall of routine to research (R2R) production among supporting staff with varying educational levels at Mahidol University International College. When examining the specific dimensions, a significant difference was found at the 0.05 level in the internal factors dimension, but not in the external factors dimension.

Hypothesis 3: The support staff who differ in work experience has a different factor that affect the production of routine to research (R2R).

Table 12

One-Way Anova Between the Work Experience and the Routine to Research (R2R) Production Among Support Staff at Mahidol University International College

Factors	Work Experience	Sum of Squares	df	Mean Square	F	Sig.
Internal factors	Between Groups	1.444	2	.722	1.862	.160
	Within Groups	46.911	121	.388		
	Total	48.355	123			
External factors	Between Groups	.055	2	.027	.056	.945
	Within Groups	58.744	121	.485		
	Total	58.799	123			
Routine to research (R2R) production	Between Groups	.342	2	.171	.463	.630
	Within Groups	44.657	121	.369		
	Total	44.999	123			

*Significant at level 0.05

Table 12 shows that there is no statistically significant difference at the 0.05 level in overall of routine to research (R2R) production and internal factors and external factors among supporting staff from different work experience at Mahidol University International College.

Part 4: Open-Ended Questions

The open-ended questions asking the opinion towards the production of routine to research (R2R) used content analysis to summarize the answers from the 93 respondents. The results showed as follows:

Most of the respondents agreed with doing routine to research (R2R) is beneficial as it helps improve regular work and enhances work efficiency. It helps develop knowledge and expertise in the tasks performed, promotes career growth, and professional development. It provides an opportunity to learn and innovate new approaches to improve work, as well as contributes to organizational development and process improvements.

However, there are limitations and challenges in doing routine to research (R2R) due to the time it requires, which can lead to fatigue and discouragement, as it must be done outside of regular working hours. The research process is complex and complicated, which makes some people feel discouraged.

Another issue is the lack of continuous support from the organization. There is a shortage of guidance and mentoring, as well as insufficient support from supervisors and colleagues in the research process. Supervisors may not prioritize research, seeing it as a personal matter. There is also a lack of mentors or experienced individuals to provide advice and assistance. It is challenging to find experts who can help review research work. Furthermore, there are limitations related to regulations and processes.

The current R2R procedures and frameworks are considered overly complex, and regulations may hinder research production. The process of obtaining IRB approval is complicated and time-consuming, involving extensive paperwork and requiring considerable time and information.

Personal issues related to the mindset and the initiation of research are also challenges. These include a lack of inspiration and interest in starting routine to research (R2R) projects. There is also a lack of understanding of the research process itself. Research topics need to be current, interesting, and relevant to present-day issues to inspire motivation.

Discussion

From the results, the researcher found that support staff at Mahidol University International College, shared common views on the factors influencing the production of routine to research (R2R) production, both internal and external factors, with an average level considered high. This shows that both individual factors and environmental factors have a significant impact on the production of routine to research (R2R).

Support staff at Mahidol University International College, believe that conducting routine to research (R2R) requires time, which may be due to their regular work responsibilities and duties, making it difficult to allocate time properly. This is in line with the research by Boonkum and Sukasathit (2023), which studied the needs, motivations, obstacles, and support for the development of routine work into research (R2R). Their study found that most staff wanted to do R2R but were unable to manage their time effectively due to heavy work and family responsibilities.

At the same time, support staff at the Mahidol University International College, feel they are not yet fully prepared to produce routine to research (R2R). This may be due to factors such as skills, knowledge, experience, work environment, and the guidelines they need to follow. These factors lead to feelings of the research process being complicated, which affects their motivation to start. Similarly, the research by Prawichaya Nutthakornkul and Jaruk Nutthakornkul (2016) on the factors affecting barriers to research method of social technology faculty teachers of Rajamangala University of Technology, Isan, found that the research process was influenced by a lack of research experience, the inability to find suitable tools, and a lack of understanding of the research steps, including the difficulty of finding the required documents.

Furthermore, support staff at the Mahidol University International College, recognize that producing routine to research (R2R) is a step forward in their professional development. This indicates that producing routine to research (R2R) is viewed positively as it improves regular work processes, which can then lead to career advancement, including academic positions and higher compensation. The institution should foster an environment that encourages routine to research (R2R) production by supporting the organization of training and seminars related to research methods, as well as providing sufficient time and resources to make it easier for staff to carry out their research. This aligns with the study by Ruen-saeng and Sakkornsuk (2016), which examined the challenges, obstacles, and promotion strategies for research projects at Thammasat Chaloem Phra Kiat Hospital. They recommended promoting the establishment of research mentorship systems for new researchers and continuous training and seminars.

