• Thank you for taking time to hear our presentation today
• This project is a team effort by Elie Bensaci, Fuad Husein and Andreas Gausrab. Elie is a U of O student in the international MBA program. His contribution to the project is integrated into this presentation. Elie resides in Paris France so for obvious geographic reasons he will not be joining us today
• Our choice of topics is mCommerce. We will be presenting to you a business model that we feel will offer a viable and sustainable revenue stream for mobile operators in North America
• Our presentation will begin some background information
• We will then lead you through our taxonomy of business models
• Finally, we will propose a business model termed the bWeb. Our presentation will detail why we feel it is the most appropriate model for telecoms to provide future products and services and how it might be rolled out.
MOBILE COMMUNICATIONS CIRCA 1924
Why this Project on mCommerce

- 5 million WAP-enabled handsets by 2004, in North America alone
- By 2003, B2C mCommerce activities will reach $100 Billion USD

• **Huge marketplace** – By 2004, the Yankee Group projects about 5 million WAP-enabled handsets in the North American market

• **Vast revenue potential** – The Boston Consulting Group predicts that by 2003, world-wide mCommerce will be where the Internet was in 1998 in terms of transaction value. In the business-to-consumer space, total revenues generated by mCommerce will reach approximately $100 billion (U.S.),
What is mCommerce?

"The delivery of trusted transaction services over mobile devices for the exchange of goods and services between consumers, merchants and financial institutions".

M-commerce is defined as "The delivery of trusted transaction services over mobile devices for the exchange of goods and services between consumers, merchants and financial institutions".
• Here we show a brief history of the mobile device. What is interesting to note is the pace of technological change.
• Starting in 1947, we see the introduction of the cellular technology.
• By the end of the 90s, we have moved from the realm of analog into digital technology which is the springboard for current mCommerce activity.
• Throughout the 90’s to 2001 we see the rapid proliferation of handsets and mobile services combined with huge penetration rates in Europe, Asia and North America.
What does mCommerce mean today

- Voice alerts
- Financial
  - Banking
  - Pay bills
  - Stock trading
- Surf WAP enabled sites
- Purchases through m-enabled sites

• Voice messaging systems, emails that are “spoken” to you instead of having to read them (Tellme, Conversay)

• It means being able to complete banking transactions at any time of day or night, and with global roaming systems and at the technological high-end of satellite phones, anywhere in the world. (Iridium, Magellan)

• Being able to mimic the functions of a PC and “surf” WAP enabled sites (Rogers, Telus, Verizon)

• Typically today, mCommerce is the ability to purchase goods and services from a mobile device.
The hype curve for mCommerce

- The hype curve shows the uptake of technology by consumers
- Based on industry reports and expert opinion polls, (EDC, Gartner, McKinsey, Harvard Business Review), it would appear that mCommerce is on a downward cycle, recovering from over-hyped expectations hindered primarily by the technology gap that existed in 1998 to 2000 for infrastructure communication speed. It is interesting to note that application development, network speeds, handset functionality and security protocols were being developed and introduced at different rates which contributed further to the disappointment for early adopters.

If collaboration through the value chain can be achieved, then it is likely there will be a rapid recovery through 2002 and 2003.
Expanding the Footprint

Fixed eCommerce
- Office bound B2B transactions
- Transactions require extensive browsing
- Banking
- Stock trading
- Retail purchasing
- Entertainment and travel bookings
- Auctions

mCommerce
- Orders by mobile sales and service staff
- Transactions made in response to location-based information or requested alerts
- Vending machine or other point-of-sale purchases

• The first bullet points are elements of PC based electronic commerce (or eCommerce)
• mCommerce expands the traditional footprint from what we view as “traditional” eCommerce activities as well as introduces us to additional elements.
• The question is not whether mobile devices will shoulder aside fixed wired p.c’s but WHEN!
This slide lists just a few of the activities that can be performed on a mobile device.
This slide provides an overview of the supply demand chain for mcommerce.

