International Journal of Research
Available at https://edupediapublications.org/journals
p-ISSN: 2348-6848
e-ISSN: 2348-795X
Volume 03 Issue 08
April 2016

Electronic Payment System and Impact on E-Commerce Development in the Private Sector (Samsang's Model)

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Abstract:
The number of mobile phones in use worldwide between 2014 and 2015 grew from less than 1 to more than 6 billion. The mobile revolution is transforming livelihoods, helping to create new businesses, and changing the way we communicate, work and earn and spend income. The mobile phone network is already "the biggest machine" the world has ever seen, and now that machine is being used to deliver development opportunities on a scale never before imagined. During this second decade of the new millennium, maximizing the potential of mobile phones is a challenge that will engage governments, the private sector, and the development community alike.

INTRODUCTION

This background paper was prepared in response to a request for a workshop on Electronic Commerce, Development and SMEs made at the WTO's Committee for Trade and Development (CTD) in July 2015. The paper focuses on the relationship between electronic-commerce (e-commerce), development and small and medium-sized enterprises (SMEs) and on how some of the latter have used e-commerce to promote, market, service and sell their products nationally and internationally. Various types of e-commerce are discussed such as business-to-business, business-to-consumer and business-to-government. And the vast potential of mobile commerce is described given the key role it plays in developing and least-developed countries (LDCs). This paper by no means pretends to be an exhaustive study of the subject under discussion but does attempt to provide an overview of both the opportunities and challenges facing SMEs in least-developed and developing countries. A key focus of the paper is on why some small and medium-sized enterprises have used the internet and realized significant increases in their exports and business activities overall, whereas others are barely making use of the huge potential offered by the internet and its various applications. Development-related issues are discussed such as how low levels of investment, inadequate infrastructure or a lack of appropriate legislation can negatively affect e-commerce or stifle its potential. The need to overcome infrastructural bottlenecks in telecommunications, transport, electricity grids and logistics are addressed alongside policy issues such as consumer protection, security of transactions, privacy of records, and intellectual property. The paper has a strong focus on mobile telephony and mobile-commerce (m-commerce) in general because of the key role both play in many low-income developing countries and because of the vast potential such technologies have for improving trade and business opportunities.

The first decade of the new millennium has witnessed a profound change and dramatic increase in the way business and trade takes place electronically. Each day more users in least- developed and developing countries are accessing the internet through terminals. A growing percentage of users are now also accessing the web through mobile technology. Predictions call for the internet and especially the use of mobile applications to expand exponentially in the decades ahead. There is enormous potential for using information and communication technologies (ICTs) to contribute to the social and economic progress of developing countries worldwide.

The rapid technological advances in ICT and the steady increase in the number of users are changing the global economic landscape. From 1990 to early 2000, the estimated number of internet users grew more than tenfold to roughly 300 million. This had a direct effect on the way in which people communicate and do business. Today, however, these 300 million users represent barely two-thirds of

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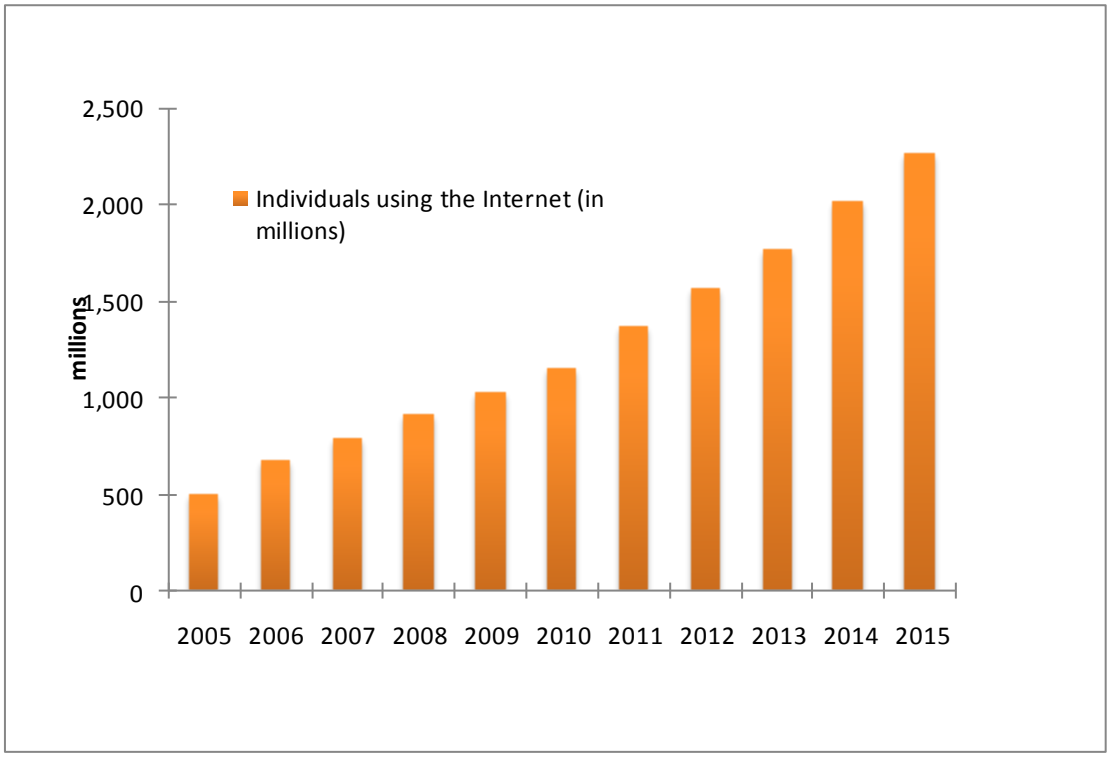
the size of the subscribers active on "Facebook" alone. Today, there are more than five times as many internet users as there were in 2014. Growing from two billion at the start of this decade, there were an estimated 2.25 billion users in 2015. Chart 1 describes the increase in internet users over the past ten years.

