Service adoption

Subproject of
Optimal Rules for a Leading Mobile Data Market

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Research Question

- Mobile Value added, Adoption of Data Services in Finland

- Symptoms
  - Why the market has developed so slowly?
  - Finland was the leader in Voice and SMS but now it is all price competition, no service innovation
  - Japan and Korea are leading the market, what we could learn from them?

- Service Adoption Research
  - Root cause is the Environment, Macro model
    - Culture is different, Regulation is different, Structure of the Industry is different
  - Root Cause is the End Customer, Micro model
    - How about service adoption? What are the factors impacting service adoption?
Service Adoption = Pattern Regression ?, Rational Behavior ?

- Several theories available for Mature markets: Economic theories, balance between supply and demand, Balance between competition and pricing etc.
- Several theories available for emerging markets
  - Macro model
    - Diffusion modeled with various logistic models (df/dt = μf-kf²)
    - Bass, Kumar, Fisher-Pry
    - Growth curve matching with analogues
  - Micro models (Individual adopter Orientation)
    - Theory of Reason Action (TRA), Theory of Planned Behavior (TPB), Technology Adoption Model (TAM)
    - Fishbein, Ajzen, Davis
Service Adoption = Diffusion of Innovations?

- Stages of Innovation Diffusion as defined by Rogers
  - Only model with characteristics of the Innovation included
  - Relevant for Innovation developers
  - Applies to products and services
  - Strong evidence from many earlier research

Prior Conditions
1. Previous Practice
2. Felt need/Problems
3. Innovativeness
4. Norms of the Social System

Emerging Service Discovery

Emerging Re-Invention

Decision Maker
1. Socioeconomic
2. Personality
3. Communications Behavior

Innovation
1. Relative advantage
2. Compatibility
3. Complexity
4. Trial ability
5. Observability

Decision
1. Adoption
2. Rejection

Implementation

Confirmation

Continued Adoption
Later Adoption

Continued Rejection
Discontinuance

Communications Channels
Groups of Adopters

- Heuristic grouping, Usable as mental model
- No real borderlines but continuous distribution functions
- Groups simplified in macro level studies
- Groups have many solid characteristics to be analyzed
Questionnaire for the Interviews

- Questionnaire is used to structure the Interviews
- Rogers’s main factors are analyzed
  - Relative Advantage
  - Compatibility
  - Complexity
  - Trial ability
  - Observability
- Some other elements are also analyzed
  - Networking
  - Re-Invention
  - Pricing
  - Dissonance and Dissatisfaction
Services discussed

- Ring-tones and Logos
- Telephone directory services (SMS, Fonecta client, Voice based services)
- Mobile messaging (SMS, Email, MMS)
- Java Applets (Application Clients (DNA Katalogi), Games)
- News services (WAP News, Sonera Uutiset)
- Mobile payment in general, Parkit et al.
- Subscription management
- Terminal Applications (to complement terminal local services)
- Cross media applications (Groove FM with Internet browsing)
- Mobile Internet (Oma saitti)
- Content services (Stream man, Jamba Karaoke, F1 MMS)
- Location services (Missä olet?)
Preliminary findings

- **Relative advantage**
  - All services (except basic SMS) so far discussed have had non-mobile predecessor
    - No fundamentally new service invented
    - Added value is depending on the “urgency” of the information
      => **Main relative advantage is in all cases: Mobility of the existing service**
  - Convenience of use in general and independently of the location
  - Personalization (=End user Differentiation) provides high added value
  - More options to choose (Breadth of the catalogs)
  
  - Low quality of content relative to existing content quality reduce advantage quickly
  - Low performance (delay) will reduce significantly any feel of relative advantage of Mobile service. (Similarly this may explain the low penetration of Mobile Voice services in PDC)
  - Services typically strongly dependent on end user segment => Relative advantages are like sharp needles => No Killer Application!

- **Compatibility**
  - In successful cases strong correlation with compatibility to previous ideas (use of similar services) and their “user interface” both in Japan and in Finland
  - Compatibility to user paradigm of the lead mobile social service (Email or SMS) is important.
  - (MMS has no “earlier service” - SMS is not the right reference!)
Preliminary findings

- Complexity
  - Service Discovery Complexity (Cross media requirement is often too complex).
    - In I-Mode all the services accessible with only one device/media
  - Service Complexity (Configuration)
  - Device Complexity (Configuration)
  - No Value system Complexity (One bill is a benchmark, no additional authentications)

- Trialability
  - Trialability is important in the beginning
  - Strong compatibility aspects will reduce need for trialability
  - Trialability is very important when transactional service fee (first time must be right!)

