

Beyond *i*-Mode

Partha S. Ghosh

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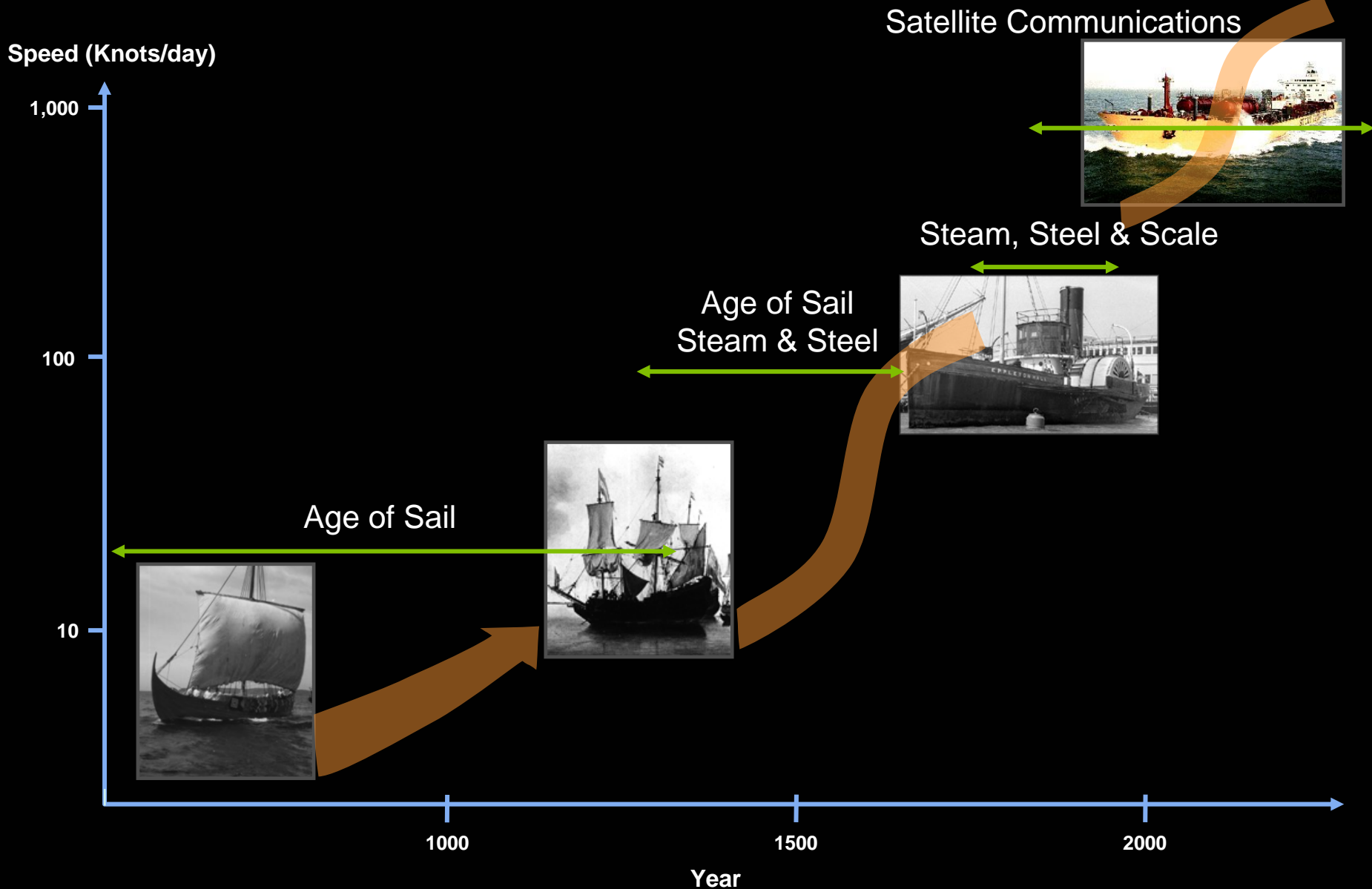
Three key points

> The “New Wave”?

> Drawing Value From The New Paradigm

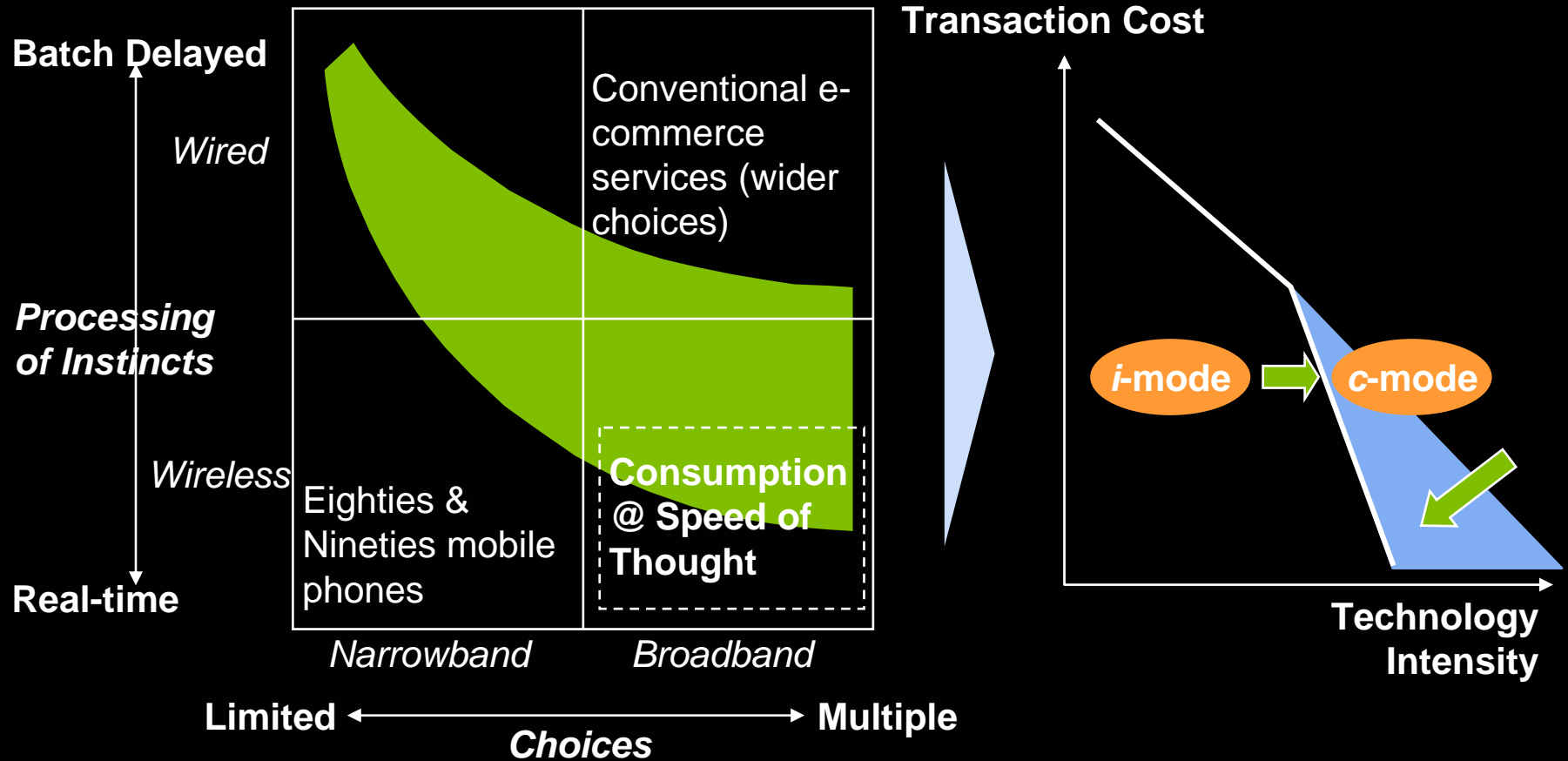
> Possibilities in the “W2 Economy”

The New Wave: "Exploring New Frontiers"



The New Wave: “e-Commerce to m-Commerce”

