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“THE PROSPECTS FOR E-ENABLING INTERNATIONAL TRADE IN THE AFRICAN LEATHER INDUSTRY”

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The overall aim of this paper is to provide some background and stimulate debate in order to identify ways in which e-trade practices could be applied to improve the international competitiveness of the African leather industry and increase the level of participation of African enterprises in international trade in the sector. This paper reviews the potential for adopting e-trade practices in the leather industry, compares this to the current rate of adoption and discusses the barriers to up-take. The paper then goes on to discuss ways in which the adoption of information and communications technologies (ICT) by African SMEs in the sector could be encouraged by trade support networks, e-business support networks and sector associations. It also discusses how those support networks might themselves adopt ICT to implement initiatives and provide products and services to help companies become more competitive internationally. Where possible, examples from the leather industry and/or Africa have been used, but where examples from other sectors and other parts of the world appear to have potential for application or adaptation to our context, these have also been included.
Introduction

The purpose of this section is simply to set out some basic concepts and ideas in order to provide a common understanding of the point of departure.

1. **Definition & characteristics of the sector:** The leather industry is taken to comprise the entire value chain, covering the production of raw materials (hides and skins, as a by-product of the meat and wool industries); the tanning sector which processes the raw materials into different types of leather; and the production of finished items. Finished items are produced in a range of sub-sectors, including upholstery, footwear, garments and other specialist items. Figure 1 presents one way of depicting the industry value chain. Supply of the raw materials (hides and skins) is dependent on meat consumption. Tanning is more capital intensive than the down-stream activities. The tanning process is being affected by environmental concerns, with the demand for clean production methods and efficient waste disposal adding to the cost of production. Demand for finished leather is driven by fashion considerations, especially at the high quality end of the spectrum.

2. **International trade in the leather sector.** Production has gradually moved from Europe (France, Germany, Spain, UK, Italy) and USA to countries such as Brazil, Korea, Taiwan, Thailand. Some of the developing countries established their tanning and manufacturing expertise in collaboration with companies from developed countries who wanted to improve their competitive position in this manner. It is interesting to note that not all the newer producers of finished and semi-finished leather products have a domestic source of raw materials, and countries sometimes specialize in either the production of leather or the production of leather products, leading to a fairly high degree of international trade at various points along the supply chain. In some cases raw hides are exported from one country for transformation into crusting or finished leather in another. Production of finished goods, such as footwear, may then take place in one or more further countries. As a result the configuration of the supply chains have become more intricate and international in character. Africa appears to have traditionally had a rather small part of international trade with the rest of the world, producing largely to meet domestic needs (with the notable exception of South Africa). However, it is clear that a number of African countries have the potential to build on existing capability and capacity, including Ethiopia, Eritrea, Kenya, Tanzania, as well as Northern Africa, to name but a few.

3. **The notion of e-facilitated trade:** One of the challenges is to arrive at some sort of shared understanding regarding what we mean by e-trade. In this paper the term e-trade is adopted deliberately, instead of e-commerce, e-business, e-processes and the host of other terms that abound. E-trade is used as a concept to denote the application of information, communications and networking technologies in order to contribute to the improvement of the international competitiveness and/or the increased participation in international trade. Because of ITC’s mandate, this term is specifically applied in the context of small and medium enterprises in developing countries and transitional economies. Here, in the framework of the Meet in Africa meeting, this translates into the question: “how can the African leather sector (comprising both the small and medium enterprises and those organisations that support them) introduce information, communications and networking technologies to improve international competitiveness and

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1 Adapted from PWC study of e-commerce in the UK tanning industry
increase the level of participation in international trade. This is a deliberately wide mandate, in order to encourage maximum creativity in the application of the new technologies, and to avoid getting bogged down in a discussion of “what is or what is not – e”.

