CASE FINDINGS

Case A: The Tomato Retailer

Aunty Akosua (hereafter referred to as AA) is a tomato retail trader. She has junior high school level education and has been working as a tomato retailer since June 2008. AA works with Jane who serves as an intermediary between her and the farmers in the villages. Jane buys the tomatoes at wholesale prices from the farmers and AA retails them at the market.

Prior to owning a mobile phone, communication between AA and Jane was constrained by distance. The limited access to Jane often contributed to poor inventory management, where AA could be out of stock of tomatoes for a week. In such scenarios, AA had to buy from other wholesalers, and that increased her coordination costs. She was then advised by a friend to get a mobile phone for Jane and herself, in order to enhance communication and reduce the cost and risk of frequent long journeys. In December 2008, AA purchased a used Samsung D500 for herself and a Nokia 3315 for Jane. The cost of Jane's mobile phone was deducted from her earnings from trading with AA. They are both using TiGO as their service provider. The cost of the mobile phones is shown in Table 1.

Table 1 Cost of Mobile Handsets Used by Traders

Mobile Handset Model	Cost of New Handset (USD)	Cost of Used Handset (USD)
Samsung D500	35-70	20-35
Nokia 3315/3310	30	20-25

The availability of text messaging function is an added advantage for AA, since it is cheaper to send a text message than to make a voice call. She uses text messages alongside voice calls to communicate more frequently with customers. She opined that "*Most of my customers are in the working class, meaning they do not have much time to come to the market. I therefore call or text my customers periodically and ask them if they are in need of any tomatoes and then I deliver to them at their offices before they close*".

The mobile phone enables AA to keep a record of the contact details of her customers. Other tools like calendar and alarm on the mobile phone are also used by AA. She notes that, "*Some of my customers have even scheduled with me the specific days for which they will need my tomatoes. I have therefore created reminders for them on my phone (so I don't forget them). Therefore, I do not need to be at the market everyday yet still make my money*".

The improved communication and information management has improved her relationship with her customers and suppliers.

1.1 KASADRIN COMPANY LIMITED

1.1.1 Firm Profile

Kasadrin Company Limited (KCL) was incorporated on March, 1987 after it had begun operations as a small-scale manufacturer of alcoholic and non-alcoholic beverages in 1986. The company focuses on producing alcoholic and non-alcoholic beverages to satisfy consumers, primarily in Ghana. KCL has 13 products. The company's indigenous products are Opeimu Bitters, Alomo Bitters, Alomo Root Wine, Kasadrin Dry Gin, Kasadrin Brandy, Kasadrin Tonic Wine, Kasapak, Cream Soda Mix, Lime Cordial, and Aperitif Sherry Red Wine. The other three products, Three Barrels Brandy, Pixie Dry Gin and Flavoured Cardinal Liqueurs, are produced by the company under license from a Dutch alcohol manufacturer. KCL's major products, or as termed 'flagship' products, are Alomo Bitters and Alomo Root Wine. Its indigenous products are developed through research-collaboration with the Centre for Scientific Research into Plant Medicine (CSRPM), Ghana.

The raw materials for the other products and other related materials for production are sourced both locally and internationally. Local sourcing is done by telephone and email and international or foreign sourcing is done electronically through the Internet and email and is supported by telephone communication and frequent visits. Flavours are obtained from France, metal and plastic caps from India, plastic laminates for pouch making/filling from India and glass bottles from Germany. Alcohol is supplied by another Ghanaian company which imports it from different countries including Brazil. The firm also uses the Internet to find information on how to maintain production machinery and source for spare parts from machine building companies in Germany.

Through an intra-organisational network system, the bottling and plant department is informed of the type and quantity of the product to be produced daily. The concentrates for the products are prepared and placed in the automated bottling process. The respective bottles or sachets of the product are placed in the automated bottling process consisting of four main stages; washing, filling, labelling and packaging. The production process is illustrated in Figure 7.5.

During these processes the products are regularly inspected by the quality assurance unit to identify bottles with low fills; bad capping/uncapped bottles; bottles with cracks from movement in the automated process and bottles with twisted labels or wrong labels. Packaged products are placed into storage for distribution. After payments are made for product orders, the sales and marketing manager authorises goods to be delivered to distributors or individuals who are buying in large quantities, usually for an event. The firm distributes an average of 3,000,000 cartons of its products annually through a network of over 50 distributors.

