

# **A review of factors affecting demand planning in the CMT South African clothing industry**

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## **Abstract**

Poor sales forecasts in the SA clothing industry lead to inaccuracies and affect demand planning. This situation is exacerbated by the fact that the clothing industry consists of a large variety of clothing products which are difficult to categorise according to specifications. Furthermore, factors such as incorrect material scheduling, POS system errors, ever-changing fashion garments, clothing imports, and the global recession, all have an impact on the accuracy of demand planning in the clothing industry. These factors have led to clothing manufacturers realising the strategic importance of demand planning to prevent errors and losses.

A theoretical analytical review was conducted and the findings indicated that the factors listed above may result in errors in demand planning in the SA clothing industry.

The article is exploratory in nature as it explores the related literature on demand planning and demand planning management in the clothing industry, with a specific focus on the South African CMT clothing industry, as well as factors affecting demand planning in the South African clothing industry, with the aim of contributing to the improvement of demand planning practices in South Africa.

## **Key phrases**

*Clothing industry; CMT; demand planning; demand planning management; fabric suppliers, fashion designers; manufacturers and South Africa*

## **1. INTRODUCTION**

The practice of demand planning has been in existence for many years and its importance is well documented. In 1980, the food industry in the United States of America (US) came to realise the importance of demand planning and implemented the practice in their food production (Fisher, Hammond, Obermeyer & Raman 1994:86). General Motors lost

thousands of prospective clients in 1992 because the company failed to plan for the high demand for their products (Fisher *et al.* 1994:86). Bhardwaj and Fairhurst (2010:165) stated that until the end of the 1980s organisations were relying on their own experience and knowledge when planning for customer demands, as opposed to acknowledging customers' preferences. Global demand rivalry has forced organisations to become more flexible in their demand planning (Industrialunion.org 2017:2). The term 'demand planning' can be defined as an estimation of customer needs and other planning measures, in addition to actions that illustrate planning being done together with participants in the value chain (Rexhausen, Pibernik & Kaiser 2012:269). Even though organisations acknowledge the importance of demand planning, they still fail to address uncertainties regarding customers' requirements and demands (Material Issues Report 2014:8). De Villiers, Nieman and Niemann (2008:177) mentioned that demand planning is all about satisfying customer needs. Burt, Petcavage and Pinkerton (2012:331) asserted that this process involves forecasting and product monitoring and will ultimately lead to improved demand and supply of products and services in organisations. This is done in order to manage and reduce the total cost to the organisation and the total cost in the value chain process (Burt *et al.* 2012:331).

Demand planning is a component of supply chain management (SCM) which adds value to products in the minds of customers by providing products according to customer needs and preferences (Priem & Swink 2012:48). The supply chain process fails when customer needs are not realised (Raza & Kilbourne 2017:1). Demand planning plays an important role in the SA clothing industry (Chiromo, Nel & Sebele 2015), and as such, in 1994, centres were established in Johannesburg where various clothing styles are produced in order to satisfy customer demands (Oberhofer 2012:67). Demand planning in the South African (SA) clothing industry, specifically with regards to fashion clothing, is associated with the short life cycle of garments, unstable customer needs, and a great variety of fashion styles with various extensive lead times (Muhwati & Salisbury 2017:866). Hence, the fashion industry requires a flexible garment production scheduling process with a short planning horizon. In order to plan for clothing demand in the SA clothing industry, it is important to collaborate with SC partners (Cao, Scudder & Dickson 2017:92). Various departments and stakeholders of the clothing industry, which include the suppliers, should work together in producing the final product to meet the demand (Raza & Kilbourne 2017:2). For example, the SA clothing industry relies on information obtained from the point-of-sale (POS) system in planning for sales operations and customer demands (Muhwati & Salisbury 2017:871), even though sales information shared between clothing retailers and manufacturers through the POS system might not always be accurate (Matsoma & Ambe 2016:196). Raza and Kilbourne

(2017:6) agree that the POS system may experience failures at times, although this generally emanates from human mistakes and technological challenges.