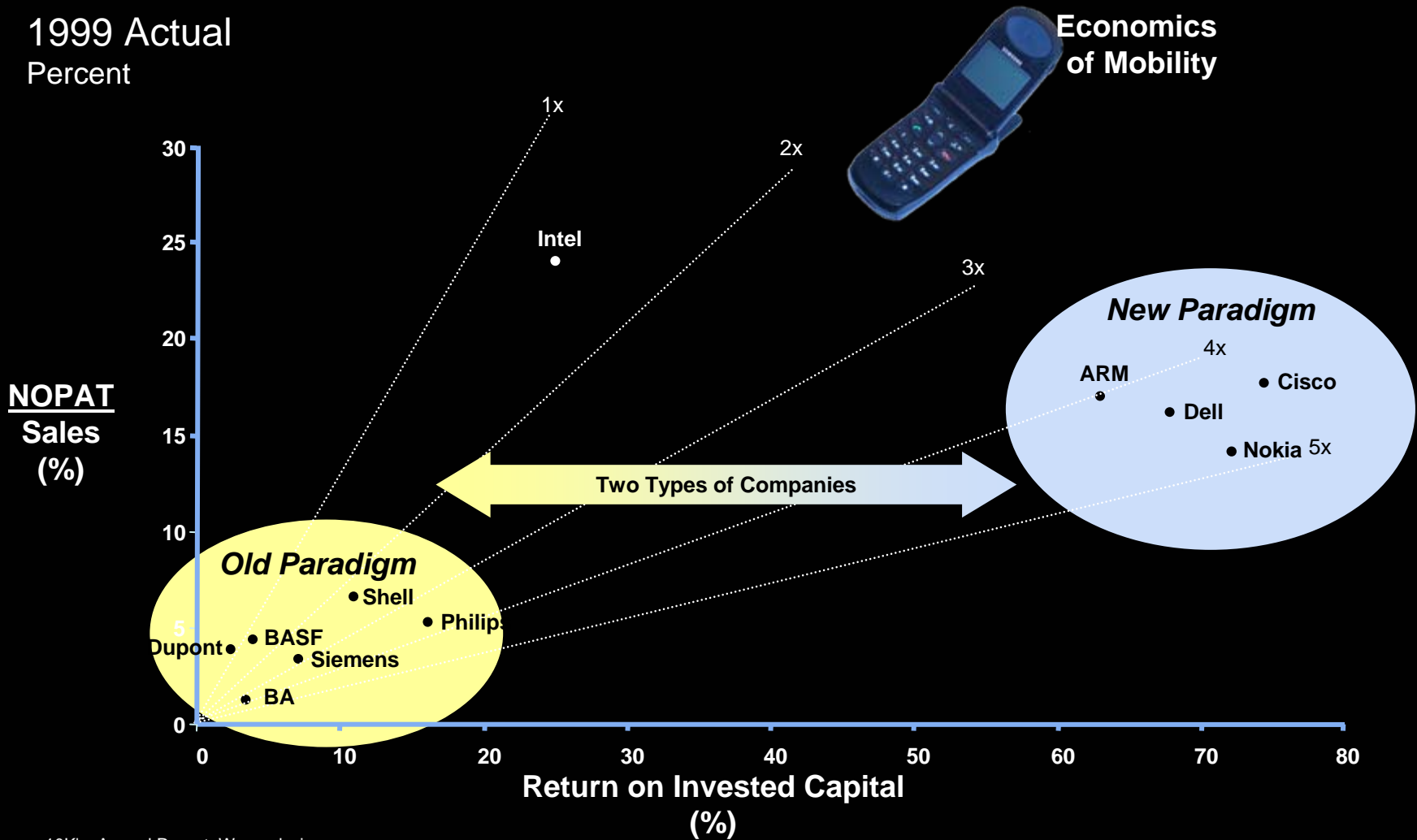
e-Commerce to m-Commerce



The New Wave: A Tale of Two Paradigms

Relative ROIC

1999 Actual
Percent



Source: 10K's; Annual Report; We analysis

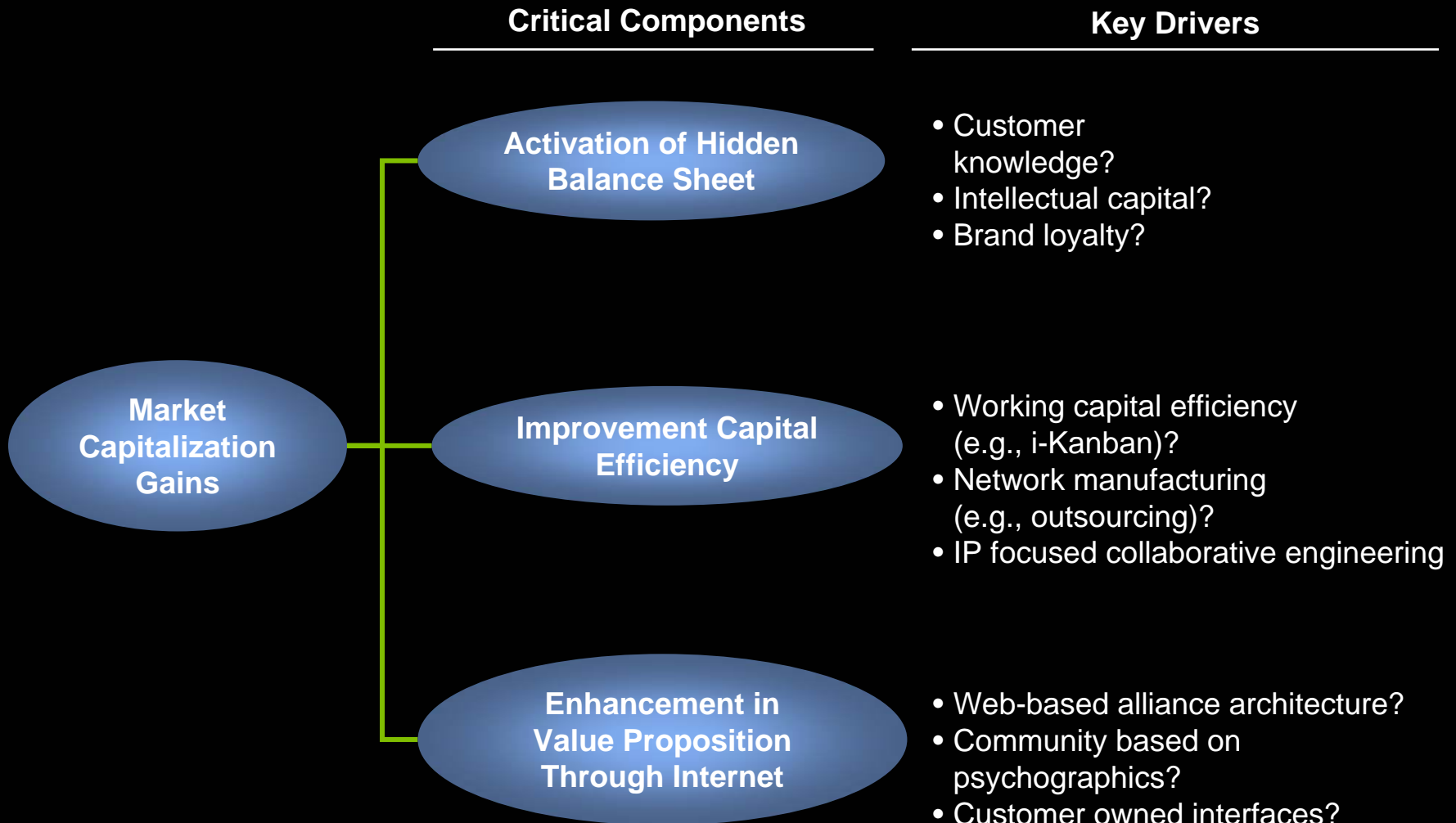
> The “New Wave”?

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Drawing Value From The New Paradigm

Critical Components to Secure Market Capitalization Gains



Activation of Hidden Balance Sheet – Customer Relationships

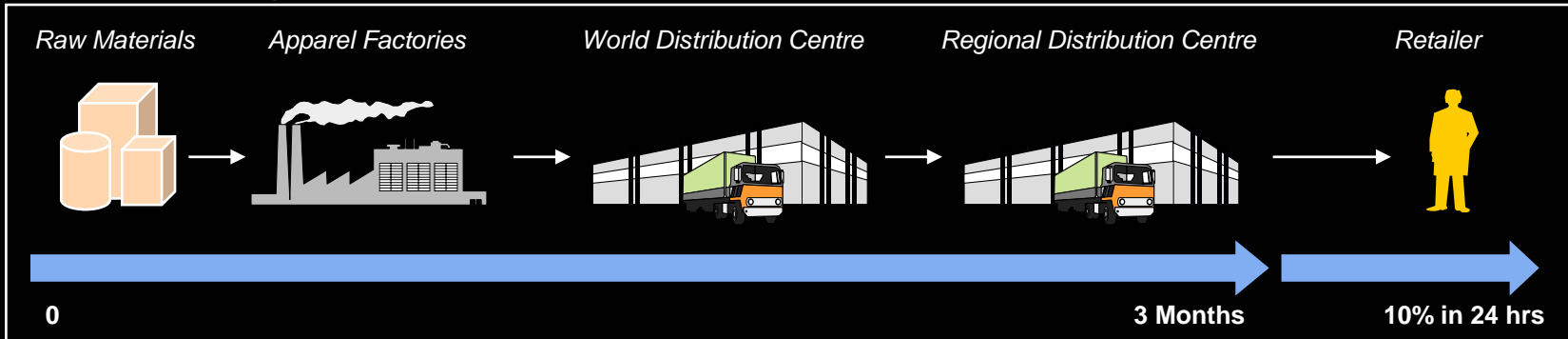
Customer Interface Mechanisms



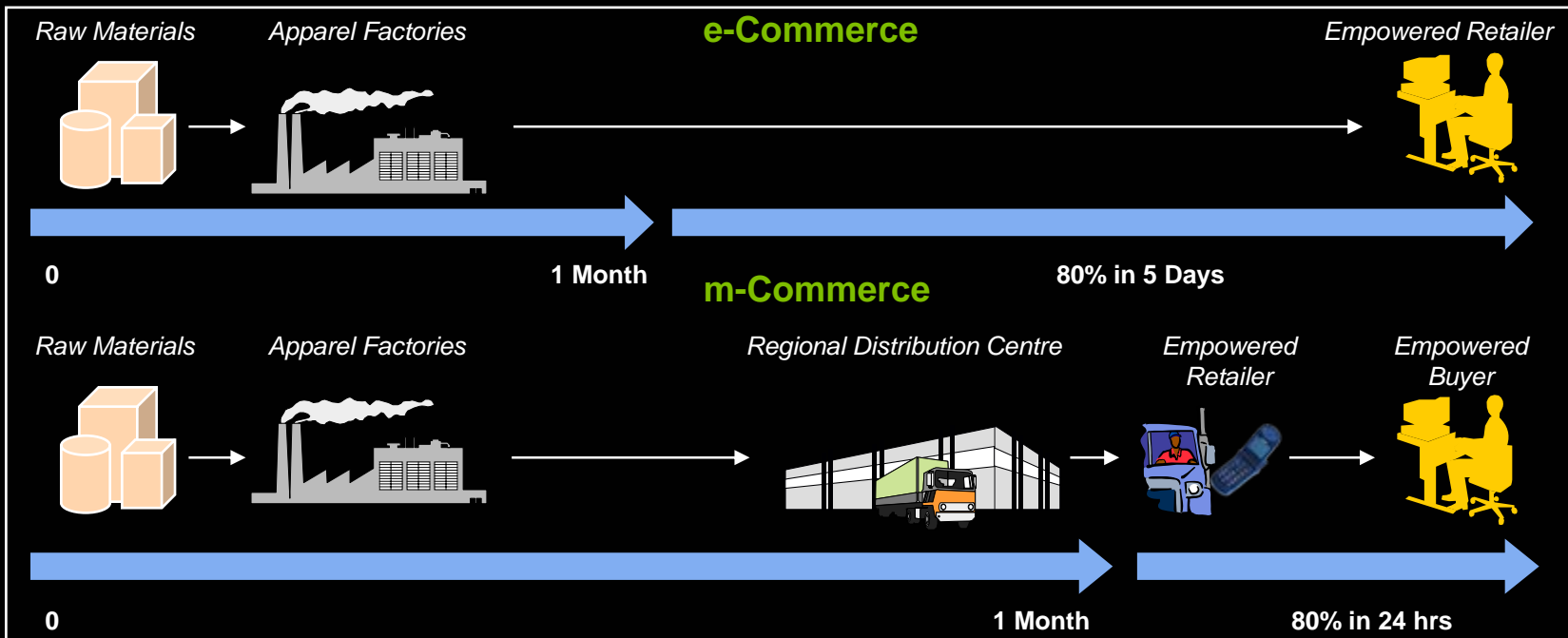
Mechanism	Definition
Personalization	User chooses content based on preferences
Cross-Selling/ Promoting	<ul style="list-style-type: none">• User chooses content; site suggests additional content• User gives preferences; site suggests content
Targeting	<ul style="list-style-type: none">• User does nothing; site gathers basic user info and suggests content by E-mail• Site suggests content via on-site promotion
Personalized Targeting	<ul style="list-style-type: none">• User provides detailed preferences; site delivers personalized content
Loyalty Programs	<ul style="list-style-type: none">• 'Frequent Flyer'-type programs

