

## Article

# Exploring the Optimistic Approaches and Directives of Cameroon's Textile Sector for Reliable Development

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**Abstract:** Cameroon is one of the largest producers of cotton in Central Africa. Currently, Cameroon's textile sector is facing problems regarding manufacturing that restrict the expectations of various shareholders in the sector. This study examined accurate and strategically reliable instructions for the Cameroonian textile sector by utilizing explorative and depictive techniques and properly applying the SWOT (strengths, weaknesses, opportunities, and threats) and AHP (analytic hierarchy process) approaches to perform a pivotal analysis after several surveys of the textile sector in Cameroon. The SWOT–AHP strategy was used in the case of secondary data sources. The resulting analysis underlines the strategic challenges and enhances the textile sector's competing capability. The weakness and opportunity (WO) strategy broadly had the greatest significance, which indicated, correspondingly, that this strategy should be prioritized for use in the Cameroonian textile sector. Governmental authorities should serve a controlling function rather than a decision-making one, thus facilitating improvements in the management of businesses. Furthermore, it suggested that efforts must be made by the government to promote workforce education and skill development, as well as update obsolete technology, which are currently the deficiencies of the textile sector. Additionally, to add value to the national economy's capacity, Cameroon should slowly transform its cotton exports to finished textile goods within the country. To achieve this, the government, through a framework of collaboration with foreign companies, should industrialize, deregulate, and denationalize the textile industry and reduce taxes and withdrawal quotas to serve the interests of investors.

**Keywords:** textile sector; Cameroon; SWOT–AHP technique; efficiency; sustainable development



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## 1. Introduction

Today, the cotton industry is essential to the development of capitalism in the world and widely fashions the global environment in which we live [1,2]. Cotton is one of the most significant raw materials used in textile industries [3]. It is also regarded as one of the engines of economic growth and Africa's leading export crop, serving as a key commodity for the downstream industries in Sub-Saharan Africa by promoting sustainability in terms of environmental changes [2,4]. The cotton industry played a crucial role in the income of more than 20 countries in Africa during the colonial period [5] by generating wages, boosting jobs and export revenue, promoting foreign exchange, and boosting government revenue [6–8]. Currently, the West and Central African regions rank twelfth in the world's cotton cultivation, and comprise nearly 7% of the global total with West Africa, the largest region, with cotton export serving about 45% of its GDP, accounting for approximately 75% of the region's production [9,10]. Up to now, cotton farming in West and Central African regions has contributed to 12% of global exports and employs about 450,000 people [11,12]. Within the textile sector, the demand for cotton is estimated to increase exponentially and the cotton crop will remain the most dominantly exploited natural resource. In Sub-Saharan Africa, cotton is also known as white gold, and it is considered as a potential commodity crop cotton cultivation is expected to grow by 14% by 2025, according to SSA [13]. An

increasing amount of these commodities is exported to China, Europe, and Southeast Asia, and the final products are then sold to consumers in the EU and USA. In the ranking of cotton production in African Franc regions, Cameroon remains the fifth largest producer of cotton in Sub-Saharan Africa, which contributes to Cameroon's rural production income in the three regions of the country, including the Adamawa, North, and Far North regions [14]. In Cameroon, cotton represented the fourth most exported product in the country after petroleum, cocoa, and wood products in 2016 [15]. The dynamism of this commodity in the country is incontrovertible, but the country exports more than 98% of its cotton worldwide [16]. In 2021, the country's economic resilience was based on the main export items of gas and oil, cocoa, wood, alumina, banana, rubber, and cotton, which account for one-third of Cameroon's export earnings. Cotton remains among the country's main export crops in spite of the variations in the global prices of its national resources, which have caused its economic situation to be unpredictable [17]. Because of these facts, the country's economy suffers from several environmental factors that often affect the country as well as developing economies [18]. As one of the largest economies in Central Africa, Cameroon has encountered several challenges in terms of human capital, the unfavorable business environment, and climate change [19]. In 2022, cotton accounted for 4% of overall exports, 15% of agricultural exports, and generated a XAF 30–40 billion per annum rate. These data show how the transformation of cotton into textiles can provide an opportunity for the textile sector. The authors of [20] assumed that the local cotton textile companies serve as Cameroon's primary job creators, employing more than 200,000 families in the northern regions since 2019. Furthermore, in Cameroon, the cotton cultivation sector comprised stations in the cities of Douala, Garoua, and Maroua, which served as the center of cotton-producing regions with the goal to satisfy the needs of the main actors in the value chain of the textile sector and the domestic cotton textile sector, such as cotton growers, syndicates, development companies, ginneries, oil producers, spinners, and the textile industry at large [20]. Most of these local companies function at the highest mass production, but only transforming nearly 5% of the cotton production. This highlights the fact that the industry sector is still immature and that there is a lack of transparency in its production, due to the several economic–social and environmental factors that the country is facing till today.

Part of the unfavorable consequences of the government was the appointment of unqualified leaders as the head of these actors of textiles and cotton companies, namely, the Cameroon Textile Industry (CICAM) and Cotton Development Company (SODECOTON). Note that the cotton zone of Cameroon is organized into nine cotton regions defined by SODECOTON. In the following, average national yields from 2000 to 2015 showed a trend of the highest yields increasing in cotton regions [21]. CICAM holds the monopoly system of production with only 5% of the domestic market development [14], which is deluged by cloth from China (82%) and West African regions (13%). Additionally, this unusual situation is detrimental to the domestic textile industry. These figures are opposite to the position three decades ago when the CICAM controlled 85% of the market [22]. The elevated susceptible mismanagement and the lack of transparency by advocating these cotton sector returns, to the textiles sectors disadvantage, have slowed down the transformation of Cameroon cotton into unprocessed textile products. The lack of transparency (bad governance) led to obstacles such as, the bad quality of infrastructures regarded as primary resources, the lack of research and development through financial support, the high cost of raw materials, and the obsolescence of the production equipment and inputs being among the biggest challenges that the development of the textile industry sector is facing as well as the small units (SMEs) in the sector [16,23], which are enduring a crisis distinguished by a decline in the output of production, due to the invasion of the local textiles market by imports and contraband products.

To the best of our knowledge, in light of the textiles sector feature contribution to Cameroonian economic development, including all the small units implicated, it is very necessary to carry out investigations and propose suggestions and policy guidelines to