Chart 1: Global numbers of individuals using the internet, 2014-2015



Of all the internet users in 2015, 1.3 billion were from the Asia-Pacific region, the Middle East, Africa or Latin and South America indicating a shift in the regions with the most people on line. However, in spite of this growing trend in internet use, developed countries still continue to surpass developing countries in terms of number of connections. Chart 2 highlights the number of individuals using the internet per 100 inhabitants. While the Africa region has a penetration rate of 12.4, Europe has the highest penetration rate with 68.4 out of every 100 Europeans having access.

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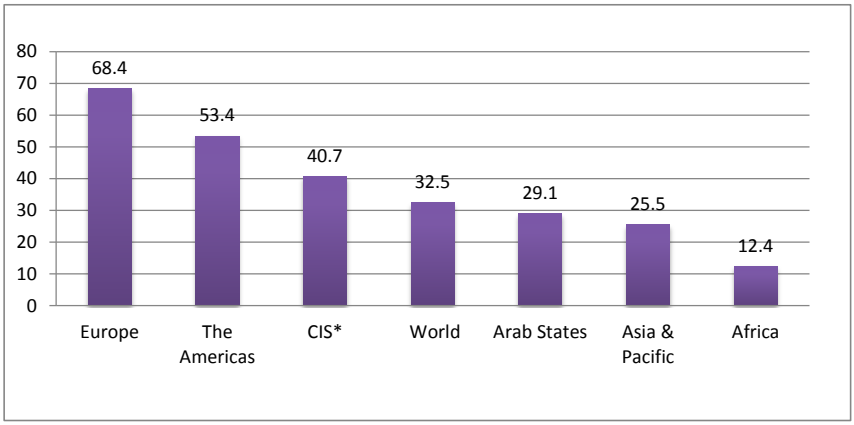
Chart 2: Individuals using the internet per 100 inhabitants - 2015

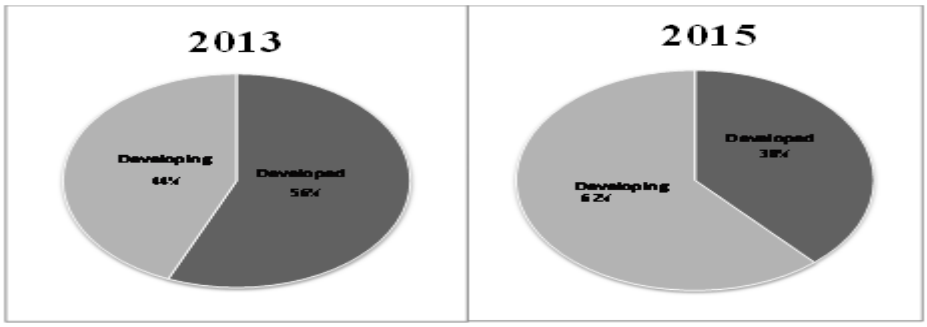


THE DIGITAL DIVIDE: STILL A REALITY?

The term "digital divide" is commonly used to explain the gap between individuals, households, businesses and geographic areas at different socio-economic levels regarding opportunities to access information and communication technologies as well as the use of the internet for a wide variety of activities. The "digital divide" is used to denote differences both among and within countries. Since 2014, the phrase "digital divide" has come to symbolize the gap in ICT capabilities between developed and developing countries. However, civil society organizations such as the World Wide Web Foundation believe that the digital divide is more a symptom of other, more fundamental problems in a given country. These can include an education divide, a health divide and a governance divide. It is not always the cause of a lower level of development. Many examples have shown that narrowing the "digital divide" can assist in narrowing differences in other areas of developmental concern. The importance of prioritising the development of e-commerce lies in the fact that as the pace and scope of the technological revolution increases and expands, so does the potential digital divide. Governments can help to ensure, by a mix of investment incentives, competition policy and social policy, that users benefit not only from being connected to the internet but also from any technological evolutions which can increase the speed of data flows and reduce costs.

The internet plays a large role in e-commerce and has continued growing worldwide in terms of users and penetration. Although developed economies still accounted for the majority of internet users in 2013 and are still very much ahead in terms of internet penetration, developing economies have been catching up quickly. The number of users in developing countries actually surpassed that of developed countries sometime in 2014. Technological progress has indeed been thriving in both developing and developed countries and this trend is expected to continue as the sector attracts more research funds and investment.