Improvement of Capital Efficiency - Evolution of Logistics Management

Predominant System



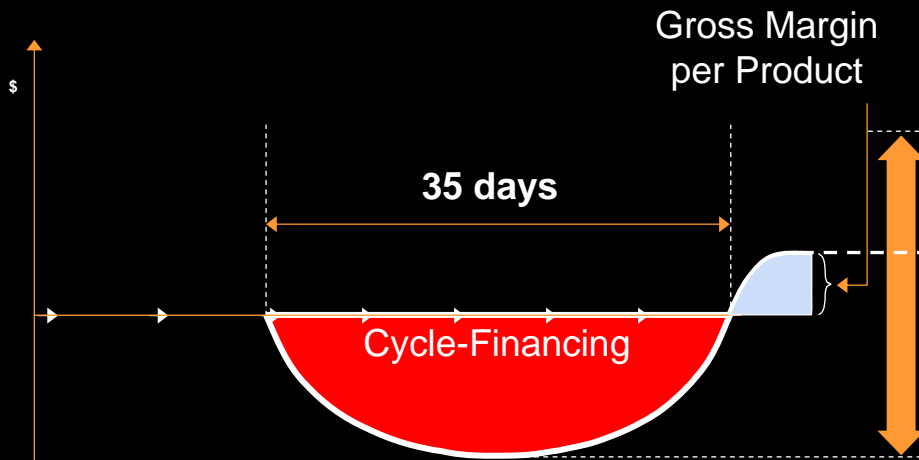
Best-in-Class



Improvement of Capital Efficiency - Network Manufacturing

Conventional Model

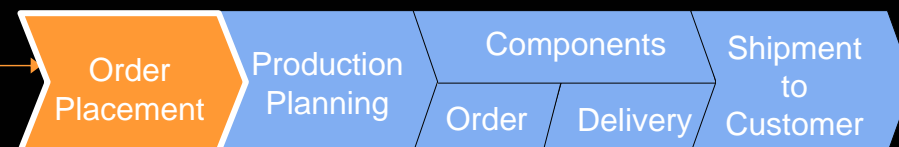
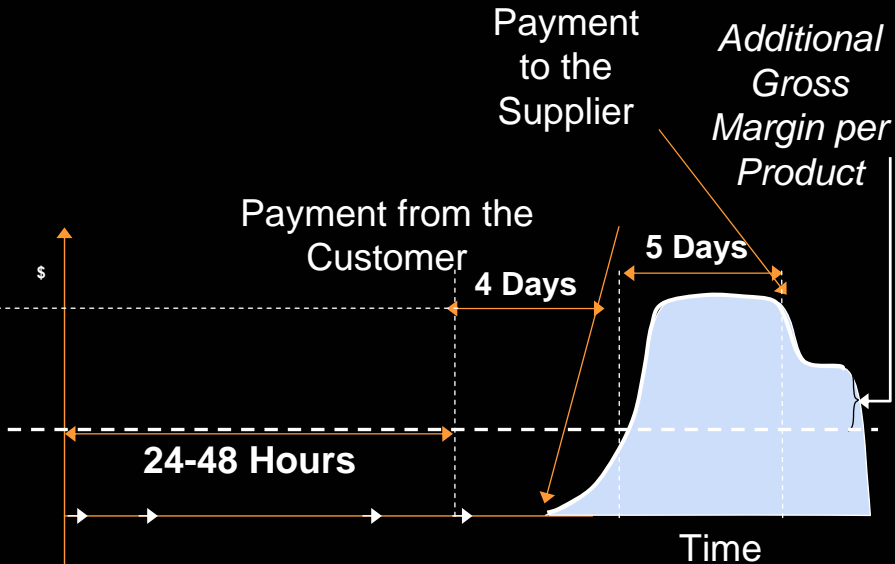
Financial Flow/Production Cycle
Dollars



Direct/Internet Model

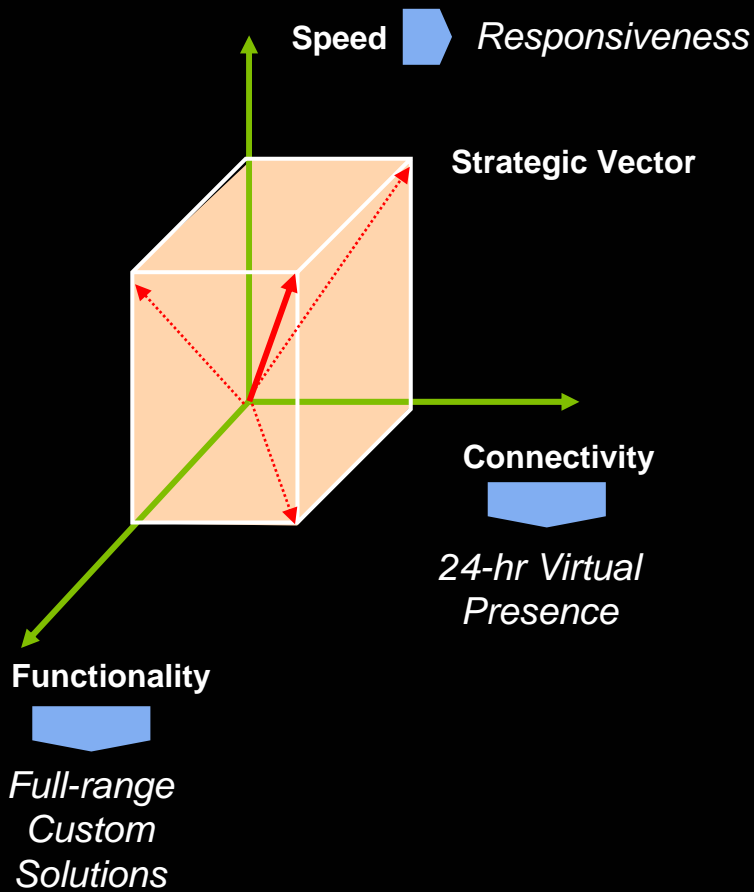
Financial Flow/Production Cycle
Dollars

Illustrative

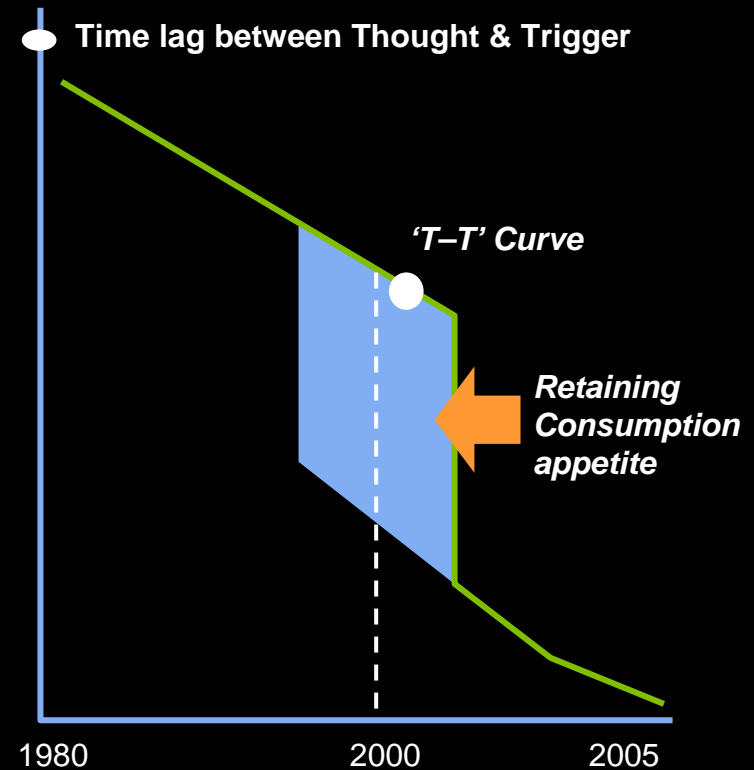


Enhancement in Value Proposition - The New Reach

Wireless: Degrees of Freedom

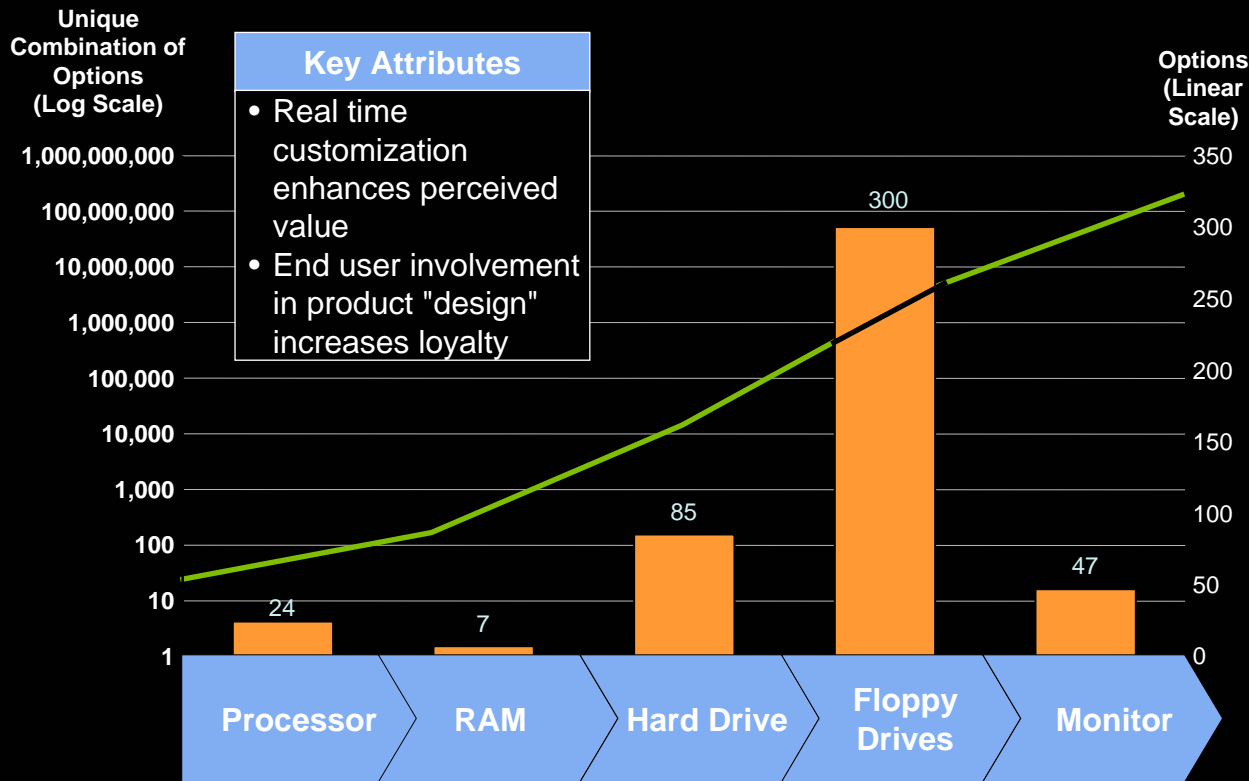


'Immediacy' of 'Psyche'



Enhancement in Value Proposition - Dell Computer

Customer Driven Configuration: Dell Computer



New Paradigm

Over 200 million possibilities between \$1,000-\$2,300

Old Paradigm "Bricks and Mortar"

30-70 possibilities between \$1,100-\$2,300

* Main classes, over 1,500 memory options
 ** Based on these 5 criteria actual total can be much bigger depending on peripheral selection
 Source: Dell; Consumer Electronics Manufacturing Association; We analysis

> The “New Wave”?

