

MOBILE PAYMENTS WORLD
trends in mobile and contactless payments

2006 Mobile Payments Study

Key Findings

April 2006



**Edgar, Dunn
& Company**

Management Consultants

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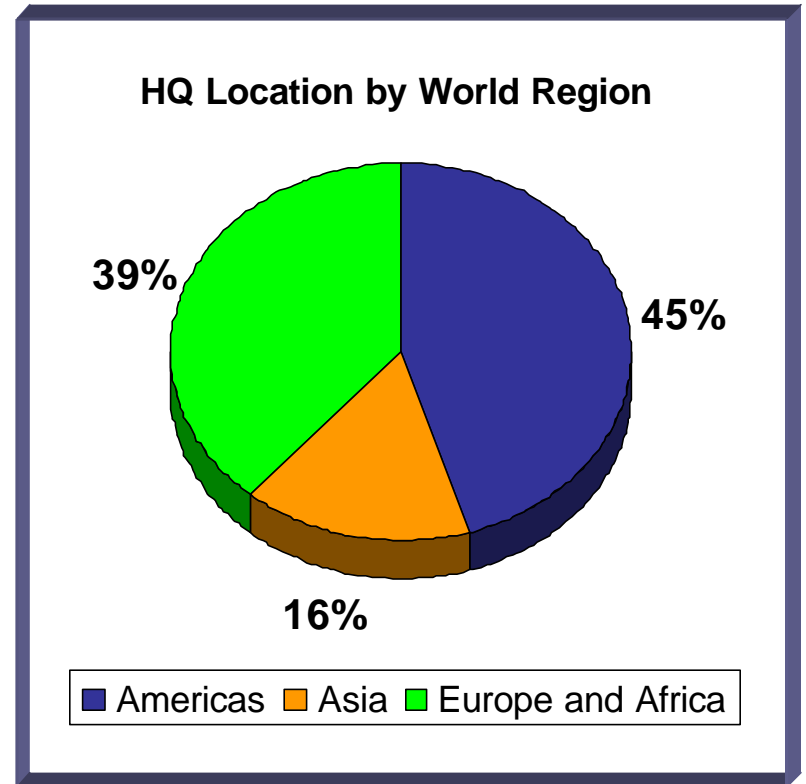
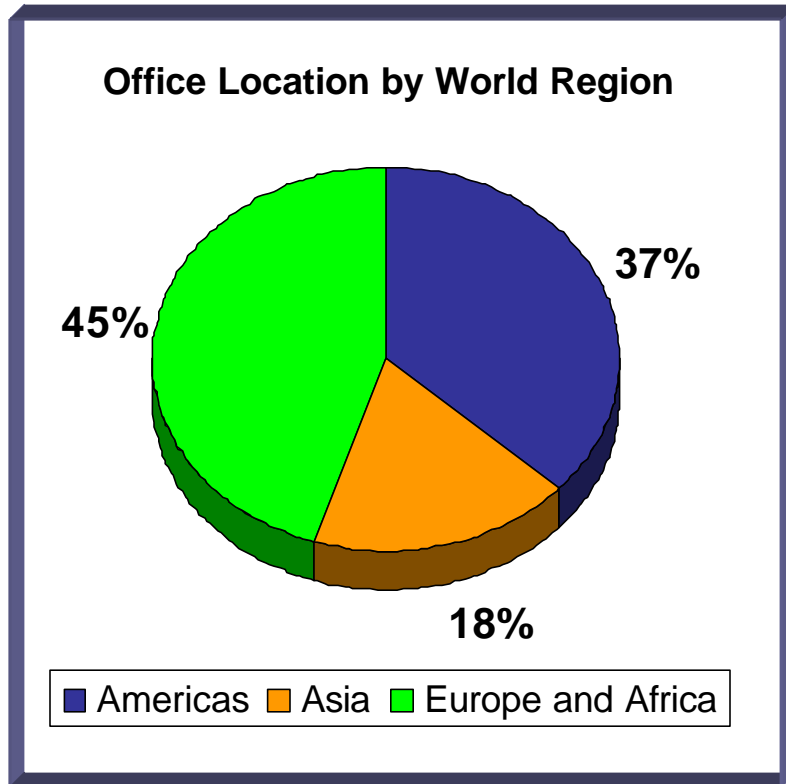
Contents

- Methodology**
- Key Findings
- Online Mobile Payments
- Physical World Mobile Payments

Survey Methodology

- **The survey was conducted between February 8 and March 7, 2006**
- **Individuals were invited to participate in the survey via email, using two distribution lists:**
 - **Subscribers of Mobile Payments World magazine**
 - **Subscribers of Edgar, Dunn & Company's Insight e-Letter**
- **Recipients of the e-mail were asked to forward the survey to colleagues who might have expertise and interest in the topic of mobile payments**
- **A total of 351 responses were received (a 9% response rate)**

Survey participants represented locations throughout the world, particularly in Western Europe and North America



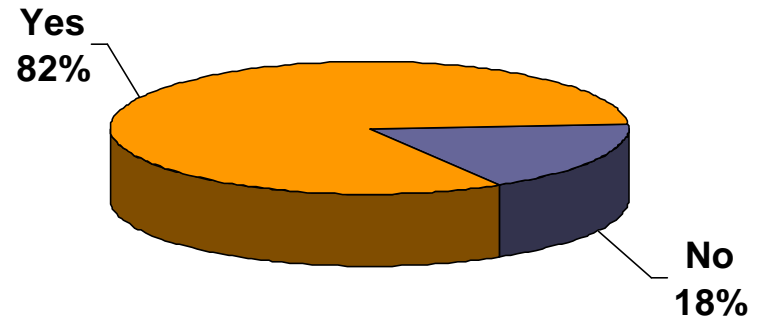
Contents

- Methodology
- Key Findings**
- Online Mobile Payments
- Physical World Mobile Payments

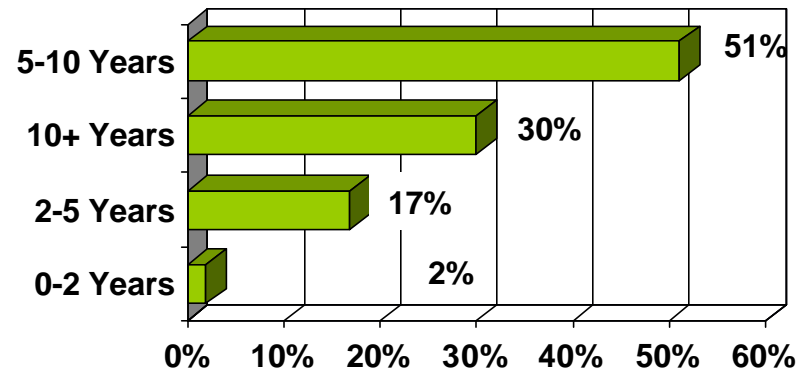
Key Finding 1 – Mobile payments will be a reality in the medium term

- Payments professionals are optimistic about the future for mobile payments but expect that it will take time for the industry to mature and develop
- Significantly, more than 8 out of 10 survey respondents believe that mobile payments will reach a critical mass of consumers and become as important as other types of payments, such as credit and debit cards
- Most respondents view the achievement of critical mass as a long-term proposition, at least 5 and perhaps more than 10 years
- Almost none of the respondents viewed critical mass as something that could be achieved within the next two years

Will mobile payments reach critical mass?



How long will it take?