Chart 3: Individuals using the internet by level of development



THE GROWTH OF E-COMMERCE

There is no question that e-commerce has grown rapidly since the first users started to browse the worldwide web in search of goods and services. Today, sales realized over the internet represent a significant proportion of overall commercial sales. In 2013, the internet had less than three million users around the world and its application to e-commerce was non-existent. Almost a decade later, by 2015, an estimated 300 million users accessed the internet and approximately one quarter of them made purchases online from electronic commerce sites, worth approximately US$110 billion. This year global, business-to-consumer e-commerce sales are set to pass the US$1.25 trillion mark. For purposes of the trade focus of this paper, e-commerce is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. Even though goods or services are ordered electronically, the payment and the ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organisations. Included in these electronic transactions are orders made over the web, extranet or electronic data interchange. The type of transaction made is defined by the method of placing the order. Normally excluded are orders made by telephone calls, facsimile or manually typed e-mails. The United States (US) remains the world's biggest e-commerce market, followed by the United Kingdom and Japan. It is estimated that the growth rates for electronic transactions carried out over the net will be approximately ten to 15% in the coming years. China, however, saw e-commerce sales grow by more than 130% in 2015 and it is likely to be only a short matter of time before it becomes the world's single largest e-commerce market.

B2B, B2C OR B2G?

There are numerous types of commercial transactions that occur on line, from buying goods such as books or clothes to purchasing services such as airline tickets or making hotel or car rental reservations. Since the main focus of this paper is on how SMEs use the internet, the discussion here will concern only a few services which relate closely to SME economic activity. These include: electronic communications in the area of Business-to-Business (B2B), Business-to-Consumer (B2C), Business-to-Government (B2G) and mobile e-commerce.

Business-to-Business (B2B)

B2B is e-commerce between businesses such as between a manufacturer and a wholesaler, or between a wholesaler and a retailer. This is the exchange of products, services, or information between businesses rather than between businesses and consumers. Global B2B transactions comprise 90% of all e-commerce. According to research conducted by the US-based International Data Corporation (IDC), it is estimated that global B2B e-commerce, especially among wholesalers and distributors, amounted to US$12.4 trillion at the end of 2012. If

the expansion in e-commerce continues at this rapid pace in developed markets as is expected, then B2B and B2C e-commerce transactions will account for about 5% of all inter-company transactions and retail sales by 2017.

Business-to-Consumer (B2C)

Although B2C e-commerce receives a lot of attention, B2B transactions far exceed B2C transactions. According to the IDC, global B2C transactions are estimated to reach US$1.2 trillion at the end of 2015, ten times less than B2B transactions. B2C e-commerce entails businesses selling to the general public typically through catalogues that make use of shopping cart software. Although B2C e-commerce only accounts for only a small share of e-commerce as a whole, it continues to grow. B2C e-commerce is highest in Norway, Denmark, Sweden, the United Kingdom and the US and covers mainly computer-related products, clothing and digitized products. Despite the low value of its transactions, B2C e-commerce has received the most attention, partly because issues such as consumer trust and data protection have received considerable concern from policy makers.

Business-to-Government (B2G)

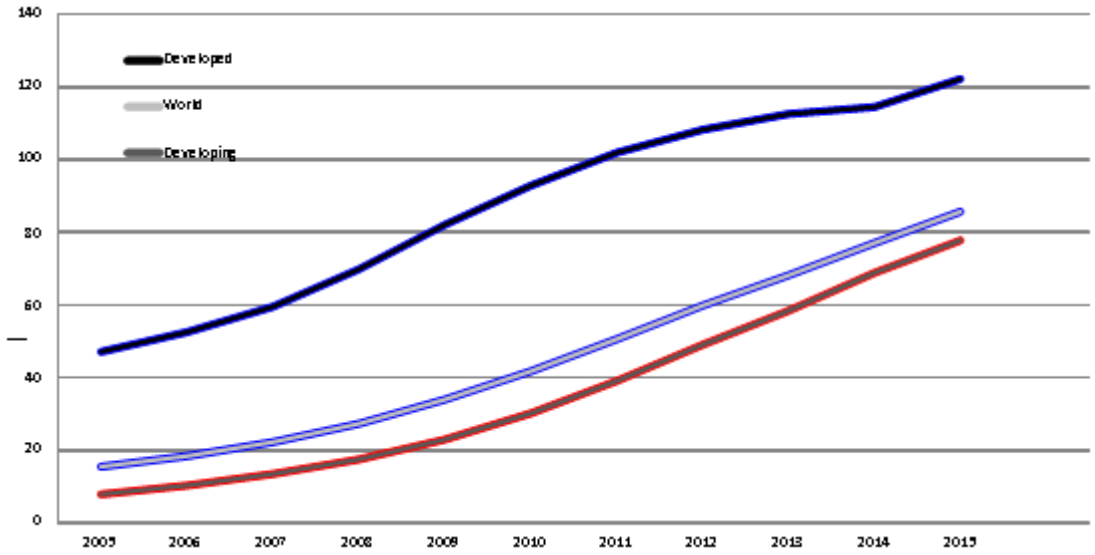
Business-to-Government or B2G commerce is generally defined as e-commerce between companies and the public sector. It refers to the use of the internet for public procurement, licensing procedures, and other government-related operations. In B2G e-commerce, the public sector generally assumes the pilot role in establishing e-commerce in an effort to make its procurement system more efficient. The size of the B2G e-commerce market as a component of total e-commerce is still rather insignificant as government e-procurement systems still remain comparatively undeveloped.

