The Determinants of the Adoption of Environmental Certification Case of the Finishing Sector in Tunisia

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Abstract

Addressing the challenge of adopting eco-labels by developing countries, firms Textile Clothing (T-C) have the opportunity to become certified according to the criteria of the most common ecolabels such as Oeko-Tex 100. In the Tunisian case, the pressure caused by a possible labeling of textile reinforces the threat of disappearance already weighing on any part of the textile industry that can't afford to modernize. Thus, the progressive eco-labeling of environmentally friendly producers is inevitable. It will be a criterion for selection of suppliers by European prime. Tunisian companies are majority owned eco-labeled finishing, upstream branch of the industry and interacting with all other branches upstream: spinning, weaving, components and accessories, and branches below: Making and hosiery. The finishing uses chemical inputs and dyes and therefore carries more interest in environmental certification. We studied the determinants of environmental certification in the finishing sector in Tunisia. The analysis is conducted in cross section for the year 2009 using a Probit model. According to the literature, we show that the actions of promotion of Oeko-Tex certification, should apply mainly to large companies, subcontractors, those who are in partnership and belong to groups. We also show that finisher exporter, co-contractor, or to its own production does not influence the probability of adoption of Oeko-Tex ecolabel. Tunisian finishers who conducted an industrial recovery are not interested in environmental certification. However, in the medium term they face new requirements to improve the offer. If the Tunisian authorities have chosen to support the upstream industry in the industrial recovery, their actions must be accompanied by an awareness and assistance for environmental certification from upstream, especially the finishing industry.

Keywords: environmental certification, ecolabels, Oeko

Faced with the problems of the adoption of eco-labels by the developing countries, firms Textile Clothing (T-H) have the opportunity to certify according to the criteria of the Oeko-Tex. In the Tunisian case, the eco-labeled companies are mostly finishers. We present first the importance of this sector in the Tunisian finishing T-H. Then we develop the determinants of the adoption of the eco-label Oeko-Tex by these companies.

1. The importance of finishing branch

Tunisian companies are positioned mainly on the link "production network" of the Terms of TH. The outfitters warp and weft knit and represent over 68% of all enterprises in the sector. The Tunisian offer is dominated by apparel products. Other links as supply components are unable to provide downstream. The sector lacks a textile industry that enables trace-back. The strategic study Gherzi (2004) concludes that "The debate is closed! It is too late to consider the emergence of a comprehensive Tunisian textile industry capable of meeting all the clothing needs "(p. 300).

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However, the same study recommends considering finishing as the only non-industrial integration of exception for the sector in Tunisia. This Branch can be a key factor in the competitiveness of the Tunisian TC sector. The finishing is defined as the set of chemical and mechanical processes that brings color and user features to an ecru textile support whatever his wad state, yarn, fabric or cloth. The support may be natural, artificial or synthetic. Therefore, the finishing industry includes all establishments primarily engaged in constructing laundering operations, dyeing, printing, outwash, finishes and treatments for clothing items. In Tunisia, this activity consists of 88 companies. Since 2006, this sector has experienced creating new projects in Tunisia. The main players of a wave of investments are mostly Italian international groups such as Benetton and Niggeler and Küpfer.

2- Environmental Certification: some cost elements

According Gherzi (2004), the pressure caused by possible labeling of textile reinforces the disappearance of threat which already hangs over any part of the textile sector that has the means to modernize. Thus, the gradual ecolabelling of environmentally friendly producers is inevitable. It will be a criterion for selecting suppliers by outsourcers. The valuation of existing standards, such as those of the Oeko-Tex, implies optimal organization of the production units and is aimed at more efficient of them. However, companies must meet the costs of certification. In the case of the Oeko-Tex, these are mainly related to inputs and chemicals as well as compliance tests.

