



# ESSENTIALS OF Management Information Systems

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## Chapter 9: E-Commerce: Digital Markets, Digital Goods

### Case 1: M-Commerce: The Past, Present, and Future

Tags: Tellabs; m-commerce; mobile commerce; 3g networks; online payment systems; backhaul network; customer expectations; limitations

**Summary:** Mobile Commerce is a new reality. This wireless, next-generation evolution of e-commerce is already poised to change the way both consumers and operators do business. Narrated by Gabriel Brown, Chief Analyst for Unstrung Insider, Tellabs' three-part podcast series delves into the current state of m-commerce: its history, promises, challenges, early adopters, and potential. Industry analysts, end users, and Tellabs experts analyze topics ranging from mCommerce technology requirements and backhaul demands to security and standards issues, current and future markets, and revenue expectations.

**Part 1 URL:** <http://www.youtube.com/watch?v=aO--a5yhJCg>



**Part 2 URL:** <http://www.youtube.com/watch?v=fBILxVeCouo>

## Mobile Commerce: Part Two, The Evolution

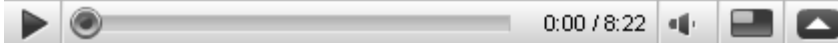
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lowering churn rates  
and keeping their  
customers longer



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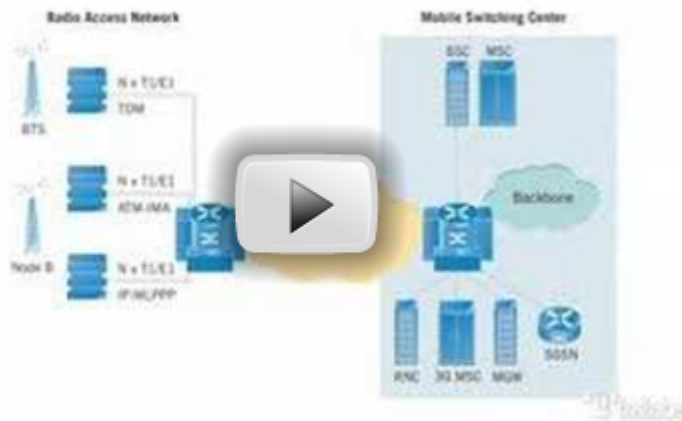
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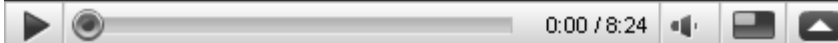
Part 3 URL: <http://www.youtube.com/watch?v=DsDGNLjYPxQ>

## Mobile Commerce: Part 3, How To Make mComme...

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### Case

Mobile commerce is poised to reshape the way people manage their everyday lives. As mobile devices are equipped with more and more capabilities, especially broadband



Internet access and mobile payment systems, we will come to rely on these devices as essential to us.

The value of mobile commerce in the United States is expected to increase from 78 million dollars in 2007 to 11.5 billion in 2011. The number of people using m-commerce services will increase to 52 million in that time. This includes people using their mobile devices to shop for goods on the Internet, as well as people using their mobile phones as a payment device for small value payments and public transportation.

Wireless technology developers have used 3G technology to create a computerlike experience for users of mobile devices. But are these developers and network operators prepared to withstand the eventual avalanche of people using their mobile devices for more and more tasks?


A term mentioned in the title of the article is 'backhaul', which is an important concept to understand in answering this question. In a hierarchical telecommunication network, the backhaul portion of the network comprises the intermediate links between the core, or backbone, of the network and the small subnetworks at the "edge" of the entire hierarchical network. For example, while cell phones communicating with a single cell tower constitute a local subnetwork, the connection between the cell tower and the rest of the world begins with a backhaul link to the core of the telephone company's network.

If you visualize the entire hierarchical network as a human skeleton, the core network would be the spine, the backhaul links would be the limbs, the edge networks would be the hands and feet, and the individual links within those edge networks would be the fingers and toes.

If backhaul capacity does not develop to handle the growth in mobile commerce, users may become dissatisfied with the speed of their devices. Mobile devices are marketed as having 'broadband Internet capabilities', but Internet speeds of today's phones are closer to a dial-up connection than they are to a cable or DSL modem.

The U.S. is currently far behind other countries, especially Japan, in m-commerce infrastructure and use. NTT DoCoMo, Japan's largest telecom company, allows users to swipe their phones almost anywhere to buy soda, fast food, and shop online. Users can buy these goods using DoCoMo's billing system. Another unique use of m-commerce is in South Africa, where a service named Wizzit allows users to use their phones as 'virtual banks', making payments and receiving their wages via their phones. And there is a large market for remittance payments (when an individual sends funds from one country to family or friends in another).

The groundwork for the growth in m-commerce is already in place. 2.5 billion people world wide use mobile phones, many in creative ways as described above. But cell phone carriers must ensure that the bandwidth, reliability, and latency of their networks are up to par. Standardization will become important, so that users know that regardless of the phone manufacturer or application they choose, their phone will work as intended. Technological changes, including a shift of TDM technology to MPLS technology and Ethernet pseudowires, are already underway. It's likely that a future where m-commerce holds an intimate place in our lives is not far off.



## Case Study Questions

1. What is the '8-second rule' of the Internet and why is it important to m-commerce technology?
2. Why might it be useful to m-commerce providers to have records of their users' purchase histories?
3. What is the biggest concern most cell phone users have about using m-commerce services? What are some other concerns?
4. Why are technology advances such as pseudowires and MPLS technology important to increasing backhaul capacity? Try to research these technologies using outside sources.
5. How would the widespread use of m-commerce technologies affect your life?

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