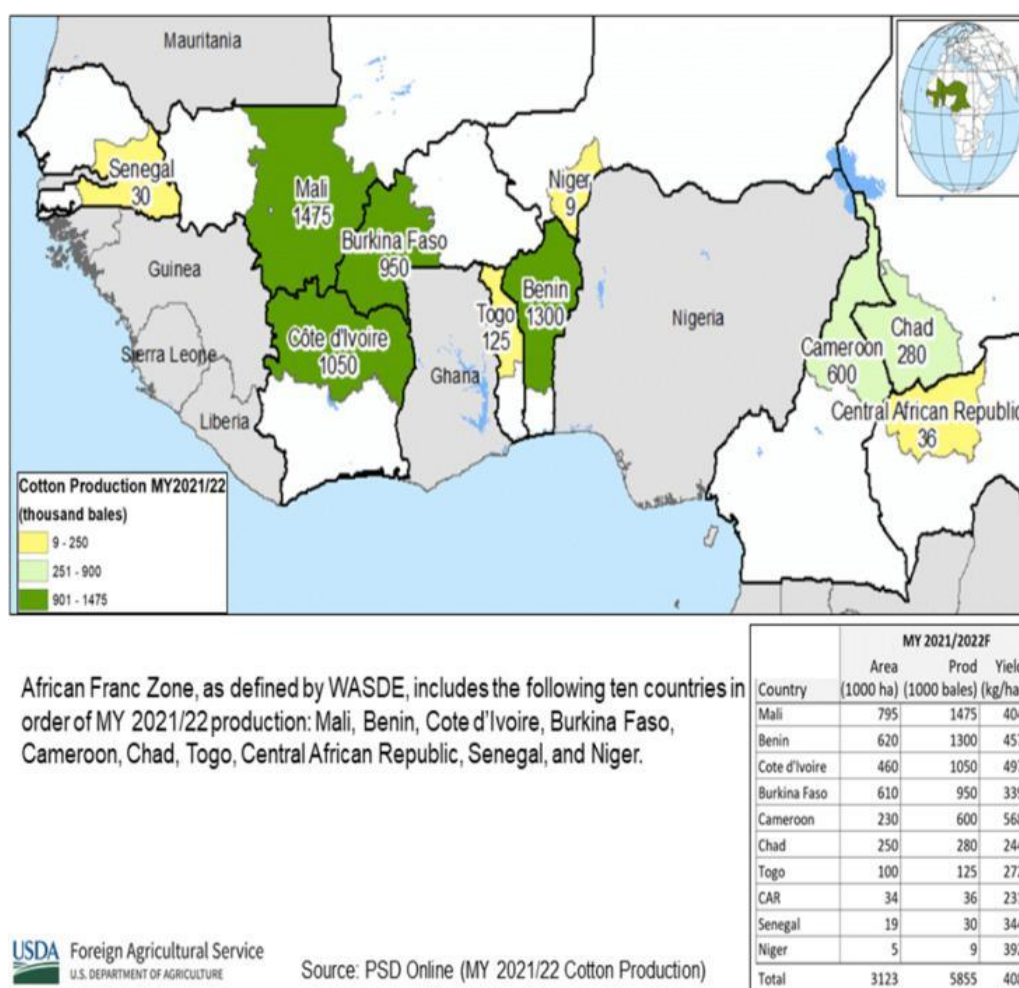
improve the textiles sector development. The objective of this study is to explore how Cameroon's textiles sector deals with those constraints and investigates the strengths (S), weaknesses (W), opportunities (O), and threats (T) components more consistently, to upgrade the quantitative analysis basis of any recommended methodological guidelines for the Cameroonian textiles sector and for government institutions' involvement. In this view, we focused on three inconstants to acknowledge it: (1) Managerial components impacting the performance of textile industry productivity (input inconstant). (2) Decision making and productivity (output inconstant). (3) SWOT/AHP approach conciliating the relationship between (1) and (2). The results from examining this inconstancy through each group and priority (SWOT/AHP) will feed into the existing literature and assist the managerial implementation and the successful master plan for the sustainable development of the textile sector. This study proposes the technique of the SWOT–AHP model and reliable assessments for Cameroon's textile sector in the country's development. Regarding the technique model, SWOT provided a qualitative analysis basis, carrying out the study in Cameroon's textiles sector development. The AHP model helped in allowing the SWOT model to be used, especially by identifying the priority components included in the SWOT model and conditions, solving current obstacles and difficulties in a targeted manner, recognizing the problems encountered, and offering strategic plans to achieve the effectiveness and efficiency of the textile sector. For future research, foreigners' investments and good governance in Sub-Saharan Africa, mainly in Cameroon, can be improved by contributing more value added to the national economy's capacity, together with managerial support for the state and enterprises. Section 2 presents the literature review. Section 3 describes the evaluation scheme. Sections 4 and 5 are the methodology, results, and discussions, respectively. Finally, Section 6 summarizes the conclusions and policy recommendations.

## 2. Literature Review

### *Cotton Textile Outline*

The global cotton industry significantly contributes to the economies of many developing nations, including the livelihoods of several countries [24]. In 2019, world cotton production was prized at nearly USD 46 billion. The leading countries, China, India, and the United States of America (USA), were the largest cotton producers in 2018/2019, standing for nearly one-quarter of the global total production, respectively. Today, these countries remain among the top five producers worldwide. The cotton industry has provided a revenue source and has contributed to poverty alleviation for about 150 million individuals among 75 countries, causing the cotton crop to be a generator for the economic development of several developing countries and for accomplishing the 2030 agenda for sustainable development [24–26].

In Africa, before the regime colonial, the production of cotton was concentrated in countries such as Egypt, Tanzania, Uganda, Sudan, and Zimbabwe [27,28]. With the coming of the French colonies, the concentration of the crop production shifted to the Sub-Saharan Africa tip of the continent. Now, the volume of the total export of the crop contributes to nearly 45% of Sub-Saharan-African countries' GDPs [10], with 12% coming from the GDPs of the five major producers in the continent such as Benin, Ivory Coast, Burkina-Faso, Cameroon, Chad, and Mali [29]. The demand for textile products depends on the demand for cotton. Globally, the cotton sector will remain the dominant textile of raw materials. According to [30], in the 2018–2019 cotton campaign, Cameroon (132,990 tons) was the third biggest cotton manufacturer in the African franc zone, behind Burkina Faso (185,044 tons). In 2021–2022 cotton seasons, Mali, with an annual production of 1475 thousand bales, was the biggest cotton promoter; afterward, Benin, with an annual production of 1300 thousand bales, Ivory Coast, with an annual production of 1050 thousand bales, Burkina Faso, with an annual production of 950 thousand bales, and, then, Cameroon, with an annual production of 600 thousand bales [29], as illustrated in Figure 1.



**Figure 1.** Cotton cultivation for the African franc zone. Source: SD Online (MY 2021–2022 Cotton Production).

Analyzing the abundance of cotton export operation in Sub-Saharan-African countries highlights how they are expected to be the third largest exporter of raw cotton production in 2029 behind China and India, which continue to be the pivotal cotton producers in the whole world [31]. In 2021, the worldwide textiles market-based size was evaluated to be USD 993.6 billion and was estimated to attain USD 1032.1 billion in 2022. These statistics reveal how the top five producers of cotton in the Sub-Saharan-African countries contribute as well, as producers of raw material for the global cotton industry [32,33]. In the same vein, according to [14], the cotton industry is an important contributor to Cameroon's rural producers' income.

The cotton growth industry, as the country's backbone, has been challenged in various ways. For example, the rising competitiveness between cotton producers in Sub-Saharan-African countries [8], lack of investment in textiles equipment, and poor infrastructure quality in the raw material production of cotton into completed textile fashion goods [34]. Thus, the challenge of infrastructural obsolescence is combined with the hefty political interference with the cotton textile industries. The political interference has stalled Cameroon's capability to produce its cotton raw material into completed textiles products. At the same time, cheap and fake textiles products imported from Asia, Europe, and Turkey and the growing competition from other neighboring nations in the regions [35] are additional important problems for the local textile industry. From this, the government has attempted to revive the textiles industry sector [36,37]. The decisions and directions of these strategies were not accurately implemented [16]. For example, the Cameroonian textile industry



(CICAM) and the Cameroon Cotton Development (SODECOTON) both received financial support from the local authority. However, this financial support could not overcome the challenges faced by the industry sector in the long term. Despite Cameroon's strategic and geographic location as a Central African country, being open to the Gulf of Guinea means it is considered a coastal entry point for "Africa in miniature". The country, due to its strategic position at the crossroads between West Africa and Central Africa, has been categorized as being in both camps, as displayed in Figure 1. The country has not yet seized these tremendous opportunities to enhance its market development and penetration.