Key Finding 2 – Still, substantial business challenges remain and a positive business case for all participants is not guaranteed

- **The mobile payments industry requires the coordination and cooperation of traditional payment providers (Financial Institutions and Credit Card Schemes) and newcomers into the payments value chain (Carriers and Handset Manufacturers)**
- **Lack of standards and interoperability could further complicate coordination**
- **Regulators' rigidity (especially concerns with identity protection) may also slow down the implementation and can delay the payoff of required capital investment**
- **The lack of “killer applications” increases the risks of doing business and investing in “losing propositions”**

Key Finding 3 – Once those challenges are solved, the mobile payments industry will change the way consumers interact with Financial Services and make payments

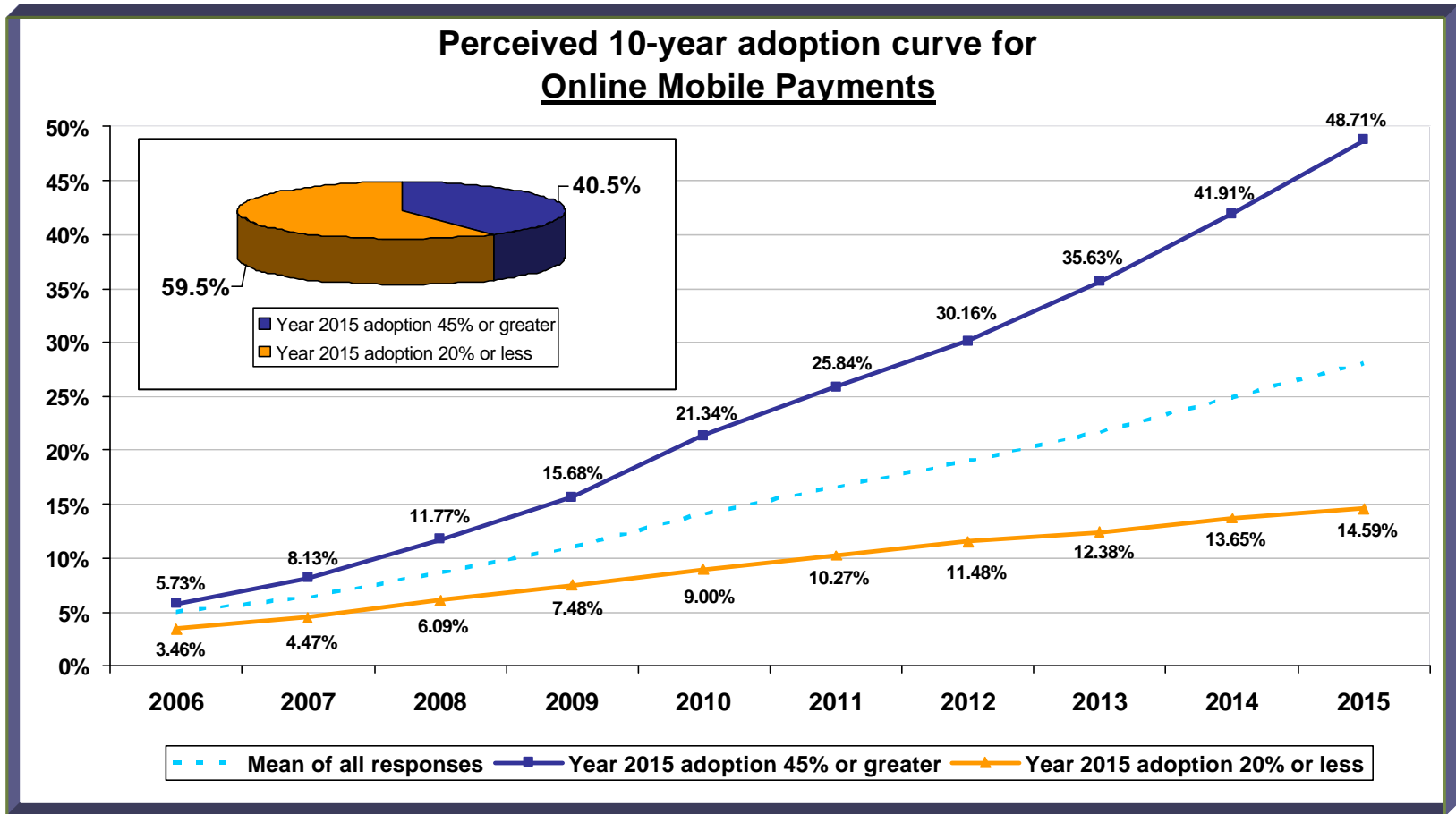
- **Mobile Financial Services include: consumer accounts information, updates, alerts and bill payment through the mobile phone**
- **Cash and card replacement for micropayments for speed and convenience including: fast food, transportation, parking, music online and tickets**
- **Substantial changes in the Person-2-Person environment particularly for remittances that traditionally required a considerable retail presence to start playing in the industry**

Contents

- Methodology
- Key Findings
- Online Mobile Payments**
- Physical World Mobile Payments

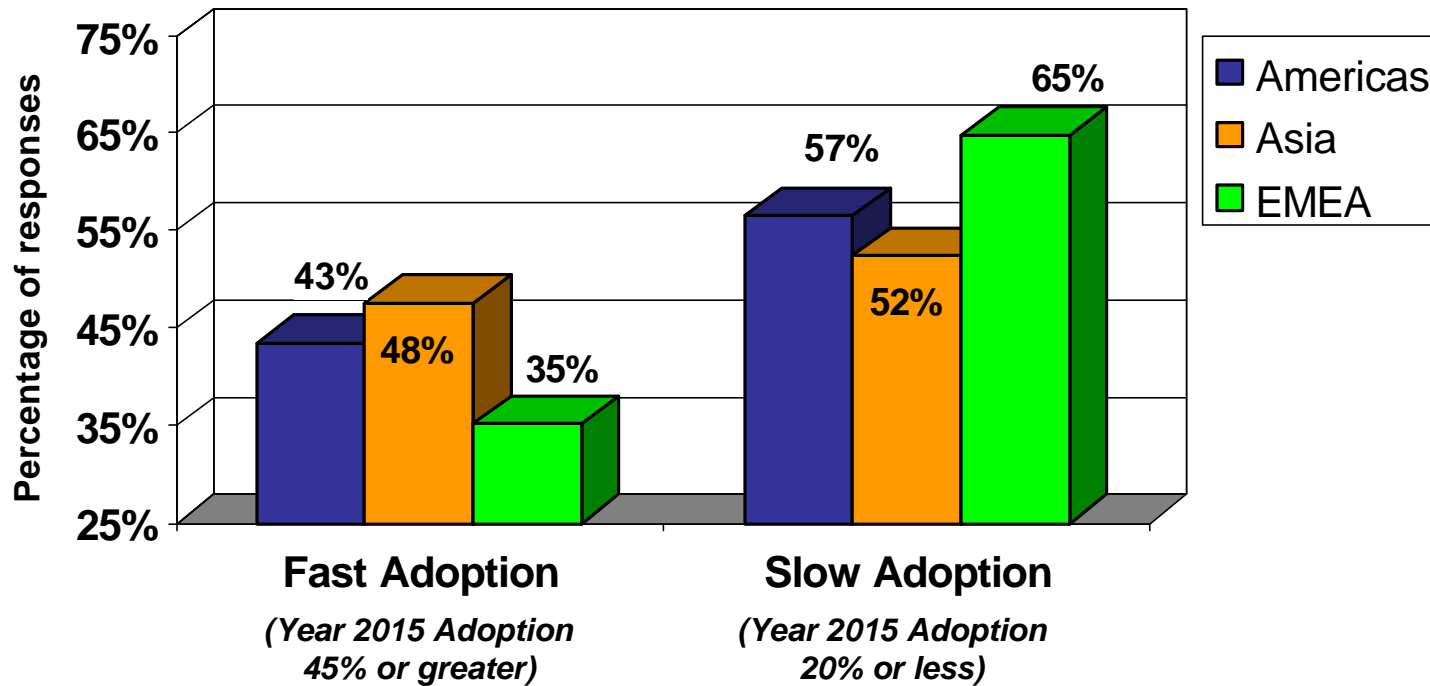
Adoption - Views on the adoption curve of Online Mobile Payments are bi-modal

Question: Please tell us your estimate of the cumulative percent penetration of Online Mobile Payments usage among consumers who carry mobile devices over the next 10 years by selecting from the ranges provided.