• Users access content seamlessly through a service providers network and an mCommerce server.
• The service provider will manage the gateway into payment services
• The service provider will also manage the gateway to storefronts and vendors through the internet
• These are some of the key success factors that we have identified as necessary for the successful implementation of mCommerce.

• The top-right hand section shows the most desired factors. These factors have the highest cost and technological complexity to implement.

• The key success factors in the lower-left corner cost the least to implement, in terms of dollars and complexity.

A consideration for mobile service providers is to begin offering simple solutions which are inexpensive to implement, moving from quadrants 1 to 4.
Steps in an mCommerce Transaction

- Storefront/service selection
  - Location aware browsing
- Transaction confirmation
  - User authentication
  - Storefront authentication
- Transaction and settlement
- Interface to the fulfillment system

One possible mCommerce cycle could be as follows:
- Through various methods a user locates a product or service to purchase
- A vendor is selected
- The user places an order and payment credentials are verified, the vendor can also be verified through the use of certificates
- The transaction occurs and the settlement process begins
- Settlement of the transaction is finalized and confirmation is given
- The final set of fulfillment is realized when the goods are delivered
Operator stimulates mCommerce by creating m-wallet enabler.

- Subscriber creates an ‘m-wallet’ by registering credit card information with operator
- Subscriber uses ‘m-wallet’ for all purchases, without having to re-enter credit information each time
- Storefronts not within jurisdiction of operator
- Operator interacts with the payment network via a Payment Gateway and authenticates storefronts via Digital Certificates
- Revenues for operator from: Incremental airtime + limited share of mCommerce transaction
mWallet plus billing

Operator changes business model to offer credit, and begins capturing new revenue streams

• Operator creates m-wallet and bills for all goods and services purchased
• Storefronts not within jurisdiction of operator
• Mobile phone functions as credit card
• Revenues for operator from: Incremental airtime + transaction fee for billing and settlement + limited share of the mCommerce transaction
Operator offers credit and sells directly

• Operator sells products and services directly to its customer base via its own shopping mall
• Revenues for operator from: Incremental airtime + share of mCommerce transaction + advertising + fee for billing
• Here we show a list of activities where operators can earn revenue from an mobile device. Revenue generating activities run from things as simple as call screening to the complex such as localization of advertising alerts.
• This pie chart represents data forecast for 2003
• Note that the largest revenue segments are predicted to be advertising, finance and shopping segments
• Surprisingly, business applications only represent on 9% of the market
The top chart represents the number of users per business segment projected to 2005.

Of note is the rather large number expected in the areas of entertainment, vending, machine services, and bill payments.

The table below represents expected revenues for the same business segments projected to 2005.

Source: McKinsey 2000
<table>
<thead>
<tr>
<th>Region</th>
<th>Companies</th>
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<tbody>
<tr>
<td>Canada</td>
<td>• Rogers</td>
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<td></td>
<td>• Telus</td>
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<td>• Fido</td>
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<td>• Bell</td>
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<td>U.S.A.</td>
<td>• Bell Mobility</td>
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<td>• Voice Stream</td>
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<td>South America</td>
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<td>Asia/South Pacific</td>
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<td>• PT Indonesia Commnents Plus</td>
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<td>• Asia One</td>
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<td>Japan</td>
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<td></td>
<td>• J-Mobile (Vodafone)</td>
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<tr>
<td>Australia</td>
<td>• TelstraOnAir</td>
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<td>• Optus Mobile</td>
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<td>India/China</td>
<td>• Cellmania</td>
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<td></td>
<td>• AirTel</td>
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</tbody>
</table>

- This list is by no means exhaustive. It simply shows us that mobile communications is indeed a world market.
• Year 2000 subscribers by network provider

• It's very surprising that even though in Canada, we see Bell Mobility as a huge player, in contrast to the world market, it is very small. The text box inserted above the graph shows the global alliances that have been established in 2000.
Top 6 Revenue Markets

Low prices yield low ARPU, despite high usage...