In spite of challenges emanating from the POS system, SA clothing manufacturers continue to rely on information obtained from it to assist in planning and implementing demand forecasting (Raza & Kilbourne 2017:2). In terms of garments, the POS system should record the size, shade and design of the garments, and keep a record of the sale and product in the system (Matsoma 2016:47). This will assist in preventing imbalances when planning for the demand for basic clothes (Matsoma 2016:47). The term 'basic clothes' refers to clothing items that are sold throughout the year, whereas fashion clothes are sold during specific times and over a short period (Williams 2015:18). Hence, Matsoma (2016:7) alluded that the POS is mainly applicable to basic clothing planning as it reflects the history of products that have been sold. In the process of satisfying customer demand, it is critical to note that there are various factors that impact on demand planning in the clothing industry in South Africa. These factors are, for example, the incorrect scheduling of clothing material, the constant changing of styles in fashion clothes, the incorrect use of the POS system, an influx of clothing imports, inaccurate forecasting of clothes, the recession as an unfavourable economic condition, and the late arrival of clothing material (Nattrass & Seekings 2012:17). This study aims to explore the related literature on factors affecting demand planning practices in the Cut, Trim and Make (CMT) sector of the SA clothing industry in an effort to make a contribution to the improvement of demand planning in the SA clothing industry. The sections that follow cover the literature review, research methodology and conclusion.

## **2. REVIEW OF DEMAND PLANNING**

The literature review presents a review of demand planning, and reviews the SA clothing industry, as well as discussing various factors affecting demand planning practices in the CMT sector of the SA clothing industry.

### **2.1 Demand planning management in the clothing industry**

According to Hugo and Badenhorst-Weiss (2011:17), demand planning involves the application of various activities in the management of the supply chain process. De Villiers *et al.* (2011:177) stated that demand planning is all about satisfying customer needs. Demand planning can, therefore, be seen as a process that involves customer demand management. The clothing industry realised the importance of demand planning in maintaining a competitive advantage (Muhwati & Salisbury 2017:867). This competitive advantage can be achieved when demand planning is properly implemented in an organisation and when

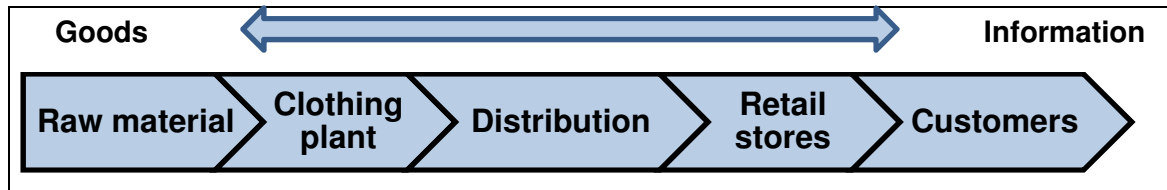
customers' requests are met on time (Matsoma & Ambe 2016:196). Furthermore, by improving demand planning activities organisations improve their production outputs and creates employment (Natrass & Seekings 2012:13). In SA, various types of natural and synthetic clothing fabrics are used to satisfy customer clothing demands (Barnes 2005:5). Natural fabrics such as cotton, silk, wool, linen, corn fibre, and various synthetic fabrics are used to produce clothing garments in order to meet customer demands (Fibre2Fashion.com 2017:1).

Demand planning in the SA clothing manufacturing industry improves when various partners in the clothing supply chain work together (GGDA 2014:2), and it is important to understand the supply chain of clothes to ensure efficient demand planning processes. The term 'supply chain' refers to an alignment of resources and processes, from the sourcing of raw materials up to the delivery of the final product to the end user (customer), it links all the partners involved in the process (Boateng 2016:533). In terms of the clothing industry, fabric suppliers, clothing manufacturers, clothing retail stores and the final customers form partners in the supply chain process (Matsoma 2016:21). The clothing supply chain requires collaborations between various partners to meet the customers' demands (Chiromo, Nel & Sebele 2015:1967). As such, collaboration is important in the SA clothing industry, and participants in the supply chain of clothes need to work together to improve the accuracy of clothing sales forecasting (Matsoma 2016:49).

The clothing supply chain shows how the demand and supply related to production materials is communicated through various channels in the clothing industry, and affirms that efficient communication is crucial in clothing manufacturing organisations (Chiromo, Nel & Sebele 2015:1967). According Chiromo, Nel and Sebele (2015:1967), the producers of clothes and clothing retailers should work together to meet customer demands.

The demand planning processes in the clothing industry include activities such as the design and production of fabrics, the manufacturing of materials into finished clothing products and the transfer of finished clothing garments to retailers (Media Club South Africa 2015:14). Figure 2 shows a supply chain structure within the clothing industry.

