

学位論文の要旨 (論文の内容の要旨)  
Summary of the Dissertation (Summary of Dissertation Contents)

論 文 題 目  
Dissertation title:

A Study on the Relationship between Research Ability and Mindset of Cambodian Faculty Members and  
Their Research Outputs: A Perspective from Fifteen Higher Education Institutions

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**Introduction:** This study sought to examine trends and correlates of research outputs of Cambodian faculty members. It pursued this main purpose by embracing a mixed-methods perspective through three dimensions (i.e. external, institutional, and individual dimension) of research environment of Cambodian higher education sector. Both the mixed-methods analyses and the multi-dimensional framework are comprehensive and pragmatic approaches to understanding educational phenomena. This study could possibly attain both practical and conceptual merits as it tried to offer a right-timing response to the currently increased attempts of Cambodian government and its higher education institutions to promote research culture and capacity and to the challenges they have been facing, while also fulfilling some empirical gaps of previous local literature on the topic of research output production. The precise missions of this dissertation were to answer four related research questions:

- *Research question 1:* How productive are Cambodian faculty members in terms of research outputs during their service at their current higher education institutions?
- *Research question 2:* How experienced, competent, attitudinally oriented, and motivated are Cambodian faculty members towards research activities and production?
- *Research question 3:* How supportive is research environment (i.e. institutional environment and external environment) in Cambodian current higher education context? and
- *Research question 4:* What factors (of external, institutional, and individual dimensions) explain research outputs produced by Cambodian faculty members in their current higher education context?

**Methods:** The use of mixed-methods approach meant that data for analyses of these four research questions were of two main types. First, *qualitative interview data* were collected from 50 key informants – i.e. 5 policy makers, 11 university or research unit leaders, 31 faculty members, and 3 external stakeholders. Analyses of the qualitative interview data basically comprised the *thematic analysis method*, using three levels of coding that aimed to generate common themes for each research question. The second portion of data was *quantitative survey data* set based on self-reported questionnaire's responses of 483 faculty members from 15 higher education institutions in the country. The quantitative analysis measured statistical trends of research outputs, research orientation, and research environment; explored patterns of relationship between these key constructs and respondents' demographic traits; and finally employed *zero-inflated negative binomial regression models* to

identify (among the research orientation and research environment predictor variables) the direct and moderated correlates/determinants of research outputs of Cambodian faculty members. Each of the four research questions was systematically addressed, using both these quantitative and qualitative accounts.

**Key findings:** The study concluded:

- that, in the midst of their increased awareness about research role of an academic and the research function of higher education institutions, the number of *Cambodian researchers and their research outputs have still been limited*
- that *individuals' research ability (i.e. research production competence and research experience) and their research mindsets* were explanatory of the variation and production of research outputs among Cambodian faculty members, and
- that *three major challenges* (with regards to *academic culture, research institutionalization, and research resources*) have been utterly experienced by Cambodian faculty members and higher education institutions despite increased research promoting mechanisms.

**Discussions:**

**Limited researchers and research outputs:** Previous local literature generally presumed low research activities and capacity of Cambodian higher education institutions. The current study reached a similar conclusion but offered some objective indications to attest such claims. From the quantitative analyses, some detected negative trends of the research output production in Cambodian higher education sector included: having limited number of research-engaged faculty members (for example, only 7.87 percent of survey respondents reporting “published journal articles with international publishers” during their services); producing a low average of composite research output score (i.e. producing around 3.24 outputs (SD = 6.67) during their services at their current institution); producing fewer international research outputs (about 34 percent of the total 1,565 outputs reported in this study); and having more research activities and outputs engaged or produced by only faculty members from certain fields and particular institutions. The study’s qualitative data further accentuated the dependency of research funding and the inadequate relevance of existing research activities and outputs. Around sixty to seventy percent of the fifty interviewees claimed that existing research activities were more donors-driven (either through consultancy or collaborative projects) and less purely academic and/or scientific research works. Previous studies on research culture and capacity of developing countries generally highlighted these limited, niched, and dependent tendency of research activities and research outputs – especially, in terms of finance, infrastructure, and human resources.

