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Eco-Tag
The Eco-analysis tool for the Fashion Industry

ECO-Tag: The Eco-Analysis Tool for the Fashion Industry

Presentation

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Over the past three decades a range of certification schemes have developed to enable manufacturers and farmers to participate in improving either the conditions of their workforce or improve the environmental impact of their product. The initial idea of the Eco Analysis Tool was to enable SMEs to identify and prove to their customers how much they were already doing towards becoming more sustainable and how ethical their production already was without necessarily applying to join one of the existing schemes - as this would represent a significant cost burden. As research has progressed though it has become evident that what is required is a complex database (updated as new developments in technology and materials become available) which enables companies to identify which areas of the production chain use the most time, energy or resources.

Ella Sharp and experts in fashion research, energy management and software and database development from Coventry University and UK Unplugged Technologies have been working to develop a database and labelling system as well as a mechanism/software package for calculating the ECO rating of individual garments. With this information companies could reduce costs and improve their Corporate and Social Responsibility Code whilst maintaining their profit margins. The Eco-Analysis tool will identify how well an individual product performs in both ethical production and sustainability; the customer can then make an informed choice and the designer can see how, but more importantly where, their decisions can have the greatest impact on the final outcome.

The resultant Eco-label for clothing is intended to assist individuals in making an informed decision about their clothing purchases, enabling them to positively discriminate in favour of products, which are environmentally and socially responsible. The online Eco-Analysis tool would also empower the SME to make decisions on material choice and production method, ethical implications and to provide post user advice on most Eco-friendly cleaning methods. This would thus inform the design process. The project has been led by and involved working with British fashion companies to develop the labels in a way that is relevant to them.
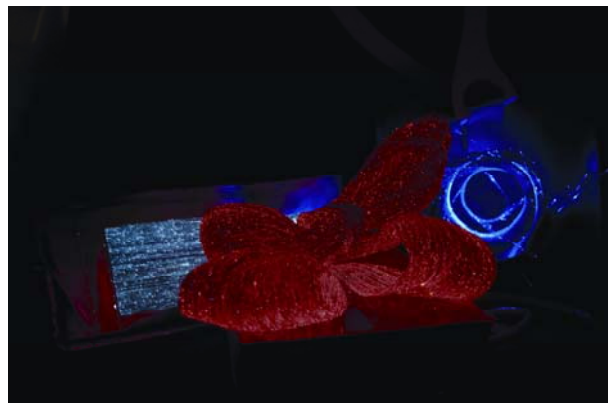
How does the innovation solve a particular problem?

To date eco-labelling has been developed for a variety of products including white goods, such as freezers and irons, and food products - for example, Marks and Spencer's has invested in eco-labelling its food. There is however, no standard eco-label for clothing – a number of schemes to accredit garments exist but they are frequently extremely difficult to comply with and can often limit the materials that a designer is able to use. This makes existing schemes limited in both their applicability and accessibility, particularly for SMEs.

There are a variety of accreditation systems that enable the sustainability of a product or the ethical aspects of its development to be rated. The few systems catering for both aspects do not allow for analysis during the design process, they are retrospective. In addition, even when accreditation schemes (for example Fair Trade and Made in Green) are developed and made available to clothing and textile companies they are frequently too expensive for SME's to engage with or purchase.

To this end the Eco-Analysis tool is highly innovative and applicable to SMEs within the fashion sector who frequently tend to be more green but can lack the resources to promote this side of their business. The Eco-Analysis tool provides such SMEs with an immediate tool to showcase their green credentials and from which textile and manufacturing methodology decisions can be influenced prior to production. This may help to ensure the longevity of SME textile and clothing companies that may otherwise suffer in the low carbon economy.

Eco-Tag in practice

Accessing up to date information on sustainability and ethics is difficult for SMEs unless it is already a defined part of their business model and they are therefore in the Ethics/Sustainability 'loop'. The innovation in this project lies in the fact that it enables businesses to make ethically and ecologically sound design and production decisions without complying with expensive and complicated certification.

Data will be gathered on the following to produce a life cycle flow chart:

1) Sheep farming; including farm type and area, animal welfare, chemical usage, energy consumption, methane production, fleece productivity, fleece quality.
2) Energy and chemicals used in fleece sheering, cleaning, transport.
3) Energy and chemicals used in carding, spinning and weaving.
4) Chemicals and energy used in dyeing and other processing.
5) Energy used in garment fabrication.
6) Environmental factors related to transport.
7) Consumer issues (i.e. washing).
8) Post consumer product.