## **Figure 2: Supply chain structure**



Source: Isenheim (2006:4) and Thomassey (2010:478)

The clothing value chain presented in Figure 2 shows the manufacturing process of clothes and it also indicates the flow of the communication between supply chain partners. According to Isenheim (2006:4) and Thomassey (2010:478), the line of communication in the clothing supply chain begins with a backward integration, from when the customer demands clothing products to when the information reaches the supplier of materials used in clothing production. The process ends with a forward integration where the fabric suppliers respond to the demands of customers by supplying the requested materials. From here, the line of communication goes to the fabric manufacturing and the clothing production side and the final stage is reached when the clothing products are sent to retailers and from there to the end-user customers who purchase clothing garments in the retail clothing shops. The clothing value chain indicates the importance of demand planning in the clothing industry. Ramdass (2007:73) explains that the process of demand planning in the clothing industry involves supplying different kinds of clothing designs to various clients; this process includes the production of a variety of clothing types. Hence, demand planning is ultimately about synchronising demand and supply.

In order to efficiently implement demand planning activities, the tasks of employees need to be defined accurately and consistently, and employees are required to be skilled in cutting, trimming and sewing garments (Pather 2015:59). For this reason, the SA clothing industry needs to hire multi-skilled employees, because clothing manufacturing is a multi-tasked process which produces a variety of clothing in different categories and styles to satisfy a range of different customer demands (Nattrass & Seekings 2012:17; Williams 2015:57). Clothing categories such as jeans, shirts, skirts, knitwear and many others are produced in the SA clothing industry (Nattrass & Seekings 2012:18). Nattrass and Seekings (2012:17) elaborate further that SA clothing garment manufacturing is more complicated as the products are more detailed and require additional trimming.

### 3. REVIEW OF THE SOUTH AFRICAN CLOTHING INDUSTRY

The SA clothing industry forms part of the small, medium enterprises (SMEs) category. According to Navas-Aleman and Guerrero (2016:1), 95% of organisations globally are SMEs, and in developing countries SMEs contribute 80% to 90% of the total percentage of

employment. In SA, Cut Make and Trim (CMT) organisations make up 80% of the clothing industry population (Ramdass 2007:78). CMT manufacturers are responsible for cutting and trimming clothing fabrics and for making complete garments according to clients' requirements (Staritz & Morris 2013:9). The clothing industry of SA is spread over various provinces in SA. The majority of the clothing manufacturers are situated in the Western Cape, KwaZulu-Natal (KZN), the Free State and Gauteng (Vlok 2006:227). The SA clothing industry originally started in Cape Town and then spread to Johannesburg in the 1920s and 1930s (Natrass & Seekings 2012:2). According to Salm (2002:7), the SA clothing industry only started to increase in volume and product demand offering after World War II. The SA clothing industry consists of three key stakeholders who contribute towards the productivity and demand planning of the clothing industry, namely fabric suppliers, fashion designers and clothing manufacturers (Gauteng Growth and Development Agency (GDA) 2014:2, Oberhofer 2012:65, Staritz & Morris 2013:9). The key clothing industry stakeholders are briefly discussed below:

- ***Fabric suppliers***

Fabric suppliers in SA are the main contributors to the functioning of this industry, as the production of clothes starts with fabric production (South Africa.info 2015). Fabric production is crucial, as clothing fabrics are needed to produce final garments in various styles and colours. Fabrics are made from yarns that are woven into fabrics (Ny Fashion Center 2015). SA is a top producer of wool, and the country is also one of the top five global countries producing mohair (South Africa.info 2015). In addition, SA harvests 40 000 tonnes of cotton yearly (SouthAfrica.info 2015). Salm (2002:17) states that there are 3 400 cotton suppliers and 15 000 suppliers of wool in South Africa. Therefore, demand planning in the clothing industry should start with the fabric supplier, and progress right through to the manufacturing of clothes.

However, it is important to manufacture clothes that meet the customers' needs regarding fashion, and to design clothes according to current fashion trends. For this reason, the services provided by fashion designers are important in clothing manufacturing.