Finally, according to the IMF Country Report No. 22/76 of 10 February 2022, cited by [38], the growth of the industrial sector in Cameroon is restricted by the inefficiency in the industry sector, the negative impact on the performance of the industries, and the high input costs for firms. It still requires good governance reforms (in particular, investments in industry performance, research, and skill development), technical and financial support for state-owned enterprises, and sectoral distortions attempting to enter the market and to assist them by providing subsidies and tax incentives.

### 3. Evaluation Scheme: An Extensive Understanding of AHP and SWOT Outlook

As previously reported [39], the SWOT approach explores interior and exterior priorities to assess the achievements of organizations. The internal and external factors represent the strategic management to improve a company's performance. They have impacts on several aspects of enterprise operation and the management of innovation. Those components allow us to determine its competitive position, the position that the enterprises occupy in the industries, and a special market integration, according to the company's performance compared to other enterprises [40,41]. From this view, the strengths and weaknesses are judged as internal factors (priorities), while opportunities and threats are external factors [42–44]. It is clearly observed that the SWOT technique provides a descriptive investigation and assessment to analyze the quantifiable selected components [45–47]. According to the earlier literature, the AHP technique is a determination assistance for multi-criteria challenges [48]. A synergetic effect of SWOT and AHP methods allows for a more accurate qualitative and quantitative decision. In this study, relying on the SWOT–AHP archetype, the strengths (S), weaknesses (W), opportunities (O), and threats (T) components system is created. Next, the data of the investigations are assessed utilizing an analytic hierarchy process.

#### 3.1. Conception of AHP Framework

AHP, a decision-making methodology, consists of the observations of events as well as the insight of responders crucially analyzing the fitting parameters and linking these constituents to the preferred outcome through pair-wise reasoning. Next, the conversion of reasoning into numbers is compared against all realizable criteria [49]. The benefits of AHP include its flexibility to establish objectives and its ability leading to both qualitative and quantitative decision features. Consequently, this technique is a common assumption with regard to its application in various study directions. The work involved in solving a problem using the AHP comprises two phases. In the first phase, the hierarchical structure of the system is prepared, and, in the second phase, individual elements are evaluated and the consistency of the evaluation is checked.

Applying a combination of the analytic hierarchy process and the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) strategies, for example, a decision support system (DSS) software construction played a key role for cotton fiber classification and choice [50]. AHP acquires the considerable significance or weight of cotton fiber/textile attributes. It is noted that the designed DSS software favors the categorization and selection of cotton fibers from all features of yarn standard. An efficient use of the AHP method evaluating the natural hazards in Cuenca caused by the textile industry was observed. Fortunately, a significant AHP instrument ascertaining the greatest solutions for ecology-polluting agents was proposed. AHP has also governed prioritizing livelihoods and the

employed procedures are efficiently and reliably involved, thus reducing the misery in developing countries [51]. Although this approach can be applied in individual processes of decision making, especially in solving complex challenges related with a high level of risk and dealing with human judgement and perception, the objections include the nonexistence of a theoretical basis for constructing more competitive hierarchies [52].

### 3.2. A Blueprint of SWOT Analysis

Many efforts have been used for evaluating the performance of an organization. For example, as previously explored, the Strengths, Weaknesses, Opportunities, and Threats (SWOT) technique was used to assess the organizations' internal and external achievements. The SWOT analysis technique assesses the problems menacing Pakistan's textile and clothing sector [53]. This technique assisted the tactical progress of the textile and clothing firms in Pakistan and administration executives through an enumerative strategy to the manufacturing's strengths, weaknesses, opportunities, and threats. In a similar way, the SWOT technique was utilized to study the textile industry in Turkey [54]. From this, in Turkey, the researchers used SWOT to assess surveys carried out among students, department leaders, the textile industry managers, and alumni principals. Performing an applied SWOT analysis of the textile industry also helps to determine the textile company's long- and short-range strategic planning through a systematic approach or aims for the company management to formulate their long-range and short-range strategies. This is to identify the internal and external factors relevant to a respective textile industry supply chain, which is useful for improving its competitiveness. The method is applied to find interrelations and create a casual diagram of factors for each four groups separately. It is a guiding framework because it can lead to proposing strategies, which the organizers of technical textiles industries can implement to increase industry competitiveness. Therefore, a SWOT evaluation aims at personal or sectoral analysis.

Combining SWOT and AHP methods is an efficient instrument in multi-criteria decision-making (MCDM) circumstances that favors decision makers in targeting proactive decisions to profit the organizations they handle. These tools have been utilized by [55–57] to address the shortcomings in the industry. In this partnership, a SWOT assessment supplying elementary schemes to analyze decision-making situations was built, whereas an AHP technique delivering various comparisons among criteria to highlight them was applied. This cooperation of these methods contributes to an improvement in quantitative strategic decision making [39]. As described in the literature, many works utilized a combination of SWOT and AHP analysis of the global textile industry to propose evolutionary methods; however, in Cameroon, no one has employed such a technique in research investigation. We, relying on the literature about the textile industry in African countries [58–60], perform an appropriate use of a SWOT matrix to facilitate the classification, organization, and integration of the SWOT factors recognized in these investigations together with the application of the AHP technique for decision making. Remarkably, a deep review reveals the deficiency of the comprehensive strategy evaluating Cameroon's textile sector using the SWOT and AHP approach. Therefore, this work is an initial original approach for estimating and analyzing the success of Cameroon's textile sector by combining these two MCDM methods.

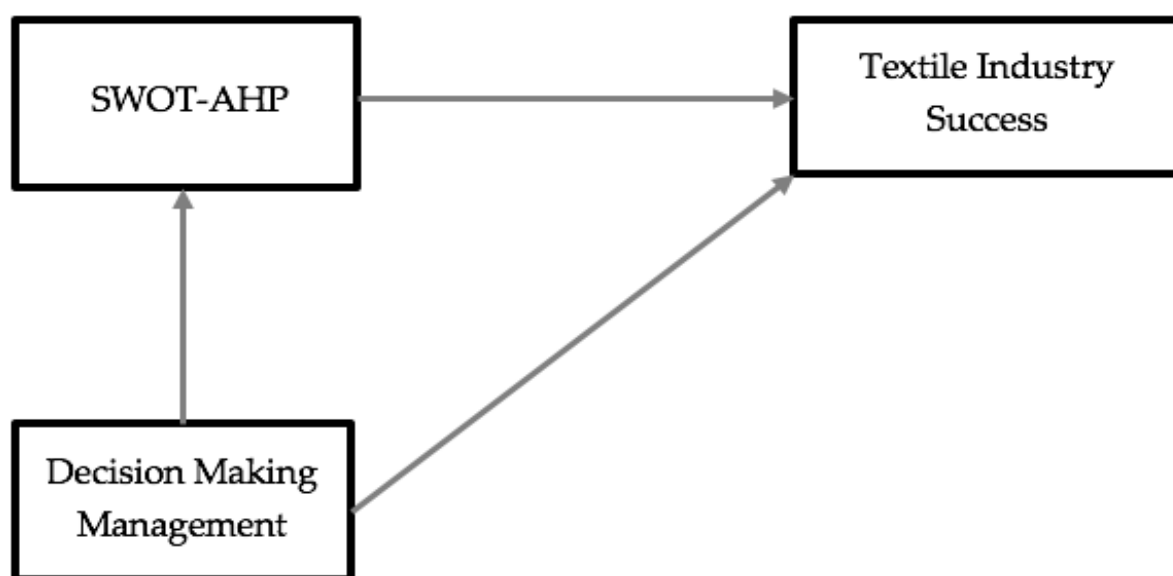
### 3.3. Influential Relationship

From our survey of the previous literature, we investigate the determinativeness of the informal sector and its influence on firm productivity by utilizing the Hicks–Moorsteen index and Data Employment Analysis (DEA) strategies to approximate factors driving total factor productivity (TFP) and its constituents for Sub-Saharan African companies, especially in Cameroon. It was undoubtedly demonstrated that the input levels of the informal textile companies were the significant drivers of TFP [16].