- Observability
  - Strong positive factor in the early phase of diffusion
  - Impact fades away when penetration is over inflection point
  - May grow also to negative if the service is “too observable”
Preliminary findings

- Networking, So far networking is under utilized. Only traditional ways used.
  - Word of Mouth
  - Mobile service piggy packing on the networking social service
  - No strong evidence of build in technology/service networking so far

- Re-Invention
  - No significant re-invention of the services. Email and SMS used to transport various content. Some services have some personalization settings, bookmarks etc.

- Pricing
  - Two fundamental pricing schemes
    - I mode:
      - Monthly fee of the basic Voice service with various voice tariffs
      - No initial fee for subscription
      - Monthly fee of I Mode (2.5 €)
      - Usage fee of data, based on Volume, includes several block rate discount schemes 5 - 20 € / MB
      - Monthly service fee, no transactional fees, maximum spending limit (some exceptions) 0.8-2.5€ / service
    - => In Japan the consumption model is block rate in services, volume rate for discovery
    - Finland:
      - Monthly fee of the basic Voice service with various voice tariffs
      - Typically no initial fee for subscription
      - Variable volume based tariffs 1.5 – 5 €/MB
      - Transactional fees, 1€ / transaction
    - => In Finland the consumption model is block rate in discovery, transaction rate for services

- Dissonance
  - Heavy users often only small fraction of total users => No killer service ever ?!
  - Service discovery may not be the fundamental problem but dissatisfaction
Draft Conclusions

- Mobility is THE Advantange of Mobile networks
  - Delay may easily vaporize the mobility advantage. Mobility = Busyness (not only business)
- First things First = Connection is the King => Social Network driving the service adoption
  - SMS => SMS Service, I-Mode Email => I-Mode Services
    (But also Writing letters => Publishing books)
  - Metcalfe’s law ~ N^2 (or something less) => Sarnoff’s law ~ N
  - Discover Content services through Connecting Services !
    (WAP based Content services totally disconnected from Social networking/Connecting services)
- End user drive has been low in Mobile services => Open Platforms needed
  - Low Networking of services: Multicalls, Email distribution lists, attachements, content forwarding
  - Low Re-invention on the service platform: like SMS use for services

- Technology Cluster
  - Adoption of a Technology Cluster is a holistic phenomenon (Rogers)
  - Adoption of a Service requires a whole product (Moore)

- Business and Consumer models
  - Finland is business thinking driven
    - Commercial transactions, Voice driven market, high voice penetration, data motivated for business use
  - Japan in consumer thinking driven
    - Subscriptions, block (or flat) rate, Data driven market, low voice penetration, low motivation of data business use
  - However, Consumer typically is not rational
Internet or Telecom?

- More or Less Liberal Telecom rules not Internet rules both in Japan and in Finland
  - I-Mode is systematically within the Telecom framework
  - Positioning of Mobile Services in Finland as part of Telecom but not systematically
  - Both markets may be disrupted in the future by Internet rules.

- Fight against or Fight for the disruption? You can not do both at the same time!

- Service Diffusion Strategies depend of the Business/regulation model
  - Service diffusion in Monopoly/Less liberal Telecom by Authority (+Mass Media)
    - Corporate solutions
    - Mega-operator solutions
    - Government and Military
    - End User has no/low choice of options

  - Service diffusion in Liberal Telecom by Market pull (+Mass Media)
    - Consumer electronics
    - Market economy
    - End User has to choose between many options

  - Service diffusion in Free Internet by Super-distribution ( )
    - Platform HW, Application software, Services
    - Emerging network economy
    - Infrastructure is predefined
    - End Users co-operate to synthesize solutions
    - Facilitating intermediaries
Diffusion of Innovations in the Future

- **Traditionally in Telecom** Innovations have diffused because of two factors
  - Mass Media ignite the early adopters
  - Mass adoption through the social network
  - Weak signals
    - American teens use more time in the internet than at the TV => Marketing through Mass media does not work

- **Network economy view**: Service innovation is created within the social networks
  - Innovation diffusion directly using available global social networks
  - Mass media may only report the phenomenon later

- **Re-focus**: Emphasis to internal communication
  - Principles of Agent based Diffusion, From Push to Pull and to Super Distribution
  - In power law complex networks you do not broadcast your message. => In power law networks you enable your message to be found
    - Microsoft used 500 MUSD to advertise their X Box
    - Habbo Hotel has not used a penny to gain 23 M users
    - Skype has >80 M downloads