

Product's Selection for the Moroccan Technical Textile Industry by Using Custom's Imports Data and Analytic Models

Faical Zaim^{1,2,3} & Morad Sbiti²

¹ University Mohammed V-Agdal, Faculty of legal, economic and social science, Rabat, Morocco

² University Mohammed V-Agdal, Superior School of Technology Sale, Laboratory LASTIMI, Sale, Morocco

³ Superior School of Textile and Clothing-(ESITH), Laboratory REMTEX & Laboratory CELOG, Casablanca, Morocco

Correspondence: Faical Zaim, Higher School of textile industries and clothing ESITH, Route d'Eljadida, km 8, BP 7731-Oulfa, Casablanca, Morocco. Tel: 2125-2223-4124. Fax: 2125-2223-1585. E-mail: zaim@esith.ac.ma

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Abstract

This paper proposes a model of product's selection for Moroccan technical Textile industry. In a first step, using software, the study selects technical textiles positions, classes them by technologies segments, and extracts their import's data from governmental data based, in term of value, volume, unit price and suppliers. In a second step overweight various segments and products using Analytical Hierarchy Process (AHP) to calculate attractiveness and competitive strength and chooses which of them are the most suitable for investment by using a Mckinsey matrix. From the 481 products considered as technical textiles, the study chooses 21 (4.3%) products representing 44.14% from the total value of Moroccan technical textile imports.

Keywords: Moroccan Imports Data, Technical textile, Segments and Products Selection, AHP, Mckinsey Matrix

1. Introduction

Because of the globalization of trade and the opening of the customs borders of Morocco, the Moroccan textile industry, which mainly produces classic fabrics for the local market, faces a growing concurrence from the Far East and Turkey (Belouas, 2012).

In this context, like what happened in industrialized countries, in the second half of the 20th century (Direction générale des entreprises, 2005), and in order to give a new start to the Moroccan textile industry, ESITH (Higher School of textile industries and clothing) and AMITH (Moroccan Association of Textile and clothing) are the precursors of an ambitious evolution from traditional textiles to technical textiles, which are: textiles materials and products manufactured primarily for their technical and performance properties rather than their esthetic or decorative characteristics. (Horrocks, 2000). The world technical textile market value was in 1995 about 65 billion Euros, 85 billion Euros in 2005 and 100 billion Euros in 2010 (David rigby associates, 2003), (Weidmann, 2010).

In 2012, in partnership with the Ministry of Industry, a study was assigned to the international research firm McKinsey, to develop vision 2025. McKinsey conducted this study in collaboration with Moroccan and international experts, which I was part, thanks to the first results of this study, subject of this article. The results of this study were presented at the beginning of 2013 (Gharbaoui, 2013); it recognized three strategic business areas with high potential for the development of the Moroccan textile industry: Clothing, home textile and the technical textiles. Thus, and to seize opportunities offered by the new stats industrial development plan, professionals interested in the technical textiles sector, have formed a cluster (CTTM Moroccan technical textiles cluster) which has as a goal, creating a synergy between the different companies members, to develop and produce technical textiles with high added value (Stoullig, 2015).

The first and most important step is to determine the market segments and products that are most appropriate for starting this new activity. Professionals unanimously agree that at the beginning they may first grasp the local

markets opportunities before going to the international markets.

Moroccan production of technical textiles is insignificant, the demand is almost entirely satisfied by imports (Traube, 2010), and demand analysis can be developed through the analysis of imports.

The data of Moroccan technical textiles imports are available on the web through two sites: the site of the Exchange office (Exchange office Morocco, 2015) and of Customs (Customs Morocco, 2015). The problem is that the customs nomenclature classifies imports by nature (types of textile material: cotton, wool ...; Structure: yarn, fabric, knitting ...) but not by field of use, or the technical textiles are considered as such, due to their technical use. Thus, to extract data of Moroccan technical textiles imports, it was necessary to combine both, good knowledge in customs code and textile products to select the products that can be considered as technical textiles, and also, to classify them by technological segments. The use of computers for data processing was required and has facilitated the exploitation and the updating of results (David rigby associates, 2003).

The selection of segments and products, which are imported actually and represent real opportunity for investment in technical textile in Morocco, is done by using a Mckinsey matrix also known as market attractiveness/competitive strength's matrix, which is a nine cells portfolio matrix, developed by Mc kensey & company in the 1970's, it has two axes, Market attractiveness and competitive strength more developed than the classic BCG matrix (Van Laethem, 2007). the value of the market attractiveness and competitive strength are calculate from the custom's data using Analytic hierarchy process (AHP) which is the main tool used by researchers and managers of multi-criteria decision making (Hlyal, 2015).