Respondents from Asia are most optimistic about the adoption of Online Mobile Payments, while respondents from EMEA are a bit more cautious in their view

Perception of the Adoption Curve for Online Mobile Payments by Geography



Summary – Online Mobile Payments

- 1. Online Mobile Payments growth will be driven primarily by the penetration of high-end mobile devices and the emergence of micropayments. Still, the revenue model for the handset manufacturers can be a challenge**
- 2. Responses to the anticipated rate of adoption are bi-modal, with 60% expecting a gradual increase in adoption and 40% predicting more rapid growth rate**
- 3. Existing content offerings, particularly music and messaging, will drive online mobile payments growth. Services will also be important, particularly banking services and ticket purchases**
- 4. The most significant barriers to the adoption of online mobile payments are the transaction costs charged by mobile carriers and the limited availability of micropayments alternatives**

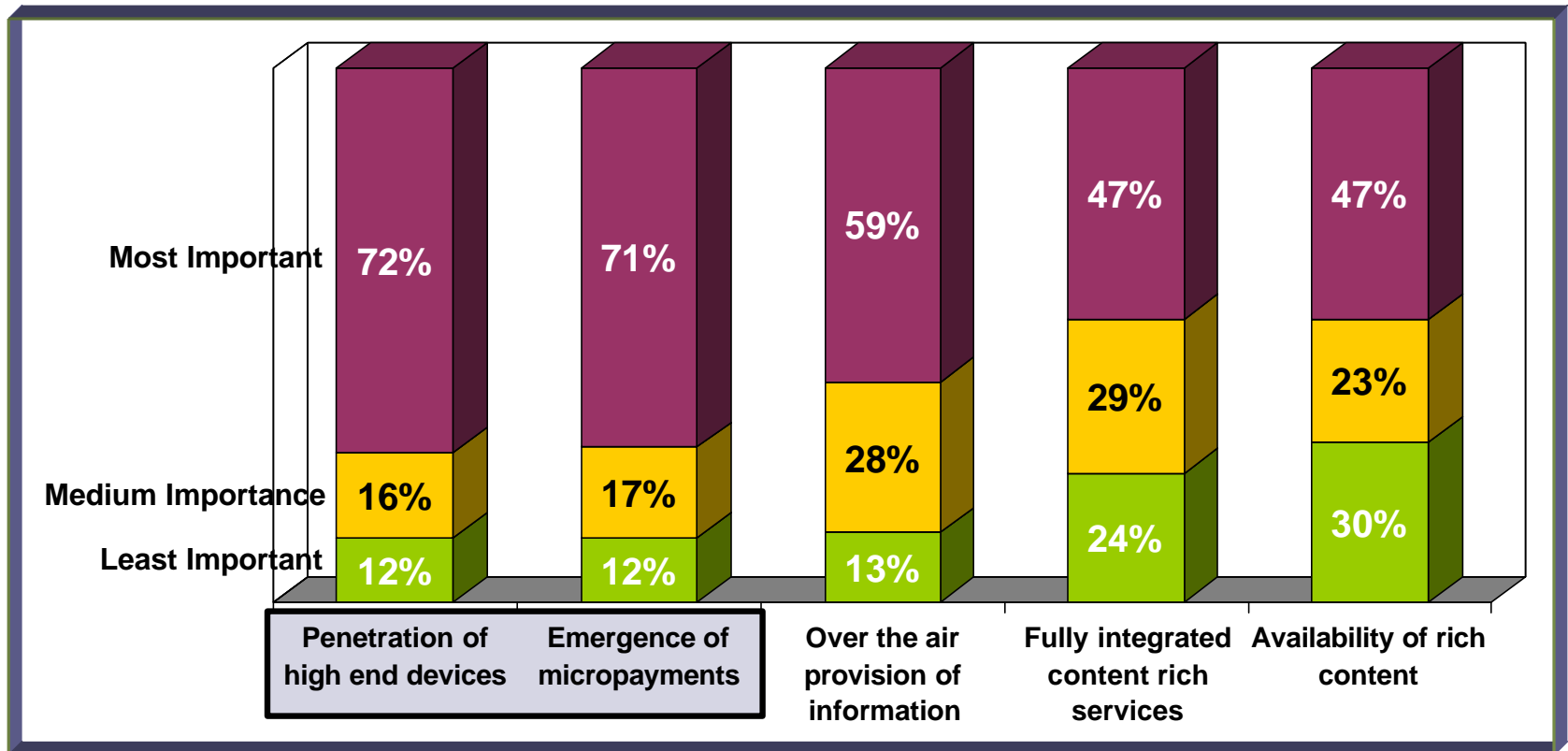
Summary – Online Mobile Payments . . . cont'd

- 5. In particular for online mobile payments, Asia is perceived to be the leading geography in online mobile payments, with Western Europe and North America a distant second and third**
- 6. No “killer app” was identified for Online Mobile Payments**
 - Respondents expect a killer app to come from the areas of micropayments, content, banking services, or advances in technology**

Growth Trends - Penetration of high end devices and the emergence of micropayments were viewed as the most important trends to the growth of Online Mobile Payments

Question: Please rate the following trends on their importance to the growth of Online Mobile Payments