4. **Scope for virtual marketplaces**: From Figure 1 it can be clearly seen that at various points the possibility arises for virtual marketplaces to be created. For example, there is an opportunity to create a market place for the producers of wet-blue to source their inputs, notably the hides & skins and chemicals for processing. Since a large number of the companies in Africa that are processing hides and skins are not capable of producing finished leather, the possibility for a market place for the trade of wet blue and crusting to be further processed to finished leather stage also exists. Market place for the disposal of those by-products that are often simply discarded but have the potential for further processing into other products is another possibility. Further downstream, the creation of a market place for the trading of finished leather (and other inputs required) could assist the various sub-sectors that manufacture leather items to secure their raw materials. Finally, scope exists for business to consumer (B2C) market places for manufacturers that are producing consumer goods.
Part 1

The business opportunity: the potential for applying e-trade to companies in the leather industry

The purpose of this section is to set the stage for a discussion about how the new technologies can be used by companies in the leather industry to improve their international competitiveness. One of the major problems that has been observed in many sectors and in many countries around the world, is the failure of IT and business professionals to engage in a systematic debate about the possible applications of technology, especially in relation to small and medium enterprises and a developing country environment. This limits discussion of the possible. On the other hand, although many “e”-applications exist to manage the complex environment of multi-nationals and case studies published by the applications providers are relatively easily available, there is a lack of realistic, small company role models to draw upon. This lack of concrete examples tends to result in discussions remaining at a rather abstract level. To attempt to overcome this problem, this section is based on a systematic review of generic business areas in which “e” might be applied, illustrated by a range of initiatives.

Five areas are assessed in this section. First, the possibility of ICT changing the nature of the company, its business definition and/or strategy is considered. Examples at this level are rare. Second, the application of ICT in the marketing domain is reviewed. This is perhaps the most immediately obvious area of the business for applying technology, hence there are already a number of developing country examples. Third, the application of ICT in the production domain is reviewed. Here examples were more difficult to find and are currently restricted to those that were developed with and for SMEs in the leather industry in the European Union. Whilst the examples do not cover the entire industry (most examples found were concentrated in the footwear sector) it is intended that they should serve as a point of departure for the expert meeting. Fourth, the application of ICT to transactions is reviewed. This is also more widespread, being essentially the heart of e-commerce. Fifth, the application of ICT to management of resources is assessed. This is a wide area in which there is a lot of potential for development, but many existing applications are of a scope and scale that is far beyond the needs of African SMEs.

1.1 Strategic application of e-facilitated trade

(a) Redefining target segments: As the industry is both quite fragmented and international in character, scope exists for defining target markets that transcend national boundaries and identifying segments that draw together individual companies (or final consumers) from around the world with similar characteristics. The internet potentially assists the enterprise in finding out about the existence and characteristics of such segments, and makes communication with them possible. At both the business to business (finished leather) and business to consumer (leather products) there may be scope for redefining the positioning of companies to target more narrow segments and to allow the buyer more input into the specifications and the design of the product.

(c) New intermediaries: Scope also appears to exist for a certain number of new intermediaries. Examples of leather portals, exchanges and marketplaces have already been established, although their roles and associated business models appear still to be evolving. Some of these are already well known to the Meet in Africa network.

1.2 e-Marketing

The objective of e-marketing is communication with customers, potential customers and other stakeholders. ICT and the internet provide a new forum for developing visibility of the company, a new dissemination channel for information, new or enhanced media for presenting the
information to target audiences, a place to create new or enhance the interaction within existing communities of relevance to the company, and new mechanisms for gathering intelligence about customers, competitors and other stakeholders in the market.

(a) Visibility may be gained in independent or third party organized on-line communities, marketplaces and portals. In exceptional cases, SMEs (or groups of entrepreneurs) may be in a position to create their own. In developing countries, it may be possible for small and medium sized enterprises especially to become part of a portal in order to gain credibility, especially if these portals are backed by third party verification schemes. A further consideration for companies based in developing countries is the question of whether potential and actual customers are e-ready or not. This is a consideration especially where they are engaged in South-South trade, where some companies are not online and their managers are using personal email from internet cafes. The e-capability of client companies needs to be clarified before any action is taken.