Conclusion

The support staff at Mahidol University International College shared common views on both internal and external factors influencing the production of routine to research (R2R), with the average level of agreement considered high. This indicates that both individual and

environmental factors significantly impact the production of routine to research (R2R). While considering each factor in detail, an interesting issue is that the staff feels they do not have sufficient knowledge and understanding to produce routine to research (R2R).

Furthermore, the hypothesis suggests that educational level affects internal factors, indicating that the support staff may not be ready to engage in routine to research (R2R) due to limitations in their educational background.

Therefore, the college should prioritize organizing activities such as training sessions and seminars that provide knowledge on producing routine to research (R2R). Additionally, creating networks to assist and provide consultation on research work that is easily accessible will allow the staff to receive information quickly and efficiently.

Acknowledgements

The author would like to sincerely thank Mahidol University International College for the opportunity and support to conduct this research.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The author confirms that ChatGPT (OpenAI) was the only AI tool used, and solely for language editing purposes. It was not used for any other purposes. All intellectual contributions represent my original work as the author.

References

- Berdie, D. R., Anderson, J. F., & Niebuhr, M. A. (1986). *Questionnaires: Design and use*. Scarecrow Press.
- Boonkum, P., & Sukasathit, P. (2023). Khwām ṭxngkār ræng cūngcī xupṣṛrkḥ læa kār ṣṇāḃṣṇun kār phat'hnā ngān wicāy bæb R2R: Kṛṇī ṣṭkṣ'ā ṣṭhāḃanwicāy prachākr læa ṣāngkhm mḥāwithyālay mḥidl [Needs, motivation, obstacles, and support for developing routine work to research (R2R): A case study of the Population and Social Research Institute, Mahidol University]. *Academic Journal of Pakhomath*, 12(2), 67–80.
- Chaikongkiat, P., & Kumkong, M. (2017). Kār wicāy tām pkti: Kār khāp khelṭxn kār chí prayochṇ [Routine to Research: Driving to Utilization]. *The Southern College Network Journal of Nursing and Public Health*, 4(3), 250–270.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1957). *Job attitude: Review of research and opinion*. Psychological Service of Pittsburgh.
- Kecharanan, N. (2006). *Kār cādkār thrāphyākr bukhkhl* [Human Resource Management]. C.E.D. Education.
- Mahidol University, International College. (2024). Publication data. <https://muic.mahidol.ac.th/thai/about-2/history>
- Nahtakornkul, P., & Nahtakornkul, J. (2013). Thī pēn mātrḥān ṭx withī kār wicāy kḥxng khrū xācāry khṇa thekhnoloyī ṣāngkhm mḥāwithyālay thekhnoloyī rāch mngkhl xīsān [The Factors Affecting Barriers to Research Method of Social Technology Faculty Teachers of Rajamangala University of Technology, Isan]. *Phetchabun Rajabhat Journal*, 18(1), 1–15.
- Nuangchalerm, P. (2015). Kār phat'hnā ngān pracā hī pēn ngān wicāy [Routine to Research]. *Sarakham Journal*, 6(1), 32–38.
- Pimolsiri, S. (2012). Pācāy khwām kāwḥṇā nī xāchīph thī keiywḥxng kḥ kār mī ṣṇn ṛwm kḥxng phṇāngān nī brīs'āth [Career advancement factors related to employee engagement in a private company] (Master's thesis). Srinakharinwirot University.
- Ruen-saeng, N., & Sakkornsuk, W. (2016). Pācāy khwām kāwḥṇā nī xāchīph thī keiywḥxng kḥ kār mī ṣṇn ṛwm kḥxng phṇāngān nī xngkḥkr payḥā xupṣṛrkḥ læa nāwṭhāng kār ṣṇg ṣerim kār dānein ngān khorngkār wicāy kḥxng phūṛāb thun rong phyābāl ṭhrmṣāstrī ḥelimplrakeīrti [Problems, obstacles, and promotion strategies for research projects of the grant recipients at Thammasat Hospital]. *Vajira Journal of Research and Development in the Royal Court*, 11(3), 207–218.
- Wonganutroj, P. (1992). *Citwithyā kār cādkār thrāphyākr bukhkhl* [Psychology of personnel management]. Pimdee Publishing.

Contact email: sasithon.pan@mahidol.ac.th