a) Costs of chemicals

The results of the survey (CETTEX, 2007), show that the finishing experiencing difficulties primarily at the financial level and at the level of production. In the first case, companies are suffering from a strong pressure on prices, debt problems and a lack of funding for a very capital branch. In the first case, companies are suffering from a strong pressure on prices, debt problems and a lack of funding for a very capital branch. There is a difficulty to use the loan for working capital needs. In addition, foreign investors indicate a lack of benefits, particularly in terms of credits. For the production side, the finishing is penalized by excessively high cost factors that do not favor the return on investment for new projects. These costs relate to inputs and wastewater treatment. Companies have problems mainly concerning issues related to national environmental regulations. Indeed, these finishers judge that the NT 106002 standard is very rigid in terms of wastewater treatment. This standard is put into effect in 1989 and aims to regulate discharges of effluents in the water environment. It defines the maximum permitted concentrations of various pollutants in water before discharge into the receiving environment, mostly public lines of the National Office of Sanitation. This standard finishers deprives the exemption of 50% of the royalties. Therefore, water prices are high. According Zaafrane (2000), TH industrial sector resent the constraints of standard NT 106002. Therefore, the question of the effect of the Tunisian environmental regulations and on corporate competitiveness and comparative analysis with the prefectures of partner countries, deserve consideration and attention. For the sample of firms surveyed, costs represent 81% of sales. The share of dyes and chemicals mostly imported from abroad is 11%. The cost of water and its treatment represents a little more than 4% of turnover.

Figure: Structure of the cost
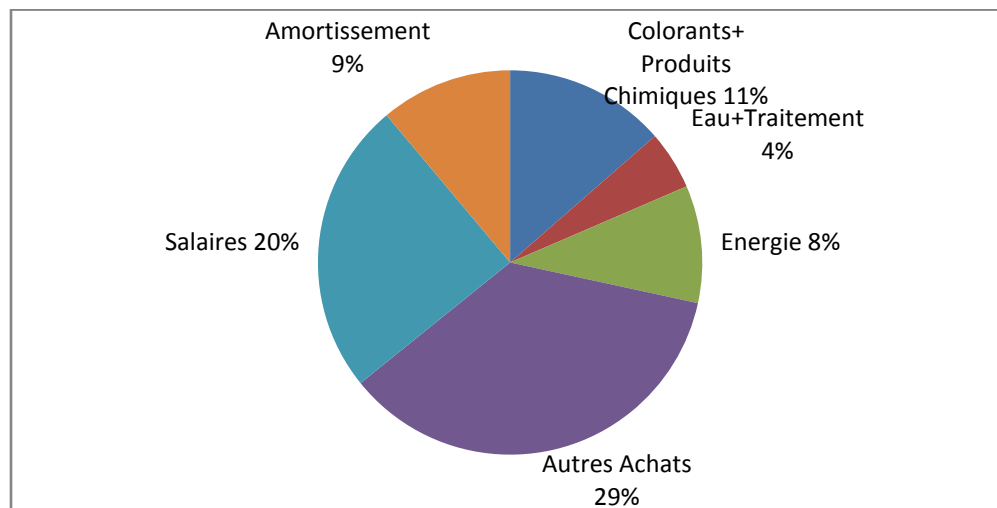
Source: CETTEX (2007)

Finishing branch companies are forced to resort to the importation of inputs needed for their production. More than 12 million Tunisian dinars of dyes and chemicals are imported annually which represents 90% of purchases of inputs. Only 10% are of local origin. This is the salt, soda and some acids. The average supply delays of 21 days for foreign inputs against only 6 days for purchases in Tunisia. The European market is by far the largest supplier with a share of 72%. The rest of the imports is provided by Eastern Europe and Asia. Tunisian companies have low bargaining power in the international market. Half of companies consider that there is a problem of availability and access to inputs. The supply through imports from the European market should be reinforced with REACH. However, only two out of thirty said they were prepared and informed about EU regulations. In the absence of a local supply of chemicals, the obligation of Tunisian companies at this stage is to provide a certificate from their supplier. His is a commitment that ensures the absence of prohibited chemicals under REACH. The importance of imported inputs especially dyes makes it difficult for finishers in the presence strict European environmental standards. These standards can reinforce dependence on the European market. The transition to the co-contracting or making the original concept requires supplies at competitive prices. According to an interview with an official of CETTEX, the ecolabel Oeko-Tex and REACH will eventually oust the share of inputs imported from outside the EU on the Tunisian market.