- ***Fashion designers***

Fashion designers in SA are more involved in the creation of various clothing brands than clothing manufacturers are (Oberhofer 2012:67). As the fashion industry originated in global cities such as Paris, London and New York (Oberhofer 2012:65), these cities are seen as the main fashion trendsetters. Fashion production is growing, and it is controlled by market

forces that consist of individual requirements and desires (Matsoma & Ambe 2016:196). Fashion centres that have been in existence for many decades in cities such as Paris, London and New York, are still operating today. These fashion centres still dominate the fashion industries of various states and regions in terms of the production of fashion clothes (Skov 2011:139). However, according to Muhwati and Salisbury (2014:867), the clothing industry of each country functions at its best in its country of origin. Global fashion has also resulted in the growth of fashion in African countries. African countries have started to compete globally and to grow their domestic fashion markets (Oberhofer 2012:83). South African fashion designers have also recently started competing on the global fashion platform (Oberhofer 2012:67).

According to Skov (2011:138), fashion centres, where fashion designing takes place, are localised. For example, fashion centres were established in the city of Johannesburg to promote and support local designers and where style makers, such as Stoned Cherrie, were established and developed to become leading fashion brands in SA (Oberhofer 2012:71). Some fashion designers operate as owners of small fashion designing organisations, while other fashion designers are employed within the clothing production industry.

- ***Clothing manufacturers***

The clothing manufacturing industry in SA plays a critical role, as clothes are one of the basic requirements of all human beings (Staritz & Morris 2013:9). Nattrass and Seekings (2012:6) and Staritz and Morris (2013:9) state that some of these clothing factories form part of the CTM industry which is responsible for cutting and trimming clothing fabrics and for making complete garments according to clients' requirements. The clothing production factories have the opportunity to outsource the clothing manufacturing to the CTM factories in order to meet the clothing demands, however, the manufacturers have the final say regarding the design of the clothes they require (Staritz & Morris 2013:9). As indicated previously in this section, these three key stakeholders in the clothing industry, namely fabric suppliers, fashion designers and clothing manufacturers, are critical for the operation of the clothing industry and contribute to the country's success.

### **3.1 Contribution of the SA clothing industry**

The SA clothing industry has the potential to significantly increase economic wealth in SA. The clothing industry makes a significant contribution to the manufacturing output of the country (CottonSA 2017:4) as discussed in the section below.

### 3.1.1 Sales contribution

Table 1 shows the value of the manufacturing sales contribution of the SA textile and clothing statistics from 2012 to 2016.

**Table 1: South African Textile & Clothing Statistics from 2012 to 2016**

| R (Million)                         | 2012           | 2013           | 2014           | 2015           | 2016           |
|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total manufacturing</b>          | <b>1509672</b> | <b>1677477</b> | <b>1820517</b> | <b>1865263</b> | <b>2005684</b> |
| Spin, weave, finish                 | 4448           | 5380           | 6342           | 6996           | 8198           |
| Other textiles                      | 10607          | 10454          | 11737          | 13968          | 14340          |
| Knitting mills (fabrics & garments) | 1653           | 1727           | 2048           | 2376           | 2396           |
| Wearing apparel                     | 14674          | 15447          | 16928          | 15334          | 17354          |

Sources: CottonSA (2017:4)

As indicated in Table 1, the value of the contribution of manufacturing sales in the SA textile and clothing industry shows the significant contribution of the SA clothing industry to the economy of the country. In 2012, manufacturing sales of the SA textile and clothing industry contributed to at least R1.5 million to the economy. In 2016, the SA textile and clothing industry indicated a growth of just above R2 million. According to (About education 2014) between May 2012 and May 2013, the clothing industry contributed 13% to the manufacturing output of South Africa, and in 2013, it contributed 14% to the manufacturing output of South Africa.

This makes clothing manufacturing organisations a significant contributor to the gross domestic product (GDP) of the country.

Even though the SA clothing manufacturing industry is still performing, it is uncertain whether sales will remain stable or increase in future. The reason, according to Industriall-union.org (2017:2) and Godfrey (2015:495) is that the influx of Chinese clothing imports into SA has caused a significant number of clothing manufacturers to relocate some of their manufacturing operations to other countries due to intense competition in the industry locally. Booyesen (2015:1) mentioned that according to Vlok (2006), the reduction in the number of clothing manufacturers in the Western Cape is due to the increase in clothing imports. In addition, it is also important to note that there various factors that affect forecasting accuracy in the clothing industry and these factors may contribute to the instability of the CMT clothing industry in SA. The factors are discussed in the next section.