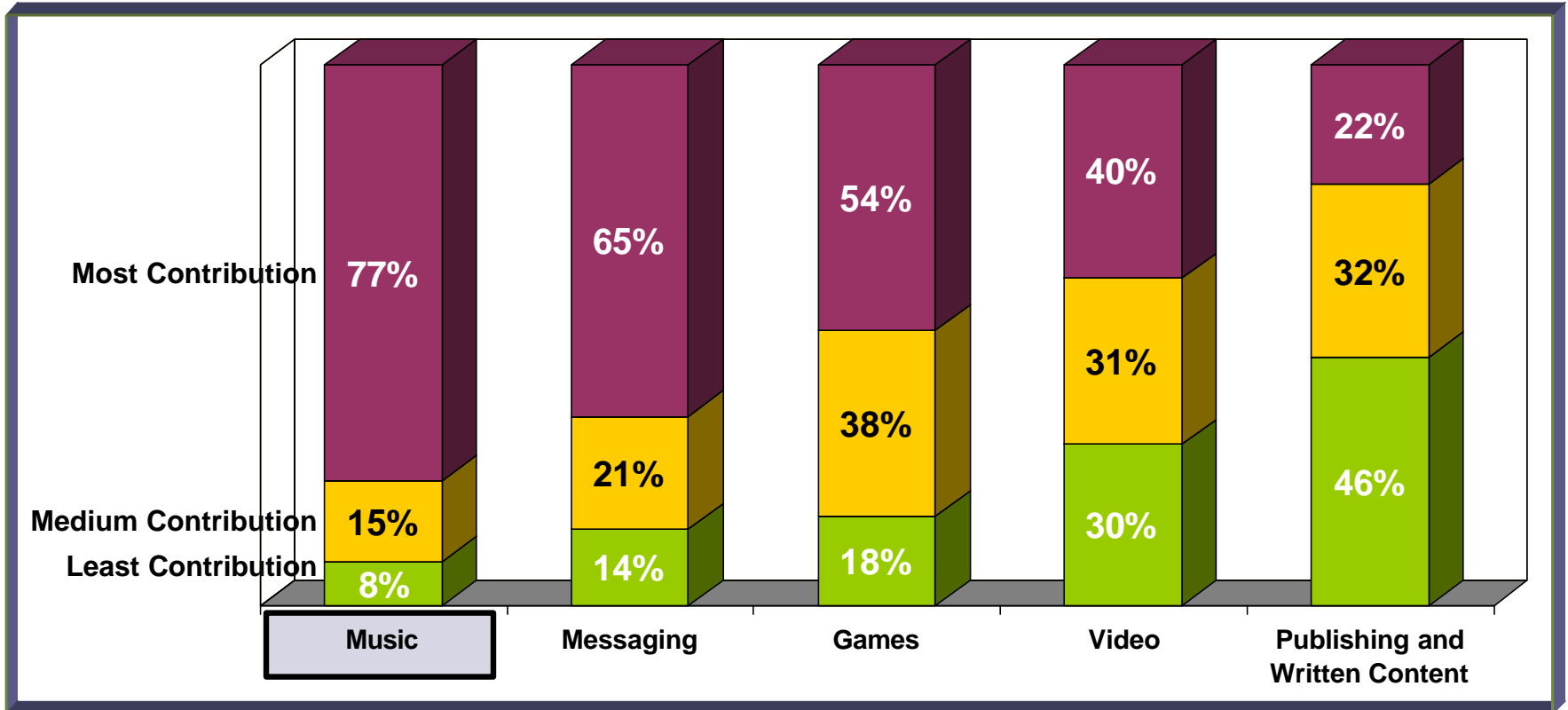
% of Responses



Revenue Contribution - Music will be the greatest contributor to Online Mobile Payments revenues in the near future, followed by messaging, games, and video

Question: Please rate the following content based on their expected contribution to online mobile revenues in the next 3 years

% of Responses

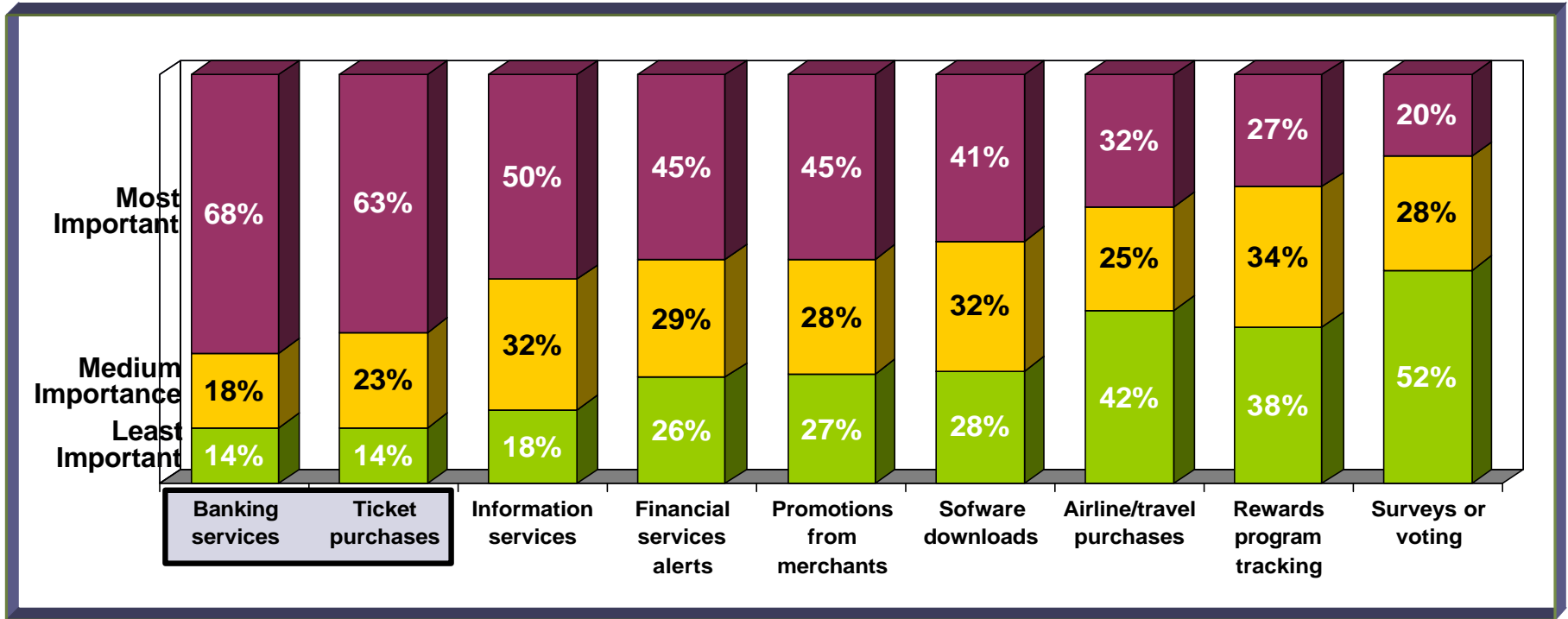


Contribution to Growth - Banking services and ticket purchases are viewed as the services that will be the strongest contributors to Online Mobile Payments growth

**ONLINE
MOBILE
PAYMENTS**

Question: Which of the following services do you believe will be the strongest contributor to the growth of Online Mobile Payments in the next 3 years?

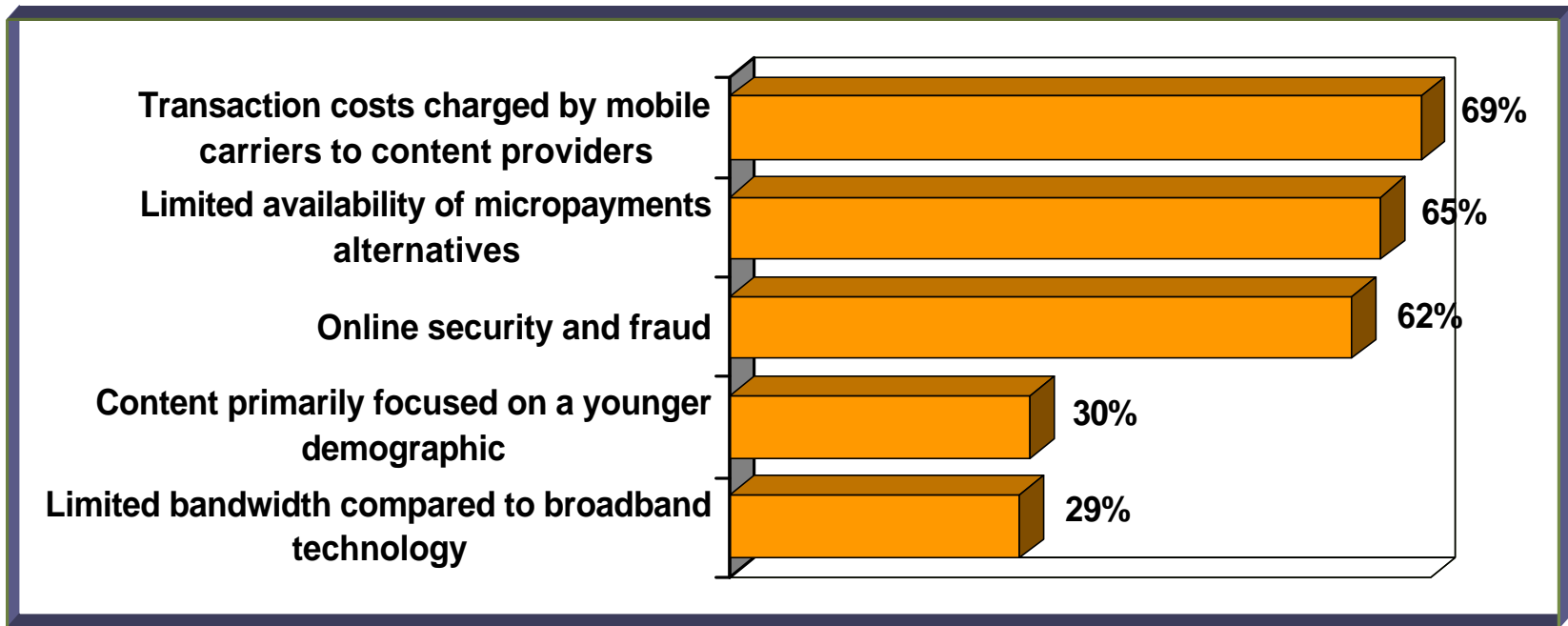
% of Responses



Barriers to Growth - Transaction costs, limited availability of micropayments alternatives, and online security/fraud are expected to be the leading barriers to growth

Question: Which of the following do you see to be the most significant barriers to growth over the next 3 years? (Choose 3)

% of Responses



“Killer App” - There was no general consensus but the most prevalent areas identified were micropayments, content, banking applications, and technological advances

Question: What do you think is the “killer app” for Online Mobile Payments?