Few works have also analyzed the performance of textiles industries in Cameroon [61,62], but the study shows a lack of complementary methods to efficiently evaluate the directions

of the textile industry on the viable advancement of Cameroon. This investigation targets the restoration process in the textile industry sector to be more coherent, perfect, competing, powerful, and interesting. Therefore, this technique becomes a fruitful analysis for all concerned parties, mainly the state with its tactical fellow workers. An internationally elaborated collaboration, regarded as a stunning tool for private buyers either taking over lease leadership textile industry, leads to a viable recovery. Accounting for the textile sector with the Cameroonian development assistance and the concerned participants, executing methods and recommendations to enhance the advancement of the sector are presented.

From this point of view, this work targets connecting the gap between textile firm administration and its implications in the cotton textile sector by inspecting how Cameroon textiles industries address their obstacles and problems. From this, we seek to acknowledge what problems and obstacles influence Cameroonian textile productivity by addressing two hypotheses: (H1) and (H2). Therefore, this method brings us to the following question: do the managerial factors influence textile sector performance? Specifically, what is the relationship between decision-making management, SWOT-AHP, and textile industry success? Another question is what are the crucial challenges and factors affecting the Cameroonian textile sector? Figure 2 displays the influential relationship.



**Figure 2.** Influential relationship of our study. Source: Authors' compilation.

**H1.** *Managerial components affect the performance of textile industry productivity.*

**H2.** *The SWOT/AHP approach conciliates the relationship between decision making and productivity.*

#### 4. Methodology

A suitable technique is applied to attain the objectives of this study based on the benefit of statistics collected from both primary and secondary sources in Cameroon's textile industry. From this, these statistics were operated and evaluated considering both the objectives and their characteristics. Utilizing technical alternatives aiming to attain different objectives was explained by the limitations on the availability of statistical data. Considering these statistics restrictions, the use of the technical alternatives involved carrying out a descriptive evaluation of the development of the variables, for which the statistics are accessible. To further harmonize the statistics regarding the causative analyses configuration, all the variables concerned by these analyses have applied the AHP and SWOT techniques, thus creating an outstanding evaluation after a wide range of surveys and providing a promising direction for Cameroon's textile industry. Aiming to evaluate the textile industry in Cameroon, the SWOT-AHP technique was used with secondary data sources. The data

obtained from May 2022 to September 2022 in our study significantly focused on the textile construction sections in Cameroon. We selected our sample population that consisted of those managing leading units of plants and members of the country's decision-making bodies (the Ministry of Planning and Territorial Development and Industry of Cameroon). It is clearly noted that the statistics from our primary responder sampling is a key element for decision makers in these textile organizations due to their important contribution to understand the targets, direction, and suitability of strategies suggested for advancement and the problems faced by their firms. Regarding the approach used in our questionnaire surveys, the researcher-administered questionnaires survey (structured questionnaire). This technique deals with an interviewing procedure using phone and in-person surveys. Our researcher-administered questionnaires survey can allow for clarifications of ambiguous or unclear questions and answers and help you to ensure the respondents are representative of your target audience. From this method, we surveyed the union workers. Aiming to crucially understand the managerial system of the companies, this survey significantly deals with the employees of these unions, who we interviewed to collect their views. We administered 400 questionnaires. A total of 360 replies were received, and 321 samples were found relevant based on our work. Because of their responses, the other 39 samples were inconsistent after the consistency of the ratio during the analysis. This analysis consists of workers of these alliances, who we interviewed to collect their views regarding the managerial situation of their companies. In our study, the consistency index may calculate the consistency of ratio (CR) significance for AHP over the random consistency index (RI). The  $n$  (number of groups) value is 4 when RI is 0.90, and we expected the information from the responders to be suitable when  $CR \leq 0.10$ . Equations (1) and (2) below are utilized to determine the CR and to capture uncertainty in the judgments [63].

$$CR = \frac{CI}{RI} \quad (1)$$

$$CI = \frac{\lambda_{max} - n}{n - 1} \quad (2)$$

where  $\lambda_{max}$  is the highest eigenvalue in the matrix,  $n$  is the number of factors, and  $RI$  is the random index ( $RI$ ) generated for a random matrix of order  $n$ .

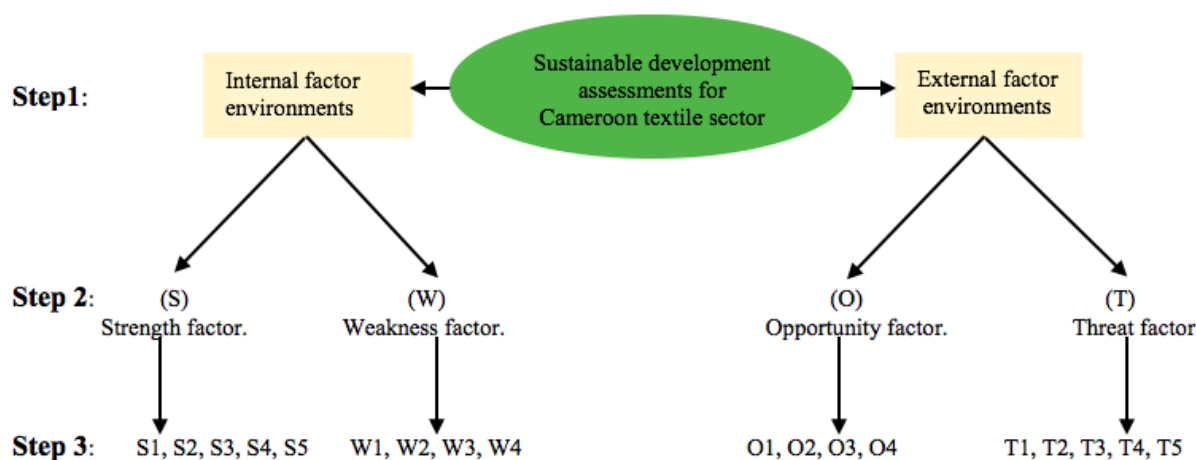
Employing the final CR can deduce whether the calculations are properly consistent. The number 0.1 is the received upper limit for CR. If the final CR exceeds this value, the calculation strategy has to be replicated to ameliorate consistency [64].

In Figure 3, the SWOT-AHP framework implemented important environments factors in three different steps: (1) Building an information basis for the Cameroonian textiles sector; (2) establishing the quadrants by the SWOT groups; and (3) conducting the quadrants factors of the SWOT groups (18 factors). Integrating the AHP model, an application survey of specialists from the Cameroonian textiles sector was surveyed by meeting the specialists right away and gathering information from them to improve the efficiency of the AHP technique. Regarding the survey outcome, we investigated the weightings of the SWOT cluster and acquired the relevant weightings of all factors under each quadrant of the SWOT cluster, with a CR of 0.1 or smaller. Prior to the AHP model, the rank was scheduled in accordance with the significance of the SWOT group, and a sustainable development strategy under each of the four factors relevant to their weightings and dynamism of the Cameroonian textiles sector was presented.