(b) The world wide web (and other internet based forms of communication such as e-mail, web-casting and videoconferencing) provide a versatile way of disseminating (text, audio and video based) information to customers and stakeholders. Information normally disseminated through industry newsletters can be produced and distributed more effectively (for example through email or by posting on-line). It reaches people more quickly and can be updated immediately. Promotion in its widest sense using e- includes websites, email addresses, online banners, participation in portals, and the use of transactional websites. Being online provides new places to advertise, and new modes of advertising, such as banners, pop-ups etc, although there are possible negative connotations associated with advertising online. On-line catalogues, for business-to-business (B2B) and business-to-consumer (B2C) allows information to be updated quickly and distributed more efficiently. Information and prices can be tailored to fit the audience (final customers, distributors, major and occasional customers, etc). A site may include a facility for dynamic pricing, personalised with pass-word so prices can be tailored to type of customer, quantities ordered, etc. Alternative pricing may be based on rules (for example, according to levels of demand, such as airline ticket sales). To maximise the effect of e-marketing, the website needs to be publicised through traditional channels, and the company needs to ensure that the site is listed with relevant search engines.

(c) ICT also provides a better medium for marketing in some cases. An example of creative use of ICT is the creation of a database of shoe designs which can also be used as an interactive catalogue to aid negotiations between the producers and the retailers commissioning designs from them. To give another example, a low cost multimedia information system (SHOEPRIX) was designed to allow a company to present a new shoe collection to the market, reducing the cost of samples storage, transport and dispatch, adaptable for display in different ways, and usable by people with little or no computer expertise.

(d) Building communities or maintaining contact with existing communities is another possibility open to enterprises. Once customers make their first purchase they can be kept loyal by offering promotions or showing alternative uses of the product and/or complementary products. Other stakeholders can also be targeted for communication in this way, either as part of the same wider community or by creating a number of parallel communities.

(e) Mining data about site visitors and their behaviour in order to understand customers better is one of the advantages of transacting on-line. However it is possible to use databases and existing processes to keep track of customer characteristics and behaviour, and use this to
target specific promotions to small groups of customers, and to have a better idea of what motivates different types of customers.

1.3 e-enabled production

ICT can support management in making the entire supply chain process more effective and more efficient. Examples of sub-processes that may be improved include access to raw materials and inputs; the product design process; more efficient tooling; specific aspects of the production process; improving quality; managing the production process; and distribution of the goods.

(a) To streamline purchasing or improve access to raw materials, the vertical portal brings together buyers of a particular product to negotiate price. Even small companies can participate, they can access the portal/marketplace, although they are not likely to negotiate better terms, they are just able to take advantage of one stop shopping and maybe delivery synergies. The advantages of this approach are being able to find all of your services in one place, saving time and money by doing the searching on-line, perhaps getting a better price (bearing in mind a possible increase in transportation costs). A number of these exist for the leather industry, for example in India, in Italy, and also in Africa.

(b) Computer aided design is used to some extent in the footwear industry, perhaps also to a limited degree in the garment industry, but is clearly of less relevance to the tanning industry. One initiative in Europe involved the design and production of a pre-production database to improve the speed and efficiency of bringing a new shoe design into production (by allowing for faster design by adaptation). A built in facility allowed new components and construction categories can be added to ensure that the system would be able to evolve with fashion. Another initiative with the objective of enabling maximum tailoring to individual needs was the development of a CAD/CAM system for the design and manufacture of customized insoles. The system can be used to produce customised insoles rapidly, usually during a single visit. The fit of the insoles is improved by fitting and adjusting during a single visit of the patient. Repeat prescriptions of insoles can be provided in a matter of minutes.