2. Method

2.1 Custom's Import Data Extraction and Trial

The Harmonized Commodity Description and Coding System generally referred to as "Harmonized System" or simply "HS" is a multipurpose international product nomenclature developed by the World Customs Organization (WCO).

It comprises about 5,000 commodity groups; each identified by a six digit code, arranged in a legal and logical structure and is supported by well-defined rules to achieve uniform classification.

The system is used by more than 200 countries and economies as a basis for their Customs tariffs and for the collection of international trade statistics. Over 98 % of the merchandise in international trade is classified in terms of the HS.

The HS contributes to the harmonization of Customs and trade procedures, and the non-documentary trade data interchange in connection with such procedures, thus reducing the costs related to international trade. It is also extensively used by governments, international organizations and the private sector for many other purposes such as internal taxes, trade policies, monitoring of controlled goods, rules of origin, freight tariffs, transport statistics, price monitoring, quota controls, compilation of national accounts, and economic research and analysis. The HS is thus a universal economic language and code for goods, and an indispensable tool for international trade (World custom's organization).

The harmonized system gives a nature description of product but don't give any indication about uses, technical textiles are defined as such because of their use, so with custom's data; we can't extract directly technical textiles data. It was necessary to analyze all the position of the HS and by using my experience in this sector, shoos witch of them are use as technical textiles. So I selected 481 positions, and I classified them in eleven technological processes: Coated textiles; Narrow textiles; Nonwoven; woven technical yarns, technical yarns, knotted technical yarns, coated nonwovens, yarns with technical fibers, braiding, technical clothing, and technical fibers.

The use of computers for data processing was required and has facilitated the exploitation and the updating of results. Software programmed with access data base, is uses to manipulate and analyze the 481 positions ten times (because 10 years of data, between 2005 and 2014).

For each position and for years between 2005 and 2014, we extract the import's value in KDHS, the import's volume in Kg, the supplier's countries, and their value and volume of technical textiles imports towards Morocco.

By dividing the import value by the import volume we obtain the unit price which is correlated to the value added of each product.

The study of the evolution of import's value by year between 2005 and 2014 give us the market growth value for each product and each segment.

2.2 Attractiveness Value Calculates Using Analytic Hierarchy Process (AHP)

2.2.1 Attractiveness

The attractiveness of a product depend of the value of the market (and not only by the growth of the market as it considered by the BCG Matrix), every business activity is evaluate in term of opportunities or obstacles for all concurrent regardless their strengths and weaknesses (Bojin, 2006).

The value of the market depends of several criteria, but the most important are: the market part (Mp), the market grow (Mg) and the price level (Pl) (Yami).

For each selected product, we had extracted and calculate these three criteria

Market part of the product “i”

Mpi: the value of import of product i Millions Dhs

Price level of the product “i”

$$Pli = \frac{MPi}{MVi}$$

Mvi: the volume of import of product “I” in Mega Kg

Market growth of the product “i”

$$Mgi = \left[\frac{MPi 2015}{MPi 2005} \right]^{\frac{1}{n}} - 1 \text{ And were } n = \text{number of time period} = 9$$

2.2.2 Using AHP

The AHP is the main method used by researchers and managers in multi-criteria problem. The using of AHP is c in planning, choosing the best scenarios, resource management (Vaidya, 2006). In Marketing the AHP method is used in (Wind, 1980):

- The portfolio decisions of a firm whose management is concerned with the determination of the desired target portfolio and allocation of resources among its components
- Determination of the directions for new product development
- Generation and evaluation of marketing mix strategies

In this study we are concerned by the portfolio analysis, the AHP is used as framework and methodology for the generation and the and evaluation of alternative portfolio strategy (Wind, 1983).