The basis of our research is developed from the literature research outcome, field observations, interviews, and questionnaires created from the analyzed interviews. Therefore, there is an analysis of the advancement of the textile industry and the difficulties faced by this study to be addressed. In this research, relying on Saaty's guidance to develop priorities within each SWOT group, questionnaires were constructed [65]. From this, due to the different comparative parameters generating a complicated and varied opinion from the responders, utilizing a questionnaire also applied multiple comparison criteria in each



SWOT group and a maximum number of pair-wise comparing constituents not exceeding  $7 \pm 2$  [65].



**Figure 3.** Explanation of three steps of the strengths, weaknesses, opportunities, and threats (SWOT) model, including various factors in each step. Source: Authors.

Undoubtedly, the concept of a pair-wise evaluation is a key point in the AHP method. In our research, a reasonably appreciable value (known as the weight) is produced during the pair-wise comparisons. This notion demonstrates the effectiveness of the hierarchic form to grade the SWOT components. It is observed that the weights are collected from the eigenvalue technical assessment, mainly in relation to the inconsistent behavior within the matrix, as shown in Equations (3) and (4).

$$(A - \lambda_{max} \times I) \times W = 0 \quad (3)$$

$$\lambda_{max} \times W = A_w \quad (4)$$

where  $\lambda_{max}$  is the highest eigenvalue of matrix  $A$  of size  $n$ ;  $W$  is the weight of vector; and  $I$  is the identity matrix of size  $n$ .  $W = (w_1, w_2, \dots, w_n)$ . Each eigenvalue is scaled to sum up to one to obtain the priorities. The authors of [48] described that  $\lambda_{max} = n$  is an essential and adequate condition for consistency. Inconsistency may appear when  $\lambda_{max}$  diverges from  $n$  due to inconsistent responses in the pair-wise comparisons. This matrix  $A$  should be evaluated for consistency. Utilizing an index, CI has been built in Equation (2).

The matrix SWOT–AHP of our work has four different factors by SWOT group, with five factors for strengths, four for opportunities, four for weaknesses, and five for threats. Table 1 presents AHP nine-point scaling strategies for assessing the comparison; therefore, we maintained the survey application [65].

**Table 1.** AHP, T.L. Saaty, and the basic 1–9 scale of absolute numbers.

Rating Scale	Definition	Explanation
1	Equal Importance	Two activities contribute equally to the goal
2	Weak or Slight	
3	Moderate Importance	Experience and judgement slightly favor one activity over another
4	Moderate Plus	
5	Strong Importance	Experience and judgement strongly favor one activity over another

Table 1. Cont.

Rating Scale	Definition	Explanation
6	Strong Plus	
7	Very Strong or Demonstrated Importance	An activity is favored very strongly over another; its dominance demonstrated in practice
8	Very, extremely Strong	
9	Extreme Importance	The evidence favoring one activity over another is of the highest possible order of affirmation

Source: The AHP technique [65].

Utilizing these selected techniques helps to assess the important factors in technically designing and increasing the recognition of the factors, which are vital in this work for decision making in business and employing them in shaping efficient methods for the Cameroonian textiles firms. In addition, it would be essential for policy makers to perceive the reasonable benefit of ecological parameters to provide and influence the sustainability of their decision-making processes. This investigation will definitely favor setting business strategies to enhance a competing ability or business success, thus leading to investments in technological and business opportunities.

## 5. Results and Discussions

By employing an AHP and SWOT analytic strategy, a beneficial evaluation of the textile companies' production during this study was achieved. From this context, we underline the foreign investment requirements for overcoming finances, opportunities, and restrictions and boosting the competitiveness of Cameroon's textile industry. It was stated that the government plays directorial and organizational roles instead of a decision-making function by addressing the facilities and energy-providing equipment. Considering the priority groups and SWOT factors on four divisions (SO, ST, WO, and WT), both fitting assessment methods and technical advancements are notably suggested. Furthermore, the respective importance of the weight or the decision/opinion makers are built in the AHP and are subsequently determined using the eigenvalue method. The rating matrix  $A$  guides the evaluation data in pairs. The outcome of the pairwise comparison on the  $n$  criteria can be condensed in an  $(n \times n)$  by matrix  $A$ . Each entry of this matrix,  $a_{ij}$ , denotes how significant the criterion  $i$  is in relation to  $j$ , with  $a_{ij} = 1/a_{ji}$ ; thus, when  $i = j$ ,  $a_{ij} = 1$ . The  $w_i$  value may vary from 1 to 9, and  $1/1$  indicates equal significance, while  $9/1$  specifies extreme or absolute significance.

$$A = (a_{ij}) = \begin{bmatrix} 1 & w_1/w_2 & \cdots & w_1/w_n \\ w_2/w_1 & 1 & \cdots & w_2/w_n \\ \vdots & \vdots & \cdots & \vdots \\ w_n/w_1 & w_n/w_2 & \cdots & 1 \end{bmatrix} \quad (5)$$

where  $a_{ij}$  is a numerical comparison between the values  $i$  and  $j$ .

Mathematical and psychological notions are being obtained from the analytic hierarchy process. This procedure provides primary and secondary data collection attributes. The AHP evaluation creates priorities for decision options employed in SWOT to assess elements and decide intensities [66]. The SWOT investigation outcomes can be produced by establishing multiple combinations between the SWOT factors and the investigation employing the eigenvalue method utilized in the analytic hierarchy process. As reported by [67], the strategy supplies strong foundations to examine both the present and predicted circumstances of developing unused replacement techniques. Decision makers then have fresh quantitative information on the decision statements to be constructed, including either definite weaknesses that need satisfied attentiveness or they expected outcomes and threats. If one weakness also outweighs all the strengths, the selected method is shaped to alleviate

the related weakness. Generally, selecting newly developed methods cannot be simply focused on the opportunity and threat points existing if they are of equal magnitude. In this research, a structure of four SWOT clusters is created and each comprises four groups (18 factors) for the Cameroonian textile industry. As demonstrated in a similar strategy by [66], the study of the corresponding significance of each SWOT group determines the factors in the SWOT group's priorities with a CR value of 0.1 or less. In this investigation, utilizing a SWOT-evaluating process and analytic hierarchy process highlights each factor that is relevant to the robustness, vitality, and powerfulness of Cameroon' textile industry. In comparison with these results, investigations employing the SWOT and AHP techniques facilitate the identification and evaluation of the performance for better decision making in various sectors. As described by [39,68,69], using SWOT or partnership with AHP in the textile industry identified the particular difficulty for a more desirable technical advancement.

### 5.1. Pragmatic Evaluation and Establishment of Advancement Scheme Presentation

#### The SWOT Matrix Construction

Following the consecutive series of expert discussions and revisions in this investigation, we found that the SWOT attributes appeared three times or more, and then determined the suitable final factors to apply to this study (Table 2).

