Appendix 1: Czech telecommunications statistics

Graph A1: Czech mobile operator’s market share; 2004, Q4 – 2009, Q4 (Source: CTU, 2011b)

Graph A2: Household penetration of broadband in the Czech Republic; 2005 - 2010 (Source: CTU, 2011b)
Appendix 2: English telecommunications statistics

Graph A3: UK mobile operator’s market share; 2008, Q4 – 2010, Q1 (Source: Telecomsmarketresearch.com, 2011)

Graph A4: Household penetration of broadband in the UK; 2005, Q1 – 2011, Q1 (Source: Ofcom, 2011)
Appendix 3: Mobile broadband

Table A1: Comparison of mobile phone technologies (Source: Chaffey, 2011)

<table>
<thead>
<tr>
<th>Generation of mobile technology</th>
<th>Main standards</th>
<th>Maximum data transfer rate (downlink)</th>
<th>Approximate adoption levels 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1G Analogue cellphones of 1980s</td>
<td>Frequency Division Multiple Access (FDMA)</td>
<td>9600 bits/sec</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| 2G Circuit-switched, digital cellphones introduced in 1991 | Global System for Mobile communications (GSM)  
Code division multiple access (CDMA)  
Time division multiple access (TDMA) | 13 kbit/s  
c80% globally | |
| 2.5G Introduced in 2001 | General Packet Radio Service (GPRS)  
Enhanced Data rates for Global Evolution (EDGE) | 114 kbit/s | N/A |
| 3G Packet-switched introduced in 2004 | Universal Mobile Telecommunications System (UMTS)  
Wideband Code Division Multiple Access (W-CDMA)  
High-Speed Downlink Packet Access (HSDPA) | 14.4 Mbit/s | C28% in Europe and US according to Comscore |
| 3.5G 2008 | Evolved HSPA / HSPA+ | 42 Mbit/s | N/A |
| 4G 2012-2015 | Fourth generation  
No agreed standard | N/A | N/A |

Figure A1: Mobile broadband penetration by region, per 100 inhabitants, 2010 (Source: oecd, 2011)
Appendix 4: Mobile commerce domain in Europe

Table A2: Objectives and actions to raise levels of security and business in European cyberspace (Source: European Network and Information Security Agency, 2009)

<table>
<thead>
<tr>
<th>OBJECTIVES AND ACTIONS</th>
<th>RESPONSIBLE</th>
<th>TIMING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 3: Raise levels of security for citizens and businesses in cyberspace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action 1: Build capacity in law enforcement and the judiciary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment of an EU cybercrime centre</td>
<td>Subject to the COM’s feasibility study 2011</td>
<td>2013</td>
</tr>
<tr>
<td>Develop capacities for investigation and prosecution of cybercrime</td>
<td>MS with CEPO, Europol and Eujust</td>
<td>2013</td>
</tr>
<tr>
<td>Action 2: Work with industry to empower and protect citizens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment of cybercrime incident reporting arrangements and provide guidance for citizens on cyber security and cybercrime</td>
<td>MS, COM, Europol, ENISA and the private sector</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Guidelines on cooperation in handling illegal content online</td>
<td>COM with MS and the private sector</td>
<td>2011</td>
</tr>
<tr>
<td>Action 3: Improve capability for dealing with cyber attacks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment of a network of Computer Emergency Response Teams in every MS and one for EU institutions, and regular national contingency plans and response and recovery exercises.</td>
<td>MS and EU institutions with ENISA</td>
<td>2012</td>
</tr>
<tr>
<td>Establishment of European information sharing and alert system (EISAS)</td>
<td>MS with COM and ENISA</td>
<td>2013</td>
</tr>
</tbody>
</table>

Figure A2: 3G Penetration Inflection Points in selected regions, 2007-2014E (Source: Morgan Stansley, 2011)
Appendix 5: Questionnaire design

Mobile commerce development in the Czech Republic and the UK

By answering and taking part in this questionnaire, you are providing your consent for any data received from yourself to be used in a study concerning mobile commerce development. If at any time you wish to withdraw your consent, this will be granted. Though all information provided will be handled with full anonymity and discretion.

