Information and Communication Technologies in Tourism
Mobile Services in Tourism (Case studies)

- Mobile Services in Tourism
- Case Study collection: Mobile Applications
- Case Study et Planner
- Case Study: Dolomiti Super Ski
- Ambient intelligence in tourism
Case Study – Mobile Applications

La Quinta apps hold rooms using mobile phone numbers


http://www.lq.com/lq/index.jsp

La Quinta Inns & Suites’ iOS and Android apps, as well as its mobile website, now enable travelers to hold a room reservation for up to four hours simply by entering their mobile phone numbers.
Case Study – Mobile Applications

A mobile app developer’s perspective on booking a hotel room for tonight


Mobile apps make it significantly easier to book last-minute travel
Case Study – Mobile Applications

Auto-matic — BMW drives navigation system hotel bookings and NFC


BMW has created a high-tech method for booking a hotel room from the car and enabling guests to proceed right to their rooms and unlock the doors with their car keys.
Case Study – Mobile Applications

Lookze brings history of buildings and destination content to mobiles


Lookze, a mobile application to give travelers information about the buildings and their surroundings as they walk around cities.

http://www.lookze.com/
Case Study – Mobile Applications

Singapore may become the world’s first NFC-enabled city

http://www.tnooz.com/article/singapore-is-becoming-the-worlds-first-nfc-enabled-city/

Faster than any other country, the city-state is adopting NFC as a means of contact-less payment.
Mobile Services in Tourism (Case studies)

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Introduction

- **et** Planner – an IT framework for mobile travel guidance

- **et** Planner objectives
  - Recommendation and customisation techniques
  - Support during all trip phases by mobile services and location-based services
  - Personalised push service
  - Generic framework for flexible extendibility and integration into existing environments
et Planner architecture

Endusers

Frontend Layer
- HTML
- WML
- SMS

Session Controlling Layer
- WebSession Manager
- Mobile Pull Service
- Mobile Push Service
- Setup & Maintenance

Recommendation Layer
- Knowledge-based rec.
- Collaborative filt.
- Content-based filt.
- Tweaking critiquing

Integration, Preprocessing & Transformation Layer
- User Model Service
- Data Object Service
- Ontology Service

Data Connectors

Data Source Layer
- Relational databases
- Files (.xls, .csv, ...)
- XML
- WebServices

Höpken et al. 2006

International Federation for IT and Travel & Tourism
Dynamic adaptation & personalization
- Application logic (web-/midlet-based), display and content representation automatically adapts to preference, use context and device

Recommendation
- Preference-based (multiple collaborative filtering)

Push Functionality
- E-C-A Rule-Engine (triggers SMS/Email)
- Location-based push-notification (GPS)
Hybrid recommendation service

- **Recommendation service**
  - Recommend products (bundles) best matching customer preferences and demand situation (context)
  - Avoid information overload and increase customer satisfaction
  - Reduce cognitive effort and minimise user interaction

- **Hybridisation**
  - Reduce drawbacks of recommendation methodologies
    - **content-based filtering** lacks serendipity
    - **collaborative filtering** has cold start problem
    - **knowledge-based** approach has high acquisition costs
Adaptation & personalisation

- **Adaptive visualisation**
  - Consider restrictions and capabilities of (mobile) devices
  - Individually address customer segments to provide comfortable and efficient access
  - Dynamic adaptation
    - Of content, presentation, application behaviour
    - To device, user, usage context (time, location,...)

- **Adaptation mechanism**
  - Strict separation of content, design & behaviour
    - Content and application structure stored in neutral format, independent of presentation
    - Presentation and behaviour generated based on transformation instructions and workflow definitions
  - Implementation based on Cocoon
    - Content & structure stored as XML documents
    - Transformations stored as XSL transformations (XSLT)
Adaptation & personalisation (2)
Context-aware information push service

- Actively distribute information to the customer (via SMS, email, WAP-Push etc.)
- Reach the customer at any time and location
- Provide exactly the right information in the right situation (→ context)
  - user (e.g. her/his characteristics, preferences or actual location)
  - environment (weather, etc.)
  - travel (e.g. already booked or selected tourism services or activities)
Context-aware information push service

- **Example push messages**
  - Tourists are actively informed about *alternative* music events when their concert is *postponed* or *cancelled*.
  - Tourists are actively informed about *delayed flights*.
  - Tourists are actively informed about *sport activities*, which might be relevant to them, e.g. surfing, mountain biking.
  - Tourists are actively informed about suitable indoor events because of bad *weather forecast*.
  - Tourists are provided with detailed information about sights they are *approaching*. 
Methodology