Respondents described “killer apps” for Online Mobile Payments in the following categories (listed in the order of their prevalence among the responses):

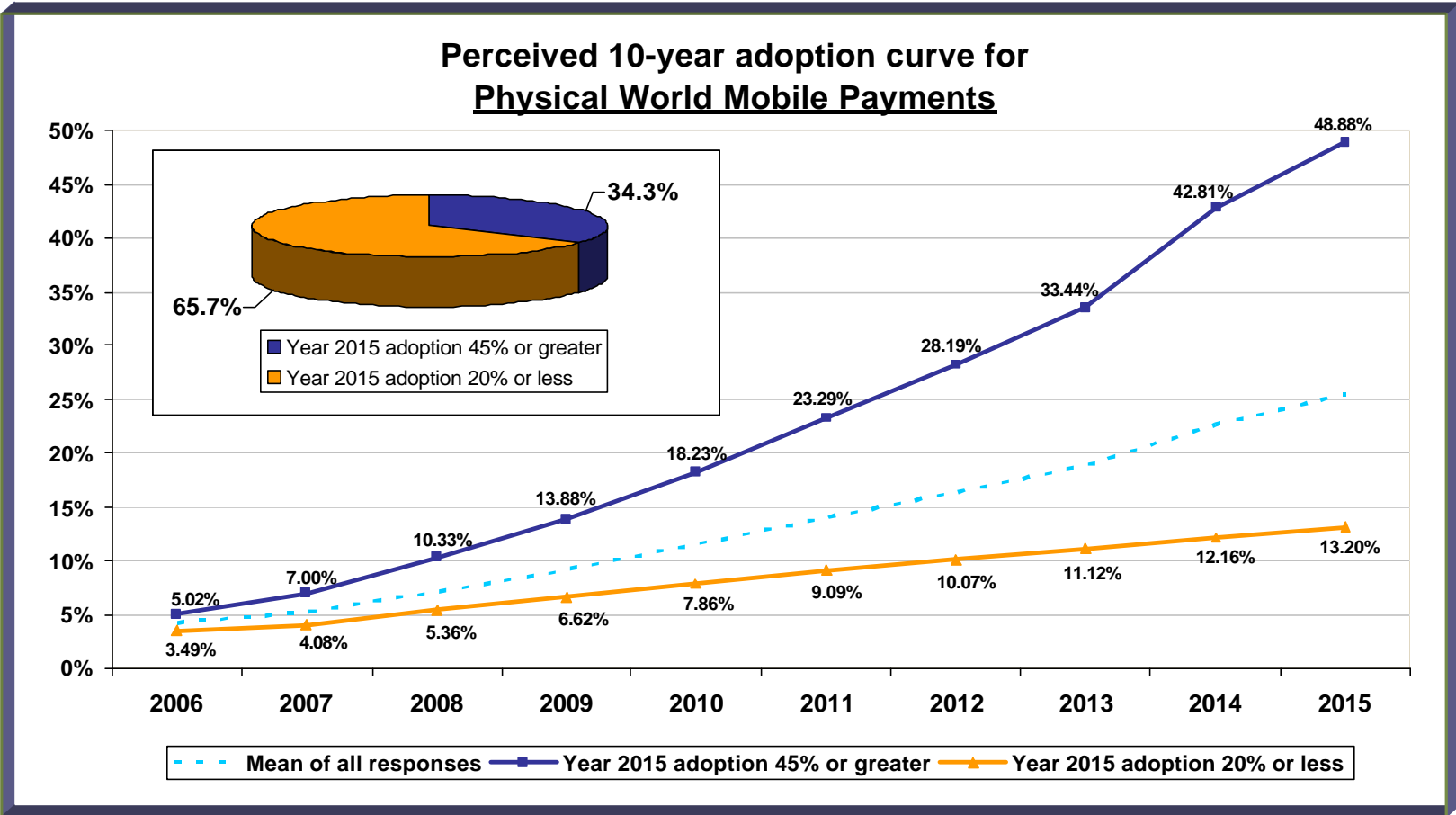
- | | |
|--|--|
| <ol style="list-style-type: none">1. <i>Micropayments</i>2. <i>General Content
(Music, Video, News)</i>3. <i>Banking and Mobile Wallet</i>4. <i>Technological Advances
(Security, Authentication, Usability)</i>5. <i>Person-to-Person (P2P) Payments</i>6. <i>Pre-Paid Wireless Services</i> | <ol style="list-style-type: none">7. <i>Contactless Payments or
Near-Field Communications</i>8. <i>Purchasing Tickets</i>9. <i>Contextual
(Personalization, Local Offers)</i>10. <i>Transportation and Tolls</i>11. <i>User-Driven Functionality
(Generational, Market Needs)</i>12. <i>Adult Content
(Gambling, Pornography)</i> |
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Contents

- Methodology
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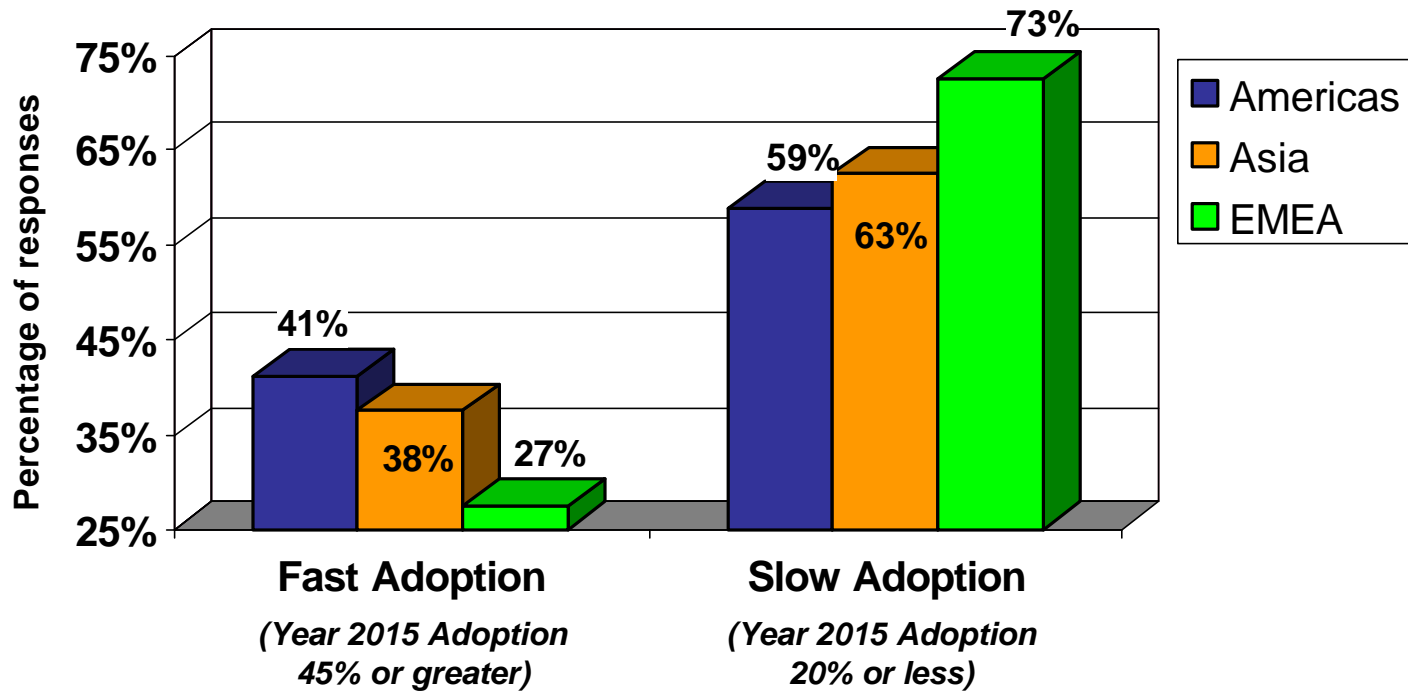
Adoption - Views on the adoption curve of Physical World Mobile Payments are also bi-modal, but with fewer respondents predicting the more rapid adoption rate