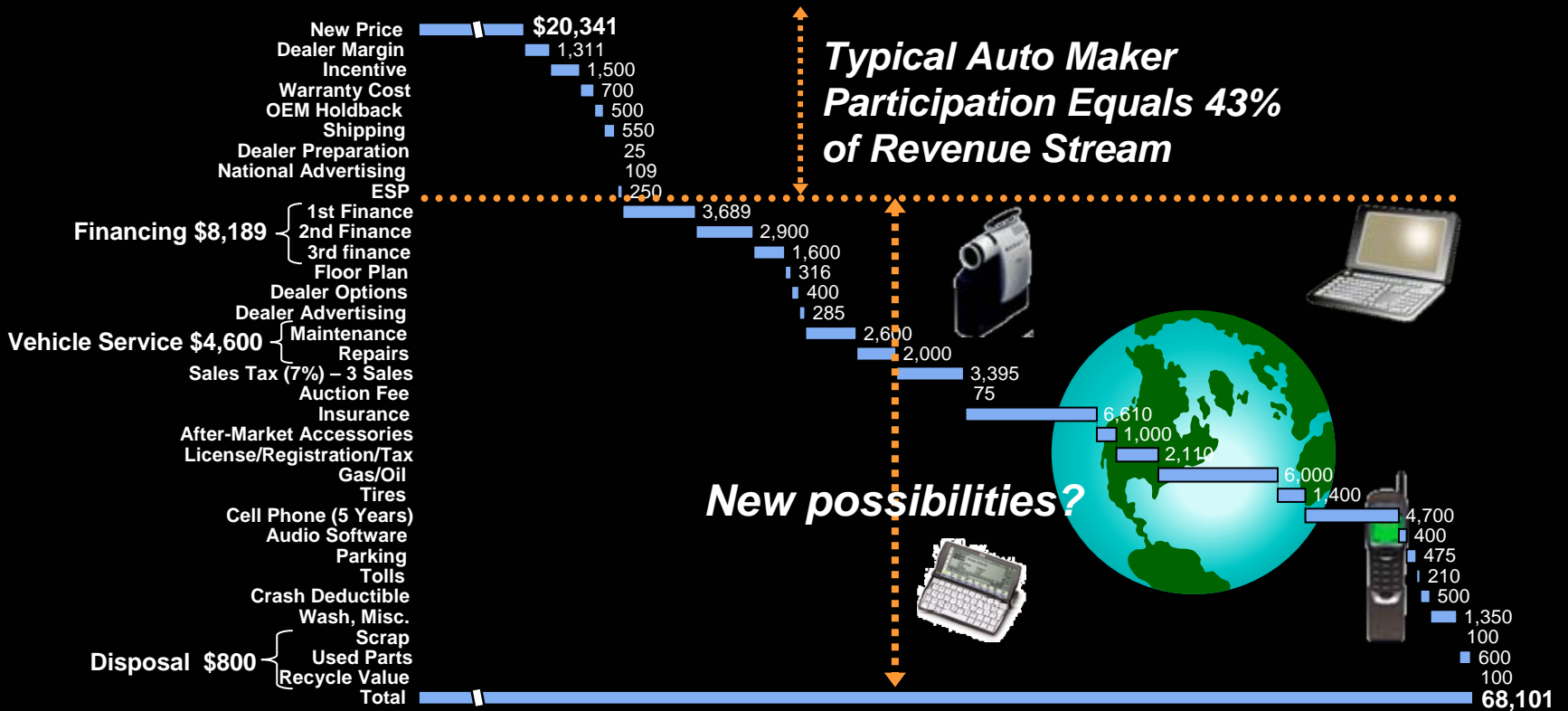
> Drawing Value From The New Paradigm

> Possibilities in the “W2 Economy”

Manufacturer's or Infomediary's Business (?)

Estimated Revenue Stream Over 100,000 Miles

Dodge Intrepid (Not Discounted) in Dollars



Source: Various research organizations

Basic Beliefs

In view of the increasing influence of the "Web" on the industrial world, established companies across industries have to undergo fundamental metamorphosis – a wide-angle view is an essential prerequisite.

End of Conventional Business Models

Beyond the constructs of vertical industries:

As traditional economic/market structures crumble, different industries are converging to create "new value-creation (economic) clusters" around customer-centric delivery models

Dynamics of "Network Intelligence":

Competitiveness of emerging economic clusters/coalitions will be determined by how I³ (IQ – Imagination, Information, Infrastructure) is mobilized and incentives are evolved and shared between external and internal resources

Strategic synchronization of Digital and Cartesian economies:

Networks will be required to be strategically synchronized between Cartesian parameters – *the physics and thermodynamics of physical processes with digitized services and commitments*



**Wide perspective
which cuts across
conventional
constructs of
industry structures**

The New Time-saver(?) or Time-user(?)

- > Find the bill
- > Find the checkbook
- > Find the stamps
- > Find the time



or
just



~2W [W^{eightless}
ait-less] Economy

Moving forward....

The uptake of the mobile Internet has the potential to be faster, and more pervasive, than that of the fixed line internet.

The freedom that it gives us to access the Internet when and where we want will change the way we live our lives.

In this space successful businesses will understand, and address, three factors:

- > Advancing technological landscape
- > Evolving consumer behaviour
- > Changing value chain dynamics

Given the uncertainty and rapid change of these factors we believe that businesses must follow a program of 'disciplined experimentation' to capitalise on the opportunities that the mobile Internet presents.