#### **4. FACTORS AFFECTING DEMAND PLANNING PRACTICES IN THE CMT CLOTHING INDUSTRY IN SA**

Matsoma and Ambe (2016:194) believed that there are certain factors that contribute to demand variances when demand planning is implemented in the clothing manufacturing industry. Factors such as incorrect scheduling of clothes, constant changes to the styles of fashion clothes, incorrect usage of the POS system, and the influx of clothing imports, inefficient forecasting of clothes, the global recession, and the long lead time applicable to clothes are regarded as challenging when planning for the demand of clothes. Some of these factors that may cause failures in the demand planning of the clothing industry are discussed below.

##### **4.1 Incorrect scheduling of the manufacturing of customer orders**

Incorrect scheduling may be a result of poor demand forecasts. The scheduling of required materials can become multifaceted in the clothing industry due to the various stages involved in the production process, as well as the clothing variations and types of customers involved (Trade Fact Sheet South Africa, 2016:9). According to the Media Club South Africa (2015:14), the materials that are needed to produce clothes have to undergo various manufacturing stages, such as spinning, weaving, knitting, tinting and finishing. In addition, surpluses in manufacturing are still a challenge in the clothing industry (Chiromo *et al.* 2015:1970). Payne (2011:1) confirmed that clothing manufacturers are now receiving fewer orders from retail clothing stores and this results in lower profit margins (Payne 2011:1, Godfrey 2015:496). Businesspartner.co.za 2014:3) indicated that only 25%-30% of clothes sold in SA are manufactured in SA. This indicates a lack of support for the clothing industry in the domestic market. SA clothing retailers are now ordering clothes and fabrics from global suppliers because the SA CMT manufacturers are unstable and unreliable (Payne 2011:[1]. According to the Material Issues Report (2014:4), SA retail clothing stores are ordering clothes from global suppliers due to the lower prices offered by global suppliers.

According to the Nesta Fashion Toolkit (n.d:1), clothing scheduling is guided by the code of good practice which stipulates the requirements and expectations of clothing retailers and CMT manufacturers. Parties should agree on the alterations required during the production process. Changes to orders, dates, prices and quantities should be communicated in writing. CMT manufacturers are to bear the cost of any rework resulting from their operations (Nesta Fashion Toolkit n.d:1). According to Media Club South Africa (2015:14), the same process is applied in the SA clothing industry.

Scheduling in the SA CMT manufacturers is disrupted by a lack of capital equipment and insufficient financial support (Material Issues Report 2014:8). Ramdass (2007:65) states that the department of trade and industry (DTI) is making efforts to renegotiate the amount of clothes China is selling in SA and to ultimately effect reductions. Isaacs (2016:1) emphasises that in order to support the SA clothing industry, SA clothing retailers should stock locally manufactured clothes. In addition, The South African Clothing and Textile Workers Union (SACTWU) are appealing to SA customers to support the local clothing industry through buying proudly SA clothing garments (Industrialall-union. org 2017:3).

#### **4.2 Ever-changing fashions**

According to Rogerson (2006:217), fashion is defined as “ephemeral and elusive, a target that keeps moving”. Fashion is unpredictable (Williams 2015:13) and demand planning in the SA fashion industry is disturbed by ever-changing customer fashion styles, while manufacturers strive to predict customer demand patterns with some level of accuracy (Matsoma 2016:44). There is a desire for the latest fashion brands in the SA clothing industry, and SA customers demand various fashion trends (Trade Fact Sheet South Africa 2016:9). Improvements to the SA clothing demand planning is dependent on flexibility in production (Chiromo, Nel & Sebele 2015:1968). The study conducted by Matsoma (2016:140) confirmed that fashion forecast constitutes errors and there is a need to train the SA clothing industry on how to forecast and plan for fashion clothes. Clothing estimators need some form of experience. However, according to the Material Issues Report (2014: 7), there is lack of innovators and fast thinkers in this industry. Although there are fashion graduates in the SA clothing industry, there is a lack of exposure and mentoring support for them (Panther, 2015:58)