2.2.3 AHP Attractiveness Criteria Weight

By expert judgment, each attractiveness criteria is given absolute importance (weight) on the basis of previous relative importance on a scale ratio, with the constraint that the sum of the weights equals to 1. The AHP method is currently the method most commonly used in the industrial application of the aggregated performance expressions. The method compares the different criteria in five levels of importance to overall satisfaction, “equal”, “low”, “critical”, “proven” and “absolute” respectively quantified at 1, 3, 5, 7 and 9 Intermediate values between the two levels are allowed. Experts attribute an intensity number that represents the true preference of each criterion with respect to others. The significance factor of intensity” i “on factor is equal to a ij, and the intensity factor of importance “i” above “j” is equal to 1/aij. If we compare n factors, we develop an n * n matrix A to represent the importance of these factors (Hlyal, 2015).

$$\begin{pmatrix} a_{11} & \dots & a_{1n} \\ \vdots & \ddots & \vdots \\ a_{n1} & \dots & a_{nn} \end{pmatrix} = A$$

Where n is the order of the matrix (1)

To determine the weight of each criterion, we used interviews with experts. In other words, the weight between criteria was explored on the basis of the response of investigators:

Table 1. Pairwise Comparison Matrix

a_{ij}	Mp	Pl	Mg
Mp	1	3	3
Pl	1/3	1	3
Mg	1/3	1/3	1
$\sum_{i,j=1}^n a_{ij}$	1,67	4,33	7

Table 2 represents the matrix A_1 as the normalized comparison matrix that is calculated as shown below:

$$\begin{pmatrix} a'_{1n} & \dots & a'_{1n} \\ \vdots & \ddots & \vdots \\ a'_{n1} & \dots & a'_{nn} \end{pmatrix} = A_1 \text{ and } a' = \frac{a_{ij}}{\sum_{i,j=1}^n a_{ij}} \text{ for } i,j=1,2,\dots,n, \tag{2}$$

Table 2. Matrix A1

a'_{ij}	Mp	Pl	Mg
Mp	(1)/1,67	(3)/4,33	(3)/7
Pl	(1/3)/1,67	(1)/4,33	(3)/7
Mg	(1/3)/1,67	(1/3)/4,33	(1)/7

$$\begin{pmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{pmatrix} = w \text{ and } w_i = \frac{\sum_{i,j=1}^n a'_{ij}}{n} \text{ for } i,j=1,2,\dots,n, \tag{3}$$

Table 3. Determination of attractiveness criteria's weight

a'_{ij}	Mp	Pl	Mg	$\sum_{i,j=1}^n a'_{ij}$	$\frac{\sum_{i,j=1}^n a'_{ij}}{n}$	Weight (w_i)
Mp	0,60	0,69	0,43	1,72	(1,72)/3	0,57
Pl	0,20	0,23	0,43	0,86	(0,86)/3	0,29
Mg	0,20	0,08	0,14	0,42	(0,42)/3	0,14

Table 3 shows the importance of each weight, in fact, the weight of Market part (Mp) was the highest with a value of 0.57, followed by the weight of Price level 0.29 and at the last position the weight of market growth 0.14

2.2.4 The Product's Attractiveness Criteria's Weight

For the three attractiveness criteria we calculate the weight of each product comparatively to the others, for example for the market part, we start by a matrix B:

$$\begin{pmatrix} b_{1n} & \dots & b_{1n} \\ \vdots & \ddots & \vdots \\ b_{n1} & \dots & b_{nn} \end{pmatrix} = B$$

Where “n” is number of products and “bij” is the market part value of the product (i) divided by the market part value of the product (j)

After we calculate the matrix B1:

$$\begin{pmatrix} b'_{1n} & \dots & b'_{1n} \\ \vdots & \ddots & \vdots \\ b'_{n1} & \dots & b'_{nn} \end{pmatrix} = B_1 \text{ and } b' = \frac{b_{ij}}{\sum_{i,j=1}^n b_{ij}} \text{ for } i,j=1,2,\dots,n,$$

The product’s market part weight (PMpw) is calculated as bellow:

$$\begin{pmatrix} PMpw_1 \\ PMpw_2 \\ \vdots \\ PMpw_n \end{pmatrix} = PMpw \text{ and } PMpwi = \frac{\sum_{i,j=1}^n b'_{ij}}{n} \text{ for } i,j=1,2,\dots,n,$$

We will repeat the same operation for the three attractiveness criterions and will obtain also for all the products, the product’s price level weight (PPlw) and the product’s market growth weight (PMgw). And will group the results in the matrix of product’s criterions weight (PCw)

$$\begin{pmatrix} PMpw_1 & PPlw_1 & PMgw_1 \\ \vdots & \vdots & \vdots \\ PMpw_n & PPlw_n & PMgw_n \end{pmatrix} = PACw$$

2.2.5 The Product’s Attractiveness Value

The attractiveness value (Atti) for each product (i) will be obtained by the multiplication of the two matrixes PACw (the product’s attractiveness criterion weight) and W (the attractiveness criterion weight)

$$Att = \begin{pmatrix} Att_1 \\ Att_2 \\ \vdots \\ Att_n \end{pmatrix} = \begin{pmatrix} PMpw_1 & PPlw_1 & PMgw_1 \\ \vdots & \vdots & \vdots \\ PMpw_n & PPlw_n & PMgw_n \end{pmatrix} \times \begin{pmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{pmatrix}$$

2.2.6 The Product’s Attractiveness Level

As needed in the Mc Kinsey Matrix, we define three level of attractiveness, low, medium and high.