**Research outputs as a function of research ability and mindset:** Despite low, research outputs of some kinds have obviously been produced by Cambodian faculty members. The main question that most relevant local literature has not addressed is what drives those research-engaged Cambodian faculty members to produce their research outputs. This current study quantitatively and qualitatively explored this particular question and detected that their research ability (i.e. having strong research production competence and having high research experience) and their practical research mindset (i.e. seeing research as a growth opportunity and showing cognitive and behavioral orientation and perseverance to be advanced in an academic area) are key determinants that both differentiated Cambodian research-productive faculty members from research-unengaged ones and explained why some of them produced more research outputs.

- **Research ability:** Statistical analyses suggested that a one-unit increase in research production competence generated an expected increase of research outputs by a factor of 1.55 (i.e. 55 percent change); a one-unit increase in research experience generated an expected positive change by a factor of 1.47 (or a 47-percent change) in research outputs. Likewise, the study identified a clear huge gap in terms of research production competence and research experience between faculty members who

reported high research output production and those who produced fewer or did not produce research outputs at all. That is to say, 71.22 percent of the faculty members with high research production competence reported at least one research output, compared to only 28.78 percent of those with low research production competence, and 62.93 percent of faculty members with high research experience reported at least one research output, compared to only 37.07 percent of the low-research-experience ones. In the qualitative analysis, more than 90 percent of the interviewees emphasized that having research ability is a key criterion for them and other faculty members to engage in research projects at their current institutions. Certain theoretical concepts from literature in the area of research productivity – such as the concepts of research self-efficacy and research training environment, the concept of cumulative advantages and reinforcement, and the importance of background knowledge – tend to support the current study’s findings. In practical terms, these findings implied that only the fittest faculty members can survive in the research world of Cambodian higher education sector whereby research resources and culture have been very limited and donors-dependent.

- **Research mindset:** A high percentage of the fifty interviewees (i.e. 84%) raised opinions that reflected the idea of practical research mindset as a main factor pushing research engagement and production. Faculty members who were productive in research outputs generally viewed research as an opportunity to grow and as something generative, whilst those who did not engage in research viewed research more as complicated works and less generative – especially, when research benefit was compared to that from teaching. Practical research mindset also involved the fact that faculty members showed cognitive orientation and experience towards research literacy and mastery in their particular areas. In many cases of the interview, research-active faculty members believed or showed that they are research-preferring, goal-oriented, hard-working, and disciplined as they thrive to reach the advanced or expert level in their fields. In the bivariate quantitative analysis, faculty members who produced at least one research output rated higher than their zero-research-output counterparts did in terms of emotional research orientation (a mean score of 4.16 vs 3.84) and behavioral research orientation (a mean score of 3.15 vs 2.67). Previous literature discussing the concepts of research orientation, academic self-understanding, and academic mindset offered some explanations on why this notion of practical research mindset may influence research output production in the Cambodian context. A local study on this topic also pointed to a similar idea of “virtue” as the reason for research engagement of some faculty members in one top-ranking university in Cambodia.

**Conclusions and implications:** After all, the main result of this study is the argument that Cambodian faculty members who have strong research ability and right research mindset are more research productive. There are two conceptual implications from these findings: first, individual research ability and mindset have to be cultivated to increase Cambodian academia’s research output production; and, second, research-capable human resources have to be retained and motivated to lead and transform the research function of Cambodian higher education institutions. Two action-oriented strategies can be considered from this study’s conceptual implications. First, it is the need to develop *differentiated research-based and researchers-led graduate education*. These graduate programs will produce the next generation of research-competent and research-minded academics to fulfill the big hierarchical gaps between the majority of teaching-oriented faculty members and the very limited number of research-productive academics. Second, it is the need to reform or establish *systemic research institutions* (such as research centers or centers of excellence or publication outlets) at least at certain Cambodian already research-inclined universities. These institutions have to be truly research-functional, managerially professional, disciplinarily specialized, with strong academic collegiality, and with independent and sustainable resources-creating and resources-managing mechanisms. The graduate education programs and the systemic research centers should be run by diversifying sources of research support from both academic and non-academic sectors and led by professionally research-capable academics. Handling these capable individuals properly may contribute to solving current higher-dimension problems of Cambodian research culture and capacity.

備考 論文の要旨はA 4 判用紙を使用し、4,000字以内とする。ただし、英文の場合は1,500語以内とする。

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