(c) Development of production tools: The trends towards flexible production, with faster production cycles and small batches of customized products being required have implications for companies in the industry, who must be able to gear up to produce quickly upon receipt of an order. To facilitate a fast response, a computer aided system for tool production was developed. The aim of the system was to reduce model development period from three to one week by using CAD for quick and easy modeling of lasts and other shoe production tools; and introducing a data communication system for communication between the last and shoe manufacturers. Taking this idea a step further, elsewhere a prototype design support system was created to allow the user to store graphical representations of existing tooling shapes in a database, incorporating search algorithms to enable user to find closest match to a new shape. This allowed the potential for re-use of existing tools (especially cutting knives) for a newly developed style to be identified, thus achieving savings in tooling costs. A third example is DITACOR, a design software for heels and top piece moulds for footwear, aiming to replace what is currently still a manual procedure (and often time-consuming and inaccurate). Using the software, the production of heel moulds and prototypes should be faster, customers should be able to obtain prototypes in a short time, and the decision making processes should be greatly speeded up and improved.

(d) Cutting leather is a part of the production process that requires a relatively high level of skill to get the best yield. An expert system was developed to introduce pre-planning to cutting components, to assess the lay-plan and to link this to the cutting stage to improve
the level of utilization of the leather. Specifically, the aim of the project was to develop, for leather shoe upper parts, an automated lay planning system which could be linked either to a manual cutting system or to a numerically controlled cutting systems. The system was designed with the SME in mind. It is based on fuzzy logic controlled computer based methods of grouping components in a similar way to the manual methods attempted by the best cutting operatives, and it allows the planning of a complete lay before cutting. The system can also be used as a training tool with a view to raising the standard of poorer performing cutters.

(e) Quality is an issue of prime concern to the industry and some examples of the innovative use of information technology to improve quality exist. Of course, companies can use the internet to research industry standards. To maintain quality standards in-house, a company might keep a database of results of quality tests for record keeping. This standardises the approach and allows for continuity even in the face of staff changes. A couple of specific examples related to using ICT for quality issues in the leather sector were found. The first concerns the development of a database of shoe designs (see paragraph on design) that also holds approved production quality control measures for various combinations of materials and allows the automatic generation of the necessary instructions for staff. The second is an example relevant to the tanning sector. It is an instance of how information can be added to the product (hides and skins) to improve the quality. Specifically the idea involved the creation of a fault mapping system sited in the tannery in order to detect and map the flaws in leathers before the finish coat was applied. The information generated by the system could then be passed with the leather to the cutter in the shoe factory who would be able to avoid cutting critical shoe parts from those fault areas defined, thereby reducing rejects following cutting and at final inspection.

(f) Internet shrinks the supply chain (and can make products available world wide even though an individual company does not possess a global distributor network), although this does not automatically guarantee universal accessibility. Although putting the products on the web or making them available through a portal means that the information is accessible everywhere, the product may not be available due to regulatory restrictions or due to company’s lack of capacity, or because of the high relative cost of transportation. This is a clear example of the new technologies creating expectations that cannot be fulfilled. However, at the same time the internet may be the source of a solution. This could include collaboration with a group of companies in order to be able to share the expenses of transportation etc – thereby extending the number of markets a company can reach. Expediting can be outsourced as well – UPS, FEDEX, DSL, and other companies are in this market. Some companies will take care of the whole logistics, as well as providing additional services. An example is the logistics operator specialising in the garment industry who aggregates the products from different suppliers around the world, opens the boxes, presses and hangs garments, and then dispatches the consolidated shipments to stores around Europe.

(g) Managing production is also a candidate for being improved by ICT. One instance is the attempt to introduce flexible systems for footwear manufacturing within the supply chain through the development of a prototype planning and control system which is both flexible enough to meet changing demands and powerful enough to perform all the functions required whilst still retaining ease of use for SMEs (this project was justified on the grounds that traditional MRP systems do not do the job and are, in any case, too complex and top-heavy for SMEs). Another project focused on the development of software targeted at SMEs in the leather industry to enable them to schedule work and to identify the machinery and human resources required.
1.4 e-enabling the transaction cycle

ICT has the potential to improve the way in which the company executes the tasks of getting orders, fulfilling orders and getting paid at the transaction level by improving the processes and in part automating them for greater efficiency and effectiveness.

