



**MULTITECH  
BUSINESS SCHOOL**

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**REGISTRATION NUMBER: 2021/bu/5581**

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**SECTION-1: PROJECT BACKGROUND AND  
JUSTIFICATION**

**1.1 Problem**

The increasing sophistication of cyber threats necessitates the development of an effective Intrusion Detection System (IDS) to enhance network security. Unauthorized access, malicious activities, and potential vulnerabilities pose significant risks to organizational information systems.

**1.2 Analysis and Justification**

An in-depth analysis reveals the need for a tailored IDS to detect and respond to evolving cyber threats. This project aligns with the National Development Plan's objective of strengthening cybersecurity measures and contributes to the broader goal of securing critical digital infrastructure.

**1.3 Stakeholder Analysis and Partnerships**

Stakeholder analysis identifies Kakembo Daniel as the main contributor, collaborating with the academic institution, industry experts, and potential end-users. Roles are defined for each entity, ensuring a collaborative approach for project success.

**1.4 Overall Objective**

The project aims to contribute to enhancing national cybersecurity measures by designing and developing an advanced Intrusion Detection System tailored to the specific needs of organizations.

**1.5 Objectives Analysis**

The objective hierarchy, represented by an Objective Tree, highlights the cause-effect logic. Objectives include investigating existing security measures, designing a tailored IDS, implementing and testing the system, and evaluating its Effectiveness.

## **SECTION-2**

### **PROJECT DESCRIPTION**

#### **2.1 Project Specific Objective**

The project aims to design, develop, and implement an Intrusion Detection System for Network Security, ensuring real-time monitoring, anomaly detection, and efficient response capabilities.

#### **2.2 Performance Indicators**

Performance indicators include real-time monitoring efficiency, anomaly detection accuracy, successful system implementation, and positive evaluation results. Baseline, target, and timeframe are clearly defined.

#### **2.3 Project Logical Framework Matrix (LFM)**

The Logical Framework Matrix (LFM), provided below, outlines project activities, inputs, outputs, outcomes, and indicators, ensuring a systematic approach to project management.

##### **1. Activities:**

1. Designing the Intrusion Detection System (IDS)
2. Developing the IDS software
3. Testing the IDS implementation
4. Evaluating the effectiveness of the IDS

##### **2. Inputs:**

1. Skilled personnel in network security
2. Hardware and software resources
3. Data for testing and evaluation

##### **Outputs:**

1. Completed design documents
2. Developed and tested IDS software

##### **4. Outcomes:**

1. Improved network security
2. Enhanced ability to detect and respond to cyber threats

##### **5. Indicators:**

1. Percentage increase in network security effectiveness
2. Number of detected and mitigated cyber threats

#### **3. Conclusion**

Addressing the identified gap in network security through the advanced IDS design and implementation aligns with national cybersecurity objectives and the organization's broader mission. The successful completion promises to fortify organizational cybersecurity and act as a catalyst for future research and innovation in the field.

**Kakembo Daniel**

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