



**BUSITEMA  
UNIVERSITY**  
*Pursuing Excellence*

**FACULTY OF ENGINEERING**

**DEPARTMENT OF TEXTILE AND GINNING ENGINEERING**

**EXTRACTION OF NONWOVEN FABRICS FROM COMBER NOIL**

**BY**

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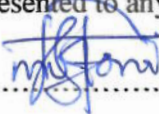
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**MAY 2016**

I MUTONI MARGARET Registration Number BU/UG/2012/152 hereby declare that this project report is my original work except where explicit citation has been made and it has not been presented to any institution of higher learning for any academic award

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**APPROVAL**

This is to certify that the project proposal under the title “PRODUCTION OF NON-WOVEN FABRICS FROM COMBER NOIL” has been done under my supervision and is now ready for examination.

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## **LIST OF ACRONYMS**

NYTIL-Southern range Nyanza limited

ASTM – American Standards of testing materials

EDANA- European Disposables and Nonwoven Association

INDA – The Association of the Nonwoven Fabrics Industry

GSM – Grams per metre square

MIT – Manufacturing, Industrial and Textile

ISO – International Standards Organization

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## **ABSTRACT**

The main objective of the study was to analyse the production of non-woven fabric from comber noil. Generally, there are three main methods of fabric formation namely weaving, knitting and nonwoven method. The fabric formation through weaving and knitting methods requires

use of yarn to make a fabric. Weaving entails mechanical interlacing of two sets of yarns at right angles to one another in a designated order. It is the oldest and conventional method of forming fabric. In knitting; yarn is interlaced to form a fabric. The yarn can be a single set or two yarns. The project aims, non-woven fabrics were developed from the cotton comber noil and GSM, tensile strength and absorbance were determined. From the literature review, the developed nonwoven fabrics can be used as wipers.

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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Generally, there are three main methods of fabric formation namely weaving, knitting and nonwoven method. The fabric formation through weaving and knitting methods requires use of yarn to make a fabric. Weaving entails mechanical interlacing of two sets of yarns at right angles to one another in a designated order. It is the oldest and conventional method of forming fabric. In knitting, yarn is interloped to form a fabric. The yarn can be a single set or two yarns. [Xiang et al, 2008]

Nonwovens are a manufactured sheet, web or bat of directionally or randomly oriented fibres, bonded by mechanical and/or thermal and/or chemical means excluding paper or products which are woven, knitted, tufted stitch bonded incorporating binding yarns or filaments, or felted by wet milling, whether or not additionally needled.[Atul Dahiya et al, 2012]. They are not based on yarns and (with frequent exceptions) do not contain yarns. They are based on webs of individual fibers [Dahiya, Kamath et Hegde, 2003]. In non-woven, we have webs of fibres where fibres are not as rigidly bonded and to a large degree act as individuals. [Arthur Drelich, 1998]. The non-woven industry is one of the fastest growing industries in the world. It is rapidly developing a sophisticated and diverse market. It has been exhibiting an average growth of about 10% over the past twenty years. The technology in Non-woven industry has been improved significantly in nearly all available major manufacturing processes, including those of spun bond, melt blown, needle punched, spun laced, wet laid and dry laid fabrication. The most important point in rapid development and commercial acceptance of non wovens is the ability to produce materials of special properties in less time and at reasonable prices. [J.Lunenscholss et al 1982]. A large number of fibres are available in the market, but the Non wovens market is mainly dominated by three fibres, namely polyolefins, polyester, and rayon. These three fibre types make up substantial part of the overall Non-woven markets for fibres. [R.W.Mason, 1993].A major portion of the polyolefin and polyester fiber in the U.S market is consumed by the non wovens industry. In 1998, 57% of their polyolefin share was consumed by the non wovens industry and only 43% was consumed by all the other industries, in spite of the fact that polyolefins are the major raw products for the packaging industry. Even in the case of polyesters,

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