b) Coûts de la certification Oeko-Tex

The finishers are more concerned with eco-labeling as a quality certification. Indeed, of the 88 companies of finishing 17% are certified Oeko-Tex against only 6.8% have ISO 9000. For sub finishing branch, of the 33 companies surveyed 9 have the Oeko-Tex 100, only one ISO 14000 and ISO 9000 have 3 companies favor the Oeko-Tex on other standards of environmental quality. The Oeko-Tex is in more demand than ISO 14000. In 1997, no company is certified Oeko-Tex. We note strong support for the segment of the mesh, 90% of companies are certified. Hosiery (knitwear) experienced an annual average growth of 5% between 2004 and 2008. This division posted better performances than making warp and weft. The costs of compliance are Oeko-Tex indicative following an interview with the head of the institute CITEVE-Tunisia. In the case of an Oeko-Tex certification for pants, the costs are:

Composant	Coût en euro
Fils (coton ou polyester)	500
Fermeture	500
Bouton	200
Étiquette	500
Bande	500
Tissus	700
Teinture et délavage	1000
Sérigraphie	1000
Frais de certification	1000
Total	5900

The costs are reimbursed at 70% by the State in the upgrade program framework and technology investment priority. Certified CITEVE samples remain in Portugal and are codified according to their sources. The customer is called two months before the end of the certificate which is valid for one year. If the company changes one of its suppliers, all of the tests must be repeated. One third of the cost of compliance is related to dyeing, fading and screen printing. By cons, compliance requires significant expertise in case of own production and sources of supply meeting the thresholds set by the ecolabel. These requirements increase costs and consolidate the dependence on traditional suppliers.

2) Determinants of the adoption of environmental certification

Much literature has focused on the determinants of the adoption of an environmental management system ISO 14000 mainly. These studies relate to PD as the United States (Arora and Cason, 1995) Canada (Henriques and Sadorsky 1996) or Japan (Nakamura et al., 2001) and also in developing countries such as China (Christmann and Taylor 2001 ; Cushing et al, 2005) and Hong Kong (Chan and Li, 2001) and Taiwan (Wu et al, 2007).

In the same line of work, we will study the determinants of environmental certification, namely Oeko-Tex in the finishing sector in Tunisia.

a) Hypothesis

According to Rousseau and Zuindeau (2007), eco-labels like the other instruments of environmental management, environmental regulations are tools based on a market incentive. These elements are organized within the so-called "corporate social responsibility" (CSR). Several approaches have investigated the determinants of adoption of CSR in general and more particularly ISO 14000. A first institutional sociological theory shows the importance of the institutional environment in understanding the behavior of organizations. Hoffman (1999), Brown et al. (2006), Fowler and Hope (2007) and Tate et al. (2010) explain how changing social values, technological progress and regulations affecting decisions on environmental management. In a second approach to competition, Hofera et al. (2012) are based on the contributions of Schumpeter (1934.1942) to show that the organization adopts an environmental management as competitive action, as part of a competition with its rivals. Generally, the work refers to the third theory, that stakeholder or stakeholders (Ansoff, 1980; Freeman, 1984, 1994 and Carroll, 2000). Freeman (1984, p.25) defines stakeholders as "any group or individual can affect or who is affected by the achievement of the firm's objective." A key aspect of environmental management is the interaction of companies with stakeholders. These include workers, customers, shareholders, government or nongovernmental organizations. These stakeholders are putting pressure on firms to adopt an environmental management and social responsibility. In this vein Sarkis et al. (2010) evaluate the adoption of an environmental management in relation with customers, government, shareholders, workers and NGOs. The data is processed by factor analysis. Depending on the pressure exerted and the role of different actors, the author distinguishes between the parties' internal and external stakeholders or primary and secondary. For example, workers or managers are internal stakeholders who have a primary role in the adoption of an environmental management. These internal actors play an important role in this case. However, the media can play a secondary role. They are unable to exert the necessary pressure on companies to invest in environmental projects. Several studies highlight the common characteristics of firms that are likely to influence their environmental actions. We will try to advance our assumptions regarding the determinants of the adoption of the eco-label by the Oeko-Tex100 finishers in Tunisia.