ACCESSING THE WORLDWIDEWEB THROUGH MOBILE TELEPHONY

The most popular ICT in developing countries and one which is progressing very rapidly in Africa and Asia, in particular India, is the mobile phone. Mobile phones are increasingly playing a larger role in the expansion of e-commerce in developing countries, especially amongst users without terminal connections. The chart below shows that in the past ten years, mobile-cellular subscriptions in developing countries have increased nearly tenfold. Not only have they helped to improve how businesses are run, they are also helping to close the poverty gap. Mobile phones are making it possible for rural farmers to engage in mobile money services, allowing them to open saving accounts, earn interest on their deposits and access a variety of credit and insurance products. Mobile e-commerce is exactly the same as e-commerce except that the access mechanism is via a wireless phone or terminal.

In recent years many developing countries have seen a surge in mobile commerce. Internet penetration across Africa, for example, remains low and computers are often too expensive to purchase. However, there are currently 695 million mobile phone subscribers in Africa. This has given Africans a simple and pervasive means of sharing information and conducting business, even in spite of the fact that online business transactions can be logistically complicated to execute.

Chart 5: Mobile-cellular subscriptions per 100 inhabitants, 2014-2015



In many developing countries mobile phones are still mostly used for voice communication and texting. Recently, however, they are increasingly being used for data applications such as m-commerce and m-banking. In the near future, internet-enabled phones may help to deliver the same services but more efficiently. Microenterprises and SMEs, many of which are in the informal sector in developing countries, appear to be the most positively affected by the adoption of mobile telephony. In the agriculture and fisheries sectors in Asia and Africa, for example, mobile phones are now frequently used to conduct sales and purchases, to establish delivery times and destinations and to negotiate prices. While these are classic transactions normally carried out over personal computers, they are being done on location using mobile technology. For fishermen, mobile phones are regularly used to check weather reports and to receive early warning announcements of severe weather conditions on land or at sea. This fast growth of mobile e-commerce stems from the cost advantage of mobile infrastructure over fixed-line installation. Mobile network consumers can simply buy a prepaid card and a handset at an affordable price (usually subsidized by the operator) and start using their mobile phone as soon as the first base stations are in place. In recent years, a few innovative African companies have found ways to harness the potential of mobile commerce and information sharing, changing the way in which Africans communicate. This development has taken place in spite of the fact that online business transactions can still be logistically complicated to execute. Mobile web adoption is growing at a faster rate today than the internet did in the 1990s and early 2000s. Emerging markets like India, China, Turkey and Brazil have seen an exponential growth in mobile web use with figures that have surpassed mature markets. Mobile 3G subscriptions in the US grew by 26% in 2011 whereas Brazil, Turkey, China and India saw growth of 79%, 104%, 172% and 1,050% respectively.

Table 1: Evolution of Mobile-cellular subscriptions per region

Mobile-cellular subscriptions	(millions)	(per 100 people)

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	2009	2010	2011	2012	2013	2014	2015	2009	2010	2011	2012	2013	2014	2015
Developed	992	1,127	1,243	1,325	1,384	1,413	1,514	82.1	92.9	102	108.3	112.6	114.5	122.3
Developing	1,215	1,619	2,126	2,706	3,263	3,898	4,457	22.9	30.2	39.1	49.1	58.4	68.9	77.8
World	2,207	2,747	3,369	4,031	4,647	5,311	5,972	33.9	41.7	50.6	59.9	68.2	77.1	85.7
Africa	87	129	174	246	297	363	434	12.4	17.9	23.5	32.4	38.2	45.6	53.1
Arab States	85	126	175	214	265	310	350	27.1	39.3	53	63.4	76.6	87.8	96.9
Asia and Pacific	834	1,074	1,398	1,773	2,166	2,625	3,009	22.6	28.8	37.1	46.6	56.3	67.6	76.7
CIS	166	227	267	312	356	377	408	59.7	81.8	96.1	112.2	127.7	135.1	146
Europe	550	610	677	714	718	726	747	91.6	101.1	111.6	117.1	117.1	117.9	120.8
The Americas	459	552	649	741	814	876	989	52.1	62	72.1	81.5	88.5	94.3	105.4

HOW DO POORER COUNTRIES BENEFIT FROM MOBILE TELEPHONY?

Mobile telephony has transformed life for many consumers in developing countries. Mobile phones help improve the livelihood of the poor through better communications and greater access to information. Many poor farmers are now able to receive better prices for their crops because they have access to information on market prices, primarily via mobile phones. TradeNet, a Ghana-based trading platform, is one such example, allowing farmers to access prices and offers from traders by mobile phone.