Question: Please tell us your estimate of the cumulative percent penetration of Physical World Mobile Payments usage among consumers who carry mobile devices over the next 10 years by selecting from the ranges provided.



Respondents from EMEA were much more likely to predict a slow adoption curve for Physical World Mobile Payments than their counterparts in the Americas & Asia

Perception of the Adoption Curve for Physical World Mobile Payments by Geography



Summary – Physical World Mobile Payments

- 1. Payments professionals are split into two camps regarding the 10-year adoption curve for Physical World Mobile Payments, with two-thirds expecting a gradual increase in adoption and one-third predicting more rapid growth**
- 2. RFID contactless card and the development of micropayments capabilities are the most significant technologies driving the growth of Physical World Mobile Payments**
- 3. Mobile carriers, financial institutions, and credit card issuers are expected to receive the greatest share of revenue from Physical World Mobile Payments while merchants are viewed as the most critical participants in the value chain**
- 4. The most significant barriers to adoption are agreement on a common mobile payments platform, merchant and customer adoption, and security/fraud issues**

Summary – Physical World Mobile Payments . . . cont'd

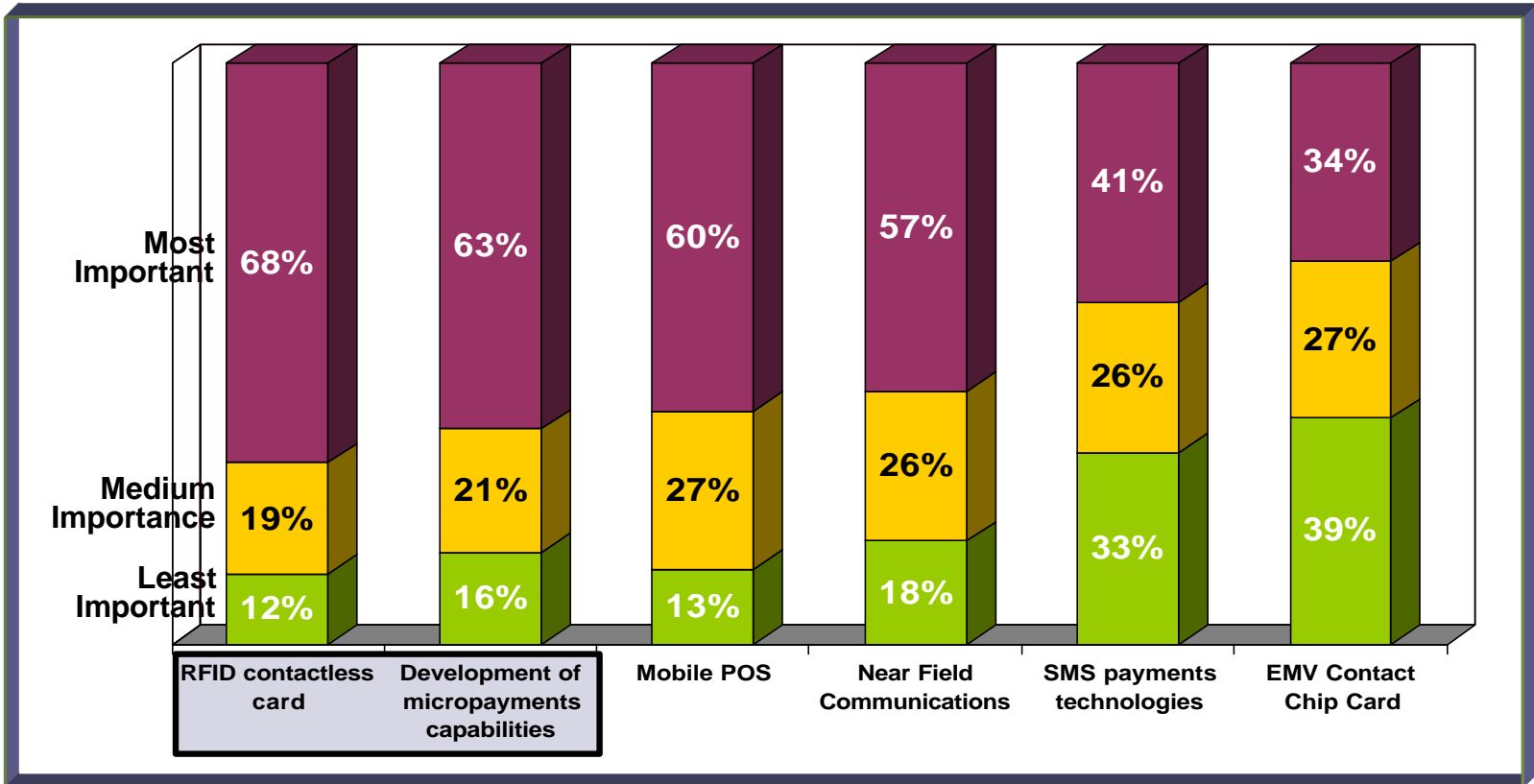
- 5. Asia is viewed by most as the geography with most rapid growth over the next three years, followed by North America and Western Europe**
- 6. As with online mobile payments, no “killer app” has been identified for Physical World Mobile Payments**
 - Respondents expect a killer app to come out of transit and tolls, contactless payments, or various retail applications**

Important Technologies - RFID contactless card and development of micropayments capabilities are viewed as the technologies most important to the evolution of Physical World Mobile Payments

PHYSICAL
MOBILE
PAYMENTS

Question: Please rate the following technologies on their importance to the evolution of Physical World Mobile Payments