H1: The firm size has a positive effect on the adoption of the eco-label.

The size of the company can be an important determinant of the adoption of the Oeko-Tex. Indeed, big companies are under more pressure on their environmental performance. Therefore, they engage in various environmental actions (Montabon et al., 2007; Tate et al., 2010). Generally, these companies are the target institutions regulations. They are the most publicly monitored and are considered the most polluting (Welch et al, 2000, 2002. Neumayer and Perkins, 2004; Gonzalez-Benito and González-Benito, 2006). Also, relatively large firms can bear the costs of environmental certification (Pun et al., 1999; Nakamura et al., 2001; Melnyk et al., 2003; Neumayer and Perkins, 2004; Arimura et al., 2008). They can take advantage of economies of scale in terms of pollution control equipment (Hartman and Stafford, 1997). Wu et al. (2007) use the assets of the company as proxy for firm size. Arora and Cason (1995), Nakamura et al. (2001) and Hofera et al. (2012) employ sales. Seroa Da Motta (2006) uses, meanwhile, employment as a proxy for this variable. The expected sign of this variable is positive. This variable will be measured by the use of the company.

H2: The level of internationalization of the company contributes to its environmental profile.

We assume that Tunisian shareholders do not have sensitivity to ecological issues and are reluctant to commit to a path of ecolabelling. The increase in the Tunisian capital participation could have a negative effect on the likelihood of the adoption of the eco-label. The expected sign of the coefficient is negative. The increase in the Tunisian capital participation could have a negative effect on the likelihood of the adoption of the eco-label. The expected sign of the coefficient is negative. This variable will be measured by the rate of participation in the Tunisian capital.

H3: Having the ISO 9000 certification has a positive effect on the adoption of the Ecolabel.

According to Nakamura et al. (2001), ISO 9000 certification reflects the learning capabilities and accumulated knowledge of the compliance process. This certification has a positive and significant effect on adoption of ISO 14001. In fact, companies will have previous experience with similar standards.

Learning through practice, economies of scale and overlapping documentation requirements can reduce costs. The expected sign of the coefficient is positive. We use a dichotomous variable that takes the value 1 if the company is certified ISO 9000 and 0 otherwise.

H4: belonging to a group has a positive effect.

The groups generally better organized, have an environmental vision. Indeed, the Oeko-Tex certification finishing industry requires human and financial resources and, above all an important skill. These means are relatively accessible in case of belonging to a group. The expected sign of the coefficient is positive. The groups generally better organized, have an environmental vision. Indeed, the Oeko-Tex certification finishing industry requires human and financial resources and, above all an important skill. These means are relatively accessible in case of belonging to a group. The expected sign of the coefficient is positive. We use a dichotomous variable that takes the value 1 if the firm belongs to a group and 0 otherwise.

H5: an exporter is caused to be certified

Eco-labels are analyzed in the context of information theory (Bougherara and Grolleau, 2004; D'Souza et al 2007; Heyes, 2007; Bougherara and Piguet, 2008). National customers can know and trust the national environmental regulations. By cons, foreign customers need the logo to verify the environmental commitment of suppliers and monitor their performance (and Vastag Rondinelli, 2000; Nakamura et al., 2001). Studies have confirmed this. Companies are more likely to certify whether they export their products to foreign markets (Christmann and Taylor, 2001; Corbett and Kirsch, 2001; Nakamura et al., 2001; Guler et al., 2002; Bansal and Hunter, 2003; Potoski and Pratash, 2004; King et al., 2005; Corbett, Nishitani 2006 and 2009). The export rate is used as a proxy by Wu et al. (2007) for the case of Taiwan. The expected coefficient on this variable is positive and significant. This variable will be measured by the export rate.