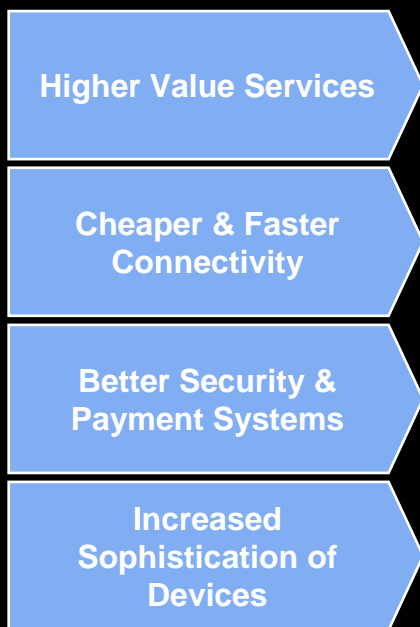
The Mobility Opportunity

Wired vs. Wireless Internet Users

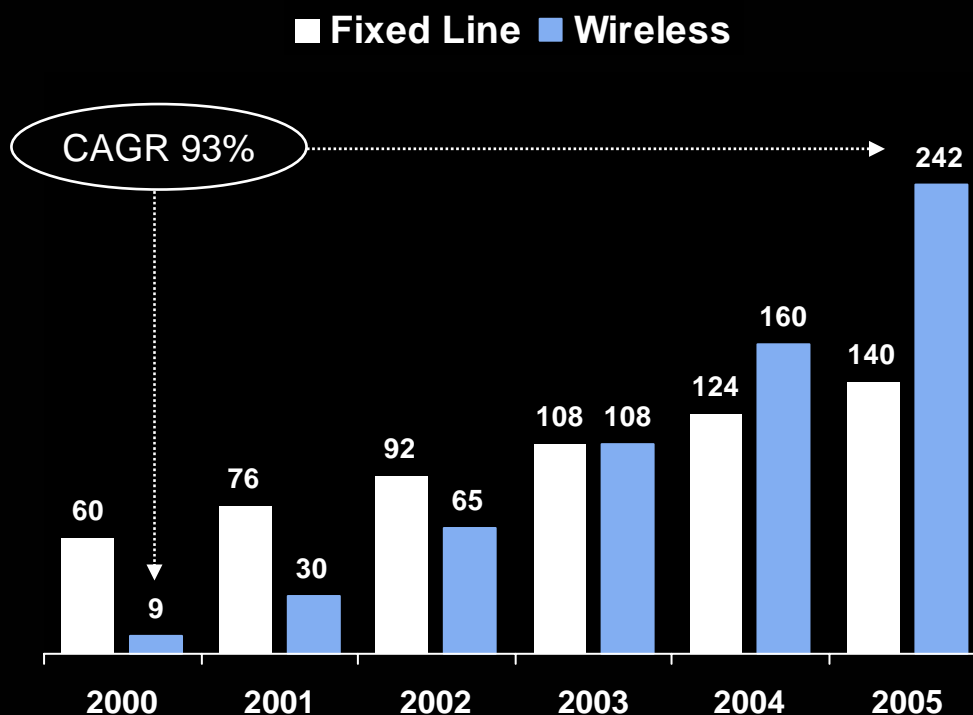
Number of Users in Europe, 2000–2005

Million

Drivers of Growth



Growth



Source: Merrill Lynch

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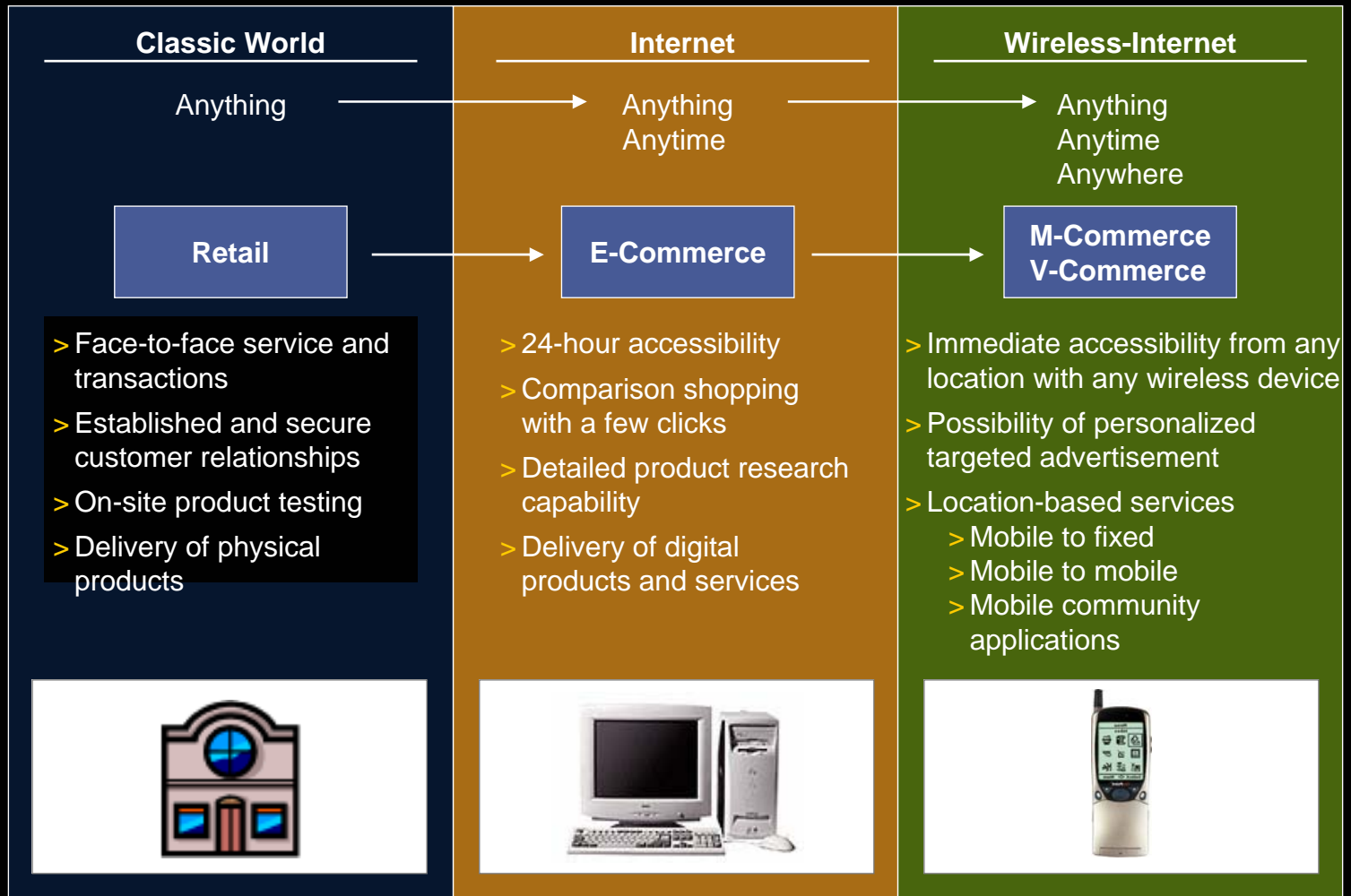
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Wireless-Internet Disrupting the Business World

User Convenience

Business Transaction

Business Models and Channel-Specific Benefits



Success In Mobility

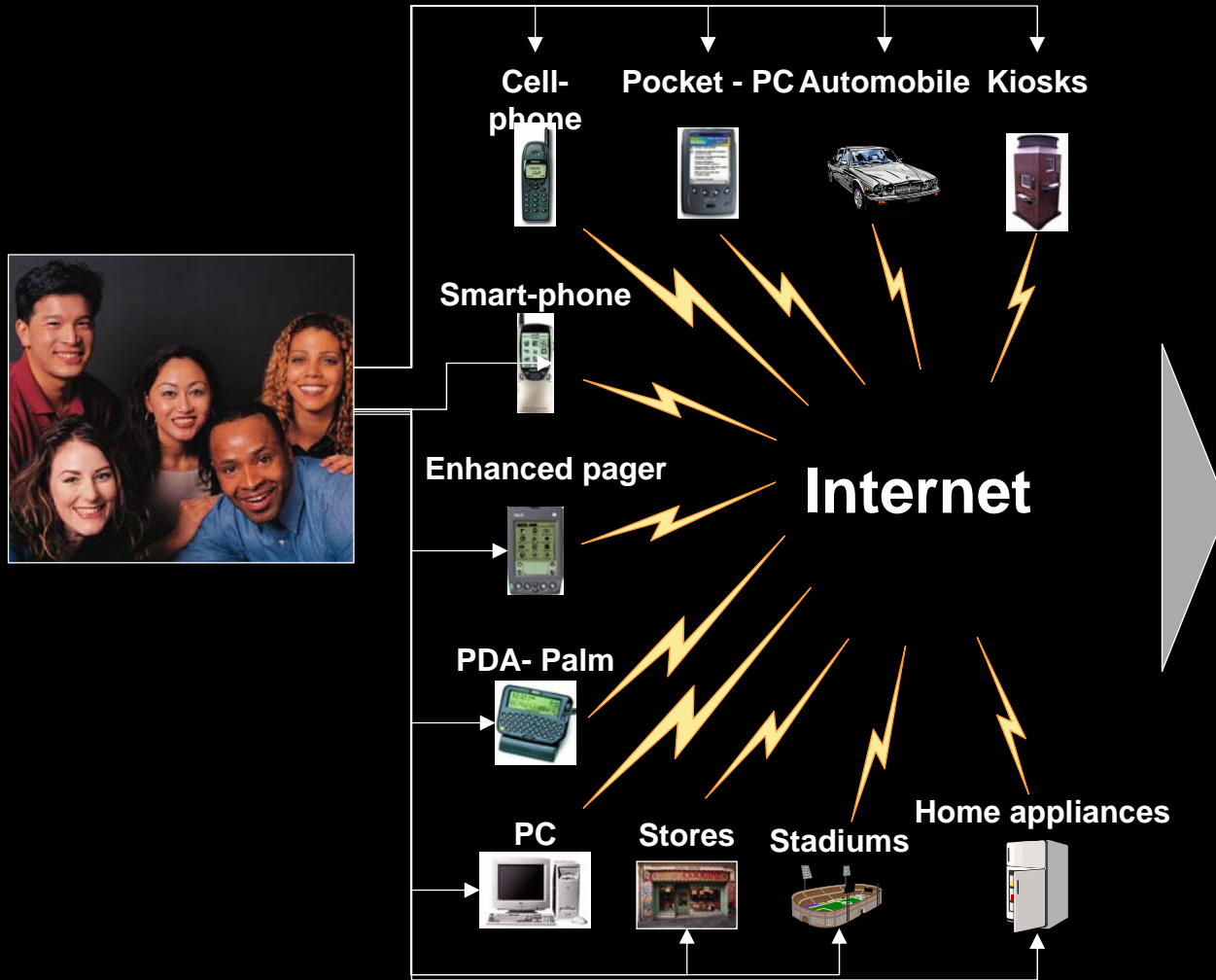
Success in the Mobility arena will depend on understanding, and dealing with, three factors:

- > Uncertainty related to the Technological Evolution;
- > Evolving Consumer Behaviour;
- > Changing Value Chain Dynamics;

... in order to create strategies to capitalise on opportunities in an uncertain world

Proliferation of New Devices

Wireless-enabled Devices



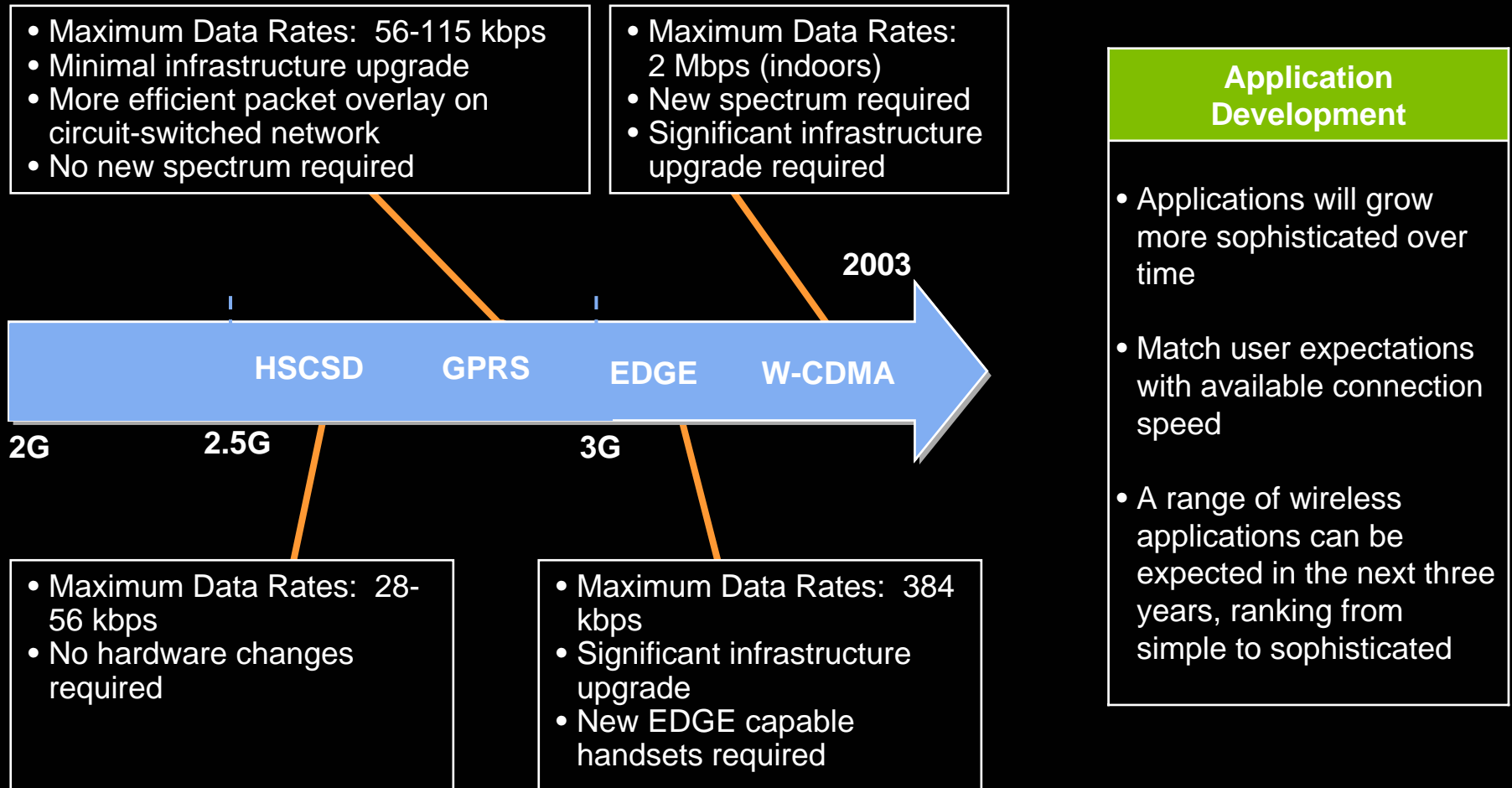
Key Issues

- > Tailor Internet content to many different devices
- > Evaluate and select optimal devices for market-entry strategy
- > Build flexible wireless-web channels and platforms

Wireless Channel Technology

Planned Evolution of Wireless Networks

GSM Evolution



Developing Consumer Relationship Through Mobile

Mobile Advertising – Shifting Paradigms

- > Low value, mass market adverts
- > Privacy a minor concern
- > Advertisers control content
- > Mass market adverts build brand awareness through recognition



- > High value, highly targeted adverts
- > Privacy the prime concern
- > User controls number, type and timing of adverts received
- > Advertising has to provide a special deal or discount – m-coupon