In this area there are a number of examples throughout the supply chain, ranging from simple brochure-ware to sites allowing at least ordering of products on-line. Upstream (tanning) seems to be generally more conservative than downstream (leather products, both business to business and retail).

Many sites offering transaction capabilities are third party portals and marketplaces created for the industry, spanning one or more of the parts of the supply chain.

1.5 Management

Potentially, ICT can lead to significant changes in the way in which the company manages its resources. Resources here include information, finance, physical assets (including the technology itself), human resources, and networks and alliances.

Managing information: Improving the enterprise’s ability to manage information: Information is increasingly a very important component of the running of an enterprise. Enterprises need to identify which information (both external and internal) they want to track, collect, analyse and use for better decision-making and for the day-to-day management of the company. ICT can be used in all phases to streamline or automate the gathering and analysis of data, to keep records and to monitor the effectiveness of various aspects of the company, and to support decision-making.

Managing technology assets: The management of technology assets is an important aspect of being e-enabled. The company needs to be able to understand the potential of existing technology infrastructure in the company, and know the extent to which the current architecture can be expanded or scaled to fit objectives in the immediate future. By knowing the possibilities offered by the technology, and matching this to the critical capabilities of the enterprise, the best “package” can be identified. Economies of scope or scale are possible in the sense that the company can identify how the various functional areas can be jointly supported by the technology, and how synergies between different applications can be exploited, rather than developing each application in isolation.

Managing financial resources: In a sense, this aspect of trade has long been e-enabled. In companies there is the potential for use of accounting packages, invoicing systems etc where specific components are available on-line to clients. Money has been transferred internationally through the banking system, and the scope exists to streamline this aspect of business. Set against the possibility are fears about security of transactions and the limited experience with non-cash based trading in some of the countries.

Managing human resources: E-enabling the enterprise also implies that the knowledge and skills base of the company’s employees will need to change to take the new challenges into account. The enterprise needs to be able to define what skills are needed and take action to ensure that they have them. At the same time ICT can provide the enterprise with a way of managing their staff, building their staff’s knowledge (for example, with intranets and knowledge bases, and e-learning opportunities), and improving the level of communication among staff.

Recruitment is an area that is quite well developed on-line, in terms of finding people, verifying candidates on the internet, etc. E-learning facilities offer significant opportunities for training
people (see part 2 for some specific initiatives). Companies can manage people (salaries, vacations, working hours, etc…).

Managing networks: Maintaining active diverse networks is also important, and ICT can provide the enterprise with access to new networks and with new ways to keep the networks active. These networks will include partners, subcontractors, suppliers, customers, and other service providers. They may also include shareholders and other stakeholders in the company.

In the area of management, which is perhaps less visible it has been more difficult to find examples within enterprise. Rather it is more a question of having found initiatives from third parties that provide information services to companies, or that offer training products and services to enterprises. Even in terms of networking, the accent seems to be on third party created communities and on-line networks.

One interesting example of potential organizational and supply chain restructuring which has implication for the way in which things are managed could be highlighted here. It is based on the premise that mass customization is one area of strategic redefinition in the production of finished leather items. This may lead to significant restructuring of supply chains and enterprises within them. Although specific examples of this were not found, a major research and demonstration project is currently underway in Europe. This is based on the premise that these changes will require the small and medium sized footwear company to transform itself into an extended and agile enterprise capable of handling the complexity that such a change in the nature of the product implies and of mastering the new challenges deriving from a direct involvement of the consumer in the design and manufacturing process of the shoe he is going to buy.