H6: Have a subcontracting relationship increases / decreases the probability of the Oeko-Tex ecolabel.

The finishing is using chemical inputs and dyes. This stage production is interacting with all other branches upstream: spinning, weaving, components and accessories, and branches downstream: clothing and hosiery. This interaction is intensified if the client of the finisher is an original design manufacturer, a manufacturer of own-label or the original equipment manufacturer. Indeed, once the client has decided to have the Oeko-Tex 100, the finisher is forced to turn to certify. Otherwise, where the client is not certified, the finisher is not obliged to do so. So the expected sign is ambiguous and depends on the requirements of the clients. This relationship with the principals will be estimated by a dichotomous variable that takes the value 1 if the company is a subcontractor and 0 otherwise.

H7: Have a co-contracting relationship increases / decreases the probability of the Oeko-Tex ecolabel

The finisher supports the co-contractor charges for the supply of materials and input. The Oeko-Tex can be a selling point for those finishers who have the ability to explore the markets and develop a business action. But also, certification can be seen as an extra cost especially if the finisher is obliged to certify the inputs and accessories. Co-contracting relationship will be measured by a dummy variable that takes the value 1 if the company is a co-contractor and 0 otherwise.

H8: Having its own production increases / decreases the probability of the Oeko-Tex ecolabel.

The finisher has its own production offers its customers a full package product to distribution. The Oeko-Tex can be a selling point, but also an additional cost. This relationship with the principals will be measured by a dummy variable that takes the value 1 if the company has its own production and 0 otherwise.

Table: The assumptions, variables used and the expected signs

Hypotheses	variables used	expected signs
H1: The firm size has a positive effect on the adoption of the eco-label.	Number of employees (LNEMPLOI)	+
H2: The level of internationalization of the company contributes to its environmental profile	Tunisian participation Percentage of share capital (LNPTUK)	-
H3: An exporter is caused to be certified.	Export ratio of the company (LNTAUXEXPORT)	+
H4: The group membership has a positive effect on the adoption of the eco-label.	1 : if the company belongs to a group 0 : otherwise (GROUPE)	+
H5: Having the ISO 9000 certification has a positive effect on the adoption of the eco-label.	1 : if the company belongs is ISO 9000 0 : otherwise (ISO 9000)	+
H6: Being a subcontractor increases / decreases the probability of having the eco-label Oeko-Tex.	1 : if the company is a subcontractor 0 : otherwise (SOUS-TRAITANT)	+/-
H7: Being a co-contracting company increases / decreases the probability of the Oeko-Tex ecolabel	1 : if the company is co-contractor 0 : otherwise (CO-TRAITANT)	+/-
H8: Being a company with its own production: increase / decrease the probability of the Oeko-Tex ecolabel.	1 : if the company has its own production 0 : otherwise (PPRODUCTION)	+/-

3- Empirical investigation: the case of Tunisia

a) Estimation Model

Statistical models are generally used qualitative (Logit or Probit) that test different hypotheses to explain the involvement of a firm to a CSR or an ecolabelling program (David, 2004). In light of this objective and the nature of our data namely a dichotomous dependent variable and independent dichotomous and quantitative variables, mobilizing us a Probit analysis method. This is explaining the occurrence of an event or not. In our research, the company adopts an ecolabel Oeko-Tex or not. Thus, this model admits Probit for a dependent variable, the probability of the occurrence of an event conditionally to the independent variables.
Our regress the following equation:

$$Y_i = \beta_0 + \beta_1 LNEMPLOI_i + \beta_2 LNPTUK_i + \beta_3 ISO\ 9000_i + \beta_4 GROUPE_i + \beta_5 LNTAUXEXPORT_i$$

$$+ \beta_6 SOUSTRAITANT_i + \beta_7 COTRAITANT_i + \beta_8 PPRODUCTION_i + u$$

With represent the coefficients of the explanatory variables to capture the factors that may affect the likelihood environmental certification of a finisher (i), with i = 1 ... 88.