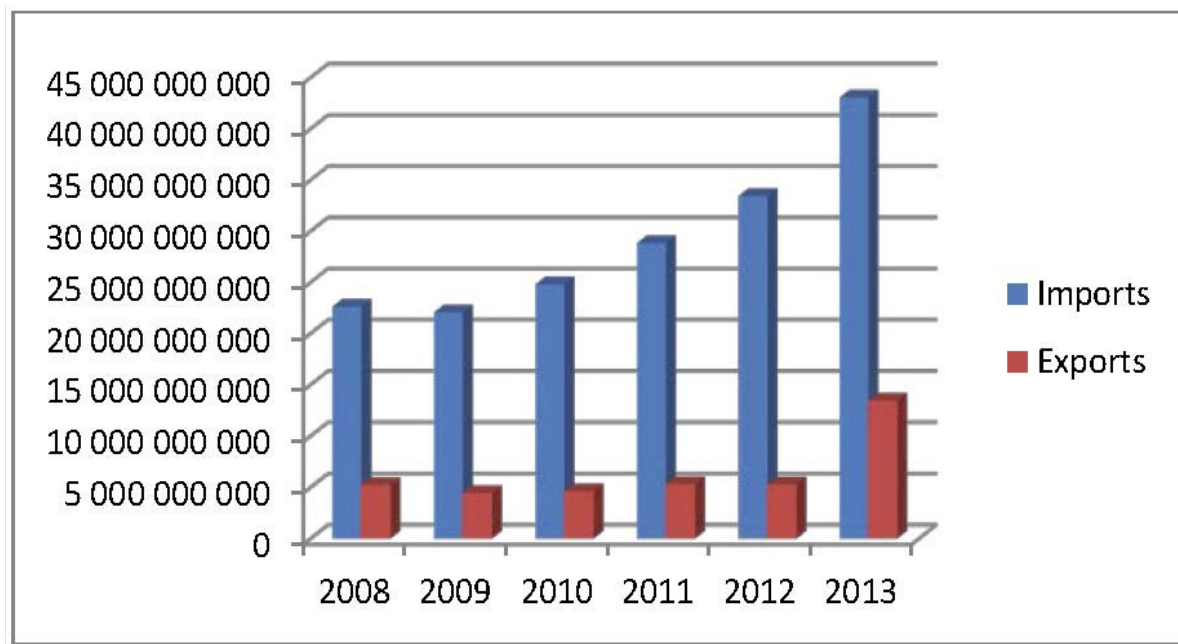
#### **4.3 Influx of clothing imports**

The influx of clothing imports into SA came about when countries decided to reduce the tariffs being charged on clothing imports, and this resulted in reduced manufacturing operations in the SA clothing industry (CottonSA 2017:2, Ramdass 2013:1). International trade has an impact on the SA economy and the SA clothing manufacturing industry has been negatively affected by the influx of Chinese clothing imports (Edwards & Jenkins 2015:447). Ndalana (2016:1) as well as Cao, Scudder and Marsha (2017:82) confirm the negative impact of the influx of Chinese imports on the SA clothing industry. Chinese clothing imports are causing the economic stability of the SA clothing industry to deteriorate, as they force down the prices of clothes (Seekings 2015:11). Matsoma and Ambe

(2016:197) confirm that the influx of imports in the Gauteng clothing industry negatively affects the proper management of customer demand.

Figure 2 indicates the increase in trade in South African textiles, clothing and leather goods in ZAR bn from 2008 to 2013.

**Figure 2: SA trade in textiles, clothing and leather goods in ZAR bn**



Source: GGDA (2014:4)

As indicated in Figure 2, the imports into SA of textiles, clothing and leather goods in rand value shows a huge increase. In 2008, the value of imports into SA of textiles, clothing and leather goods was 20 billion ZAR and in 2013, the value of these imports increased to almost 45 billion ZAR. This increase in imports in the clothing industry affects the proper implementation of demand planning processes in the industry.

#### 4.4 Inaccurate forecasting of clothes

Forecasting quantifies that there is a need for material or products (Raza & Kilbourne 2017:8). Jainling (2004:35) asserted that it is crucial to forecast for future clothing manufacturing in SA as accurate forecasts assist in increasing sales (Aye, Balcilar, Gupta & Majumdar 2015:1). However, it is difficult to forecast fashion clothes, because fashion styles change constantly (Matsoma & Ambe 2016:197). Moreover, the Material Issues Report (2014:7) stated that there is a lack of adequate skills to forecast the demand for fashion garments in the SA clothing industry because clothing styles change quite often. It is crucial that fashion designers attend international trade exhibitions in order to plan ahead for the

coming seasons (Muhwati & Salisbury 2017:867). This will assist in timely planning for the future fashion styles. Improved clothing forecasting also depends on collaboration between the various partners in the supply chain (Raza & Kilbourne 2017:1). However, Williams (2015:2) emphasised that historical sales information should be considered as well as any possible changes in the economy when forecasting is being implemented.