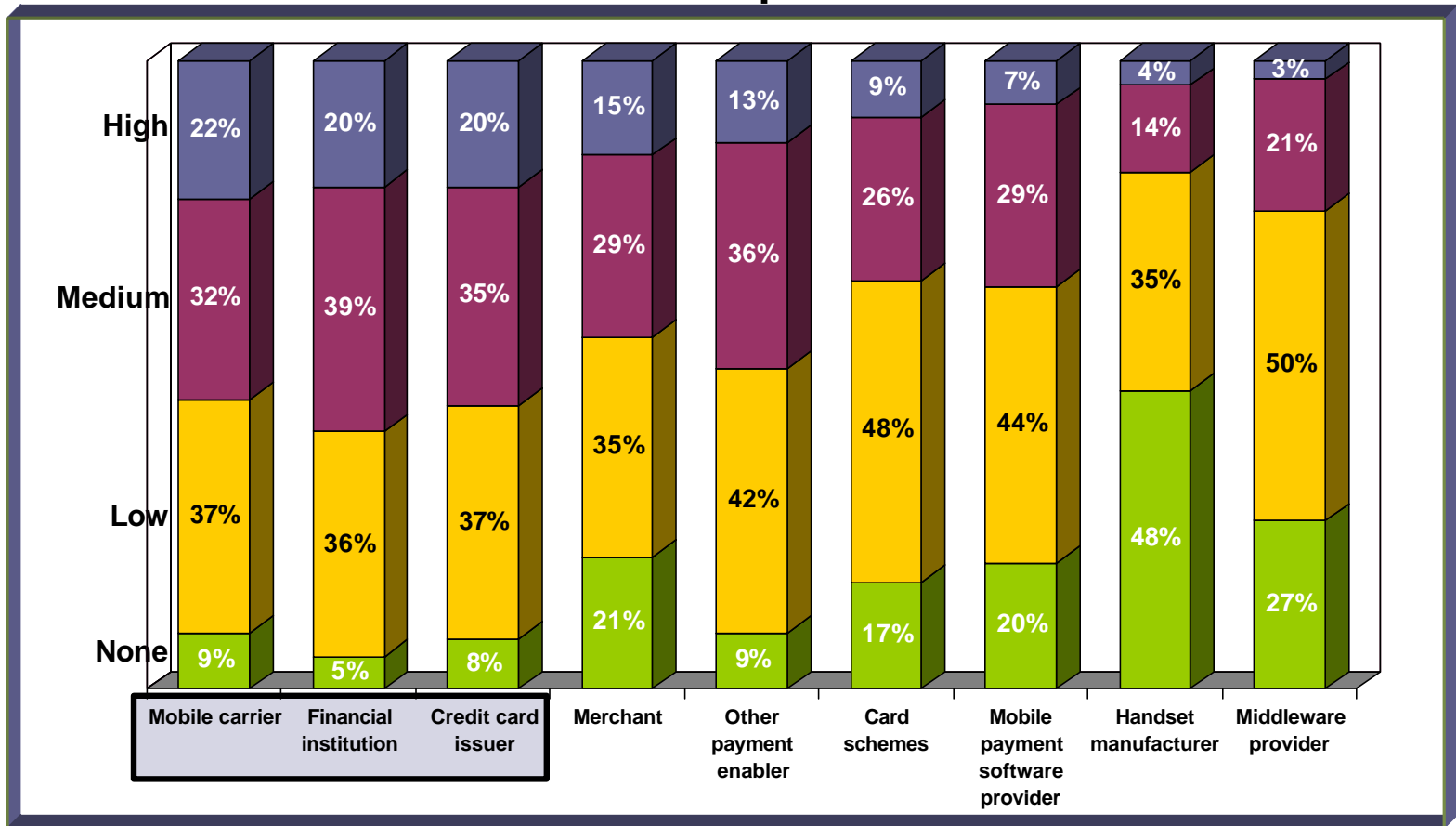
% of Responses



Revenue Share - Mobile carriers, financial institutions, and credit card issuers will receive the greatest share of revenue. Handset manufacturers are expected to receive little or no revenue

Question: What do you think will be the relative share of revenue that each of the participants receive?

% of Responses

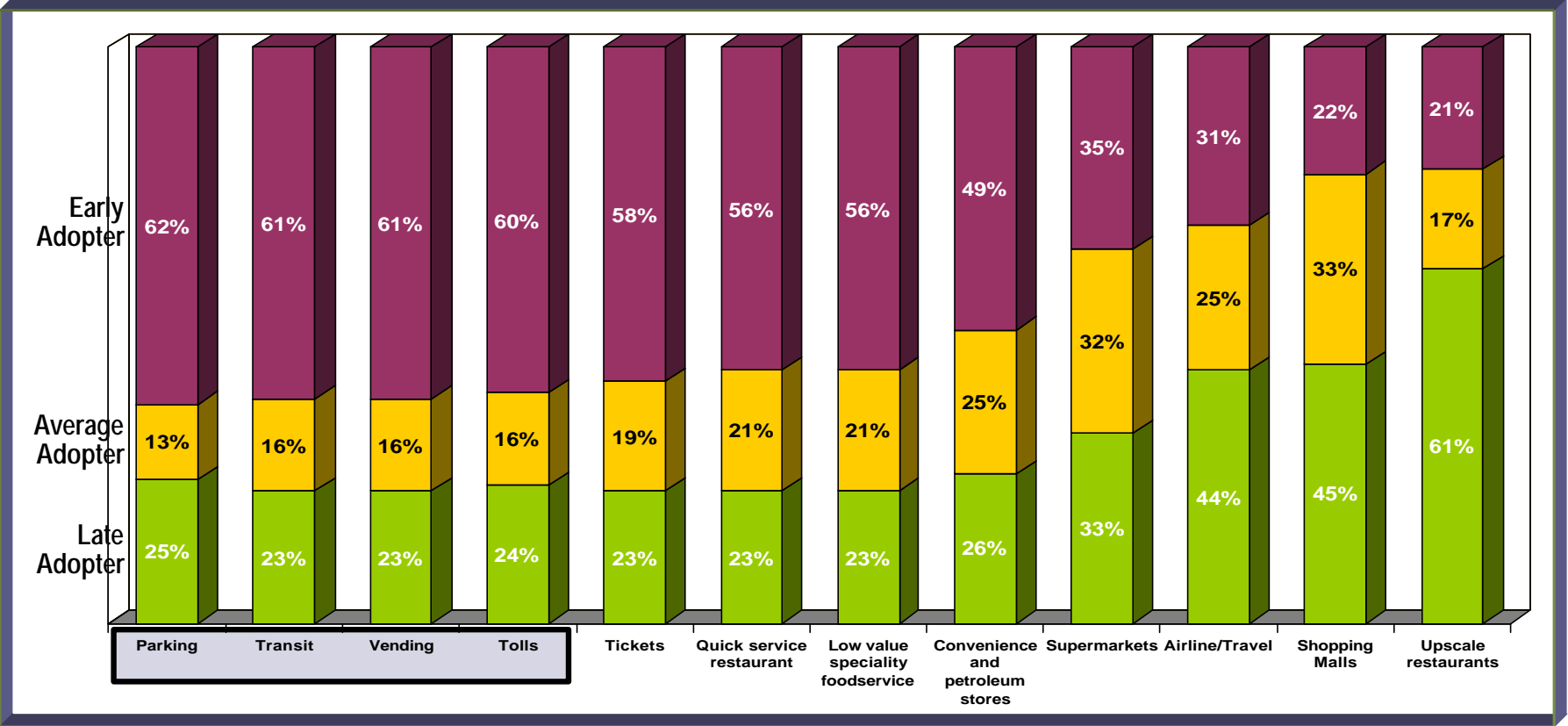


Acceptance - Merchants who handle low-value transactions are most likely to be early acceptors of Physical World Mobile Payments

PHYSICAL
MOBILE
PAYMENTS

Question: What type of merchant do you think will be most likely to be early acceptors of physical world mobile payments with 1 being earliest adopter and 5 being latest adopter?

