

**DEPARTMENT OF BUILDING SURVEYING  
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UNIVERSITY OF TECHNOLOGY MARA (UITM)**

**THE PERFORMANCE OF AIR CONDITIONING SYSTEMS IN  
RELATION TO BUILDING AUTOMATION SYSTEM (BAS)**

**This dissertation submitted in partial fulfillment of the  
requirements for honoring of the Bachelor of Building  
Surveying (Honours)**

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**NOVEMBER 2006**

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DISSERTATION BSV 695

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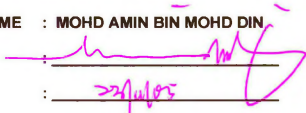
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## **ABSTRACT**

This dissertation looks at the performance of air conditioning systems in relation to building automation system (BAS). BAS has become powerful and effective tools for the owner of buildings. They help to resolve problems quickly, reduce energy use, improve system performance, increase occupant comfort and safety and help manage maintenance costs. The integration of the air conditioning systems with BAS supports the services provided resulting better performance to the system especially on the operation and maintenance aspects.

The main aim this dissertation is to determine the performance of incorporating air conditioning system within building automation system. The other objectives are to identify the suitability in the aspects energy consumption and maintenance cost of air conditioning system in the BAS and to identify the monitoring and controlling system of the air conditioning in relation with the building automation system.

Five commercial and office buildings around Klang Valley were surveyed. This was supported by personnel interviews with the management personnel and observation made within the vicinity of the buildings concerned.

A set of questionnaires was prepared and distributed to respondents to enquire relating the performance of air conditioning and building automation system.

The survey reveals that the maintenance aspect of energy saving, operation and service control influenced significantly on the air conditioning performance in the buildings. Those buildings which employed the building automation system performed better especially in the air conditioning system such as greater efficiency, lower power consumption, longer useful life of components, greater productivity and fast reaction to the breakdown.