**Table 2.** SWOT matrix analysis and descriptions of factors for textiles sector in Cameroon.

Factor	Description				
Strengths (S)	1. We utilized high-quality, cheap, and accessible raw materials	2. Cheap highly skilled labor cost	3. There are government support, benefits, and incentives	4. We have advantages in higher demand for textiles and fashion in the domestic market	5. The presence of synergized activities throughout the textile supply chain
Threats (T)	1. Growing competitiveness in markets due to innovations in technologically advanced countries involved in textiles	2. International policy of developed countries influencing the textile industry of underdeveloped countries	3. We have received dissatisfaction about the existence of geographical restraints	4. The increase in cost of imported raw materials has increased the prices of required processing material	5. Reduction in Cameroon's major textile-product-importing countries
Opportunity (O)	1. We intend to promote manufactured textile goods	2. There are several currently interested consumers and parties aiming for territorial coalition	3. Favorable conditions for foreign investments	4. Possible encouraging loans and subsidies for young entrepreneurs and start-ups within this sector	
Weakness (W)	1. The majority of the workforce within the area of production is illiterate and unskilled	2. Ranking investment within the textile industry	3. We lack research and development work compared to others	4. We receive complaints about using old and inefficient machines	

Source: Authors' compilation.

### 5.2. Evaluation of SWOT–AHP

According to the strategies in [66], we constructed three different steps for the hierarchic SWOT–AHP technique. Figure 4 below reveals that the SWOT–AHP technique is executed by the succeeding steps: the first step constructed the SWOT model through the internal and external factors; the second step compared each pair of groups to gauge the significance of each cluster (group) in the SWOT research; and the third step used the AHP technique to organize each component in the analysis clusters.

Relying on the above-stated information, the CR value is less than 0.1. We carried it out to assess the theory of the logical consistency ratio. Table 3 also provides information about the population analysis of our interviewees.

**Table 3.** Population analysis of interviewees.

Information	Designation	Density	Chunk	Rank
Sex	Men	200	62.30	1
	Women	121	37.69	2

Table 3. Cont.

Information	Designation	Density	Chunk	Rank
Civil Status	Single	15	4.67	4
	Married	220	68.53	1
	Divorced	20	6.23	3
	Survivor	66	20.56	2
Highest Educational Stages	Primary	185	57.63	1
	Secondary	99	30.84	2
	Tertiary	37	11.52	3

Source: Authors' computation.

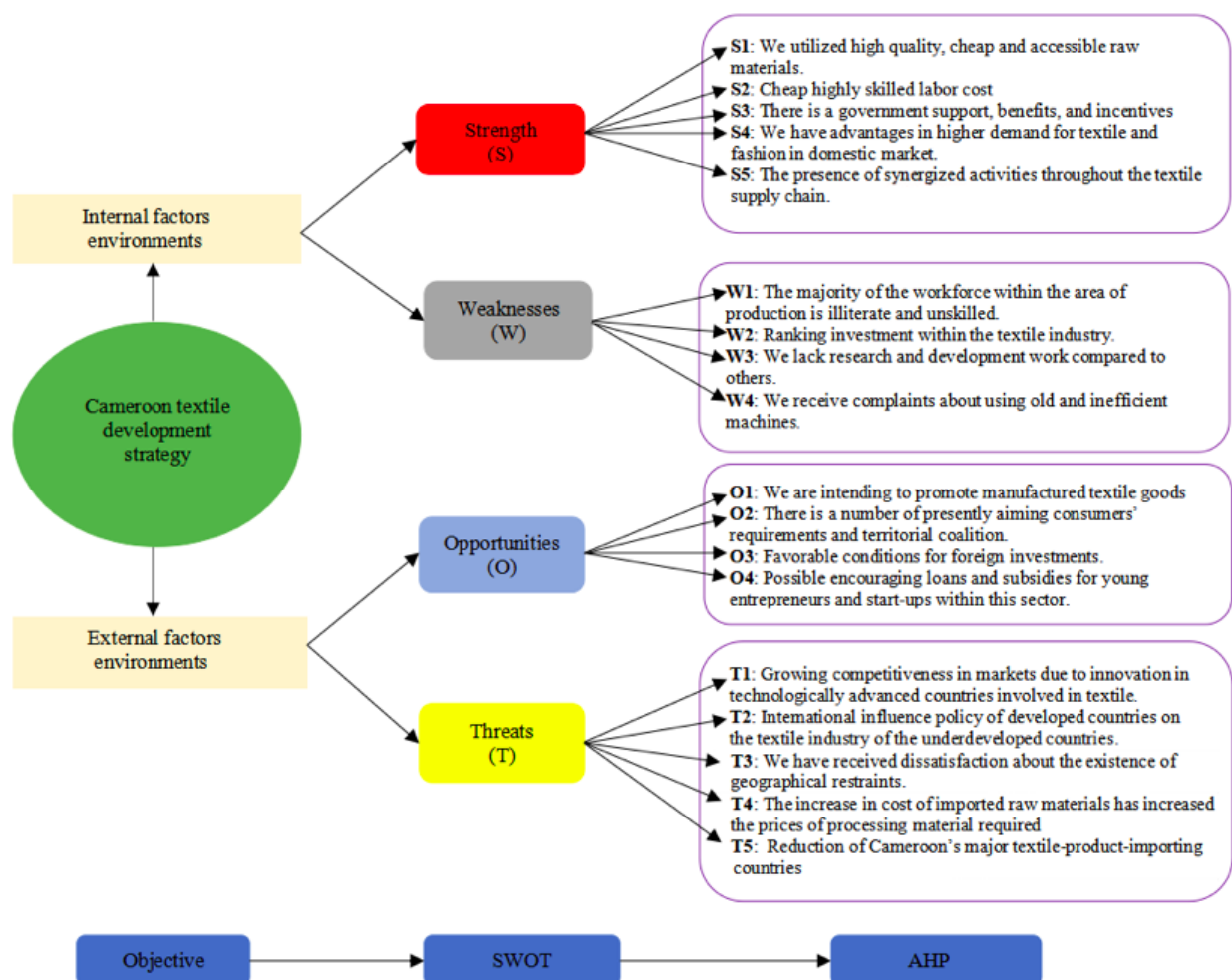


Figure 4. SWOT-AHP framework. Source: Authors' compilation.

Table 4 summarizes the factors under each of the quadrants of the SWOT group and their weightings within the group's local weight, overall priority factors, global weight, and rank. In this regard, after all, the significant factors of the SWOT group were mathematically estimated. Experts from Cameroon's textiles sector assessed the significance for the strengths and weaknesses in the internal environment factors, with a contribution of approximately 21.2% and 35.4%, and the significance for the opportunities and threats in the external environment factors, with a contribution of nearly 29.8% and 12.7%, respectively, as displayed in Table 4 (SWOT group priority). Additionally, the experts in the textiles sector evaluated the relative preferences of the SWOT group in this order: (a) overcome or decrease the weakness of the internal environment factors that impede the textiles industry sector from taking advantages of these internal environment factor opportunities, and (b)

intensify the usefulness of the internal environments (strengths) to minimize the influence of the external environments (threats). The integrated blueprint alternatives using the SWOT–AHP technique results can be summarized as follows:

For the SO blueprint:  $(S_1, S_3) S_3 + (O_1, O_3) O_2$ ; for the WO blueprint:  $(W_1, W_3, W_4) W_3 + (O_1, O_3) O_2$

For the ST blueprint:  $(S_1, S_3) S_3 + (T_1) T_4$ ; for the SW blueprint:  $(W_1, W_3, W_4) W_3 + T_1) T_4$

**Table 4.** Overall priority results strengths, weaknesses, opportunities, and threats (SWOT) analysis.

SWOT Group Priority	Factors	Local Weight	Rank	Global Weight	Rank
Strengths (S): 0.212	$S_1$	0.350	1	0.045	7
	$S_2$	0.201	3	0.035	11
	$S_3$	0.222	2	0.041	8
	$S_4$	0.178	4	0.015	15
	$S_5$	0.156	5	0.012	16
Weaknesses (W): 0.354	$W_1$	0.368	1	0.104	1
	$W_2$	0.125	4	0.039	9
	$W_3$	0.255	2	0.085	2
	$W_4$	0.189	3	0.055	6
Opportunities (O): 0.298	$O_1$	0.370	1	0.069	3
	$O_2$	0.223	3	0.031	13
	$O_3$	0.340	2	0.063	4
	$O_4$	0.157	4	0.029	14
Threats (T): 0.127	$T_1$	0.245	1	0.059	5
	$T_2$	0.215	4	0.011	17
	$T_3$	0.133	5	0.037	10
	$T_4$	0.231	2	0.033	12
	$T_5$	0.220	3	0.033	12

Source: Authors' compilation.