b) The data

The analysis is conducted in cross section for 2009. The data of Oeko-Tex certified companies are provided from the association's website (www.Oeko-Tex.com). Other variables, employment, participation in the Tunisian capital, ISO 9000, group membership, the export rate, being subcontractor, be co-contractor to have its own production and are from the CETTEX database for year. Statistical details of the variables used are given in the following table:

Table 5- 4: Descriptive statistics of the variables used in the Probit model

Variables	Number of observation	Variable types	descriptive statistics			
			Min	Max	average	gap type
LNEMPLOI	88	Quantitative	1.791759	7.495542	4.064093	1.351685
LNPTUK	88	Quantitative	0	4.60517	3.101005	2.021326
LNTAUXEXPORT	88	Quantitative	0	4.60517	3.767379	1.640879
Statistiques descriptives des variables dichotomiques						
Variables	**Number of observation**	**Variable types**	**descriptive statistics**			
			Proportion		[95% interval conf]	
Y_i (Oeko-Tex)	88	Qualitative	0	.8295455	.7494154 .9096755	
			1	.1704545	.0903245 .2505846	
ISO 9000	88	Qualitative	0	.9318182	.8781062 .9855301	
			1	.0681818	.0144699 .1218938	
GROUPE	88	Qualitative	0	.7954545	.709499 .8814101	
			1	.2045455	.1185899 .290501	
SOUSTRAITANT	88	Qualitative	0	.2045455	.1185899 .290501	
			1	.7954545	.709499 .8814101	
COTRAITANT	88	Qualitative	0	.9318182	.8781062 .9855301	
			1	.0681818	.0144699 .1218938	
PPRODUCTION	88	Qualitative	0	.9318182	.8781062 .9855301	
			1	.0681818	.0144699 .1218938	

Annex 5-2 shows the correlation matrix between the variables. It appears that the majority of the variables do not have a degree of strong collinearity could affect the stability of the results.

c) **Results**

The results of the probit estimation are shown in the following table:

Table 5- 5: Determinants of the adoption of the eco-label Oeko-Tex

Variables	Coefficient	z	The marginal effects
Constante	-3.60***	-3.66	
Emploi	0.24*	1.94	0.03
% de participation tunisienne au capital	-0.31**	-1.99	-0.03
Avoir ISO 9000	1.96***	2.94	0.57
Appartenir à un groupe	1.77***	3.09	0.42
Taux d'exportation	0.10	0.54	0.01
Être sous-traitant	1.45***	3.28	0.10
Être co-traitant	-0.75	-1.11	-0.05
Avoir sa production propre	0.74	0.91	0.14
LR(8)	43.705		
Log pseudolikelihood	-21.570		
R^2 Mc Fadden	0.463		
Le taux de prédiction	92.05%		
Sensibilité	60.00%		
Spécificité	98.63%		
L'aire sous la courbe ROC	0.9073		
Nombre d'observations	88		
Nombre d'entreprises certifiées Oeko-Tex	17		

*** Significantly different from 0 (significance probability of 1%).
**: Significantly different from 0 (probability of significance 5%).
*: Significantly different from 0 (significance probability of 10%).

Interpretation of coefficients

Overall, we note that the probability for a company to be eco labeled is affected by the size, the percentage of participation in the Tunisian capital, belonging to a group, ISO 9000 certification and subcontracting relationship with donors order. For cons, the export rate has a positive effect, but not significant. Also, be co-contractor or have its own production does not affect the probability of the Oeko-Tex certification for Tunisian finishers. The first hypothesis, the size of the company positively affects the probability of the adoption of the eco-label is validated. Large firms often engage in eco-labeling that small businesses (Arora and Cason, 1995; Videras and Alberini, 2000 and Lyon and Maxwell, 2001). Indeed, when companies are large, they are concerned about environmental issues. They have strong financial capacity and may therefore bear the direct costs arising from certification.