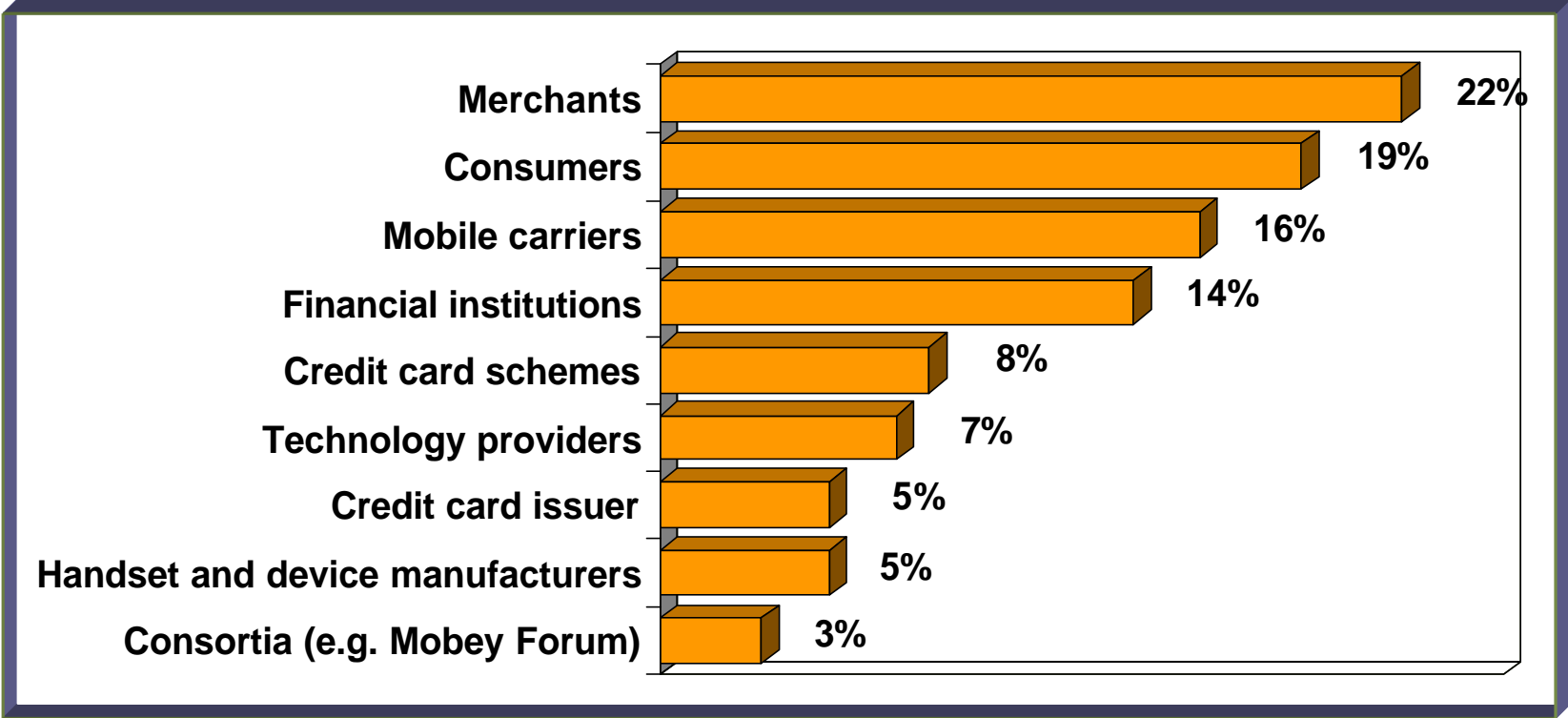
% of Responses



**Drivers of critical mass - Merchant
adoption will drive critical mass of Physical
World Mobile Payments, followed by consumers.
The classic “chicken and egg” problem is apparent**

Question: Which participants in the Physical World Mobile Payments value chain will be the key driver to achievement of critical mass?

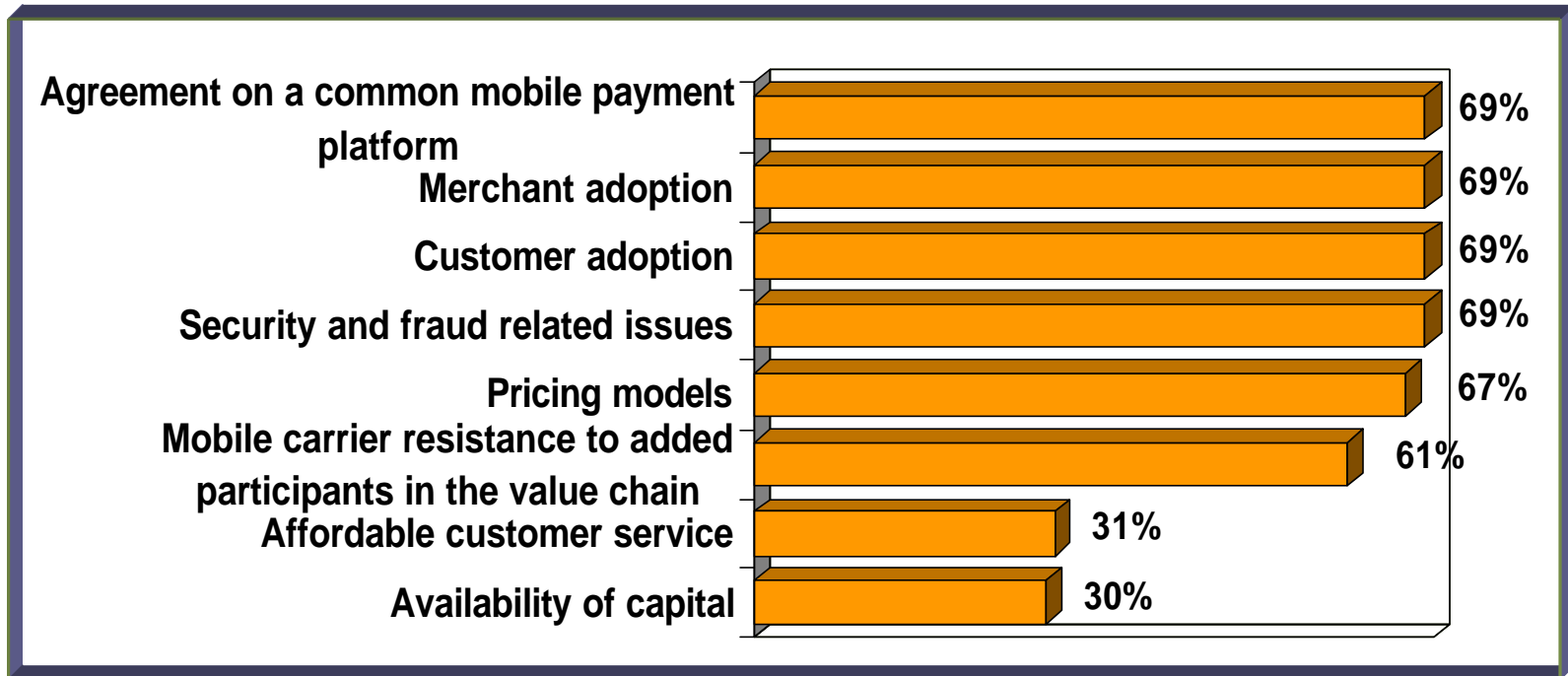
% of Responses



Barriers to adoption – Respondents agreed that there are a number of critical barriers to adoption

Question: Which of the following do you see to be the most significant barrier to adoption? (Choose 3)

% of Responses



“Killer App” - Covered a broad range of topics but most prevalent were transportation and tolls, contactless payments (NFC), and retail purchases

Question: What do you think is the “killer app” for Physical World Mobile Payments?

Respondents described “killer apps” for Physical World Mobile Payments in the following categories (listed in the order of their prevalence among the responses):

- 1. Transportation and Tolls***
- 2. Contactless Payments / Near-Field Communications***
- 3. Retail Purchases (Fast Food, Vending, C-Stores)***
- 4. Technological Advances (Speed, Usability)***
- 5. Micropayments (Cash Replacement)***
- 6. Mobile Wallet***

Other responses included the following:

“Convergence of several devices all in one – the mobile phone serves as phone, wallet, credit card, ID document, calculator, mobile music device, etc.”

“Lower value NFC/RFID transactions at high-speed merchants or retailers with no POS environment”

“The mobile device must be able to receive funds as well as make payments”

“Mobile payments in combination with rewards and loyalty programs – one phone replaces many cards”

“Enhanced security and automated payment requests such as bills that will advise your phone and request for you to confirm with a PIN input to pay them”

“A widely available network of participants accepting mobile payment platforms is a first requisite, P2P transfers will be a true killer app”

Contact Information



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