An integrated SWOT–AHP technique was employed to derive the weightings of the global weights in the SWOT group. The mathematical blueprint was applied between the three assessment approaches (oral, pictorial, and mathematical), due to the best suitability of the SWOT–AHP technique in terms of the effectiveness of the data input matrix coding developed by the results from the survey research. We employed the concept of the distributive approaches to evaluate the weightings based on the eigenvectors. The significance of the weights were estimated by dividing the local weight, acting for the component weight in the different convergences of the SWOT group, by the global weights, acting for the components reflecting the weight of the highest layer in the overall weighting technique. Additionally, in Table 4, the results for the significance of the global weights in the SWOT group reveal that:  $W_1$  (the majority of the workforce within the area of production is illiterate and unskilled) and  $W_3$  (there is a lack of research and development work compared to others). Both environmental factors of the weakness cluster had the first and second largest significance at 0.104 and 0.085, respectively, and  $O_1$  (we intend to promote manufactured textile goods) and  $O_3$  (favorable conditions for foreign investments). Both environmental factors of the opportunity cluster had the third and fourth largest significance at 0.069 and 0.063, respectively, while the  $T_1$  (growing competitiveness in markets due to innovations in technologically advanced countries involved in textile) factor of the threat cluster had the fifth largest significance at 0.059 and the  $W_4$  (we receive complaints about using old and inefficient machines) factor of the weakness cluster had the sixth largest significance at 0.055. Lastly, both the  $S_1$  (we utilized high-quality, cheap, and accessible raw materials) and  $S_3$  (there are government support, benefits, and incentives) factors of the strength cluster had the seventh and eighth largest significance at 0.045 and 0.041, respectively. In



this regard, there were three different factors in the weakness cluster, two different factors in the opportunity group, one factor in the threat cluster, and two different factors in the strength cluster, among the top eight significant factors of the SWOT group, with levels of significance greater than 0.040. As a result, the SWOT–AHP analysis of the L-weights,  $S_1$ ,  $W_1$ ,  $O_1$ , and  $T_1$ , were the most significant factors in the SWOT group, with percentage of nearly at 35%, 37%, 37%, and 26%, respectively.

### 5.3. Discussions

Textile production efficiency is regulated by key performance indicators [70–72]. Companies need to produce a technique to position itself in relation to its competition and competition plan. The authors of [73] assumed that McKinsey and Company created performance measure in the 1960s to assess and monitor the supervision aspects that impact the growth of a firm. The variables that contribute to firm development differ by activity type. For example, textiles factories evaluate their performance based on plant capacity components that incorporate the production capacity, utilization capacity, size capacity, employment curve, and actual fields. The production cost, technology adoption, market price, and managerial competence are indicators as well [74,75]. These crucial indicators of performance determine the production competitiveness of textiles mills. This study evaluated a diagnosis of the resilience of Cameroon’s textile companies. We developed a SWOT matrix of textiles enterprises in Cameroon, as shown in Table 2. This configuration apprehended the essential environments of the sector and objectified them from general literacy while assessing the crucial challenges of the industry sector. The local and global priority of the SWOT factors were evaluated, and the outcome was depicted with a graphical illustration in Figure 4. Table 4 denotes the outcome of the relative weight results of the SWOT factors. The results of the criteria weighting, as shown in Table 4, have met the CR standard, where the largest CR value is 0.1. The analytical outcome highlights the need to solve the problems of low education in the workforce within the area of production, skills development, and update technology obsolescence, which are the deficiencies of the textiles sector. Proof materials from other researchers [76–78] also briefly clarify the equivalent problems that contend with other textiles firms in Bangladesh, India, and Uzbekistan. Clearly, the distinction in the research correlated to those nations is that their authorities do not have an ownership system on firms. Regarding the industrial development, the availability of raw material [79] and technology are significant in generating added value for community and association performance [80].

#### Reliable Growth Approaches for Cameroon’s Textile Sector

Sustainability implies that a given action or business can be sustained. The perspective of sustainability development has acquired considerable importance in problem solving issues [81–83]. According to [84], sustainability endeavors to enclose three principal aspects, namely, environmental, economic, and social dimensions. The authors of [85] assumed that the exploitation of the sustainability strategy could be a prospective resolution for many difficult challenges, as well as vitality-related issues. The production of sustainability and fashion is significantly important to skillfully use our assets and reduce waste and associated expenditure [81]. The authors of [84] suggesting using the three interrelated sustainability dimensions and the famous three-circles-diagram demonstration first illustrated by [86] but for developing countries. The increase in sustainability is being perceived as a considerable objective by decision makers at both national and international levels. Generally, according to [81], sustainability in the fashion industry has obtained celebrity endorsement from scientific research and activity practices.

From Table 4, various conclusions can be drawn, which checklists the local weight and global weight within each of the quadrants of the SWOT group.  $W_1$ ,  $W_3$ , and  $W_4$  are weaknesses grouped in order of weight with the potential to empower by strengths  $S_1$  and  $S_3$ , through opportunities  $O_3$  and  $O_1$ , while minimizing threat  $T_1$ . The results of the SWOT–AHP method calls for adjustments in Cameroon’s textile sector, incorporating SO

as strengths and opportunities, WO complement weaknesses, ST as strengths to overcome threats and use opportunities, and WT to minimize weaknesses and prevent threats. The sustainable strategies of the textiles industries can be divided into four classifications: SO, ST, WO, and WT, as displayed in Table 5. In accordance with the findings, (H1) and (H2) are approved.

**Table 5.** Development strategies and method dimensions.

Dimensions	Evolution Approaches
SO	<ul style="list-style-type: none"> <li>Utilizing the advantages of the high-quality, cheap, and accessible raw materials and the Cameroonian's government support and benefits.</li> <li>Establishing strategies for business diversification by promoting manufactured textile goods through favorable conditions for foreign investments.</li> </ul>
ST	<ul style="list-style-type: none"> <li>A scheme that can maintain competitive advantage through costs or a differentiation advantage is needed.</li> <li>Due to innovation in technologically advanced countries involved in textiles, differentiate the preparation for competition in the textile industry.</li> </ul>
WO	<ul style="list-style-type: none"> <li>The government should act as a controlling function rather than have a decision-making responsibility, by facilitating improvements in the management of these dealings.</li> <li>Stimulating textile industries to design and apply suitable plans to stimulate the capital-intensive textile elements.</li> </ul>
WT	<ul style="list-style-type: none"> <li>Improving the low education level of people, research development, and inefficient and old machines, which are weak points of Cameroon's textiles industry.</li> <li>Preparing for intensifying competition within the textiles industry.</li> </ul>

Source: Authors' compilation.