Japan €87
US €80
France €61
Italy €60
Germany €54
Canada €46

Sources: Forrester Research, Merrill Lynch

...low growth, despite low penetration

• Wireless data
• Increased usage
• Increased competition
• ARPU-Selected markets

0% 25% 50% 75% 100
0% 25% 50% 75% 100

Growth rate 2000-2001
Penetration (2001)

Canada
France
Italy
Germany
UK
US
Japan

Sources: Global Mobile, WHRC

Source: DiamondCluster Consulting

• While Canada's ARPU is ranked the lowest of these six markets, its under the pressure of increased usage demands.
• On the right we see Canada has the lowest growth and penetration rates compared to world markets
The Business Model

A business model is the conceptual design for how and from whom a business makes money. The business model establishes the relationships between the supply chain and the customers. The manner in which the company generates its sales, is determined by the revenue model to which it subscribes.

A system that enables a company to grow and make money on a sustainable basis.

• Business models show how revenue streams are created
• There are many players in the mCommerce space, some examples include platform vendors, infrastructure suppliers, content aggregators, portal providers, wireless network operators and handset vendors to name a few.

• A typical value chain for an m-commerce provider will include several players form all various communications strata. We have used an American example to illustrate the various entities in the value chain.
Each of the following business models is explained using references to the factors that influence overall viability of the model.
Part of our work was to develop a taxonomy for business models

• The first model we cover is the collateral revenue business model
• Traditionally, retailers have made money by purchasing goods at a given price then reselling those goods at a marginally increased amount. The retailer may enhance the presentation of the product or add additional value, which in turn, increases the gross margin over cost.
Collateral Revenue Business Model

Pros
- Content / services provided below cost or free to the user
- Permits rapid introduction and take-up to maximize scale
- Diversification of revenue stream
- Opportunity for cost reduction through technology

Cons
- Competing retailers just a click away
- Profits ignored in the quest for market share
- Competition leads to price wars, attrition and consolidation
The traditional business model began with the producer who sold to the wholesaler who in turn, then sold to the distributor and finally the consumer. The lower-cost channel structure resulting from "dis-intermediation", or removal of the middlemen such as distributors, wholesalers and bricks-and-mortar retailers, could reward new intermediaries, such as Web-based retailers, with fatter margins and lower capital outlays.
Dis-intermediation Model

Pros
- Capturing a larger percentage of the transactional value by moving up the supply chain

Cons
- Supply channel still required to move and store products
Re-intermediation reverses the dis-intermediation model. The intermediary adds value to the supply chain from services such as:

- Useful information and sound advice to create and expand on trust based relationships
- Aggregation services for purchasers or buyers
- Access portals that ensure the integrity of markets
- Provision of product information, sales and marketing metrics
- Channel integration and market logistics
- Managing physical delivery and payments
Re-intermediation Model

Pros
- Creates and expands trust based relationships
- Provides one-stop shopping
- Channel integration and unified logistics

Cons
- Intermediary acquires ability to control context and content
- Suppliers lose contact with their clients
- Margin erosion
Early on in the development of the online environment, revenue was generated by a symbiotic business relationship that existed between the content providers and the service providers. The content providers got credit for helping keep users online. Since users paid by the minute or hour, this generated connect-time revenues. Revenue streams were divided between the content and service providers.
Connect-Time Business Model

Pros
- Low user cost / High volume return
- Able to attract large suppliers
- Can be recycled as pay-per-packet
- Increases take-up rate and reinforces penetration

Cons
- Users expectation of free content and services contrary to metered usage
- High risk of fraud
- All devices not suitable for all applications
This approach was one of the early methods used to generate revenue. It is used by all types sites of such as portals, informational and resource sites. They appear in several ways such as banner ads displayed on the top of the screen, pop up ads that appear as a separate page while another is being displayed or they can be more discreetly displayed at the bottom or on the side of the screen. There are several methods that are being used to generate revenue from ads. The first is the traditional flat fee.
Advertising Business Model