- Experts from the field of tourism “write” rules (utilizing wizards) which define
  - The receiver (= target group) and the sending time by formulating conditions compliant to context concepts defined in a context-model
  - The abstract content of the push message
- Tourist specifies preferences regarding different tourism services and his information needs
- CAIPS evaluates these rules and delivers proactively personalized messages
Methodology

Tourist's Context
- Time: Time
- Travel: TravelProfile
- Environment: Weather
- User: Location

Preferences
- Events
- Accommodation
- Sights
- Restaurants

Tourist

if [context (u) = x] then [message (m,u)]

CAIPS

System Provider

Message Types:
- Security
- Reminder
- Sight-Information
- Verify Travel-Profile

Beer 2006
Methodology

- Push rule $\Rightarrow E(vent) - C(ondition) - A(ction)$

If:
- user.information-prefs. contains “Verify Travel-Profile”
- user.location = “Ljubljana”
- weather-forecast = “storm”
- user.travelprofile contains outdoorEvent

Then: createMessage (recommendation (indoorEvent))

- Rule evaluation in CAIPS
  - Step 1: Retrieve all tourists satisfying the specified conditions
  - Step 2: Refinement of the push message’s content, determining the appropriate event for every user utilizing recommender system
  - Step 3: Using templates for message generation
Architecture

Example rule:

**Event:**
TimerEvent(daily(8:00))

**Condition:**
- user.infPref contains "Verify Travel-Prof."
- user.location = "Ljubljana"
- weather-forecast = "storm"
- user.travelprofile contains outdoorEvent

**Action:**
createMsg(recommendation(indoorEvent))
Conclusion & outlook

- **Challenges of etPlanner framework**
  - Comprehensive support during all trip phases
  - Easy integration into different environments
  - High-quality recommendations (push service)
  - Efficient adaptation (mobile devices)

- **Current status & next steps**
  - Recommendation system (knowledge-based) in productive use
  - Push technology and device adaptation prototypically implemented and evaluated
  - Deployment of full system for the destination Innsbruck
2 Focus Groups for Building a Mobile Tourist Guide based on Tourists’ Info Needs

2 x 10 participants Jan 06
Demographical mix (age, nation, sex, usage)

New ideas
- Kilometers/height difference
- Geo-referenced queries & interaction
- Micro packaging

Barriers
- Difficult input modalities
- Small displays
- Instable software
- Connection speed
- Privacy (personal data)
- Must be good for something (value)
- Price/Cost transparency
- Roaming
- Must be fun (mobile = work?)
- Should look cool/fashion-like

1. Usability
2. Privacy
3. Usefullness
4. Costs / -transparency
5. Hedonic value
6. Social Influence
Building a Mobile Tourist Guide based on Tourists’ Info Needs

- N = 710 / Feb. 06, Tyrol (.58 D, .19 NL, .13 A, .06 CH, .04 others)
- Usage of Mobile Phone, PDA, Smartphone
  - Private: 89% → During Holiday: 78%
  - Business: 63%

### Functional Configuration Model

<table>
<thead>
<tr>
<th>Service</th>
<th>Search &amp; Browse</th>
<th>Context-Sensitive Pull</th>
<th>Context-Sensitive Push</th>
<th>mCommerce</th>
<th>Feedback</th>
<th>Adj. R²</th>
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<tbody>
<tr>
<td>Weather &amp; News</td>
<td>**</td>
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<td>58.81</td>
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<td>Destination Guide</td>
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<td>.53</td>
<td>44.46</td>
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### Expectancy-based Acceptance Model

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<td>*</td>
<td></td>
<td>.51</td>
<td>47.78</td>
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</tbody>
</table>
Mobile information services in tourism

- Destination access, reached and located at any place and time
  - Interaction = location-sensitive, time-critical, identity-enacted
  - 73%/240 M EU citizens use mobile broad-band (65% priv.)
- Failed tourism projects

User centricity

- Support during stay
- Comprehensive
- GPS
- Web 2.0.
  - Mobile feedback & blogging
- Web-based
  - www.innsbruck-mobile.at
  - www.dolomitiSuperski.mobi
innsbruck.mobile
DAS MOBILE TOURISTENINFORMATIONSSYSTEM

Context-Sensitive Push I
Context-Sensitive Push II
Feedback
Editors for decentralized content & SMS configuration
■ **EURO 2008**
  - Daily Programme
  - Match schedule
  - Event Zones (fan route, VIP areas)
  - Stadion
  - SMS Service (match report, traffic)