The use of ICT varies according to the stages of the supply chain in question. Overall, the tanning sector seems to be using ICT the least. For example, a survey by PWC on the adoption of e-commerce in the UK tanning industry reported very little use of ICT beyond simple web-sites providing company and product information and the intensive use of e-mail for communications. The same survey reported very limited use of EDI in the past, and suggested that the industry was not about to change significantly as a result of adoption of e-practices, at least not in the short to medium term. In the B2B environment, other than through third party markets, it has been difficult to identify systematic application of the technologies. At the retail (business to consumer) stage, a number of companies have their own web-sites, some of which simply provide product details, others support purchasing online. Software packages for retail management are used by even small enterprises with two or three outlets.

1.6 Barriers to adoption

Lastly, we come to the question of barriers to the adoption of information and communications technologies in the leather industry in Africa. Barriers exist at the enterprise level, due to lack of exposure to information and communication technologies and in some cases lack of experience in effective management. Solutions have to be relatively simple, specific in terms of their objective, and provide some added value to the company. The argument of cost savings are likely to be less relevant in this context, as the scale of operations is relatively small. More convincing arguments are likely to center around the need to be visible, the need to have access to information about target markets and potential clients, the need to be able to communicate quickly and effectively with others in the industry in order to coordinate activities, the need to respond to fast changing market conditions and the need to maintain a good level of quality. Here, the preceding section has tried to show that prototypes for introducing ICT into companies (although in developed countries, the focus has been on SMEs) exist for some of these areas of concern. Part 2 will be more concerned about making them a reality for Africa. Barriers exist also at the network level. The support network for e-enabled trade is not so developed in Africa. Hence work has also to be done at this level. In this connection some examples are provided in the next part of this paper,
taken partly from developing countries and partly from the developed world. The improvement of infrastructure is of course also an issue. However it is important not to get stuck at this level, and not to forget traditional infrastructure (financial and transportation) as well as the information component. This element is considered to be outside the scope of this paper, however.
Encouraging e-trade adoption in the African leather industry

Based on Part 1, we may conclude that two important characteristics of the leather industry tend to favour the potential adoption of e-trade practices. First, the supply chain of the industry is generally international, with a high amount of trans-border movement of material occurring at different stages of production, both of leather as it undergoes the various stages of production, and of finished goods, such as footwear. Second, in most countries the industry is quite fragmented, comprising a large number of small and medium sized enterprises in all stages of the value chain. Here ICT can be applied to the dissemination of information about the sector and to the creation of marketplaces, for example.

However, there are two other important problems faced by the industry, which cannot be solved through the adoption of e-trade. The industry appears frequently to suffer raw materials shortages due to the rather low percentage of African hides and skins that are converted into leather (although there might be some scope for using ICT to access and organize the providers through intermediaries who form the bridge between the real world and cyberspace). There is also a significant quality issue as a result of careless handling of the material from the point of slaughter right through to the production of finished leather. Since hides and skins are still generally seen as a by-product of the meat industry, quality is further impaired due to the way the animals are handled. The internet can contribute to raising awareness of the problem and to the dissemination of information about possible solutions, though largely perhaps through the associations and intermediaries rather than directly to the enterprises themselves.

In practice, however, the industry appears to be quite traditional, even in the developed world, with very limited adoption of e-business taking place (refer to the study on e-commerce by PWC mentioned above). Companies in the sector seem to be quite comfortable with using email and a reasonable number of companies have “brochure-ware” type web-sites. There is limited use of more advanced forms of e-business, though. At the same time a number of marketplaces and information portals relevant to the industry have been established in recent years. Information about their use and/or their perceived utility was not available.