Pros
- Oldest and best understood model in place today
- Location based alerts encourage impulse buying

Cons
- Metrics for measuring conversion due to advertising not clearly defined
- Difficult to create “stickiness”
The Reality Of m-Commerce Today

“The internet tends to alter industry structures in ways that dampen overall profitability … leveling business practices, reducing the ability of any company to establish an operational advantage that can be sustained”

Michael E. Porter, strategy and the internet, Harvard business review, march 2001

Information available on the Web bolsters buyers' power, reduces the value of sales forces and channels, reduces barriers to market entry, reduces proprietary offerings, expands geographic markets, brings in more competitors, increases price competition, and lowers the cost of switching suppliers.

Traditional supply chains are disrupted and business models break apart. The recent rush for revenue at the expense of the bottom line has only made matters worse as mobile companies strive to capture market share instead of value.

Today, price has become the primary competitive mechanism, turning mobile commerce company rivalry into a 'race to the bottom'.

Information available on the Web bolsters buyers' power, reduces the value of sales forces and channels, reduces barriers to market entry, reduces proprietary offerings, expands geographic markets, brings in more competitors, increases price competition, and lowers the cost of switching suppliers.
The business models, previously discussed, have traditionally been based on concepts from Michael Porter. Porter’s value chain concept defines value creation in terms of buying inputs, adding value to it and selling it to the next link in the chain.

Organizational boundaries are defined simply as make-buy decisions circumventing the need for more complex interaction between the value chain players.

Each link in the chain is made up of several companies, each vying for market share. To rapidly gain market share within their market space, an individual company is enticed to do one of two things:

1. Reduce their selling price
2. Increase the technology offered to the customer

Both of these strategies may serve the company in the short run by grabbing market share, but in the long run, have negative results.

If the product relies only on cost then it remains attractive as long as its price is right. E-commerce providers will pressure suppliers to reduce costs selecting those that provide products at the lowest cost. The result is product commoditization which weakens the suppliers in the long run, reducing their stamina so that in volatile times they do not have the reserves to survive.
If the producer relies solely on technical innovation, then they are able to attract buyers by offering technologically unique value. However, these technological innovators, in their quest to remain market leaders, invest so heavily and blindly in a new technology that they eventually exceed the expectations of their current customers, providing an opportunity for competitors to steal market share by offering services or products that are better suited to the users’ expectations, usually at a lower cost. In many instances, technology leaders have invested so heavily in their new strategy, they are unable to switch directions rapidly and ultimately lose market share and die.

Furthermore, each member of the value chain has a vested interest in building respective market share, with each contributor using a cost leadership or a technological leadership strategy. Without coordination, the users build unrealistic expectations that cannot be met.

An example is Bluetooth, technology that was introduced several years ago, promising the world of connectivity with a host of devices. In reality, a handset utilizing Bluetooth technology has yet to be introduced into the North American market. This phenomenon of promise much deliver little, is known as HYPE. and the newly introduced technology usually follows this curve of being way over-hyped initially, driving it to the Peak of Inflated Expectations followed by a trough of despair.

NTT DoCoMo is an example of a company that shifted its focus from leading edge innovation to customer service. They offered basic services with attractive packages on a platform built for speed and convenience. The result is that over half of Japan’s population subscribes to this service.
Drivers for change

Mobile operators are facing increasing pressures to become profitable

- Churn rate for base subscribers is up
- New competitors are exacerbating price competitiveness

Result: Lower ARPU
Drivers for change

Product functionality is currently poor

Predictable interdependencies within the value chain are low
Absence of industry standards
Customers want services that work, not leading edge solutions

Result: Attractiveness of technology to consumer is low, poor adoption rates
Little incentive for hardware and software developers to invest
Drivers for change