■ **Traffic information**
  - Timetable train
  - Bus-stations Live
  - Parking places
  - Traffic notifications (congestion, preferred routes)
Pilotized in Nov. 2006  
Since, ca. 25,000 users  
www.innsbruck-mobile.at
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- Ambient intelligence in tourism
www.dolomitiSuperski.mobi

WELCOME IN THE MOST BEAUTIFUL MOUNTAINS OF THE WORLD

Livecam
Check out the latest pictures of this fascinating winter sports region. Click onto the desired ski area to view live pics of the slopes on your cell phone. This keeps you all times updated about the Dolomiti Superski region.
Continue ...

Weather
At a glance: weather and weather forecast as well as mountain and valley temperatures.
Continue ...

PC Version

Smart Phone
**Ski Performance**

Skipass 1-31 days  
First numbers on your skipass

**Gastronomy**

**Apres-ski**  
**Giglalm**  
Reischach, Selba  
+390474548419

**Skiing Huts**

**Kronplatz**  
**Giglalm**
Reischach, Selba  
+390474548419

**Tonne**  
Reischach, Selbahnstrasse 6  
+390474541400

**Events**

**Events**  
**6. Vogol di Mandia**

**Events today**

- **FIS European Cup**  
  08:00 AM  
  San Vigilio di Marebbe

**Events tomorrow**

- **FIS European Cup**  
  08:00 AM  
  San Vigilio di Marebbe

**Events remaining**

- **FIS European Cup**  
  08:00 AM  
  San Vigilio di Marebbe

**Wallpapers**

- **Corinna d'Ampezzo – The Lagazuoi**  
  Ralf Ulser

- **Skier**  
  Udo Bemhart

- **Alta Badia: View on Sciliar**  
  Tourism Association Alto Adige

**Information**

- **Information offices**
- **Skipass offices**
- **Ski rental**
- **Ski schools**

**Tourist office Kronplatz**

**Tourist office**: Holiday Region Kronplatz  
**Address**: Via Michael Pacher, 11A  
**Info**:  
**Tel.**: 0039 0474 554447  
**Fax**: 0039 0474 530018  
**e-mail**: info@kronplatz.com
**Usage Statistics Pilote Phase 07/08**
- 23,453 Unique Visits
  - Dec 5,788
  - Jan 7,137
  - Feb 4,727
  - Mar 3,665
  - Apr 2,136

**Satisfaction Survey (N = 207)**
- Tyrol (14-30/04/08)
  - Nokia E61
- 20\text{min} Test
- 10\text{min} Evaluation

*Demographics*

**PPE02 Using the mobile website dolomitisuperski.mobi would support my vacation.**
- Fully agree: 3%
- Agree: 10%
- Rather agree: 25%
- Rather disagree: 31%
- Disagree: 26%
- Fully disagree: 5%

**PEE03 It would be easy for me to understand the use of dolomitisuperski.mobi.vacation.**
- Fully agree: 2%
- Agree: 4%
- Rather agree: 10%
- Rather disagree: 31%
- Disagree: 31%
- Fully disagree: 3%

**PSQ03 Overall, the service quality of dolomitisuperski.mobi is high.**
- Fully agree: 21%
- Agree: 45%
- Rather agree: 21%
- Rather disagree: 5%
- Disagree: 3%
- Fully disagree: 1%
<table>
<thead>
<tr>
<th>Theoretical Construct</th>
<th>Measures</th>
<th>Previously employed by</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived Effort Expectancy</strong> (PEE)</td>
<td>I find DS easy to use. My interaction with DS would be clear and understandable. It would be easy for me to understand the use of DS. Learning to operate the mobile website DS is easy for me.</td>
<td>Venkatesh et al., (2003) Davis (1989) Rasinger et al. (2007)</td>
</tr>
<tr>
<td><strong>Social Influence</strong> (SI)</td>
<td>People out of my circle of friends could think that I should use DS. People who are important to me think that I should use DS. By using DS I can raise my prestige. People in my peer group who use DS have a high profile. Using DS is a status symbol.</td>
<td>Venkatesh et al., (2003) Ajzen (1991) Taylor &amp; Todd (1995) Rasinger et al. (2007)</td>
</tr>
<tr>
<td><strong>Perceived Trust</strong> (PT)</td>
<td>I think DS has adequate security features to protect my customer data. I trust the information on DS. In general I think that DS is trustworthy.</td>
<td>Kinations (2005) Gefen et al. (2000) Rasinger et al. (2007)</td>
</tr>
<tr>
<td><strong>Behavioral Intention to Use</strong> (BI)</td>
<td>I think I would use the service. When I visit the area, I plan to use the service. I intend to use the service at my next stay.</td>
<td>Fishbein &amp; Ajzen (1975) Davis (1989) Venkatesh et al., (2003) Rasinger et al. (2007)</td>
</tr>
<tr>
<td><strong>Perceived Monetary Transparency</strong> (PMT)</td>
<td>I know what it will cost to visit DS with a mobile phone in the area. I can estimate the costs that would be incurred by the usage of DS with a mobile phone. I find the costs transparent for the usage of such data service in a foreign country.</td>
<td>Roto et al. (2006) Ioommu et al. (2007)</td>
</tr>
<tr>
<td><strong>Perceived Price Fairness</strong> (PPF)</td>
<td>The offered price for the usage of DS is adequate. The use of DS is a very good value for the money. At the offered price, DS is probably worth the money. The offered price for the usage of DS represents a fair price.</td>
<td>Suri et al. (2003) Roto et al. (2006) Wu &amp; Wang (2004) Li et al. (2007)</td>
</tr>
</tbody>
</table>