We calculate the average (ATTav), and SD of attractiveness.

-The product has a high level of attractiveness when: $ATTi \geq ATTav + \frac{SD}{2}$

-The product has a Medium level of attractiveness when:

$$ATTav - \frac{SD}{2} \leq ATTi < ATTav + \frac{SD}{2}$$

-The product has a low level of attractiveness when: $ATTi < ATTav - \frac{SD}{2}$

2.3 Competitive strength Value Calculates Using Analytic Hierarchy Process (AHP)

2.3.1 Competitive Strength

The competitive strength of an organization (in our case Moroccan textile industry) is a comparative indicator between this organization and their competitors concerning their internal forces and weaknesses (Bojin, 2006). It's depend from several criterions, by expert judgment, we shoos five competitive criterions: Labor cost (Lc), Energy cost (Ec), Proximity (Px), technological competences (Tc), production volume (Pv).

So we start by extracting for each product the actual supplier countries, and we regroup them in seven groups: Europe, Asia, USA and Japan, Turkey, Egypt, Arabian Saudi, Eastern Europe.

2.3.2 AHP Supplier's Competitive Strength Criterions Weight

For Morocco and for each supplier, we use the AHP to calculate the weight of competitive strength criterions, the method used is the same used for attractiveness criterions weight (paragraph 2.2.3), for five criterions : Lc , Ec , Px, Tc and Py

We repeat this method for the eight groups of countries, table 4 gives the obtained results:

Table 4. Moroccan and Supplier's competitive criterions weight

Competitive criterions	Morocco (Mw _i)	Europe (EUw _i)	Asia (Aw _i)	USA/JAP (UJw _i)	Turkey (Tw _i)	Egypt (Ew _i)	Eastern Europe (EEw _i)	Arabian Saudi (ASw _i)
Lc	0,24	0,07	0,18	0,07	0,18	0,28	0,19	0,18
Ec	0,18	0,13	0,24	0,29	0,18	0,28	0,19	0,29
Px	0,29	0,27	0,06	0,07	0,18	0,17	0,19	0,18
Tc	0,18	0,33	0,24	0,36	0,24	0,17	0,25	0,12
Py	0,12	0,20	0,29	0,21	0,24	0,11	0,19	0,24

2.3.3 AHP Product's Competitive Strength Criterions Weight

With expert judgment, we evaluate the importance of the five competitive strength criterions for each product, we give five level of importance, very low importance (note 1), low importance (note 2), medium importance (note 3), high importance (note 4) and very high importance (note 5).

We use the AHP method used for calculate the product's attractiveness criterions strength weight (paragraph 2.2.3) to calculate the product's competitive strength weight.

We obtained the product's competitive criterions weight (PCCw) matrix:

PCCw:

$$\begin{pmatrix} PL_{cw_1} & PE_{cw_1} & PP_{xw_1} & PT_{cw_1} & PP_{yw_1} \\ \vdots & \vdots & \vdots & \vdots & \vdots \\ PL_{cw_n} & PE_{cw_n} & PP_{xw_n} & PT_{cw_n} & PP_{yw_n} \end{pmatrix}$$

PL_{cw}: Product's labor coast weight

PE_{cw}: Product's energy coast weight

PP_{xw}: Product's proximity weight

PT_{cw}: Product's technological competences weight

PP_{yw}: Product's production volume weight

n: product number 481

2.3.4 Competitive Strength Value

For Morocco and for each supplier group of country we calculate the competitive strength value by multiplication of supplier's competitive criterions weight by the PCCw matrix:

For example for Morocco:

Moroccan competitive strength value: MCs Matrix

$$\begin{pmatrix} MCS_1 \\ MCS_2 \\ \vdots \\ MCS_n \end{pmatrix} \begin{pmatrix} PL_{cw_1} & PE_{cw_1} & PP_{xw_1} & PT_{cw_1} & PP_{yw_1} \\ \vdots & \vdots & \vdots & \vdots & \vdots \\ PL_{cw_z} & PE_{cw_z} & PP_{xw_z} & PT_{cw_z} & PP_{yw_z} \end{pmatrix} = X \begin{pmatrix} Mw_1 \\ Mw_2 \\ \vdots \\ Mw_n \end{pmatrix}$$