Market growth currently depends on constant technological innovation

Need to appeal to early adopters to grow market
High cost associated with technological innovation
High probability that rate of technological innovation will outstrip rate of consumer uptake

Result: Market leader vulnerability
mCommerce bWeb

Synthesis of Tapscott and Ticoll’s
- Aggregation bWeb
- Value chain bWeb
- Alliance bWeb

Several bWebs form a value
Co-production constellation value
Constellation (Normann and Ramirez)

In a **Value chain b-Web** the Net is a platform for a new business model. The community, not just Cisco, designs Cisco products. Community partners working in a variety of different locations manufacture their products. Technology alone is not making this happen; it also takes a culture skilled at establishing trust and sharing knowledge.

In an **Alliance B-web**, a large number of companies or individuals embrace a common mission, with no single entity exerting complete control over the group. The PalmPilot software community is an Alliance. More than 5,000 software developers and 200 hardware manufacturers around the world produce products that make the PalmPilot more functional and appealing to the consumer.
We have created a hybrid model for m-Commerce by merging Tapscott and Tircell’s bWeb model with Normann and Ramirez’s construction of a value constellation.

First, one company must assume the role of the nucleus firm, the ally that drives and organizes the extended enterprise. We feel, given the marketing and packaging competencies of the service provider, that this group would be best suited within the value chain.

Second, the lead company should identify and arrange with one or two key suppliers or distributors who are also seeking help and develop in this small group enough trust to share proprietary data and best practices.

Third, Together, the firms develop a process map of current conditions in their supply chain, using this blueprint to redesign process steps, free bottlenecks and introduce procedures that shorten timeframes, have costs and ultimately increase customer satisfaction.

Finally — perhaps most importantly — partners should agree to share savings as an incentive to open up and exchange vital information.
Recognizing that, as a collective, no single company is equipped with the competencies and resources to provide a complete experience to a customer, we are suggesting that a new business model, designed by David Tapscott and David Ticoll, can be adapted to meet the challenges that an m-Commerce provider faces today. (Harvard Business Press March 2000)

According to Tapscott and Ticoll:

"bWebs are inter-networked, fluid, sometimes highly structured or amorphous, sets of contributors that come together to create value for the end user and wealth for their shareholders. In the most elegant of bWebs, each participant focuses on a limited set of core competencies.

Our construct of the b-Web model proposes the various value chain contributors collectively co-ordinate to introduce hardware, software and applications into the value chain in order to create value that is greater than the sum of its individual parts. While this is theoretically possible and highly desirable from the end user’s perspective, the question to ask is: IS IT PRACTICAL.

The incentive for each participant is that their older, more commoditized technology can be contributed to the b-Web. Specific content can be written for first generation browser enabled handsets operating on CDMA protocols over existing networks, to provide a less-than-cutting-edge, but satisfying user experience (see footnotes)."
The companies are still free to pursue whatever leadership position they wish in their current space. But with coordinated focus on providing the end user, (B2B or B2C User), with a smooth satisfying experience they create value that is much more than the sum of their individual contributions.

{1st generation handsets, (Iden 1000 Motorola or the NeoPoint 1000, 1999), sport an ultrareadable screen, an Internet minibrowser, and e-mail capability. The NeoPoint 1000 comes with sophisticated voice commands (just say "Internet" and it takes you there). Its SoftSync Plus system synchronizes data on your PC and phone so you can easily update schedules, contacts, and to-do lists.
The NeoPoint operates on the Code Division Multiple Access protocol at speeds up to 14.4 kilobits per second. Sprint PCS, which offers e-mail and tailored Net content from CNN and other major information sources, is its first network provider. }
Value for every member of the supply group occurs in complex constellations of economic transactions and institutional arrangements among the different actors in the value-creating system (Normann and Ramirez 1993, p.68). This new logic of value has significant implications for the firm's strategy.