Note: DS = dolomitisuperski.mobi
### Measurement Model Validation

**Method:**

MLE

**Model Fit:**

- Normed-$\chi^2 = 1.436$
- AGFI = .896
- RMSEA = .046
- CFI = .97
- SRMR = .05

**Cost Model:**

1€/1 MB: (Roto et al. 2006)

<table>
<thead>
<tr>
<th>Scale item</th>
<th>Mean</th>
<th>Cronbach's Alpha</th>
<th>Standardized Loadings</th>
<th>C.R.</th>
<th>SMCs</th>
<th>AVE</th>
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</thead>
<tbody>
<tr>
<td><strong>Perceived Performance Expectancy (PPE)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being a visitor in that area, I would find DS useful</td>
<td>2.56</td>
<td>.93</td>
<td>14.53</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the mobile website DS would support my vacation</td>
<td>2.65</td>
<td>.99</td>
<td>15.51</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using DS would increase the quality of my stay</td>
<td>2.64</td>
<td>.83</td>
<td>17.35</td>
<td>.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The mobile service DS is supportive to enjoy my stay even more</td>
<td>3.02</td>
<td>.81</td>
<td>17.52</td>
<td>.65</td>
<td></td>
<td></td>
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<tr>
<td><strong>Perceived Effort Expectancy (PEE)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find DS easy to use</td>
<td>1.90</td>
<td>.92</td>
<td>15.32</td>
<td>.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My interaction with DS would be clear and understandable</td>
<td>1.81</td>
<td>.85</td>
<td>15.10</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It would be easy for me to understand the use of DS</td>
<td>1.69</td>
<td>.80</td>
<td>15.31</td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning to operate the mobile website DS is easy for me</td>
<td>1.75</td>
<td>.79</td>
<td>15.98</td>
<td>.63</td>
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<td></td>
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<tr>
<td><strong>Perceived Heuristic Quality (PHQ)</strong></td>
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<td></td>
<td></td>
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<tr>
<td>The mobile website DS is fun to use</td>
<td>2.81</td>
<td>.91</td>
<td>18.97</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The mobile website DS is exciting to use</td>
<td>3.06</td>
<td>.91</td>
<td>19.02</td>
<td>.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The mobile website DS is cool</td>
<td>3.20</td>
<td>.74</td>
<td>19.14</td>
<td>.57</td>
<td></td>
<td></td>
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<tr>
<td>The mobile website DS is entertaining</td>
<td>3.26</td>
<td>.73</td>
<td>19.96</td>
<td>.54</td>
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<tr>
<td><strong>Perceived Information Quality (PIQ)</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The information given by DS is accurate</td>
<td>2.27</td>
<td>.94</td>
<td>13.20</td>
<td>.89</td>
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<tr>
<td>The information given by DS is concise</td>
<td>2.38</td>
<td>.94</td>
<td>13.06</td>
<td>.88</td>
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<td>The information given by DS is complete</td>
<td>2.01</td>
<td>.65</td>
<td>13.44</td>
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<tr>
<td>The information given by DS is complete</td>
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<td>.70</td>
<td>12.80</td>
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<td><strong>Social Influence (SI)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>People out of my circle of friends could think that I should use DS</td>
<td>3.79</td>
<td>.69</td>
<td>12.52</td>
<td>.48</td>