The study conducted by Pretorius (2013:1) on improving demand planning at L'Oréal South Africa proves that errors exist in forecasting. The large numbers of stock keeping units (SKU) involved in the SA clothing industries result in errors in forecasting. Raza and Kilbourne (2017:5) agree that the SA clothing industry constitute thousands of SKU, hence errors can occur.

#### **4.5 Global recession as an unfavourable economic condition**

The global recession has also affected the SA clothing industry (Smith 2017:1). CottonSA (2017:2) state that the 2008 to 2010 global recession resulted in a number of clothing manufacturing organisations shutting down their operations. A global recession seems to be one of the variables that is difficult to consider when planning for future clothing demand, and this makes demand planning a daunting aspect to implement. The recession reduced sales performance in the SA clothing industry (Smith 2017:1) and it led to forecasting errors (Aye *et al.* 2015:68). The monetary crisis resulted in a decrease in the sale of clothes, as clothes are seen as luxury items during a global recession (Fibre Processing & Manufacturing SETA 2014:3, Goko 2017:1).

#### **4.6 Long lead time of clothes**

Delays in the delivery of clothing materials affect demand planning in the SA clothing industry (Staritz, Morris & Plank 2017:124). Payne (2011:1) confirmed that SA clothing retailers place 12% to 15% of clothing orders from CMT manufacturers. This means that up to 85% of clothing orders are placed with suppliers. Sales are lost in the process as most of the clothing garments are received late when the sale season has already started (Matsoma 2016:46). It is important that the SA clothing industry strictly enforces the terms of the delivery agreement with fabric suppliers to prevent production material delays (Jainling 2004:48).

In summary, the clothing industry of SA needs to consider the above-mentioned factors when planning for clothing demand, as summarised in Table 2 below:

**Table 2: Summary of factors affecting demand planning in the clothing industry**

| Factors                                      | Impact of factors                        |
|--|--|
| <b>Scheduling</b>                            |  |
| Multifaceted production process and products | Distraction in scheduling process        |
| Lack of SA customer support                  | Reduction in customer orders and surplus |
| Lack of capital equipment                    | Rectifies mistakes, improves planning    |
| Insufficient funding                         | Sales loss                               |
| <b>Fashion planning</b>                      |  |
| Ever-changing fashion styles                 | Errors in fashion forecasting            |
| <b>The POS system characteristics</b>        |  |
| The history of sales data                    | Assists with accurate demand planning    |
| POS data errors                              | Forecasting errors                       |
| <b>Clothing imports</b>                      |  |
| Reduced tariffs                              | Clothing oversupply and reduced sales    |
| Low Chinese labour rates                     | Reduces sales and job losses             |
| <b>Clothing forecasting characteristics</b>  |  |
| Fashion clothes                              | Forecasting errors                       |
| Insufficient forecasting information         | Forecasting errors                       |
| <b>Global recession characteristics</b>      |  |
| Unstable economy                             | Demand uncertainty, sales reduction      |
| Unreliable historical sales data             | Demand predictions errors                |
| <b>Clothing lead time</b>                    |  |
| International clothes ordering               | Long lead time and manufacturing delays  |
| Few local clothing orders                    | Sales losses                             |
| Fabric order made before the selling season  | Sales losses                             |
| On-time delivery agreement                   | Reduced lead time                        |

Source: Author's own compilation.

## 5. RESEARCH METHODOLOGY

The article is explorative in nature and includes a systematic analytical approach. This study aims to explore the related literature on factors affecting demand planning practices in the CMT clothing industry in SA to make a contribution to the improvement of demand planning, in the SA CMT clothing industry. A review of the SA clothing industry was done to gain insight in the operational processes utilised in the industry. The study followed a systematic literature review approach as followed by Carter and Easton (2011), and Ellram and Cooper

(2014). Both authors agreed that this literature review studies and analyses related information from various studies with the aim of addressing and giving suggestions to solve certain problems or occurrences. The purpose of the literature review in this study is to analyse various concepts regarding demand planning in the clothing industry, and demand planning in the SA clothing industry, as well as to conduct an in-depth investigation of factors affecting demand planning in the SA CMT clothing industry. The study reviewed various journal articles, newspaper reports and books relevant to demand planning and demand planning in the SA clothing industry. The study also utilised literature sources from articles, dissertations, websites and press releases that address issues pertaining to demand planning, as well as relevant factors affecting demand planning in the SA clothing industry. The study provides suggestions regarding the proper application of demand planning practices in the SA clothing industry.