Mobile phones have also spawned a wealth of micro-enterprises, offering work to people with little education and few resources, such as selling airtime and repairing or refurbishing handsets. In Bangladesh, for example, with micro-credit from the Grameen Bank, over 100,000 Bangladeshi women have set up mobile phone exchanges in villages where there are few if any landlines and are now earning their living as "Grameen phone ladies". Such village phone schemes have subsequently spread from Bangladesh to Uganda and Rwanda and to many other poor communities in LDCs. Mobile phones have helped consumers to bridge the digital divide between regions in many developing countries. This is thanks to wireless technologies that enable the consumer to use mobile phones for communications and internet access without the need of a PC and cable connection. China and India are the two largest mobile phone markets amongst developing countries, and indeed in the world. However, similar to other developing countries, the mobile phone penetration rates in China and India remain relatively low, at 62.8% of the population and 51.6% respectively in 2014, leaving a significant potential for growth.

According to a 2014 International Telecommunications Union report on mobile phone penetration in developing countries, mobile cellular penetration in Africa stood at 45.2%. In Central and South America, it had grown to 94.5%. Meanwhile, across Asia and the Pacific in 2010, mobile cellular penetration stood at 69.2%, which was higher than mobile cellular penetration in Europe eight years earlier at 67%. In comparison, mobile phone use in Europe had grown to 117.7% by 2014. The same report noted that internet user penetration in Africa grew over 20-fold in the decade to 2014, from 0.5 %

to 10.8%, and that this gave Africa higher internet user penetration in 2014, than in the Commonwealth of Independent States (CIS) five years earlier. It noted that, in CIS, internet penetration grew from 10.2% in 2005 to 34% in 2014. According to the report, LDCs forged ahead in mobile but still need to come on line. The ITU noted that in 2014, 833 million people were living in the 49 LDCs. In spite of these being the world's poorest countries, mobile phone services across the LDCs grew steadily throughout the first decade of the new millennium. It added that, in 2014, almost two thirds of people in LDCs, had mobile cellular coverage, with penetration reaching 34% up from just 5% only five years earlier, and close to the global figure for 2005. In just two of the 49 LDCs was mobile penetration still below 5% in 2015.

Some governments are tackling the problem of low mobile phone penetration through specific actions to encourage investment and development. In Chile for example, the government allotted spectrum in multiple bands for mobile broadband in underserved rural areas. Chile offered subsidies through a reverse auction (resulting in a government subsidy of more than US$100 million) to develop mobile broadband in around 1,500 municipalities in rural areas, where no broadband service was available. Extending coverage to these areas could mean that 90% of Chile's population would have broadband coverage. Minimum service conditions for broadband access and a ceiling on prices was established. The winner of the auction, Entel Movil, started deploying mobile broadband in these areas in September 2014. The rapid expansion of mobile broadband services in the country, has permitted Entel Movil to achieve the largest share of mobile broadband connections in the country, surpassing its other two main competitors.

What are the prospects of the global mobile market?

Developing countries – particularly major emerging economies – will continue to drive growth of the global mobile phone market. This is due to their large population, low penetration rates and rising disposable incomes, although the true growth potential depends also on government policies to help liberalise the market and enhance competition among network providers. During 2011-2020, the number of mobile subscriptions in Africa and the Middle East is forecast to grow at an average rate of 5.6% per year, compared to the global average of 3.7%. However, the expected growth in Africa and the Middle East is from a relatively low base: in 2010, the mobile penetration rate in Africa stood at 56.5% of the population. The Asia-Pacific region will continue to be the largest regional mobile phone market, with 3.9 billion subscriptions in 2020. China will continue to be home to the world's largest number of mobile phone subscriptions, with 1.3 billion subscribers in 2020 (up from 839 million in 2014). However, India – currently the world's second largest mobile phone market – will have significant growth potential not only in the Asia-Pacific region but globally, with the number of mobile phone subscriptions forecast to grow at an average annual rate of 5.7% during 2014-2020, to reach 1.1 billion in 2020. From a luxury product used primarily in developed countries, mobile telephony has become universally available. It is now an integral part of life for many. Meanwhile, in the developed world, the commercial deployment of next-generation technologies and devices will increase usage of advanced mobile services, which in turn will open up many new, e-commerce business opportunities and especially in developing countries. Meanwhile more data applications are now regularly being used in developing countries to conduct business (m-commerce), engage in retail or commercial banking activities (m-banking) and to find work (m-labour). How do poorer countries benefit from mobile telephony? Agriculture, On-line supply and demand information, Fisheries and Labour mobilization. Mobile technology can be utilized by small and medium-sized businesses operating in the agricultural and fisheries sectors. It also has uses for labour and transport mobilization, for micro-credit services and for mobile money. This section provides an overview as to how mobile technology is being used by SME business operators in various sectors in developing countries. Some examples are provided.