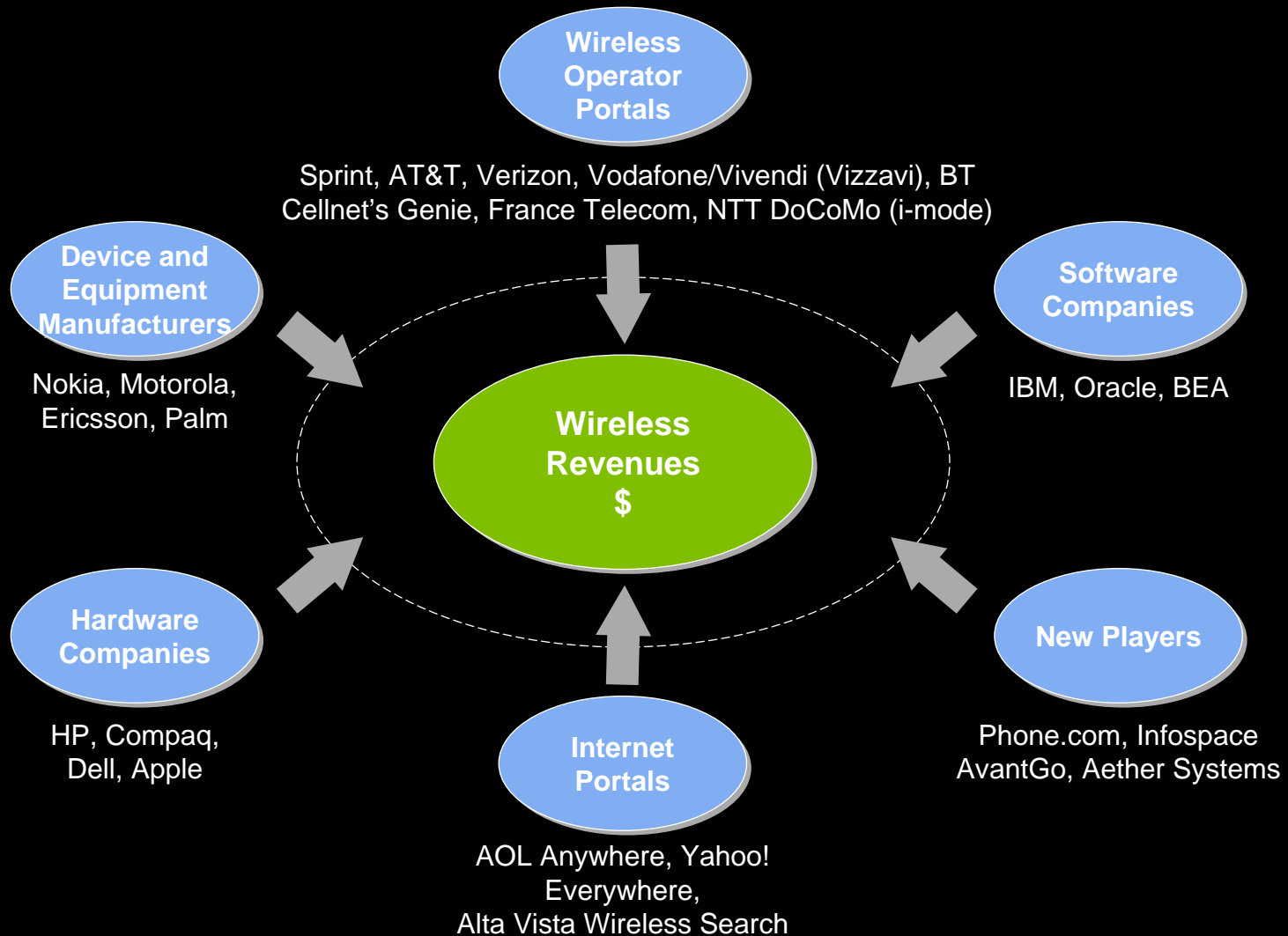
Developing Consumer Relationship Through Mobile

Typical Characteristics of Mobile Advertising services

- > Personalised
- > Location-based
- > Free to receive
- > Opt-in required
- > Timely delivery of adverts essential

New Competitors

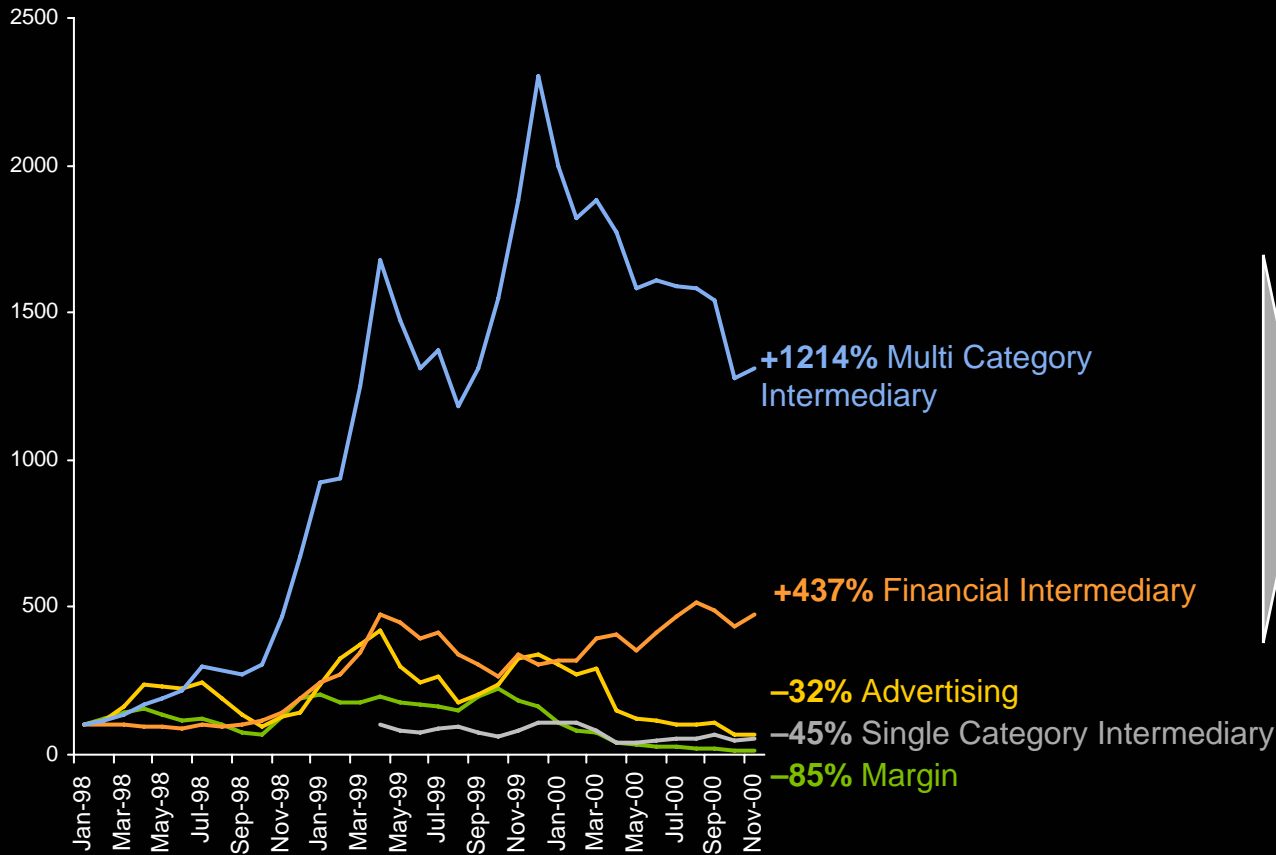
Competition for Wireless Revenues



Intermediaries As the Winners

Growth in Market Cap by Economic Model

Jan 98 = 100



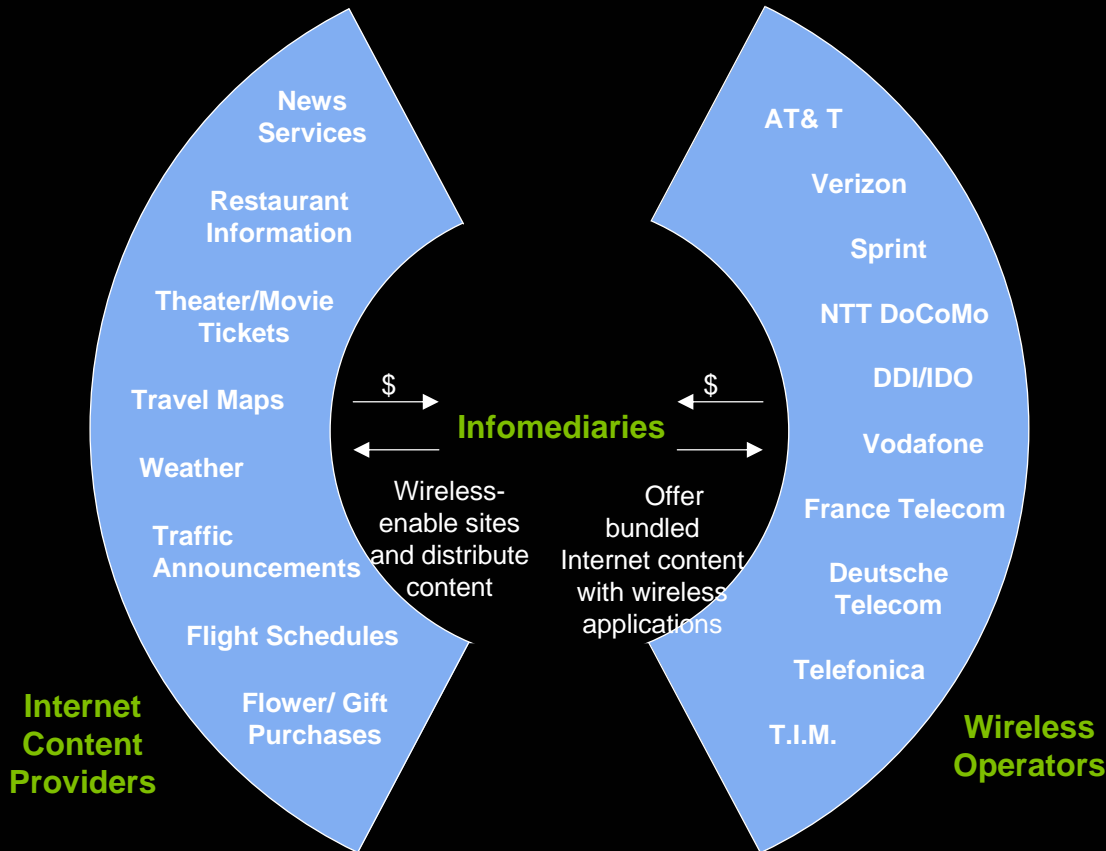
Key Differences Between Fixed Line and Mobile

