

# **CS8601 –MOBILE COMPUTING**

## **UNIT 5**

### **MOBILE PLATFORMS AND APPLICATIONS**

#### **5.5. MCommerce**

The phrase mobile commerce was originally coined in 1997 by Kevin Duffey at the launch of the Global Mobile Commerce Forum, to mean "the delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology." Many choose to think of Mobile Commerce as meaning "a retail outlet in your customer's pocket."

Mobile commerce is worth US\$230 billion, with Asia representing almost half of the market, and has been forecast to reach US\$700 billion in 2017. According to BI Intelligence in January 2013, 29% of mobile users have now made a purchase with their phones. Walmart estimated that 40% of all visits to their internet shopping site in December

2012 was from a mobile device. Bank of America predicts \$67.1 billion in purchases will be made from mobile devices by European and U.S. shoppers in 2015. Mobile retailers in UK alone are expected to increase revenues up to 31% in FY 2013–14.

The Global Mobile Commerce Forum, which came to include over 100 organisations, had its fully minuted launch in London on 10 November 1997. Kevin Duffey was elected as the Executive Chairman at the first meeting in November 1997. The meeting was opened by Dr Mike Short, former chairman of the GSM Association, with the very first forecasts for mobile commerce from Kevin Duffey (Group Telecoms Director of Logica) and Tom Alexander (later CEO of Virgin Mobile and then of Orange).

Over 100 companies joined the Forum within a year, many forming mobile commerce teams of their own, e.g. MasterCard and Motorola. Of these one hundred companies, the first two were Logica and Cellnet (which later became O2). Member organisations such as Nokia, Apple, Alcatel, and Vodafone began a series of trials and collaborations.

Mobile commerce services were first delivered in 1997, when the first two mobile- phone enabled Coca Cola vending machines were installed in the Helsinki area in Finland. The machines accepted payment via SMS text messages. This work evolved to several new mobile applications such as the first mobile phone-based banking service was launched in 1997 by Merita Bank of Finland, also using SMS. Finnair mobile check-in was also a major milestone, first introduced in 2001.

The m-Commerce(tm) server developed in late 1997 by Kevin Duffey and Andrew Tobin at Logica won the 1998 Financial Times award for "most innovative mobile product," in a solution implemented with De La Rue, Motorola and Logica. The Financial Times commended the solution for "turning mobile commerce into a reality." The trademark for m- Commerce was filed on 7 April 2008

In 1998, the first sales of digital content as downloads to mobile phones were made possible when the first commercial downloadable ringtones were launched in Finland by Radiolinja (now part of Elisa Oyj). Two major national commercial platforms for mobile commerce were launched in 1999: Smart Money (<http://smart.com.ph/money/>) in the Philippines, and NTT DoCoMo's i-Mode Internet service in Japan. i-Mode offered a revolutionary revenue-sharing plan where NTT DoCoMo kept 9 percent of the fee users paid for content, and returned 91 percent to the content owner.

Mobile-commerce-related services spread rapidly in early 2000. Norway launched mobile parking payments. Austria offered train ticketing via mobile device. Japan offered mobile purchases of airline tickets. In April 2002, building on the work of the Global Mobile Commerce Forum (GMCF), the European Telecommunications Standards Institute (ETSI) appointed Joachim Hoffmann of Motorola to develop official standards for mobile commerce. In appointing Mr Hoffman, ETSI quoted industry analysts as predicting "that m- commerce is poised for such an exponential growth over the next few years that could reach US\$200 billion by 2004".

The first book to cover mobile commerce was Tomi Ahonen's M-profits in 2002. The first university short course to discuss mobile commerce was held at the University of Oxford

in 2003, with Tomi Ahonen and Steve Jones lecturing. As of 2008, UCL Computer Science and Peter J. Bentley demonstrated the potential for medical applications on mobile devices.

PDAs and cellular phones have become so popular that many businesses are beginning to use mobile commerce as a more efficient way to communicate with their customers. In order to exploit the potential mobile commerce market, mobile phone manufacturers such as Nokia, Ericsson, Motorola, and Qualcomm are working with carriers such as AT&T Wireless and Sprint to develop WAP-enabled smartphones. Smartphones offer fax, e-mail, and phone capabilities.

"Profitability for device vendors and carriers hinges on high-end mobile devices and the accompanying killer applications," said Burchett. Perennial early adopters, such as the youth market, which are the least price sensitive, as well as more open to premium mobile content and applications, must also be a key target for device vendors.

Since the launch of the iPhone, mobile commerce has moved away from SMS systems and into actual applications. SMS has significant security vulnerabilities and congestion problems, even though it is widely available and accessible. In addition, improvements in the capabilities of modern mobile devices make it prudent to place more of the resource burden on the mobile device.

More recently, brick and mortar business owners, and big-box retailers in particular, have made an effort to take advantage of mobile commerce by utilizing a number of mobile capabilities such as location-based services, barcode scanning, and push notifications to improve the customer experience of shopping in physical stores. By creating what is referred to as a 'bricks & clicks' environment, physical retailers can allow customers to access the common benefits of shopping online (such as product reviews, information, and coupons) while still shopping in the physical store.

This is seen as a bridge between the gap created by e-commerce and in-store shopping, and is being utilized by physical retailers as a way to compete with the lower prices typically seen through online retailers. By mid summer 2013, "omni channel" retailers (those with significant e-commerce and in-store sales) were seeing between 25% and 30% of traffic to their online properties originating from mobile devices. Some other pure play/online-only retail sites

(especially those in the travel category) as well as flash sales sites and deal sites were seeing between 40% and 50% of traffic (and sometimes significantly more) originate from mobile devices.

The Google Wallet Mobile App launched in September 2011 and the m-Commerce joint venture formed in June 2011 between Vodafone, O2, Orange and T-Mobile are recent developments of note. Reflecting the importance of m-Commerce, in April 2012 the Competition Commissioner of the European Commission ordered an in-depth investigation of the m-Commerce joint venture between Vodafone, O2, Orange and T-Mobile. A recent survey states that 2012, 41% of smartphone customers have purchased retail products with their mobile devices.