On-line data and information services

Mobile services can also enable better access to markets and other value-chain stakeholders. Sellers are increasingly using their websites to relay on-line information on transport and logistics, with some of these services being provided on mobile phones. For example, through the use of voice and short message service (SMS) in Morocco, farmers coordinate with local truckers to improve product transport and to identify where the best locations are for them to deliver their products. Some farmers also make use of two-way trade by bringing products back from larger, regional markets to sell in their own rural communities. Product traceability has become increasingly relevant to those developing countries which want to gain or expand into new export markets. The use of ICT has led to improved consumer protection and food safety on the one hand and better livelihood outcomes for farmers on the other. Radio frequency identification (RFID) chips are also used to trace animal movement, enabling the monitoring of animals from cradle to grave. The use of the system in Namibia to replace traditional paper-based recording has increased the accuracy of the data and the speed in which it is disseminated, leading to higher monetary returns on livestock.RFID has also been used for the prevention of animal poaching. Governments are now able to trace elephant and rhino herds and can take steps to mitigate illegal poaching activities. Such approaches are increasingly showing positive results in Africa and are contributing to sustainable development and to continued prospects for tourism.

Market Access

Mobile phones, although owned and used by individuals, can nevertheless have an important impact in linking markets and key stages of the value chain. A recent study of farmers conducted in Bangladesh, China, India, and Viet Nam found that 80% of farmers in these countries owned a mobile phone and used them to connect with agents and traders in business-to-business transactions to estimate market demand and selling prices. The study found that more than 50% of these farmers would make arrangements for sale over the phone. Another study found that as remote communities in Uganda were provided with access to a mobile network, the share of bananas sold rose from 50 to 69% of the crop. As mobile service and applications providers in agriculture become more knowledgeable about the needs of the farmers as well as their behaviour, they are developing increasingly sophisticated applications. In 2000, the Indian Tobacco Company (ITC), a large conglomerate in India, broke new ground by establishing e-Choupal—kiosks with computers—in rural villages, where farmers are able to access information about prices, planting times and methods and weather conditions. Since then the company has been working to provide its services over mobile phones and has piloted a new virtual commodity exchange, Tradersnet. The latter enables the direct purchase and sale of coffee, for example, by producers and wholesale purchasers over an internet-based trading platform. SMS messages are sent to users' mobile phones every morning with the offers available for purchase that day. At the end of the day, users receive another message with details as to what actually transpired.

The company Esoko in Ghana was established by TradeNet to serve as a central repository for price information to be run by a centralized agency such as the government. The company is now a mobile and web-enabled repository of current market prices and a platform to enable buyers and sellers to make offers and connect to one another. Esoko has been able to offer differentiated services to a diverse customer base and, in a recent study of farmers with small land holdings in northern Ghana, it found that farmers had seen a 10% increase in revenue since they began receiving Esoko delivered market prices by SMS.

E-COMMERCE AND SMALL, MEDIUM ENTERPRISES

The term SME has a wide range of definitions varying from country to country and between the sources reporting SME statistics. Some of the commonly used criteria used to define an SME are net assets, number of employees and the levels of sales and investment. The most commonly used criterion used to define SMEs is, however, the total number of employees. Even the definition of an

SME on the basis of a specific criterion is not uniform across countries. For instance, a specific country may define an SME to be an enterprise with less than 500 employees, while another country may define the cut-off to be 250 employees. In both developed and developing countries, SMEs make up a majority of business and employ the majority of workers in both manufacturing and services sectors. SMEs cater mostly to their domestic market and their contribution to GDP, although normally very small, can vary greatly depending on the value of the goods or services they produce. While less than 6% of the formal work force is employed in manufacturing in SMEs in Azerbaijan, Belarus and Ukraine, this share is more than 50% in other developing countries such as Ghana, Turkey and Ecuador. Research has indicated that countries with large SME sectors also tend to benefit from the significant contribution which SMEs make to GDP.

An UNCTAD study has shown that SMEs, while generally lagging in ICT, have the most to gain from increases in productivity thanks to e-commerce. SMEs, however, actually run the risk of missing opportunities in both productivity and profitability by not engaging in e-business. SMEs also have a large role to play in the economies of developing countries because it is in these same countries that have the greatest potential to benefit from e-commerce. The extent of ICT use by SMEs is dependent on both sector and size of the business. Typically, those SMEs which are export or import-oriented as well those involved in the tourist sector have stronger incentives to invest in implementing ICTs in their respective businesses. Global developments and other competitive forces are increasingly driving firms to engage in ICT-based strategies. The growing interaction that SMEs are having with foreign suppliers and clients is leading most firms in developing countries to connect to the internet for e-mail purposes. The adoption of ICT by SMEs in developing countries is largely a market-driven process and eventually it is expected that competition in ICTs will lead to greater affordability and allow SMEs to engage more in e-commerce. Global competition is a major driver in this process, particularly for export-oriented businesses. Many buyers in developed countries which would like to purchase agricultural goods or handicrafts in developing countries expect their suppliers, usually SMEs in developing countries, to be connected to the global online supply chain.