§ First, as value is created within complex constellations, competition is no longer between firms with similar products and no defensible barriers to competition, but between offerings. Integration of the end user device manufacturer, telecom carriers, content providers and service providers, enables the erection of barriers to entry that reduces the dependency on price competition.

§ Second, as offerings become more complex and varied, so will the relationships necessary to produce them: Companies involved in the bWeb must join forces financially, through capital integrations/share purchases, and strategically to construct the most attractive offerings whilst taking advantage of economies of scale.

§ Third, leverage the fact that each bWeb will be uniquely constructed which in itself should provide a source of competitive advantage. Companies must carefully assess and design their structure to take advantage of their individual competencies and external relationships. Careful planning at this stage will ensure that the structure cannot be imitated easily because of high entry barriers. Similarly, once committed to a bWeb, the user will find that exit barriers are also high.
Advantages of the b-Web Model

- Unification of discrete, but interconnected value creating activities
- Supply chain and customer relationship management processes influence end-to-end application
- Shared and sustainable revenue stream
- Focus on delivering value to user
- Superior long-term focus on investment

This model has several distinct advantages:

Value is created for the consumer in many different ways. Each lead aggregator can decide what features and services they wish to emphasize and then proceed to establish interconnections to the different players using a b-web model.

Each b-web is free to establish a unique value proposition within the constellation and this allows individual b-webs to market to different customer segments without resorting to price competition.

Within each b-web, supply chain and CRM processes will drive cost reductions for the customer and assist in enhancing profitability for the b-web collaboration.
b-Web

Pros
- Unique service carrier offerings that enable sustained revenue streams
- Contextually defined portals based on usage and segment demographics
- Network effects increase demand-side economies of scale
- Raises the barriers of entry for competitors
- Increased switching costs raise the exit barriers for users
bWeb

Cons

- Greater effort required to co-ordinate bWeb members
- Requires members to relinquish some degree of corporate independence
- Requires an intricate formula for sharing of revenue
bWeb Nucleus

Responsibilities of the bWeb nucleus

- Value creation
- Pricing
- Market segmentation
- Co-ordination of technological interdependencies
- Fostering trust and knowledge sharing climate
- Creation of a common goal around a shared vision
bWeb Mandate

bWebs should
- Focus on fewer applications but better execution (NTT do CO mo)
- Reduce R&D expenditures
- Improve predictable interdependencies
- Strengthen alliances and facilitate knowledge sharing
- Create internal standards that will eventually become industry standards
- Promote process improvements and efficiencies
- Aggressively pursue economies of scale and scope
Results

- Profitability is captured at the boundary of interdependencies for the players
- Production costs decline rapidly
- Value creation cycle initiated
- Decrease churn, higher ARPU
- Industry standards and interconnectedness of value co-optition create competitive barriers to entry
Value Creation Cycle

- Sell more units
- Developers and content providers create more
- Increased / enhanced products and service functionality
- Greater demand for hardware and software
- Higher user satisfaction

The Value Creation Cycle
Through b-webs, our traditional value chain has become a collaboration of services and products.

The end
Mobile Commerce
Authors: A Business Model for Success

ROAD HUSEIN
Over 10 years of experience in finance, operational management and MIS project leadership. As an entrepreneur, Road is responsible for management of a private investment fund for new business acquisition. His past successes include running highly competitive, low margin businesses in the automotive and food processing industries, with recent senior management experience in the Public Sector data mining and data warehousing initiatives.

ANDRAS GAUSRAB
As a consultant with over 15 years of experience in Information Technology, Andras has senior level experience most recently as a technical supervisor and project leader for several large Ottawa based companies. His comprehensive knowledge of databases and systems architecture has been proven invaluable for both client server and network environments.

FRED BENSAAD (Photograph not available)
Fred earned his International MBA at Ottawa University and currently works as a product manager for a large multinational in Paris France. Well versed in the telecommunications industry, Fred has over 5 years experience in strategic business development and has held executive level positions on several initiatives in Canada, Mexico, Italy and France.

QUESTIONS