KCL has three executive directors, who run the company with the support of seven managers who form the management team. The three executive directors consist of executive chairman, executive director and the managing director, who is also the founder of the company. The managing director (MD) is a graduate of EMPRETEC Ghana, an UNCTAD capacity-building programme for SMEs and entrepreneurial skills promotion. He is also an executive member of the Chartered Institute of Administration of Ghana. The executive chairman holds a PhD in agricultural economics and is a fellow of the Chartered Institute of Bankers (Ghana). The executive director has a bachelor degree in electrical and electronic engineering and masters in business administration. KCL's executives are supported by a management team consisting of sales and marketing manager, bottling and plant manager, general manager for finance and accounting, purchasing and supply manager, marketing and public relations manager, general manager for operations, and information systems manager (see Figure 7.6 for KCL's organogram). These managers have postgraduate degrees and professional qualifications related to their respective managerial functions. The IT unit is made up of the IS manger and an IT technician. The IT unit is responsible for all IS related issues. KCL has a permanent workforce of 101 who work in unison with approximately between 150 and 180 casual labourers yearly.

Cross-Case Comparison

Table 7.11 summarises benefits achieved by the three firms from the development of interactional capabilities. The benefits achieved are largely strategic and informational. It tends to be that as the firms moved towards the integration of interactional capabilities with core activities (and other resources) they were more likely to create strategic benefits. The ability for a firm to achieve benefits at initial adoption becomes the incentive to take actions and allocate resources to sustain the benefits and generate comparably advanced capabilities that yield higher benefits.

Table **Error! No text of specified style in document.**.1 Benefits Achieved from Interactional E-commerce Capabilities

E-commerce Capability	**Interactional (advanced)**	**Interactional (minimal enhanced)**	**Interactional (minimal enhanced)**
	Lankah	***Kasadrin***	***Jesmont***
Time Period	**Jan 2005 – Jul 2007**	**Jan 2002 – Jul 2007**	**Jan 2002 – Jul 2007**
	Strategic		
Extending the firm's market reach	Supporting measures to attract new markets of salaried customers		Supporting product marketing among Alimex's customers
Product differentiation	Supported new strategic partnerships to provide pre-financing and insurance services led to the sale of 8 cars.	Product development to curb piracy of best selling products	
Loyalty and retention of customers and trading partners.	Strengthened relationship with Braun Repeat purchases and referrals from customers – medical doctor and soldiers	Strengthened firm reputation from curbing piracy Strengthened relationship with trading partners	Strengthened relationship with Alimex - Lessons have been replicated in Nigeria and Senegal
Improved revenue	Supporting the selling of 56 cars – US$50,630 (2004-06) Indirectly generating another business opportunity of designing websites for 6 Ghanaian firms	Reducing the loss of revenue through piracy of best-selling products. Export of 5000 cartons of Alomo Bitters generated through an email request	Supporting the direct exports of garments through Alimex to a total of US$43,000 (2001-04) Facilitating credit card payments with purchases made by tourists
	Informational		
Improved marketplace information	Creating an online medium which largely enabled and supported firm activities: marketing of cars; purchase decisions of customers, car enquires and referrals.	Creating an online medium which partly supported the marketing of products, services and the firm.	
Improved communication and relationships	Supporting the relationship with Braun and customers	Supporting the relationship with trading partners Support pre-export distributorship negotiations in West Africa	Supporting the relationship with Alimex and the new partnerships in Nigeria and Senegal
	Operational		
Reduced Transactional Costs	Reducing a motivation costs with Braun	Reducing coordination and actor motivation costs in procurement of production materials	Reducing coordination costs with Alimex
	Actor motivation costs were reduced through the compliance mechanisms instituted by each of the firms. These include establishing MOUs, transparency and openness, fulfilment of contract expectations, Letters of credits, and business visits.		
Time efficiency	Communication with Braun and customers	Communication with trading partners	Communication with Alimex

1.1.2 Financial Readiness

In the development of informational capabilities in the three firms, we identify the three case firms had limited IS resources; no IT staff; and limited internal IS technical skills. The decision to develop an informational e-commerce capability was directly initiated by the senior management and/or owner-managers of the firms. In Lankah, we identify a firm drawing on the basic IT skills of its owner-manager to design a website. In Jesmont, we identify a firm relying on the MD's social relationship with the high school student (the MD's computer skills mentor) to obtain the services of a 'freelance' website designer to design its website. In Kasadrin, we identify a firm which engaged the services of its ISP to develop an online presence in the form of a sub-domain under the domain name of the ISP. While considering the fact that comparably the development of informational capabilities in these firms was less financially demanding than the development of interactional capabilities, these firms tend to adopt the path of least cost to acquire the IS resources skills to develop the needed capabilities. The path of least cost lay in the use of internal resources or resources which were relatively immediately accessible to the firm; internal IS technical skills (Lankah), social relationship with a high school student (Jesmont), and IS-vendor (ISP) relationship (Kasadrin).