We repeat the same operation for all the suppliers group of countries the competitive strength matrix for each of them: European competitive strength value (EUCs), Asian competitive strength value (ACs), European competitive strength value (EUCs), USA&Japan competitive strength value (UJCs),Turkian competitive strength value (TCs), Egyptian competitive strength value (ECs), European competitive strength value (EUCs), Eastern European competitive strength value (EECs), Arabian Saudi competitive strength value (ASCs),

2.3.5 Moroccan Textile Industry Competitive Strength Level for Each Product

As needed in the Mc Kinsey Matrix, we define three level of competitive strength, low, medium and high.

For each product we found the first and the second supplier group of countries, we compare the Moroccan competitive strength value (MCs) to the competitive strength value of the first supplier (FSCs) and to the competitive strength of the second supplier (SSCs).

- Moroccan textile industry has a high level of competitive strength for the product (i) when $MC_{si} \geq FSC_{si}$
- Moroccan textile industry has a Medium level of competitive strength for the product (i) when $SSC_{si} \leq MC_{si} < FSC_{si}$
- Moroccan textile industry has a low level of competitive strength for the product (i) when: $MC_{si} < SSC_{si}$

2.4 Products Selection Using Mckinsey Matrix

The Mckinsey matrix combine to criterions, the attractiveness level and the competitive strength level, it result nines areas regrouped in three zones: A; B and C (Bojin, 2006).

Each business activity is poisoned in the matrix depending several criterions. The choice of these criterions depends of the organization and the market in which it operate. The exactitude of this method depend of the pertinence of market’s and concurrent information (Johnson, 2006).

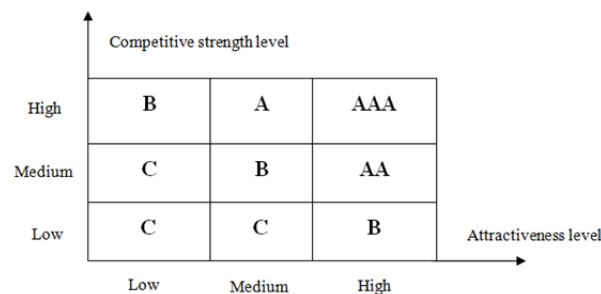


Figure1. Mckinsey Matrix

- Zone A: high level of product’s attractiveness and high level of competitive strength (AAA); high level of product’s attractiveness and medium level of competitive strength (AA); medium level of product’s attractiveness and high level of competitive strength (A); the product’s of this zone are recommended to investment. So the products of this zone represent the results of this study and are the products we should propose for Moroccan technical textile sector. The “AAA” zone is the best one followed by “AA” and after “A”.
- Zone B: high attractiveness & low competitive strength or high competitive strength & attractiveness low or medium attractiveness & Medium competitive strength; the product’s of this zone are selected and can be prospected
- Zone C : the zone of products that have to be avoid in investment

3. Results and Discussion

3.1 Moroccan Technical Textile Market’s Imports

3.1.1 Static Approach

Table5 shows that Moroccan technical textiles imports, totaled in 2014, 4.2 Billion dhs and 77.6 Mega Kg. so a

global unit price of 54, 17 dh/kg.

Table 5. Moroccan technical textiles value and weight of imports from 2005 to 2013

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Value in Billion dhs									
2.11	2.46	2.98	2.94	2.53	2.67	2.88	3.37	3.91	4.2
Weight in Mega kg									
32.9	41	53.4	56.05	58.7	51.9	55.4	60	67.7	77.6

Table 6 shows that the coated textiles and narrow textiles, top the list of Moroccan imports. In 2014, they totaled successively 1202 million dhs and 751 million dhs, representing successively 28.6% and 17.9% of the total value of imports. Nonwoven ranks third with 708 million dhs and 16.8% of the total value of imports. These three positions represent 63.3%. The remaining imports are mainly shared between two groups, first group is constituted by: woven technical yarns, technical yarns, knotted technical yarns, coated nonwovens, successively with 8.8% ,7.8%, 7.4% and 6.4%, they represent 30.4% from the total value of imports. The second group constituted by: yarn with technical fibers, braiding, technical fibers and technical clothing, with successively 2.4%, 1.5%, 1.5%, and 1.3%. It represents only 6.3% of the total value of imports.