Although research has indicated that it is mostly large multinational companies that have benefitted the most from e-commerce, SMEs have been found to have the greatest potential for productivity gains through e-commerce. For most SMEs, however, the internet is mostly restricted to use by managers, for e-mail communication and for basic internet searches, particularly in developing countries with slow modes of access to the internet. Even in rare circumstances when SMEs have websites, the websites are generally limited to presenting goods and services on offer. It is unusual to see these same companies providing a means to purchase their products or services online. Despite several studies that have demonstrated the correlation between ICT adoption and a company's profitability, one of the major reasons many enterprises have not integrated ICT and e-commerce into their business strategies is the perceived limited impact on business profitability often coupled with the argument that few suppliers and customers are actually online. On the other hand, when SMEs are able to see the added benefits of using ICT, they are more willing to adapt their businesses strategies. E-commerce presents a number of opportunities for SMEs. The main reason lies in that e-commerce has the ability to become a field-leveller providing as many opportunities for SMEs in developing countries as in developed countries. Since all internet sites co-exist, small businesses have access to just as much internet space as do large multinational companies. SMEs in developing countries that are located in rural areas are usually more disadvantaged in terms of internet access. The rural-urban digital divide is created or exasperated by more expensive connection fees, an insufficient number of lines and unreliable internet connectivity. Mobile commerce, however, now provides more opportunities for SMEs, especially in rural areas. Statistics indicate that mobile technology is actually spreading into rural areas at a rapid pace. According to the ITU, the percentage of

the world not covered by a mobile cellular signal was 39% in 2003. By 2010, that figure had dropped to 10%.

E-commerce has been hailed by many as an opportunity for developing countries to gain a stronger foothold in the multilateral trading system. E-commerce has the ability to play an instrumental role in helping economies benefit more from trade. Unlike the requirements necessary to run a business from a physical building, e–commerce does not require storage space, insurance, or infrastructure investment on the part of the retailer. The only pre-requisite is a well-designed web storefront to reach customers. Additionally, e-commerce allows for higher profit margins as the cost of running a business is markedly less. Another added advantage provided by e-commerce is that it allows for better and quicker customer service. In some cases customers could have direct access to their own personal accounts online and can avoid calling companies on the phone. This can save both time and money. Adding customer online services such as overnight package delivery services can also have commercial benefits. These can be complemented by package tracking services which allow customers to check the whereabouts of their packages online. This helps provide good levels of customer satisfaction with very little effort from the side of the business.

POLICY ISSUES - WHAT RESTRICTS SMES FROM MORE FULLY USING E-COMMERCE?

E-Commerce is generally presented in very positive terms but, along with the potential benefits, come potential problems for developing countries. The adoption of e-commerce in developing countries differs greatly from one country to the other. But many face a number of similar obstacles to e-commerce. These mainly include a lack of financial, legal, and physical infrastructure for the development of e-commerce. The development of various types of e-commerce depends primarily on the existing structure of an industrial sector and how it fits into a given sectoral value chain. Additionally, the difference of cultures and business philosophies across developing countries has also been seen to limit the applicability and transferability of the e-commerce models designed by some developed countries. Although SMEs have numerous reasons for engaging in e-commerce, the security concerns of the customers remain an important impediment to expanding e-commerce services and business. Probably, the biggest drawback is the reluctance of customers to provide online information about their credit cards. Ensuring both trust and familiarity through a well-functioning website has proven to be one of the major e-commerce success-factors. In the same vein, the growth of broadband has created a greater need for users to protect their security and privacy in an "online" environment. Both individual users and businesses report that computer viruses are the "malware" they encounter the most. Security continues to be a problem for online businesses as customers have to feel confident about the integrity of the payment process before they commit to the purchase. In most cases, these countries remain outside the reach of fibre optic cables and must turn to satellites for international – and sometimes even domestic – connectivity. This happens even in spite of significant improvements brought about by technology. Many have noted that the most significant factor that would enable the necessary broadband growth in developing countries is the existence of alternative broadband infrastructures, in particular cable. Furthermore, a number of developing countries also face challenges such as an unreliable supply of power which is another major cause for concern. Many SMEs also lack the logistics for the prompt and reliable delivery of goods and services particularly in the case of B2C e-commerce. These obstacles put SMEs at a distinct disadvantage.