This section will complement the first part by introducing some examples of how specific initiatives and projects have been developed in order to encourage e-trade adoption by small and medium enterprises. To recap, the support network can tailor the provision of its support to assist the enterprise with any one or more of the generic areas in which the application of ICT might be of benefit to a company:

- The strategy of the enterprise
- The marketing of the enterprise
- The way in which different aspects of production are managed
- The way in which the transaction cycle is managed
- Management in the company (information, financial resources; physical assets; human resources; networks and alliances)

The support offered can include the provision of information, advisory services, training products and services, and access to networks and partnerships. For each of those, where possible, examples relevant to the sector have been identified as a starting point.
2.1 **Provision of Information**  
(The provision of information to enterprises (by traditional means and using ICT)

There are quite a large number of such services offered. A fairly early example is ISEFI: “information service for the European Footwear Industry” dating from 1995-1997. This was a multi-country project attempting to introduce an electronic information exchange for the footwear industry, containing images of raw materials; catalogues of fashion presentations; design drawings in electronic format; catalogues of finished products. Service was to be provided over a public network, text, graphics and images, plus provision for video. The functionality included browsing, querying and trading.

BLC is a UK hosted site which provides a wealth of information about the leather sector. The information provided includes a benchmarking initiative, information about maintaining the quality of hides and skins, details of where training in different aspects of the leather business is available, and a host of other information.

Other sites have been established, some of which are international in character, and which also incorporate African members.

2.2 **Provision of advisory services**

The provision of advisory services (transfer of know-how by experts) (by traditional means and using ICT)

Despite searching, no specific examples of the provision of company specific advice was found. Sites generally feature frequently asked questions (FAQ), generic advice in short articles and white papers, etc. However, the use of www to enable companies to access advice on specific issues would be an interesting application. For example, one could envisage this as the medium for offering “mentoring” services from those experienced in the industry, with communication through e-mail and web-based videoconferencing.

2.3 **Access to networks**

Facilitating access to networks (by traditional means and using ICT)

The basic market functions of marketplaces are to facilitate the exchange of information, goods, services and payments. This often includes electronic catalogues to aggregate supplier offerings, matching through dynamic trading processes or electronic auctions, and facilitating closing inter-firm transactions through financial and logistics services. Portals or marketplaces may also address management needs of the sector. Management needs in business transactions would include information processing and the provision of storage and communication networks. Applications in this area could include the dissemination of processed procurement knowledge through analysis of purchase patterns, the provision of product information and purchase expertise to improve sourcing decisions; the provision of assistance aimed at streamlining workflows (automate certain business activities), and promoting inter-organisational collaboration (sharing common resources, collaborative project management) in order to support business process management. Providers of such systems also need to bear in mind ways of making it more attractive for companies to join. Where companies have already applied ICT, this could include solutions to integrate member firms’ back end enterprise systems with the marketplace, the ability to integrate with third party business service providers, the standardization of data formats for exchanging business documents, and the implementation common business processes among trading partners as well as the provision of services in systems analyses and implementation.
Many of the marketplaces and portals are essentially designed to provide access to suppliers, customers and others in the industry. Individual companies search for specific supplies in order to engage in a one-off transaction or for longer term partners and contact those who fit their requirements. Usually they are found via search facilities that are pre-set according to given parameters. However, there is little if any activity aimed at developing communities. This may at least be worth exploring.

An interesting attempt to do this is the web-site INTELISHOE “integration and linking of shoe and auxiliary industries”. This site (linked to a enterprise development project) was developed to facilitate the management of distributed production networks of SME vertically integrated in the supply chain covering the production of both shoe and shoe components. The overall aim of the project is to improve the uptake of IS technologies among small firms in the footwear sector and to stimulate innovative use of the technology to support new ways of working.

2.4 Training

The provision of training (enterprise capacity building; running an information dissemination seminar is part of the first alternative) (by traditional means and using ICT).

SIPECO is a European project to promote best practices in IT use related to product design and manufacture in small companies in the footwear sector. Its objectives are to improve the level of use of IT, to assess IT needs of participating companies, and to apply a new system of pattern designing and manufacturing.

SFMT is a multi-media based interactive training programme and tool relating to the technologies used in the footwear sector, based on existing training courses already designed for the sector but adapted to make the most of the new medium, plus a user manual.