Table 6. Moroccan technical textiles imports in 2014 by segment

Segments	2014 in million dhs	% in 2014 Relative to the total value	2014 in Mega kg	% in 2014 Relative to the total weight	Unit price Dhs/kg
Coated textiles	1203	28,6%	19,5	25,1%	62
Narrow textiles	751	17,9%	3,8	4,8%	200
Non woven	708	16,8%	17,5	22,5%	40
Woven technical yarn	371	8,8%	6,2	8,0%	60
Technical yarns	327	7,8%	8,1	10,4%	40
Knotted technical yarns	312	7,4%	6,4	8,3%	49
Coated nonwovens	269	6,4%	5,7	7,4%	47
Yarn with technical fibers	86	2,0%	1,9	2,4%	46
Braiding	65	1,5%	0,6	0,8%	102
Technical fibers	61	1,5%	7,5	9,7%	8
Technical clothing	55	1,3%	0,5	0,6%	121
TOTAL	4206	100%	77.6	100%	54,17

Table 6 shows, also, that the narrow textiles represent 17.9 % of the total value of imports but only 4.8% of the total weight of imports, which demonstrates that they are textiles with high added value (200 dh / kg). In opposition, nonwovens represent 16.8% of the total value of imports and 22.5% of the total weight of imports, which demonstrates that they have low value (40 dh / kg). Coated textiles have approximately the same percentage of the total imports in weight and value, successively 28.6% and 25.1%, which demonstrates that they have a medium added value (62 dh / kg). The global price's level average is 54.17dh/kg.

3.1.2 Dynamic Approach

Table1 shows that at the global level, Moroccan imports of technical textiles were in 2005, 2.11 billion dhs, they have increased gradually by 37% between 2005 and 2007 and reached 2.98 billion dhs. Between 2007 and 2009 they decreased by 15% to 2.53 billion dhs. Between 2009 and 2013 they re-increase successively by 5.2%, 8%, 17.2% and 16% to 3.38 billion dhs. Between 2013 and 2014 this growth is smaller; they reached 4.2 Billion dhs with 7.5% of increasing. The calculated global annual growth is 8% (paragraph 2.2.1).

Table 7 shows that the principle segments had the following evolutions:

Coated textiles imports, between 2005 and 2008, increased by 42% (from 517 to 735 million dhs). Between 2008 and 2009, they decrease by 25% to 548 million dhs. Between 2009 and 2014 they re-increase successively by 5.3%, 15.1%, 20.3%, 30.9 and 14.9% to reach 1203 million dhs. They occupy the first position of Moroccan technical textiles imports. Between 2005 and 2014, they recorded the first largest increase in value 686 million dhs, with an annual average of increasing of 9.8%.

Narrow textiles imports, between 2005 and 2007, increased by 23.4% (from 569 to 702 million dhs). Between 2007 and 2009, they decreased by 24.8% to 528 Million dhs. Between 2010 and 2012 they stagnate in approximately the same value (594, 592 and 604 million dhs. Between 2012 and 2014 they increase by 24.3%, and reach 751 Million dhs and occupy the second position of Moroccan technical textiles imports. Between 2005 and 2014, they had a small increase in value, 183 million dhs, with a small annual average of increasing of 3.1%.

Nonwoven textiles imports, between 2005 and 2007, highly increased by 103.6% (from 241 million to 491 millions dhs). Between 2007 and 2011, they stagnate between 400 and 500 million dhs. Between 2011 and 2013 they re-increase highly by 72.3%, reaching 731 million dhs. They occupy the third position of Moroccan technical textiles imports. Between 2005 and 2013, between 2013 and 2014 they stagnate at nearly the same value 708 million dhs. They recorded the second largest increase in value, 467 million dhs, with a high annual average of increasing of 12.7%.

Table 7. Moroccan technical textiles imports between 2005 and 2014 by segment in Million dhs

Segment	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Annual average of increasing
Coated textiles	517	554	708	735	548	577	664	800	1046	1203	9,8%
Narrow textiles	569	575	702	698	528	594	592	604	723	751	3,1%
Non woven	241	391	491	407	466	467	424	572	731	708	12,7%
Woven technical yarns	244	261	345	311	239	219	255	295	320	371	4,7%
Technical yarns	94	115	162	200	210	198	228	270	290	327	14,9%
Knotted technical yarns	232	214	261	278	281	274	313	349	326	312	3,3%
Coated nonwovens	118	150	138	116	103	172	195	243	241	269	9,6%
Yarn with technical fibers	31	121	37	25	31	45	55	63	68	86	12,0%
Braiding	41	45	55	55	59	54	67	78	72	65	5,3%
Technical fibers	1	1	38	74	6	3	21	48	30	61	53,9%
Technical clothing	25	37	40	39	63	63	63	52	66	55	8,9%

3.2 Product's Selection

Table 8 shows that from the 481 imported products considered as technical textile, 21 products are located in the McKinsey matrix's zone A. So they represent a real opportunities of investment because they have a high or medium attractiveness level and Morocco is more competitive than the actual suppliers of these products.