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<td></td>
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<tr>
<td>People who are important to me think that I should use DS</td>
<td>4.11</td>
<td>.73</td>
<td>15.68</td>
<td>.56</td>
<td></td>
<td></td>
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<tr>
<td>By using DS I can more quickly get what it is that I want</td>
<td>4.82</td>
<td>.87</td>
<td>12.12</td>
<td>.76</td>
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<td>People in my peer group who use DS have a high profile</td>
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<td>.88</td>
<td>13.31</td>
<td>.78</td>
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<td></td>
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<tr>
<td>Using DS is a status symbol</td>
<td>4.93</td>
<td>.79</td>
<td>10.92</td>
<td>.63</td>
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<td><strong>Perceived Trust (PT)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DS has adequate security features to protect customer data</td>
<td>3.01</td>
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<td>12.41</td>
<td>.41</td>
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<tr>
<td>I trust the information on DS</td>
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<td>9.44</td>
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<tr>
<td>In general I think that DS is trustworthy</td>
<td>2.57</td>
<td>.96</td>
<td>9.59</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
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<td><strong>Behavioral Intention to Use (BI)</strong></td>
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<tr>
<td>I think I would use the service</td>
<td>2.73</td>
<td>.93</td>
<td>10.70</td>
<td>.86</td>
<td></td>
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</tr>
<tr>
<td>When I visit the area, I plan to use the service</td>
<td>3.67</td>
<td>.99</td>
<td>20.81</td>
<td>.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I intend to use the service at my next stay</td>
<td>3.75</td>
<td>.97</td>
<td>22.51</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived Monetary Transparency (PMT)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I know what it costs to use DS with a mobile phone in the area</td>
<td>3.76</td>
<td>.91</td>
<td>13.31</td>
<td>.91</td>
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<tr>
<td>I know the costs incurred by the usage of DS with a mobile phone</td>
<td>3.72</td>
<td>.93</td>
<td>13.45</td>
<td>.85</td>
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<tr>
<td>I find the costs transparent for the usage of such data service in a foreign country</td>
<td>3.75</td>
<td>.87</td>
<td>20.86</td>
<td>.76</td>
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<td>.84</td>
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<tr>
<td><strong>Perceived Price Fairness (PPF)</strong></td>
<td></td>
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<tr>
<td>The offered price for the usage of DS is adequate</td>
<td>3.69</td>
<td>.81</td>
<td>13.21</td>
<td>.56</td>
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<tr>
<td>The use of DS is a very good value for the money</td>
<td>3.71</td>
<td>.83</td>
<td>13.22</td>
<td>.50</td>
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<tr>
<td>At the offered price, DS is probably worth the money</td>
<td>3.60</td>
<td>.89</td>
<td>13.27</td>
<td>.50</td>
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<tr>
<td>The offered price for the usage of DS represents a fair price</td>
<td>3.77</td>
<td>.86</td>
<td>23.57</td>
<td>.78</td>
<td></td>
<td>.86</td>
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</table>
### Cluster Table

