Self-Efficacy as a Determinant of Telemedicine Adoption in a Developing Country

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Abstract— **Existing literature has investigated the role of self-efficacy on the adoption of telemedicine. However, few studies explore the sources of self-efficacy. Enactive mastery, vicarious experience, and verbal persuasion have been proposed in this study. Moreover, the cultural differences may affect how individuals respond to the factors that influence their self-efficacy and adoption of telemedicine. This study expands the literature on self-efficacy's effect and on how to promote telemedicine in an emerging market.**

Keywords- self-efficacy; telemedicine; adoption; developing country.

I. INTRODUCTION

Self-efficacy has influenced the behavior of individuals to do or not to do something [1] [2]. In the past, several studies [3] [4] have attempted to investigate the role of psychological factors on adopting of technology in healthcare industry. Many studies [5] - [7] agree that self-efficacy is a major factor that influences the use of telemedicine by an individual. In [1], the author defines self-efficacy as the expectations of individual efficacy which determine initiating behavior, how much effort will be dedicated, and how long he/she sustains the obstacle encountered. In [1] [8], the authors classify self-efficacy into three sources: enactive mastery, vicarious experience, and verbal persuasion.

Previous literature argues that individual beliefs such as self-efficacy causes individual action [9]. These studies mainly focus on enacting mastery, which is one source of self-efficacy. However, to the best of our knowledge, other sources of self-efficacy which are vicarious experience and verbal persuasion have been paid little attention to in previous literature.

Additionally, culture in developed countries and emerging countries is not the same [10]. Culture differences provide dissimilar reasons to adopt new products and services [11]. It is possible that the role of self-efficacy on the adoption of telemedicine may not the same in developed and emerging countries. In [6], the authors argue that many literature works examine factors that effect telemedicine adoption in developed or Western countries. A few literature works such as [7] investigate the impact of self-efficacy on telemedicine adoption in emerging country. To enhance the understanding of self-efficacy in emerging countries, this study investigates the effect of elements (enactive mastery, vicarious experience, and verbal persuasion) of self-efficacy on the adoption of telemedicine.

The rest of the paper is structured as follows. The theoretical foundation is explained in Section 2. We present our methodology in Section 3 and discussion in Section 4. Section 5 concludes the paper.

II. THEORETICAL FOUNDATION

A. Self-efficacy

Self-efficacy theory is proposed by [1], which it is defined as the expectations of individual efficacy which determine initiating behavior, how much effort will be dedicated, and how long he/she sustains the obstacle encountered. In [1] [8], they suggest that there are three sources of self-efficacy: enactive mastery, vicarious experience, and verbal persuasion. Enactive mastery refers to the degree of recognition of individuals to their ability to success on tasks [8]. Vicarious experience is defined as individuals perceive behavior of others (e.g., friends, family, influencers, and role models), observe what they are able to do, evaluate the outcome of their behavior, and use this information to be a guideline for doing

something [2] [12]. Lastly, verbal persuasion is individuals who are convinced by people that have ability to success in a specific task [13].

After [1] formulated self-efficacy theory, this theory is applied into various areas which one application area is telemedicine adoption [7]. In [5], the author suggests that social cognitive factor such as self-efficacy is strongly related to healthcare app adoption. Individuals who have high self-efficacy tend to recognize their ability to use telemedicine, observe how to use telemedicine from others, and follow the suggestion from influencing people.

B. Cultural Difference in Technology Adoption

Cultural differences provide different norms, beliefs, attitudes and behavior of individuals in each society such as individualism vs collectivism, uncertainty avoidance, and long term versus short term orientation [10]. Existing literature investigates the impact of self-efficacy on telemedicine adoption in Western context. However, norms of Western and Eastern countries are not the same. Different norms reflect on attitude and behavior of individuals which may lead to the rate of technology adoption [14]. In collectivism, low uncertainty avoidance and long-term orientation, the impact of imitation among individuals in society dominate to technology adoption [14].

C. The impact of self-efficacy on telemedicine adoption

Although there are many literature works explaining the impact of self-efficacy on telemedicine adoption, these studies focus on enactive mastery dimension. Other dimensions of self-efficacy which are vicarious experience and verbal persuasion lacks of examination in telemedicine context. This study proposes the impact of three dimensions of self-efficacy on telemedicine adoption. A conceptual framework of this study is shown in Figure 1.
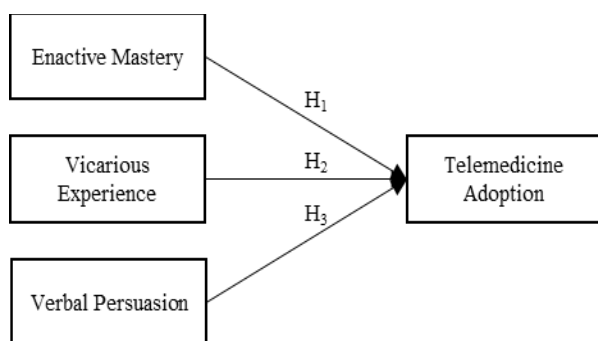

Figure 1. A conceptual framework

We propose the three sources of self-efficacy that have impacted on the telemedicine adoption which are enactive mastery, vicarious experience, and verbal persuasion as follow:

H₁: Enactive mastery has a positive impact on telemedicine adoption

H₂: Vicarious experience has a positive impact on telemedicine adoption

H₃: Verbal persuasion has a positive impact on telemedicine adoption

III. METHODOLOGY

The population of this study comprises individuals in Thailand who have experience with medical services. Many Thais have developed proficiency in using digital technology such as mobile phone and APP, particularly government support during COVID-19 pandemic crisis. We collect the data using a structured questionnaire. For data analysis and hypothesis testing, we conduct structural equation modeling with a two-step approach. Additionally, descriptive statistics are reported.

IV. DISCUSSION

Self-efficacy is a key psychological factor that can increase the adoption rate of telemedicine. This study identifies three sources of self-efficacy: enactive mastery, vicarious experience, and verbal persuasion. These sources can be used by stakeholders (e.g., policy makers, hospital industry, and academicians) to promote the adoption of telemedicine through psychological interventions. For example, we can motivate individuals to recognize their ability to use telemedicine, we can use groups as role models for individuals to follow, and we can use social influence to convey the value of telemedicine.

V. CONCLUSION

While this study sheds light on the role of self-efficacy in adopting telemedicine, it is essential to consider other critical factors in the future. These factors include technological readiness and psychological barriers related to new technology. Moreover, variations between Eastern and Western countries may impact telemedicine adoption rates. Understanding these dynamics can guide policymakers in designing effective strategies to promote telemedicine adoption, particularly in developing countries. By fostering telemedicine adoption, we aim to enhance the quality of life for people in these regions.

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