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**DBA Dissertation Defense**

Entitled

A FRAMEWORK FOR THE EVALUATION OF CYBER-SECURITY EFFECTIVENESS OF ABU DHABI  
GOVERNMENT ENTITIES

by

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Abstract

Cyberspace has become one of the new frontiers for countries to demonstrate their power to survive in the new digitized world. It is also increasingly becoming a strategic area of concern for many countries due the threats launched against the security systems of countries. Cyber threats and attacks on government departments are increasing globally and studies reveal that most of the widespread attacks globally are by individuals or various hacking groups for personal gains. In the Middle East, the UAE government has become a major target for cyber conflicts recently due to the rapid increase in economic activity, tourism and technology, and the rise of oil and gas sector. The widespread use of internet in the region to the tune of 88% by the end of 2014 has exposed the critical infrastructure to all forms of cyber threats. However, empirical information to contain the problem is limited in the region. In this dissertation, we present a detailed study of the existing cyber security defences globally and in Abu Dhabi government departments and conduct a detailed investigation into the factors that influence effectiveness of cyber security defences in government departments. We discuss the role of cyber security education, training and awareness in enhancing effectiveness of cyber security and investigate the part played by senior management in providing strategic direction to government departments for managing cyber and information security vulnerabilities. Study results show that management has the responsibility of putting in place the strategies, frameworks and policies that respond appropriately to the prevention, detection and mitigation of cyber-attacks. The three cornerstones of information security identified in this research are Critical Infrastructure, Organization and Technology. The management needs to put all these in place with effective support and participation from senior management of all government departments. The study results also show that culture sensitive training and awareness programmes add to the quality and effectiveness of cyber security systems in government departments. The study further investigates the relationship between experience of employees in government departments and cyber security effectiveness and observes that qualified and experienced personnel in government departments show greater understanding of cyber and information security issues. Finally, based on insights derived from the literature review and the findings of the study, we propose a hybrid-type cyber security framework and provide a checklist, with checkpoints, for strategic management of cyber security systems within government departments. The areas for future research interventions are also identified

**Keywords:** strategic management, cyber security systems, Abu Dhabi government, critical infrastructure, cyber threats