The second hypothesis the level of internationalization of the firm helps its environmental visibility is enabled. Being a completely foreign company or in partnership increases the likelihood of Oeko-Tex certified. The shareholders in the case of companies in this sector and in the TH in general are Europeans. The latter are more sensitive to environmental issues as their Tunisian counterparts. The third hypothesis, have ISO certification has a positive effect on the adoption of the eco-label is validated. This variable has the largest marginal effect (0.57). According to literature, organizational learning and experience following the adoption of another certificate facilitate the Oeko-Tex eco-labeling. In this context, certification to the national eco-label can be a first step towards a certification according to international ecolabels, more widespread and have a better reputation.

The fourth hypothesis, the group membership has a positive effect is validated. The finishers who belong to groups are integrated with other branches. We find the following structures: weaving or knitting-finishing or finishing-knitting-finishing and clothing. In this case, traceability of inputs is easier for the stadium as downstream finishing. Coordination between the various group companies facilitates ecolabelling procedure Oeko-Tex. The fifth hypothesis, an exporter is caused to be certified, is not validated. Indeed, the quality of the Tunisian offer may explain this result. The finishing is only for low-end fabrics, finishing with a very basic type. This niche market is not interested in an eco-labeling. In addition, if the finisher performs processing on textile products for Tunisian companies clothing or spinning and weaving are exporting as part of an offshore regime, it is considered exporter. The majority of these customers are not interested in environmental certification. The limit of our research and not to introduce export destination in the equation that can be a source of information. Although the exchanges are generally concentrated on the European market, the distinction between EU countries may explain the sign of the coefficient. Perceptions and consumer demands for environmental certification vary from one country to another (Nimon and Beghin, 1999b. Bjorner et al, 2004). The sixth hypothesis, the relationship with customers is also a determinant of eco-labeling, is validated in the case of subcontractors and not in the case of co-contractors or finishers who have their own production.In the first case, a converter to be subcontractor increases the probability of the Oeko-Tex. The customer is necessarily certified. If there is a platform that coordinates the different stages of production, it requires labeling of various stakeholders. If the client is located in an upstream production stage, weaver or spinner, or downstream, manufacturer of accessories, garment maker original product manufacturer or confectionneur original design manufacturer who is obliged to be certified, the finisher must be too. Any transformation in their product, as the case of finishing, requires ecolabelling. Thus, the finisher subcontractor is required to be certified. In the second case, be a co-contractor finisher does not affect the probability of Oeko-Tex certified. The coefficient for this variable is not significant. These finishers do not have the capacity to have an eco-labeling or are not required to have it. On the one hand, customers do not require ecolabelling Furthermore, a co-contractor must provide funding and certification of fabrics and accessories. If supplier selection is based primarily on cost control, the co-contractor may face non certification of its purchases. In this case, the offer will not be certified unless to do so at his expense. In addition, outsourcers generally keep the same purchase price after certification. The finisher co-contractor might wish to look for clients that do not require the Oeko-Tex to avoid the costs of compliance, which is not obvious. In the third case, have its own production does not affect the probability of Oeko-Tex certified. In addition to the duties of a co-contractor, the finisher that has its own production provides a full package product to distribution it offers its clients. In this case the finisher is typically built up the chain and frame making or hosiery. Certification procedures are more expensive and complicated for him. Indeed, the purchase of certified inputs might affect the significant production costs and would require additional investments.

Conclusion

Tunisian companies have adopted the most common ecolabels such as Oeko-Tex. The branch carries finishing more interest in certification our objective was to know the profile of eco-labeled companies. The determinants of adoption of the Oeko-Tex have been identified using a probit model. Our results provide insight on how companies react to ecological issues. According to the literature, we show that the actions of promotion of Oeko-Tex certification, should apply mainly to large companies, subcontractors, those in partnership and belong to groups. We also show that a finisher exporter, co-contractor or its own production does not influence the probability of adoption of an Oeko-Tex ecolabel. Tunisian finishers who performed an industrial recovery are not interested in environmental certification. However, in the medium term they face new requirements to improve the offer. If the Tunisian authorities have chosen to support the upstream sector in the industrial recovery, their actions must be accompanied by an awareness and support for environmental certification from upstream, especially the finishing industry.

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