* Required

A] General

In this section please provide information about you and your mobile device

1) Are you male or female? *
   - Male
   - Female

2) Tick the category that applies to you: *
   - 14 or younger
   - 15 - 20
   - 21 - 29
   - 30 - 39
   - 40 - 49
   - 50 - 59
   - 60 or older

3) Which type of mobile phone do you own? **
If you own other devices such as tablet and using them for online purchases state in "Other"

☐ I do not own mobile phone

☐ Feature phone

☐ Smartphone

☐ Other: [ ]

4) Which type of operating system does your mobile phone have? *

[ ] [ ] [ ]

Options: Android, iOS, Symbian, RIM, Microsoft, Bada, Other, I do not know

5) How many years have you been using a mobile phone? *

☐ less than 1 year

☐ 2-4 years

☐ 5-9 years

☐ 10 years or more

☐ Not applicable

6) How often do you purchase new device? *

☐ Every 1 year or often

☐ Every 2-3 years

☐ Every 4-5 years

☐ 5 years or more

☐ Not applicable
B] Satisfaction with the services

*In following part of survey please give information about services and how you access these services*

Satisfaction with mobile device as a tool for online purchasing, information research, price comparison *

*If the question is not applicable state "No opinion"

<table>
<thead>
<tr>
<th>I strongly disagree</th>
<th>I disagree</th>
<th>No opinion</th>
<th>I agree</th>
<th>I strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7) Are you satisfied with your mobile device when purchasing online?

8) Do you look for information about products on your device and does it provide reliable results?

9) Have you ever compared prices with an application such as "Amazon price check", "Barcode scanner" or similar?

10) Mostly I access services such as emails, social networks, websites, VoIP - internet calls via: *
☐ desktop computer
☐ notebook in home network
☐ laptop connected to wireless network in public areas such as university, restaurant
☐ tablet
☐ mobile phone

11) Which services do you use your mobile phone for mostly? *
☐ news
☐ e-mails
☐ social networks
☐ music apps, radio
☐ TV, video streaming
☐ games
☐ VoIP (internet calls)
☐ mobile apps
☐ calling
☐ messaging
☐ Other:

12) Have you ever used or visited any of these types of websites or applications on your mobile phone? * State No in ‘Other box’ if not applicable

☐ Bank account
☐ Amazon
Auction sites - eBay
Drug store
Specialty store
Ticket sellers
Clothing store
Airlines
Hotels and accommodation providing sites
Computer and electronics stores
Other:

13) Which problems (if any) do you face using mobile services? *
Data limits
Network connection
Webpage or apps difficult to use
Error messages
Problems with logging in
Other:

14) How would you react to difficulties with your mobile? *
Try this service on computer instead
Likely to buy from a competitor offline
Likely to use similar service from competitor
Email and complaint with customer service

Other:

C) Expectations

Filling this part of questionnaire will provide me with information about future trends concerning this area of commerce.

15) Would you be interested in paying for items with your mobile phone for in store purchases? *

☐ Yes

☐ No

16) Would you expect that mobile transactions would be easier than offline, or on desktop computer? *

☐ Yes

☐ No

☐ Other:

17) What would you say are the constraints of mobile commerce? *

☐ Security

☐ Technology - small screens, battery

☐ Limited bandwidth

☐ User interface difficult to use

☐ Lack of trust - too much personal information in one device

☐ Other:
Appendix 6: 3G coverage across the European countries (Source: Mosaik solutions, 2012)
Appendix 7: Mobile tags (Source: psfk 2010)

ABOUT MOBILE TAGS
A mobile tag is a two-dimensional image encoded with information. It is decoded using a cameraphone application. These tag reader applications are able to scan tags and react accordingly based on the patterns within the image. Based on the information contained within the tag, the tag reading software can perform a variety of functions including the display of text or images, hyperlinking to specific URLs, linking to video content and providing contact information.

VARIATIONS
Information can be encoded into two-dimensional images in multiple ways. There have been upwards of 70 different types of tags developed over the past decade, each with associated applications built to identify their specific method of encoding. Many of these application designs are used for logistical purposes in industrial verticals. For the purposes of this report, it is important to consider three key consumer-facing methods for capturing information through a cameraphone.

MICROSOFT TAG
Microsoft Tag is a barcode designed to deliver encoded information to a phone from a server. When the Microsoft Tag is scanned by a mobile phone’s reader, it gathers information loaded on a server and sends it back to the phone. This feature allows the tag to be used differently over time as the information can be updated on the backend without changing the design of the encoded image. Microsoft Tag offers an array of tracking metrics including location data.

QR
Originally used as a method for tracking vehicle part inventory, the Quick Response code is an open source platform now used as a form of scannable barcode. QR is a not a proprietary medium, so there are a number of disparate formats available for use. The design of this type of mobile tag contains the entirety of the information being transmitted and therefore doesn’t need online access to decode the information held within it. Each code can contain over 4,000 alpha numeric characters.

BARCODES
Various mobile phone applications are using the barcodes found on products to serve up information and services. When a user scans the barcode with their phone’s camera, services like StickyGist, RastScan and eMoby will identify the product and provide pricing information, user reviews and other product data.