Table 9 shows for each selected product its market data : Market value in 1000 dhs; price level (Dh/ kg) and market growth %.

Table 8. Product's selection for Moroccan technical textile sector

Segment	SH product code	Competitive strength level	Attractiveness level	Attractiveness value	McKinsey matrix zone	Moroccan competitive strength	first supplier group	first supplier competitive strength	second supplier group	second supplier competitive strength
Technical clothing	5911909099	high	medium	1,25%	A	1,46%	EU	1,33%	EU	1,33%
Coated	59039	high	high	5,89%	AAA	1,14%	ASIA	1,12%	EU	1,13%

textiles	09098										
Coated textiles	59032	high	high	5,46%	AAA	1,26%	EU	1,23%	EU	1,23%	
Coated textiles	09099										
Coated textiles	58110	high	high	2,54%	AAA	1,14%	EU	1,13%		0,00%	
Coated textiles	04100										
Coated textiles	59031	high	medium	1,02%	A	1,14%	ASIA	1,12%	EU	1,13%	
Coated textiles	09090										
Coated textiles	39219	high	medium	1,03%	A	1,14%	ASIA	1,12%		0,00%	
Coated textiles	09819										
Technical yarns	56050	high	medium	1,20%	A	1,29%	ASIA	1,24%	JAP/USA	1,26%	
Technical yarns	04090										
Technical yarns	56050	high	medium	1,28%	A	1,29%	ASIA	1,24%	ASIA	1,24%	
Technical yarns	03090										
Technical yarns	56079	high	medium	0,77%	A	1,23%	EU	1,19%	EU	1,19%	
Technical yarns	00090										
Narrow textiles	58063	high	high	3,14%	AAA	1,14%	EU	0,99%	EU	0,99%	
Narrow textiles	29000										
Narrow textiles	58062	high	high	3,78%	AAA	1,14%	EU EST	1,07%	EU	0,99%	
Narrow textiles	09000										
Narrow textiles	58071	high	high	2,98%	AAA	1,32%	EU	1,22%	EU	1,22%	
Narrow textiles	00090										
Narrow textiles	58071	high	high	2,63%	AAA	1,32%	EU	1,22%	EU	1,22%	
Narrow textiles	00010										
Narrow textiles	58079	high	high	2,51%	AAA	1,32%	EU	1,22%	EU	1,22%	
Narrow textiles	09000										
Narrow textiles	58063	high	medium	1,22%	A	1,14%	EU	0,99%	EU	0,99%	
Narrow textiles	99090										
Narrow textiles	58063	high	medium	1,26%	A	1,14%	EU	0,99%	EU	0,99%	
Narrow textiles	19090										
Narrow textiles	58063	high	medium	0,79%	A	1,14%	EU	0,99%	EU	0,99%	
Narrow textiles	21000										
Woven technical yarns	54082	high	high	2,14%	AAA	1,05%	EU	1,02%	EU	1,02%	
Woven technical yarns	29999										
Woven technical yarns	63053	high	medium	1,12%	A	1,05%	EGP	1,04%	EGP	1,04%	
Woven technical yarns	39100										
Woven technical yarns	54082	high	medium	1,43%	A	1,08%	EU	1,00%	EU	1,00%	
Woven technical yarns	49999										
Knotted technical yarns	56081	high	high	1,80%	AAA	1,27%	EU	1,11%	EU	1,11%	
Knotted technical yarns	11000										

Table 9. Product's selection Data

Segment	SH Product code	Products	Market value 1000 DH	Price level	Market growth
Technical clothing	591190	AUTRES ARTICLES TEXTILES POUR USAGES TECHNIQUES	33462	190	10,5%
Coated textiles	590390	AUTRES TISSUS IMPREGNES OU ENDUITS DE MATIERES PLASTIQUES	360009	47	55,7%
Coated textiles	590320	AUTRES TISSUS NON IMPREGNES AVEC DU POLYURETHANE	324628	105	38,3%