To identify the environmental and ethical status of a specific garment, it would need to be tracked from raw material to point of sale. Information needs to be collected regarding the energy consumption and waste emissions/materials for each stage of the production chain; this would include measuring the energy required to power a machine.

The industrial links, which the University and Ella Sharp already possess, enable the project to access most of the processes required. The expertise within the Fashion Department would also be able to identify the areas of knowledge (and companies) which need to be accessed to complete as far as possible the information required for the database. Once the fabric pathway has been identified and researched, the design process would then be analysed comparing both traditional and more technically advanced pattern cutting systems.

What are the results?

A feasibility study, funded by the UK Government's Technology Strategy Board and involving British fashion companies, has already been undertaken to develop the Eco-Analysis tool. In order to take this project forward, further work researching and subsequently populating the database with information on a plethora of materials, spinning and weaving, dying and printing techniques will be required.

The feasibility study revealed some vital information on the environmental impact of textile fibres: notably that all fibres (including wool, cotton and synthetics) have major environmental impacts. Wool is associated with large amounts of greenhouse gasses and cotton with the consumption of vast quantities of irrigation water. Synthetic fibres are sourced from finite resources and consume large amounts of energy during production. The study also found significant ethical issues in human and animal treatment for the production of fibres and textiles. Further research will involve working with textile companies and those involved in the garment production chain to ensure that the information required to compile the database is as accurate as possible. Wool has been chosen to launch the database as the wool chain has the most clarity when going back to the source material.

International Interest

The label and system piloted as part of the Eco-Analysis Tool project was intended in the first instance to support the UK fashion industry who rely on pockets of manufacturing expertise around the country, often in London and the Midlands. However the benefits of the Eco-Analysis tool can be applied to independent fashion companies in Europe and around the world, for example, small co-operatives manufacturing independently in Africa would be able to use the eco-credibility of their garments to compete on an ethical level with larger fashion companies who tend to mass manufacture of their garments in locations such as China and India.

If smaller fashion companies are able to promote their eco credentials via an Eco-label it would enhance their credibility and open up new market opportunities whilst increasing wider market awareness of corporate social responsibility, ethics policies etc. The Eco-Analysis project will develop an on-line self assessment style Eco-labelling facility for UK based fashion companies in the short to medium term and in the long term will work with other organisations to develop an affordable standard that is relevant both to the UK fashion industry and worldwide.

The three institutions involved – Esharp Style, Coventry University and UK Unplugged Technologies – would provide the core project for any transfer of the innovation overseas working closely with native fashion and textile manufacturers in the country involved.

Using Eco-Tag in other countries

Clothing is an economic success story (globally worth over £500 billion) but has a significant environmental impact. In the UK 2 million tonnes of clothing (value £23 billion) are produced per annum. Legislation is currently being developed to ensure that clothing producers take responsibility for their emissions however no easy to comply with standard currently exists for rating the ethics and carbon footprint of a garment. To this end this project would be a market leader in this area.

Furthermore current standards applicable to the fashion industry are beyond the realms of affordability for most fashion SME's. Developing an affordable Eco Analysis Tool would thus provide the industry with a much needed, affordable system for making informed decisions and encouraging sales. The average for current standards in the textile area range from £300 per garment to £18,000 per year - beyond what most companies can afford. The market for this product would be wide spread; from fabric companies concerned with meeting the new REACH directives from Europe to companies already designing and manufacturing within the ethical/sustainable field as it will allow them to look at their ideas/products as a whole, not in isolation. As a result it would be very useful to producers, manufacturers and designers; for SMEs the production chain is very long and made of companies similar in size and target market - this product would allow them to access information quickly and as the information became available quite cheaply.

The Eco Analysis Tool would be sold individually to companies as a subscription service charged in the range of £200 per company per year and will also be made available as part of a membership package of business links, chambers of commerce, the British Fashion Council, the Textile and Weaving Association and others (Organisational charge of £5,000 per year). Coventry University Fashion department will be responsible for linking the Eco Analysis Tool with these organisations. The service will also be hosted by Universities with strong Fashion/Textile departments for use by their students.

The innovation could also replicated very easily in a less industrialised context, requiring only an understanding of what production methods were in use by a specific manufacturer. New methods could then be easily added to the database or calculated manually.

To find out more

More information on Coventry University's fashion department can be accessed via:
http://wwwm.coventry.ac.uk/artanddesign/designandvisualarts/Pages/fashion.aspx

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