TITLE	THE DEVELOPMENT OF CYBER RESILIENT CAPABILITY MATURITY MODEL OF DIGITAL SUPPLY CHAINS FOR MANAGING THE DIGITAL BUSINESS CONTINUITY IN SMALL AND MEDIUM-SIZED ENTERPRISES
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ABSTRACT

The purposes of this research are to 1) study factors affecting the cyber resilience in digital supply chain and affecting of cyber resilience toward the digital business continuity management 2) develop the cyber resilient of digital supply chain model for managing the digital business continuity 3) develop the cyber resilient capability maturity model of digital supply chains for managing the digital business continuity 4) assess the cyber resilient capability maturity model of digital supply chains for managing the digital business continuity and 5) develop the cyber resilient capability maturity model assessment system of digital supply chains for managing the digital business continuity.

This research is divided into 2 main parts. The first part is the quantitative research. In this part, the researcher is to study factors affecting the cyber resilience in digital supply chain and analyze the casual model of factors that affecting the cyber resilience in digital supply chain.

The research is carry out by the quantitative research methods with sample of 400 from 3,077,822 of small and medium-sized enterprises (SMEs) in Thailand. The researcher collected data using questionnaire and distributed 5 questionnaires per SME. The questionnaires were returned to the response rate at 93.20%. Data was analyzed by Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM). The second part is the qualitative research. In this part, the researcher is to develop the cyber resilient capability maturity model of digital supply chains for managing the digital business continuity and the assessment system. The in-depth interview and assess the system have conducted with experts and luminaries from 4 groups including 4 experts from cybersecurity, 4 experts from capability maturity model, 5 experts from digital technology and 4 experts from logistics and supply chain with 17 experts in totally. Then, the appropriateness and consistency of cyber resilient capability maturity model indicators, capability maturity level and assessment criteria are confirmed by conducting the content analysis and focus group methodology.

The research found that for the factors affecting the cyber resilience of digital supply chain and digital business continuity management 1) digital supply chain collaboration, cyber threat management of digital supply chain and digital supply chain risk management have a positive influence on cyber resilience of digital supply chain and have a indirect influence to digital business continuity management through the cyber resilience of digital supply chain 2) digital supply chain collaboration and cyber threat management of digital supply chain have a positive influence on digital supply chain risk management and 3) cyber resilience of digital supply chain has a positive influence on digital business continuity management.

However, the research has discovered 6 functions of the cyber resilient of digital supply chains for managing the digital business continuity : indentify, protect, detect, respond, recover and continuity with 32 categories 142 indicators. By using the results of this finding to develop the cyber resilient of digital supply chain model for managing the digital business continuity with the appropriateness and acceptance level of cyber resilient capability maturity model of digital supply chain for managing the digital business continuity by conducting the content analysis and focus group methodology. The result showed that both appropriateness and acceptance level of cyber resilient capability maturity model of digital supply chain for managing the digital business continuity are strongly.

The researcher has adopted the measure as a maturity model for cyber resilient capability maturity model of digital supply chain for managing the digital business continuity in small and medium-sized enterprises. The cyber resilient capability maturity model is presented into two parts: 1) the generic characteristics of the five maturity levels : initial, repeatable, defined, managed, and optimizing and 2) the indicators provided in each maturity level. The researcher has also developed the capability maturity model assessment system for evaluating the level of cyber resilient capability maturity model of digital supply chain for managing the digital business continuity in order to demonstrate the formal application for using cyber resilient of digital supply chain in actual practice.