International Journal of Research
Available at https://edupediapublications.org/journals
p-ISSN: 2348-6848
e-ISSN: 2348-795X
Volume 03 Issue 08
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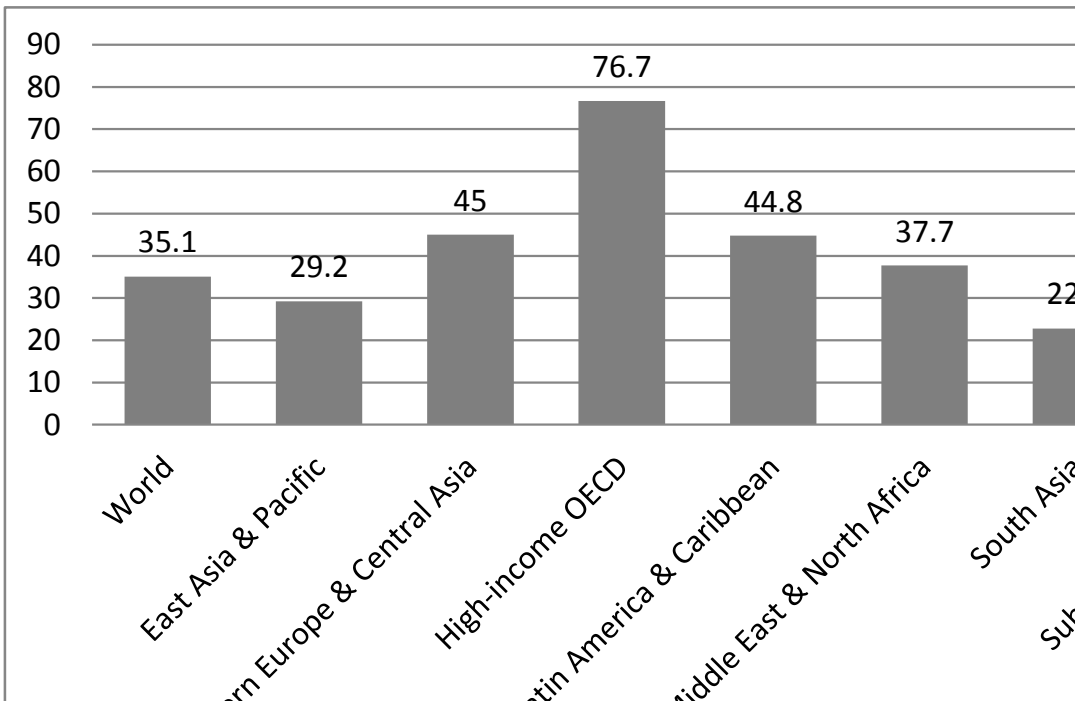
Chart 7: Enterprises with their own website, latest year 2014-2015 (%)



Slow internet diffusion in developing countries can be attributed to market and infrastructural factors controlling the availability of ICTs. In Tanzania, for instance, a lack of electrical supply, a low tele-density and a lack of purchasing power resulted in a low, rural internet usage. The cost of IT equipment can also discourage SME take up of e-commerce. The costs of computers, servers, parts etc. can be prohibitive for SMEs and can sometimes be subject to high tariffs or inconsistent tariff regimes. For example, providing incentives by lowering tariffs on computer terminals, but not on parts, can make buying lower cost replacement parts for simple repairs an unattractive option. Moreover, manufacturers of ICT products focus on large distributors often located in developed countries. Financial infrastructure is also key. For example, the unavailability of credit cards can be a major hurdle. Past studies have found such problems for B2C e-commerce in Russia, India and Latin America. In Asia, 35–40% of transactions are cash-based. Other aspects of financial systems are also underdeveloped. In some countries and regions, local banks do not process online credit card transactions or other forms of electronic payment systems. Since mobile money targets the poor in developing countries and encompasses two very distinct industries (telecommunications and financial services), developing the necessary cross-sectoral partnerships - including bridging cultures and regulations - may therefore be difficult. Furthermore, in order to get the mobile money industry to be viable, agents and consumers have to be convinced at a large scale. Operators are faced with the trade-off between higher costs to recoup their investments or lower costs to reach scale and build a mass market.

CONCLUSION

This background note has examined different ways of using e-commerce and has looked at some specific sectors where SMEs are using the internet to sell their wares directly to customers through online transactions. As noted, a growing number of such transactions are now also taking place via mobile applications. This trend is to expand exponentially in the decades ahead. As has been seen, there is enormous potential for using information and communication technologies to contribute to the

social and economic progress of developing countries worldwide. Many entrepreneurs in developing countries and certainly many owners and managers of SMEs have a real possibility to benefit from ICTs in their day to day business activities. This has already resulted in gains in enhanced productivity, be it in the area of B2B, B2C or B2G e-commerce. However, as this paper shows, SMEs in many developing and LDCs are not always maximizing the use of the internet. In this regard, the role of governments and their various partners, including the private sector, need to take more advantage of the opportunities that are emerging in the new ICT landscape. And governments need to ensure that users benefit not only from being connected to the internet but also from any technological evolutions which can increase the speed of data flows and which can help reduce costs to consumers.

The paper has focused on how mobile telephony has transformed life for many in developing countries. Mobile phones help improve the livelihood of the poor through better communications and greater access to information. Many poor farmers are now able to receive better prices for their crops because they have access to information on market prices, primarily via mobile phones. The African company TradeNet, a Ghana-based trading platform, was provided as a key example. Mobile phones have also spawned a wealth of micro-enterprises, offering work to people with little education and few resources, such as selling airtime and repairing or refurbishing handsets. When farmers have access to information about prices and stocks, it helps them to reduce the risk of under-selling and of either over or under-supplying their crops in a given market. Information transmitted by mobile phone also includes access to early warning systems to mitigate the risk of losses due to extreme weather conditions or to the spread of disease. This background note has examined different ways of using e-commerce and has looked at some specific sectors where SMEs tap into vital market information on which their businesses depend. Others still are involved with the development or the dissemination of mobile services such as mobile banking, credit and insurance services. It is important to remember, however, that SMEs are not alone in their involvement with e-commerce. The government and the private sector have vital roles to play not only in allowing e-commerce to take place but to ensure that it grows and benefits not only SMEs but also consumers. Much of the support to e-commerce depends on having or providing the right infrastructure, regulations and the policy mix allowing e-commerce to thrive.

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p-ISSN: 2348-6848
e-ISSN: 2348-795X
Volume 03 Issue 08
April 2016

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