On the other hand, we also identify that both Lankah and Jesmont used free web servers to host their website, while Kasadrin used the web server of its ISP at a cost. In Jesmont, the Internet penetration as of 1999 was relatively low, 10 per 1000 inhabitants and the few licensed ISPs were just about providing dial-up services. The path of least cost lay in accessing free resources abroad. However, this was also dependent on the knowledge of the website developer. In Lankah, though Internet penetration had increased in 2004 and there were a number of ISPs offering website development services, the path of least cost for the start-up firm (a month old) lay in accessing free resources abroad. In Kasadrin, considering the fact that the firm had no internal IT staff to develop and manage the website, the path of least cost lay in transferring the risk of developing and managing the website to the ISP which had greater skills and experience and an established business relationship with them. Hence, the differences in web hosting strategies tend to stem from three interrelated factors; web development knowledge of the website developers, accessible IS resources in the nation and abroad, and the more primary objective of taking the path least of cost. With respect to financial readiness as a resource to e-commerce capabilities development, we identify that, while firms may take the path of least cost in developing e-commerce capabilities, the ability to determine and use the path of least cost is mediated by the accessible IS resource skills and knowledge in-firm and externally in the national context and perhaps, accessible IS infrastructure abroad. Further, as the managers of these firms played a key role in initiating and supervising these projects, we also identify that managerial commitment to the informational e-commerce projects contributed in facilitating the acquisition of resources for the projects.

In developing interactional capabilities in the three firms, we identify managerial commitment, links and contacts (social-business capital) playing key roles in facilitating the investment of financial resources to acquire new IS resources; IS staff and infrastructure (as in Lankah and Kasadrin) and using social-business relationships to obtain the services of IS consultants (as in Lankah and Jesmont). However, beyond developing the capability we also identify other financial challenges in relation to exploiting the opportunities generated from e-commerce. Lankah's provision of pre-financing options for its salaried customers demonstrates an example of the need for financial capital to respond to demands from competition and new target markets. Jesmont also gives an example of receiving a proposal for a monthly order of a thousand pair of pants from a potential online trading partner who visited the firm's website. This order required the garment manufacturer to either close down its existing production line and focus on only this partnership or develop another production line (with its accompanying resources) to take this business opportunity. Though finance was not the only reason for turning down the opportunity, both scenarios required some pre-requisite financial commitment which the firm lacked or was not prepared to invest. There were also other similar occurrences in relation to Alimex's business partnership with Jesmont. In Kasadrin, we identify that, though the Internet gave the firm access to potential business partnerships with production material suppliers, the firm had to establish measures – transparency, honest dealing, and timeliness of fulfilling contractual agreements – to engender trust and create financial credibility in contractual relationships.

Thus, we note that **first**, finance is necessary to develop the internal competencies to be able to effectively initially adopt and institutionalise e-commerce to achieve its benefits. Developing internal competencies refers to acquiring and/or developing the requisite technological, managerial, e-commerce understanding, infrastructure and other strategic resources to engage in e-commerce. To address this financial necessity, the findings from our case firms, lend the understanding that firms take the path of least cost to acquire the IS resources skills to develop the needed capabilities. This path of least cost is partly defined and constrained by the accessible IS resource skills and knowledge in-firm, and externally in the national context and perhaps, abroad. These IS resource skills and knowledge may be accessible to the firm through social networks, existing business relationships and/or possessed by internal staff. However, as we learn from the failed initial attempt to develop an interactive website in Lankah, social-business relationships may not always pay off. Hence, the path of least cost has to be managed within the strategic orientation and interests of the firm. This notion of path of least cost of developing e-commerce capabilities being mediated by accessible internal and external IS resources, emphasises the tenets of Finding one.

Second, financing is needed to support the growth of business opportunities which stem from e-commerce. As firms engage in international trade, they are likely to gain access to global markets and extend their market reach. However, an increase in market reach can generate an increase in demand for the firm's products and services beyond its existing manufacturing or production capacity. As a result, financing is therefore needed to support the e-commerce opportunities and translate them into benefits which impact on the firm's performance. To address this financial necessity, first, as in Kasadrin, firms have to institute internal measures to gain financial credibility with online business and trading partners. Using measures like these to establish offline trust in electronic transactions helps to reduce or avoid the need for formal monitoring mechanisms to maintain partnership and promotes information exchange and mutual learning (Aulakh et al., 1996). The lack of these measures may stall online business relationships and lead to the firm losing potential business opportunities. The need for these measures is further emphasised in DCs where there is a relative weakness of a legal system that enforces contracts and rules of loan repayment (Todaro and Smith, 2003). Second, like Lankah, there may be the need to seek resource complementarities from other financial institutions, which may therefore bear the financial risk and enable the firm to engage or take advantage of the related opportunities generated through e-commerce. However, a firm's ability to access these partnerships may be dependent on its existing financial credibility and viability of the proposed e-commerce enabled or supported opportunities. The financial institutions required Lankah to submit its financial statements, business plan and other legal documentation before the partnership decision was made. Third, as in Jesmont, firms have to strategically assess the potential value of emerging opportunities with respect to their strategic orientation and resource portfolio, and make the appropriate decision whether to decline or accept the opportunities.