- Advertising models must differ on mobile due to device limitations
- Wireless users may be willing to pay for content

Note: Market Cap based on top two leaders in category
 Source: We analysis

Emergence of Wireless Infomediaries

Role of Wireless Content Aggregator

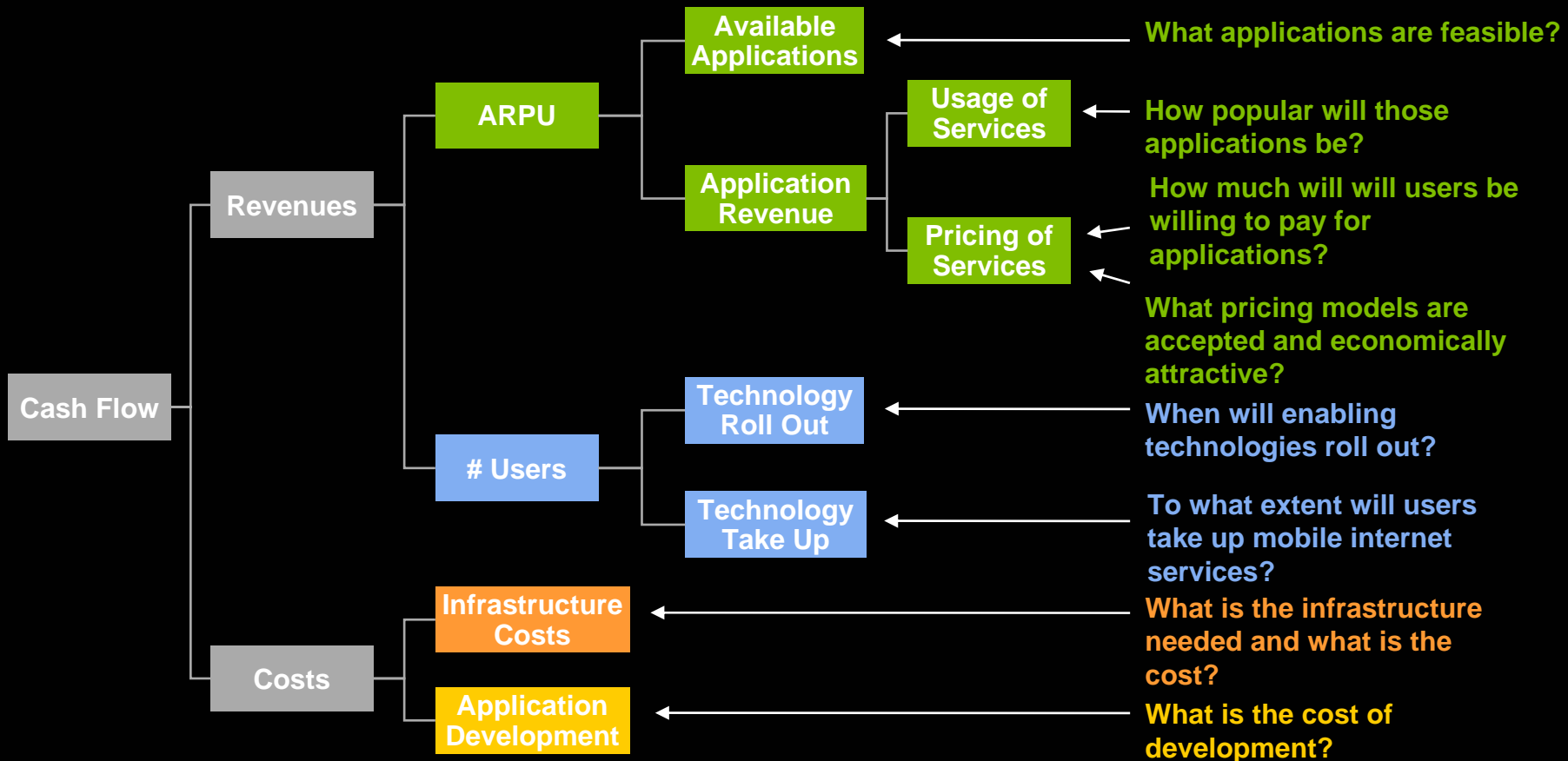


Implications
> Emergence of "Wireless Content Aggregators" signals the need for repackaged web content and bundling of critical services
> Content is best delivered through user-friendly wireless applications; multiple applications are currently being tested in the marketplace
> Alliances and partnerships with the right content providers are critical to build an attractive wireless-internet offering to end-users

Uncertainty in the Mobile Revenue Opportunity

Key Economic Drivers and Related Uncertainties

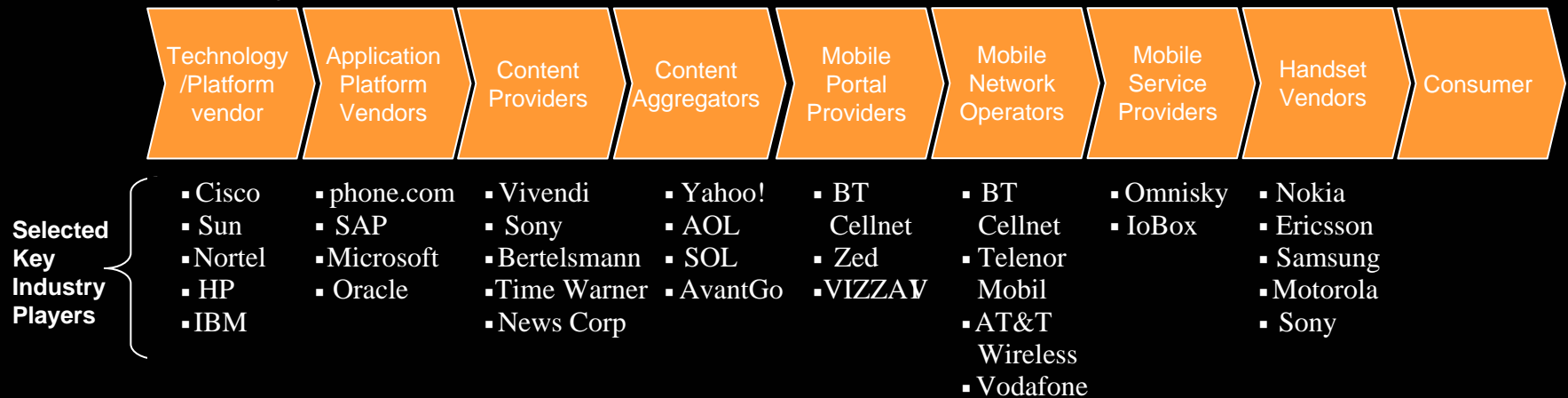
Uncertainties and Key Questions



Source: We analysis

Due to the high growth and rapid changes in the industry, the mobility value chain is very complex. Traditional players in industries such as computers, telecom, content and finance, new internet players, as well as private and public services firms are all trying to play the mobility game.

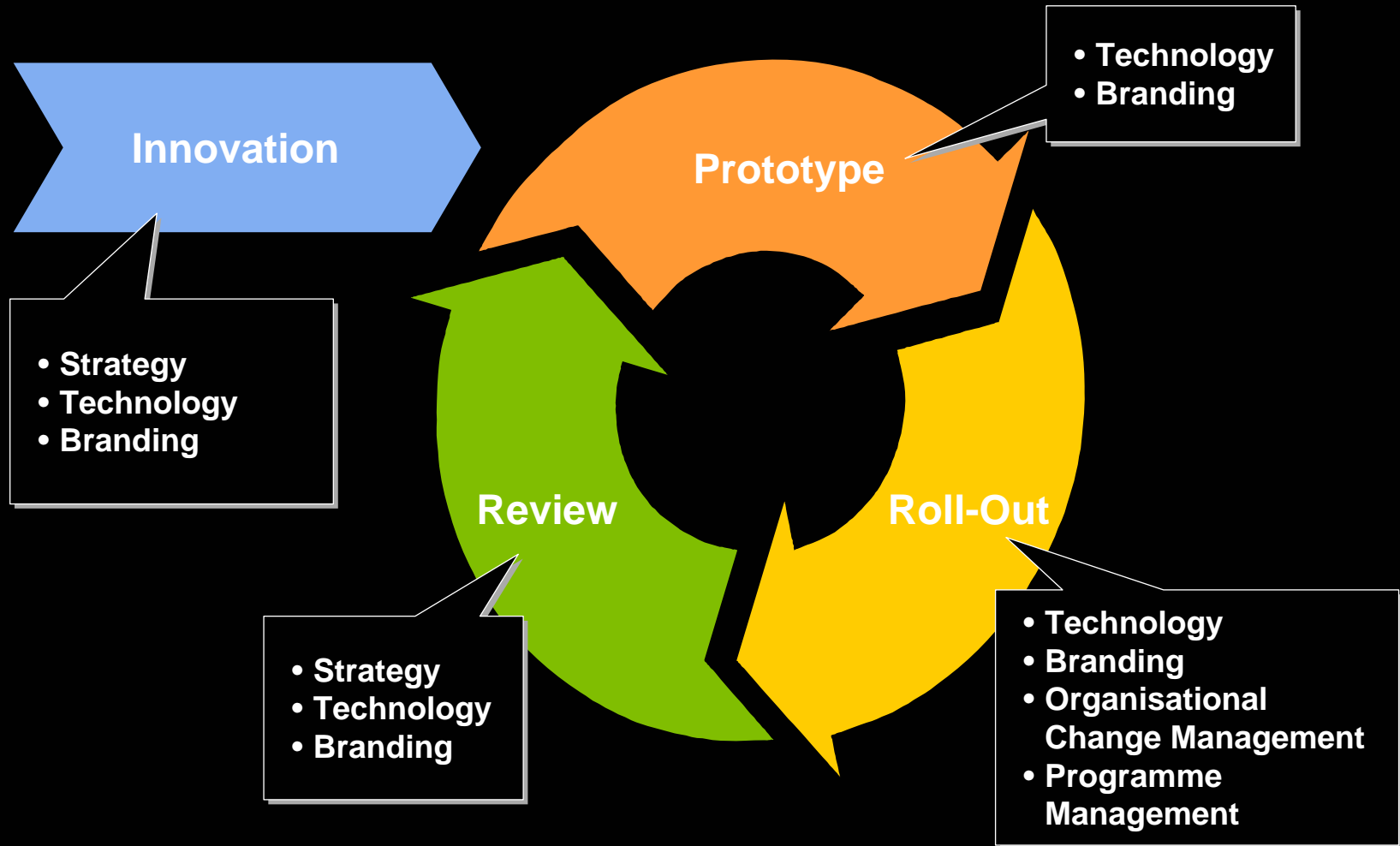
Mobility Value Chain



We understand the value chain and we have relationships with the key players from the Technology/Platform vendors to the Handset vendors.