## **6. RECOMMENDATIONS**

This section provides recommendations regarding factors affecting demand planning in the CMT clothing industry of SA as discussed below:

### ***Scheduling of clothing material***

The CMT SA clothing industry is a multifaceted business which requires multi-skilled workers.

### ***POS system***

POS system data requires constant verification to ensure accuracy when being utilised in forecasting for customer demands. The POS system is mainly for basic clothes and using the POS data alone when forecasting fashion clothes does not guarantee accurate results.

### ***Fashion forecasting***

Flexibility in forecasting fashion clothes is important as fashion changes constantly. Fashion forecasters need to be equipped with fashion forecasting skills. Also, it is important that they attend trade shows where fashion for the next season is showcased in order to plan ahead.

### ***Clothing imports***

In order to discourage clothing imports into SA, SA retailers should be encouraged to purchase locally produced clothes, and the SA government is advised to increase funding for the CMT industry of SA. The SA clothing industry needs to be revitalised, which requires government regulations to intervene in clothing imports, as well as financial support to enable the industry to remain competitive. This also will assist the SA clothing industry to improve its demand planning processes.

### ***Global recession***

It is recommended that CMT manufacturers should reduce output and reduce clothing forecasting during a global recession to avoid sales losses.

### ***Clothing lead-time***

Government restrictions on the purchase of proudly South Africa products should be escalated and this will curb clothing delays resulting from the use of international suppliers.

## **7. LIMITATIONS**

A few comprehensive studies have been conducted on demand planning practices in the SA clothing industry. In South Africa, authors, such as Vlok (2006), Natrass and Seekings (2012) and Oberhofer (2012) have also explored various components of the SA clothing industry, for example, clothing imports, wage setting implications and fashion designing. However, these studies have investigated selected components or elements of demand planning in the clothing industry. Hence, it was a challenge to obtain articles on comprehensive studies conducted on demand planning practices in the CMT clothing industry of SA, which cover all factors affecting demand planning in this industry.

## **8. CONCLUSION**

The article explored demand planning in the SA clothing industry, with the focus on CMT manufacturers. The research was undertaken in order to explore various factors which affect demand planning in the CMT clothing industry in SA. A systematic review of the related literature on demand planning was conducted to acquire an in-depth understanding of demand planning. A review of the SA clothing industry was done to gain deeper insight into the operational processes utilised in the industry. In-depth information on demand planning in the SA CMT manufacturers was obtained. Various factors that impact on demand planning in the SA CMT clothing manufacturers were studied to determine their specific impact on demand planning. The literature reviewed also indicated that there are various other factors that contribute to inaccuracies in the SA clothing industry, such as the inefficient scheduling of clothes, improper planning for fashion, the incorrect use of the POS system, the influx of clothing imports, poor clothing forecasts, the global recession, and the long lead times applicable to clothes.

All these factors are regarded as challenges when planning for clothing demand and they all have a serious impact on clothing demand planning in the CMT clothing industry of South Africa. The study suggested that SA CMT manufacturers should plan for clothing scheduling well in advance, and quest for more government funding in order to improve the

manufacturing equipment. The CMT manufacturers are to verify the correctness of POS sales data before forecasting starts. Forecasting using only historical data is not applicable to fashion garments. Also, the forecasting of clothes needs to be adjusted during a global recession. The literature revealed that clothing consumption normally declines during a global recession which results in demand planning errors and a loss in sales. Hence, it is recommended that the SA CMT manufacturers should reduce manufacturing during a global recession. Knowledge of clothing sales history, and economic and market trends are recommended for fashion forecasting. The effect of clothing imports into SA needs to be considered since it creates competition and causes an oversupply of clothes in the country. Stringent government restrictions on clothing imports are recommended. Agreements on short clothing lead times should exist in the SA CMT clothing industry.

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