$S_1$  and  $S_3$  are comparatively significant in the strength group, while, at the same time,  $O_3$  and  $O_1$  are essential for the opportunity group. As a result, for the crossing of the SO blueprint, it is necessary for Cameroon's textiles sector to use the advantages of the high-quality, cheap, and accessible raw material and the Cameroonian government support, benefits, and incentives. Additionally, the textiles sector intends to boost manufactured textile goods, and the country is very favorable for foreign investment companies. Thus, it is very important for the Cameroonian government to establish a detailed strategy to seize opportunities for business diversification in the local and Central Africa levels. Based on the above conclusions, (H2) is verified.

Among the most challenging issues that threaten the Cameroonian manufacturing textile industries in the treatment group is the impact of growing competitiveness in markets due to innovation in technologically advanced countries involved in textiles,  $T_1$ . It raises various questions: Can the government provide more value added, or does it negatively affect the textile field? In fact, the result shows that, although the technological innovations in the textile industry are outdated, the government's implication does not favor the emergence of these firms, but rather their mechanisms. This is demonstrated by its implications and intervention in the governance process. Therefore, building an appropriate blueprint through a public–private cooperation is important to strengthen and employ the organizational strategy of textile companies in Cameroon. This would enable coordinating decision making and eradicate its mechanism through governmental implication. As a result, for the crossing of the ST blueprint, Cameroon should be preparing to take advantage of the high-quality, cheap, and accessible raw materials, which are the strengths of Cameroon's textile industry, utilize government support, benefits, and incentives, and, simultaneously, build tangible goals to be prepared to gain control over growing competitiveness in markets due to innovation in technologically advanced countries involved in textiles for the ST blueprint. Thus, creating strategic management that can sustain and support comparative

advantage over costs and high-quality services in the textile sector are very crucial. In accordance with the findings, (H2) is approved.

In the case of the weaknesses group,  $W_1$ ,  $W_3$ , and  $W_4$  had comparatively high significance. It suggests that the national authority encourages, creates, and integrates value chains. Hence, for the crossing of the WO blueprint, it suggests that the government should act as a controlling function rather than have a decision-making responsibility, thus facilitating the improvements in the management of these dealings by focusing on the improvement of the workforce within the area of production, the unskilled, and in research and development and updating the use of old and inefficient machines. As previously discussed with the SO and ST blueprints, it is essential to enhance the weaknesses and to overlook the external environment factors such as opportunities and strengths with a priority on the cotton-making business, particularly on raw material farming. Therefore, the country's development must stimulate the textile industries to design and apply suitable plans to stimulate the capital-intensive textile elements (international commodities and trademarks) [87]. With this, the textile sector needs to vigorously pursue partnerships with foreign investors willing to invest in the sector through joint ventures strategic partnerships. Based on the above conclusions, (H2) is verified.

Lastly, for the crossing of the WT strategy,  $W_1$ ,  $W_3$ , and  $W_4$ , which represent the most critical weakness factors, and  $T_1$ , one of the most significant threat factors, need to be reduced. As mentioned above, considering the WO and ST blueprints, Cameroonian authorities might need to improve the training of the workforce, research and development, and old and inefficient machines and also boost the product accessibility for manufacturing the textile sector industries, consequently intensifying competition within the textile industry. In accordance with the findings, (H2) is confirmed.

Our findings show that the environment factors of the strengths and weaknesses of the textile sector were conducted. This revealed that acknowledging the external factors was as significant as appreciating the internal factors with the purpose of the present analysis. We obtained some feasible strategic guidelines that could be developed and used to assist the textile sector in Cameroon to achieve its goals and secure its sustainability. Those strategic guidelines revealed that the Cameroonian government should focus on improving the education level and skills or training of the workforce, which raise awareness concerning the importance of the research and development of textile goods and funding for upgrading technology, which are the weaker issues of the textile sector in Cameroon. Furthermore, the industry sector should progressively transform its cotton production to final textile goods, which will have a positive effect on value-added manufacturing. Achieving this, the Cameroonian government should play a leading role in the sustainability of the industry both vertically and horizontally through collaborations and joint ventures with foreign multinationals willing to revive the textile sector. Industrialization, deregulation, and denationalization of the textile sector, reducing taxes, withdrawal quotas, and more investors are confident first concerns. Lastly, the Cameroonian government should promote various incentives for the evolution of the industry sector and elevation of the textile sector through the Make in Cameroon initiative. Based on the above conclusions, (H2) is verified.

According to [65,66], the research conducted on the sustainable development strategy of the Uzbekistan textile industry, which is in line with our study, found that the state needs to add value to low technology and resolve the challenges of high-priced imported primary resources and the low level of worker education and research and development, and should progressively shift from cotton to textiles goods, thus promoting a high-added-value economy and boosting alliances with foreign firms. The slight difference between Uzbekistan and Cameroon firms is that state has no significant influence on the monopoly system, which hinders the governance of these firms. These are a few examples of the weaknesses of Cameroon's textiles sector that, when solved, will boost competition within the textile sector.

## 6. Conclusions and Recommendations

Cameroon's textile sector encounters so many troubles in leading the country's economy. In this study, we have investigated the critical factors of the country's economy advancement by using a SWOT–AHP outlook, which was conducted on other developing countries such as Bangladesh, India, and Uzbekistan, which are also ruling cotton and textiles producers worldwide.

Currently, Africa's textile sector, especially in Cameroon, encounters enormous problems, including managerial resource deficiency and financial expertise inadequacy, thus threatening its survival. As an example, the Bangladesh administration was essential in establishing its revival policy and facilitating the sector's development by clearing limitations on foreign investment. According to the previous literature [88] on the Sub-Saharan African textile sector, Cameroon's textile sector encounters various problems obstructing its survival and the country's issues need to be addressed. Foreign investment is also suggested to overwhelm resource restrictions and enhance the competing abilities of organizations, significantly reflecting the electricity deficiencies and archaic instruments. The governmental authorities should have controlling function rather than decision-making responsibilities, so they can facilitate improvements in the management of the businesses. The country's development must encourage the textile industries to design and apply suitable plans to stimulate the capital-intensive textile elements (international commodities and trademarks) [87]. This country's textile regulator ability will further bring about a significant reduction in the youth unemployment rates. Applying a SWOT–AHP outlook revealed that the Cameroonian authorities might need to strengthen the textile sector technology and boost product accessibility for the manufacturing textile sector industries.

In summary, in connection with (H1) and (H2), this investigation shows that the weakness and opportunity (WO) strategy definitely has the largest significance, which revealed that this scheme must be prioritized for Cameroon's textiles sector.

During the investigation, the limitation involved a small sampling and a feasible level of measuring errors, even though the researchers strived to reduce misconceptions and inaccuracies. Additionally, the weaknesses stay in the constituents of the SWOT aspects established using relevant studies. We also employ the AHP analysis to restrain the number per constituents to four (strength, weakness, opportunity, and threat), thus identifying that a greater appropriate number of constituents to be evaluated would aggravate consistent behavior in sustaining reasonable conclusions and findings. Future study will include exploring and investigating the significance and urgencies of the AHP using a well-systematized and designed representation in the group of the major elements in the development of the textile industry in Cameroon.

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