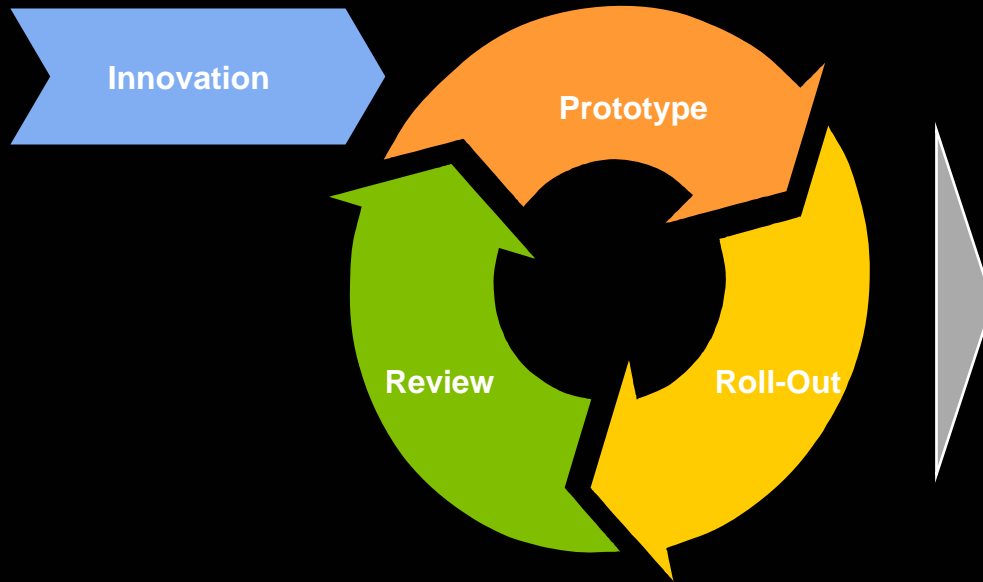
An Approach

Methodology



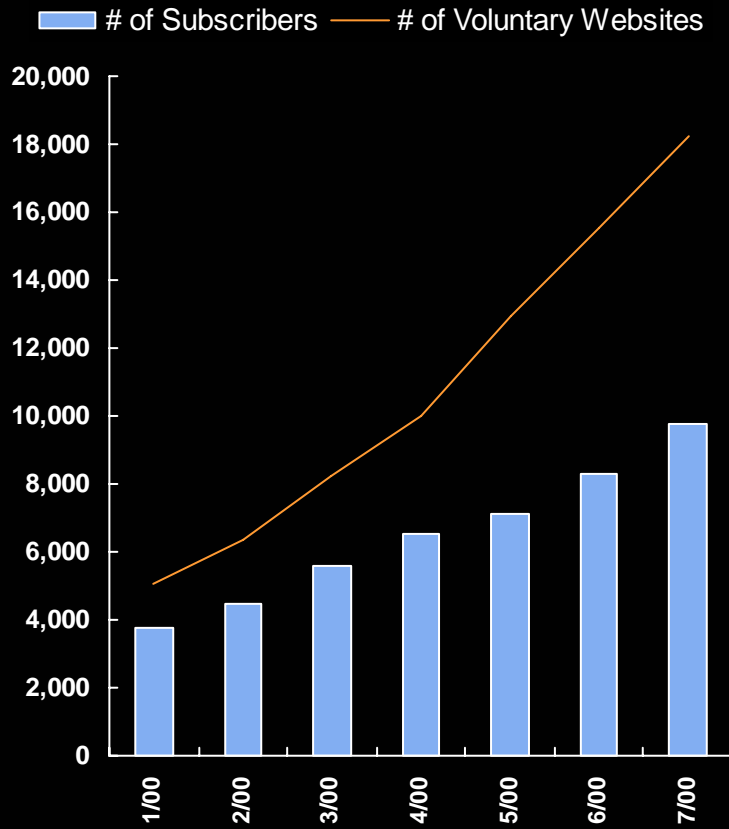
The Winning Formula: Innovation through Action

DoCoMo's Winning Strategy



- Introduce consumers to new technology gradually
- Incremental changes
- Constant improvements
- Application development guided by proven consumer needs

Growth in I-mode Subscribers
000's



Shell GeoStar – Mobile Delivery of Internet Content



Challenge

- > We created a new Internet portal for European travel covering 16 countries, over 500,000 destinations and six languages for Shell.
- > Redefined critical content for wireless delivery and prepared first WAP and PDA applications.
- > Shell now wants to commercialise the site and explore business models

Approach

- > Define traveler needs by analysing how individuals plan and organise their car journey
- > Develop customer value propositions meeting different traveler needs
- > Financial modeling of alternative business models including becoming a travel intermediary, selling application software and becoming a mobile service provider

Results

- > Completed analysis of mobile offering.
- > Now extending analysis to cover fixed access to portal

ComCab Background

- > Europe's largest taxi company, with a history dating back to the early 1970s.
- > Acquired by the Singapore based transportation conglomerate, DelGro in 1997.
- > The company supplies licensed radio taxis, on an account or credit card basis, to London's business community, private individuals and the public sector.
- > ComCab is the industry leader in terms of market share and technology, with advanced GPS driver tracking and cab booking system.



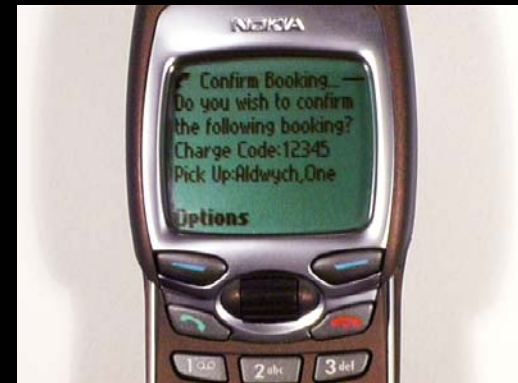
The Solution

An online booking service which will allow ComCab's customers to order a London taxi using their WAP phone.



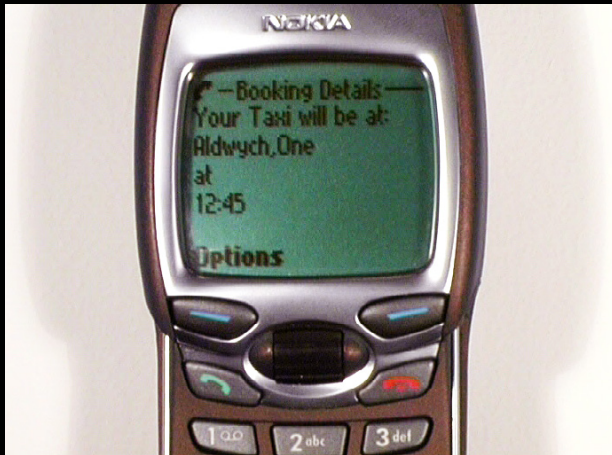
ComCab Online: The Booking Process

- > The user browses to the site on the WAP phone
- > Enter their desired pick up point.
- > Enter their desired destination.
- > Finally, enter the time the taxi is needed and click on 'Enter Booking'.
- > Once the user has confirmed the booking, the pick up time and place are once more displayed and the booking is entered into the Bookings Database.



ComCab Online: The Dispatch Process

- >The operator, using ComCabs current systems, allocates the job and dispatches the cab.
- >An SMS message is generated to inform the customer that the taxi is en route.
- >When the taxi arrives at the pick up point. The driver uses his in cab unit to inform the dispatch database.
- >A second SMS message is generated to inform the customer that their taxi is outside waiting for them.

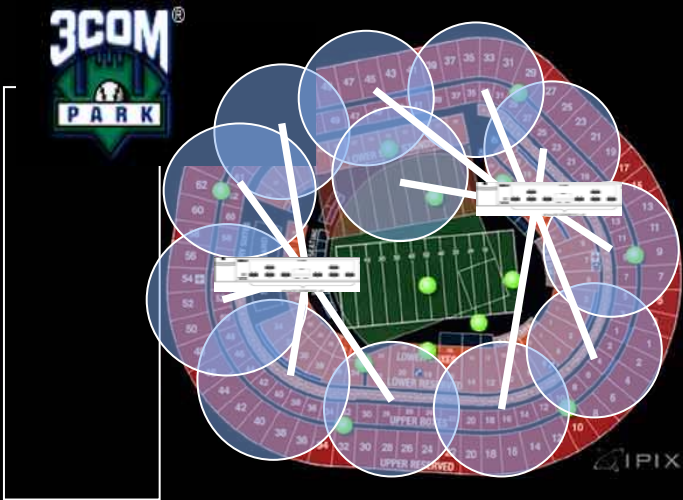


ComCab Online's IBM Technology

- >The system is built on IBM's Websphere platform.
- >The data is stored in a DB2 database and updated using Java servlets operating in the Websphere Application Server environment.
- >The key technology is the Websphere Transcoding Publisher which identifies the make, model and browser of the mobile device and makes the any appropriate changes to the format of the pages.
- >This enables the system to operate across a variety of devices and additional platforms can be quickly and easily catered for without the need to rewrite the core application.

The Wireless Stadium – 3Com Park

3Com is developing a new wireless product to make the stadium experience more convenient, memorable and enjoyable



Challenge

- Building a solution to provide content, commerce and community to enrich and enhance the spectator experience

Approach

- The team identified and secured relationships with the best providers of content, commerce and community
- The project established a core group of alliances that merged the strength of each best in class partner in areas such as network hardware, database software, applications, and wireless technologies
- The effort contributed its branding and integration expertise to this core team

Results

- Phase I provides access to
 - Sports information (player and team statistics, scores, etc.)
 - Arena specific information (concession locations, restroom locations, parking, etc.)
 - Fantasy leagues (dependent upon content partnerships – ESPN, Fox Sports, etc.)
 - Instant messaging
 - Internet connectivity

Wireless Youth Portal

A market leader in beer and beverages in Norway, Sweden, and the Baltic Region seeks to dominate a major marketing channel heavily focused on the youth segment through the creation of a web and wireless community service



Challenge

- Establish an Internet and wireless service that is the preferred connecting medium between young people in Norway and Sweden
- Leverage the companies' strong beverage brands as intermediaries and content providers for the service

Approach

- Project team includes members from strategy, technology, and creative practices
- Phase I focused on developing the strategy behind how web and wireless services can support real life party and social activities for young people
- Phase II is focusing on designing the technology architecture and brand building activities in support of the overall strategy.

Results

- Website being designed for two environments: traditional web browsing and wireless service via SMS, WAP phones and other hand-held devices
- To be launched Q4 2000

The checklist for moving into wireless

- > Does an investment in wireless Internet offer you sustainable competitive advantage?
- > Why would a consumer use your wireless services over others?
- > Are you tailoring your wireless services for the appropriate device as opposed to adapting current online services?
- > How big is the potential market? Will participating in this market open up opportunities to move into other business lines?
- > Are there substantial barriers to entry or sustainable competitive advantages through the provision of wireless services?
- > Do you have a clear vision of where your wireless service will be in five years?