Coated textiles	581100	PRODUIT TEXTILE EN TISSU,RECOUVERT DE MATIERE PLASTIQUE	68752	102	162,0%
Coated textiles	590310	AUTRES TISSUS NON IMPREGNES AVEC POLYCHLORURE DE VINYLE	50886	46	14,9%
Coated textiles	392190	ATRE PLAQUE,FEUILLE EN ATRE DERIVE CHIMIQUE COMBINE TEXTILE	17456	21	98,4%
Technical yarns	560500	AUTRES FILS DE METAL COMBINES AVEC DES FILS TEXTILES	30887	91	58,1%
Technical yarns	560500	AUTRES FILS TEXTILES GUIPES DE METAL	23118	124	69,4%
Technical yarns	560790	FICELLES,CORDES,CORDAGES EN AUTRES MATIERES TEXTILES	12992	143	8,8%
Narrow textiles	580632	AUTRES RUBANERIES DE FIBRES SYNTHETIQUES OU ARTIFICIELLES	173212	153	3,5%
Narrow textiles	580620	AUTRES RUBANERIES,POIDS DE FILS D'ELASTOMERES>5%	155418	350	30,8%
Narrow textiles	580710	AUTRES ETIQUETTES ET ARTICLES SIMILAIRES TISSES	95583	432	0,3%
Narrow textiles	580710	ETIQUETTE ET ARTICLE SIMILAIRE AVEC INSCRIPTION,MOTIF TISSE	61629	484	-3,7%
Narrow textiles	580790	AUTRES ETIQUETTES,ECUSSONSET ARTICLES SIMILAIRES	59610	402	25,4%
Narrow textiles	580639	AUTRES RUBANERIES D'AUTRES MATIERES TEXTILES	43362	146	6,9%
Narrow textiles	580631	AUTRES RUBANERIES DE COTON	22411	266	-4,9%
Narrow textiles	580632	AUTRES RUBANERIES ELASTIQUES DE FIBRE SYNTH.OU ARTIFICIELLE	22333	130	-1,2%
Woven technical yarns	540822	AUTRES TISSUS TEINTS DE FILAMENTS,LAMES OU SIMILAIRES	110124	143	-0,5%
Woven technical yarns	630533	SAC,MAT TEX SYN ART EN LAME POLYETHYLEN:N.USAGE:IMPORTE VIDE	51960	27	35,7%
Woven technical yarns	540824	AUTRES TISSUS IMPRIMES DE FILAMENTS,DE LAMES OU SIMILAIRES	33484	224	18,3%
Knotted technical yarns	560811	FILETS CONFECTIONNES POUR LA PECHE EN FIL,FICELLE OU CORDE	105446	58	4,0%

3.3 Segment's Analyze

Table 10 shows that the selected product has a market value in 2014 of 1857 millions dhs, and represent 44,1% from the total value of technical textile Moroccan's import (4206 millions dhs) , even if it represent 4.4% in number. It has a very high average of price level (86.23dhs/kg) and a very high market growth 32.1%.

Table10 shows also, that the selected products, are grouped in six segments, coated textiles have the highest Market value 822 millions dhs (44.3% from the total selected product's value) and the highest market growth 56.1% by year in average. Narrow textiles are in the second position in term of market value 6336 Millions dhs (34,1% from the total selected product's value), and the highest price level 241 dhs/kg (The global average 54.17 dh/kg, the selected product's average 86.23 dh/kg) . Together those two segments represent 78.4% from the total selected product's value.

Table 10. Selected products data by segments

Segment	Market part 1000 Dhs	Market part % from selection	Price level DHS/KG	Market growth	number of products	Moroccan Competitive strength level
Coated textiles	821731	44,3%	61,2	56,1%	5	High
Narrow textiles	633559	34,1%	240,0	10,8%	8	High
Woven technical yarns	195568	10,5%	67,9	12,3%	3	High
Knotted technical yarns	105446	5,7%	58,3	4,0%	1	High
Technical yarns	66997	3,6%	108,8	52,4%	3	High
Technical clothing	33462	1,8%	189,6	10,5%	1	High
Total selection	1856763	100%	86,23	32,1%	21	
Total selection %	44,1%				4,4%	

4. Conclusion

This study gives statistics of Moroccan technical textile market; this statistics are the official ones because they are published by the unique Moroccan textile university “ESITH”. It also selects technical textiles imported products which offer the biggest opportunities for investment. Toward the strategic objective of substituting importations by local production in the first step of Moroccan technical textile industry development strategy, the experience acquired will be used to export to the nearest countries, south of Europe and sub Saharan’s western Africa.

The next step would be to go to the real market and study in details these products, their sub products, their customers and their technologies and human skills.

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