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Centroid Table</th>
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<tbody>
<tr>
<td>Cluster 1: Livecam</td>
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</tr>
<tr>
<td>Size (Sessions)</td>
<td>2,208</td>
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<tr>
<td>Share (%)</td>
<td>10.9</td>
</tr>
<tr>
<td>Livecam Module Start</td>
<td>1.65</td>
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<tr>
<td>Cluster 2: Lift &amp; Slope Info, Livecam, Weather</td>
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<tr>
<td>Size (Sessions)</td>
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<tr>
<td>Share (%)</td>
<td>2.1</td>
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<tr>
<td>Lift &amp; Slope Info</td>
<td>6.41</td>
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<tr>
<td>Lift &amp; Slope Module Start</td>
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</tr>
<tr>
<td>Livecam</td>
<td>1.09</td>
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<tr>
<td>Weather</td>
<td>0.93</td>
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<tr>
<td>Cluster 3: Huts, Livecam, Gastronomy</td>
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<tr>
<td>Size (Sessions)</td>
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<td>Share (%)</td>
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<td>Region_huts</td>
<td>5.36</td>
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<tr>
<td>Huts</td>
<td>4.31</td>
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<tr>
<td>Livecam</td>
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<tr>
<td>Gastronomy</td>
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<td>Huts_Module Start</td>
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<td>Events</td>
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<td>Weather</td>
<td>1.26</td>
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<tr>
<td>Lift &amp; Slope Info</td>
<td>1.20</td>
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<td>Wallpaper</td>
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<td>Cluster 4: Weather</td>
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<tr>
<td>Size (Sessions)</td>
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<tr>
<td>Share (%)</td>
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<td>Weather Module Start</td>
<td>1.78</td>
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<tr>
<td>Cluster 5: Performance</td>
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<td>Size (Sessions)</td>
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</tr>
<tr>
<td>Share (%)</td>
<td>63.1</td>
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<tr>
<td>Ski Performance Module Start</td>
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<tr>
<td>Cluster 6: Ski Map</td>
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<tr>
<td>Size (Sessions)</td>
<td>2,649</td>
</tr>
<tr>
<td>Share (%)</td>
<td>13.1</td>
</tr>
<tr>
<td>Ski Map</td>
<td>1.63</td>
</tr>
<tr>
<td>Ski Map Module Start</td>
<td>1.39</td>
</tr>
<tr>
<td>Cluster 7: Livecam, Lift &amp; Slope Info, Weather</td>
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<td>Size (Sessions)</td>
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<td>Share (%)</td>
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<td>Livecam Module Start</td>
<td>10.86</td>
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<td>Livecam</td>
<td>3.15</td>
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<td>Lift &amp; Slope Info</td>
<td>1.61</td>
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<tr>
<td>Weather</td>
<td>1.03</td>
</tr>
</tbody>
</table>

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Usage barriers

- **Cost issues** (EU Roaming: €1.25 - €17.79 / MB)
  - $(BI_1)$ 1€ / 1 MB 3.70
  - $(BI_2)$ Free of charge 2.11
    - Bilateral contract with network operator / service provider
    - Bluethooth broadcasting station

- **Moderators** (Goldsmith, 2001)
  - $(BI_{Q_1})$ Innovators 2.93
  - $(BI_{Q_2-3})$ Majority 3.70
  - $(BI_{Q_4})$ Laggards 4.39

Success factors

- **Hedonic quality**
  - From goal directed to appeal focused

- **Social Influence** (brand community)

Mobile services in tourism

- **eCRM** (time & place independent interaction)
- **Cross-Selling** (Use patterns)
- **Branding**
  - Brand community (Web 2.0)
  - Innovativeness & promotion

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**US Press Releases**

*Dolomiti Superski Goes Mobile*

By Patrick Thomas on December 2, 2007

Images of the slopes and the snow-covered Dolomites can now be accessed on your mobile phone thanks to a new service from the IFA’s largest ski area, Dolomiti Superski, which incorporates around 50 ski resorts on one mobile network, including Seiser Alm Gardena.

Simply connect your mobile phone to the website www.DolomitiSuperski.mobi and you will be able to look at the webcam images of the resorts and use for yourself the actual slope conditions; additionally you can access useful numbers to book accommodation, ski lessons or lunch in one of the huts.

Furthermore, if you are on holiday on your own or if you simply want to add some fun to your holiday, you will be able to meet other like-minded skiers or snowboarders thanks to the Dolomiti Superski Dating through your mobile phone arranging to meet for some skiing together. If you are keen to find out the daily stats on how much you skied, how many kilometres you did, how many lifts you used and make you climbed you can also get new download your ski performance on your mobile phone.

**“Mobile Services” also offers novelties galore.** Besides free SMS and MMS newsletter service, the users of internet enabled cell phones will be able to access live webcams, weather and resorts info. You’ll also be able reserve a ski school session or a seat in a local refuge. Further on, the possibility of ski dating will provide single single skiers with a fast track-route to romance. These services will be accessible at www.dolomitisuperski.mobi in two months time.
Mobile Services in Tourism (Case Studies)

- Mobile Services in Tourism
- Case Study collection: Mobile Applications
- Case Study et Planner
- Case Study: Dolomiti Super Ski
- Ambient intelligence in tourism
Ambient intelligence (AmI)

- AmI adapts to the needs of human beings
  - Integration of information technology into as many components of the environment as possible (e.g. clothing, accommodation, etc.)
  - Independent acting of all components
  - Crosslinking of all components
Ambient intelligence (AmI)

- **Scenario: business trip**
  - Arrival at the airport
    - PDA accomplishes check-in
  - Arrival at the destination
    - PDA as key for rented car
  - Arrival at the hotel
    - PDA accomplishes check-in and serves as key for the hotel room
    - PDA (room key) conveys all preferences to the intelligent hotel room (room temperature, light, music, tv channel etc.)