MIFI is a project with the aim of training in management and marketing, two areas affected by technological and market changes in the industry. The project will result in the publication of a manual and the design of training software which can be used for self learning.

2.5 Examples of initiatives in functional areas

e-marketing

Another interesting example, this time in India is the “e-marketers” initiative that combines a web-presence with the recruitment of young people who carry out traditional marketing activities to encourage sales from the site. The project identified the products and producers to be included in the venture and designed a transactional website to make the products available, at the same time recruiting and training so called e-marketers to provide publicity in order to mobilize on-line traffic and to provide online customer service. Each e-marketer was attached to a particular product segment featured on the website, and was provided with 24 hour access to the internet. The e-marketers are paid for sales on a commission basis. The site also takes care of the entire transaction (see other examples of e-enabling the transaction cycle as well). The prognosis for sustainability is considered good, as this method of selling has eliminated the middlemen who previously kept prices paid to the producers very low. There are plans to increase the scale of the project and to add more elements to the on-line presence.

e-enabled production

To encourage the application of ICT to business, the EU has implemented a number of initiatives aimed at the small and medium enterprise in the leather industry. These include programmes to facilitate the use of computer-aided design in the footwear sector, the use of computer aided
stitching, the development of common standards to enable inter-firm collaboration, the facilitation of electronic trading.

**e-enabling the transaction cycle**
Some specific examples of initiatives to support the introduction of ICT in the leather industry in Africa do exist. An interesting application is “buysouthafricaonline.com”, which provides small and medium enterprises with a shop window to sell their products (although the offer is not directly focused on the leather industry) and supports the entire transaction process, allowing companies to sell to anywhere in Europe, USA and Australia at competitive transportation rates & with some security as the manufacturing enterprise only receives payment once the goods are delivered to the intermediary.

**e-enabling the management of information, technology and physical assets, financial resources, human resources, networks and alliances**

(a) Gathering business intelligence. For example, participating in a benchmarking exercise. BLC Benchmarking club covers the sub-sectors of wet blue, automotive and domestic upholstery, clothing and small skins, shoe and leather goods. The last exercise, carried out in 1996-1997, covered over 50 countries. (http://www.blcleathertech.com/products/bench.htm)

(b) Gathering technical information. For example, information about improving hide and skin quality (results of a EU funded project – FAIR) showing the causes, effects and possible preventative measures, and providing the conclusions of the report can be found at the following web-site address (http://www.blcleathertech.com/fair/hide.htm & http://www.blcleathertech.com/fair/conclude.htm)

**Enhancing the effectiveness of traditional capacity building initiatives using ICT**
Traditional capacity building activities also exist, such as the ICE initiative with African countries, which aims to build the capacity of the enterprises and put them in direct touch with the marketplace by bringing them over to Italy on short missions. Such initiatives can be made more effective with the use of ICT to aid communication and collaborative working.
Conclusions: Towards a blue-print for Africa

It would appear that information, communications and networking technologies have the potential to make a big impact on the competitiveness of the sector even in the short to medium term. Although full conversion to web-based transactions (sales and purchases) may be some way off, even in the developed world, there are many ways in which the technology and the access to information and expertise through the www may be of immediate and specific benefit to African enterprises. It is also possible that solutions that are not feasible at the enterprise level can become so at the sector level, through the intervention of associations and other intermediaries.

It is suggested that based on the problems identified, and using some of the ideas of projects and initiatives established in other countries (examples of which are provided in the full paper), the expert group identifies a number of relatively small, well defined demonstration projects covering one or more of the following areas:

- How the intermediaries may use ICT to improve their value added, even if the technology is not directly being used by the producers
- How intermediaries may enable company access to ICT through the use of shared facilities and user support, for example
- How ICT may be introduced directly into companies to facilitate trade or develop their competitiveness, at an appropriate scale and cost
- How ICT may be used by the support network to improve the effectiveness and efficiency with which existing products and services are delivered to their clients