

Value creation in mobile tourism services

Value creation in mobile tourism services:
Evaluating the value creation concerns of the
Norwegian MOVE project

Per Egil Pedersen
and
Bjørn Erik Munkvold

Agder University College

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Abstract

The report presents the results of the evaluation activity specified as part of the MOVE project, a three year innovation project funded by the Research Council of Norway and seven industry and university partners. The aim of this project has been to establish a location-based electronic marketplace, offering mobile tourism services. Several pilot services including a map-based interface providing tourist guide functionality to the mobile handset, a web based tool for service providers' registration of points of interest (POI), and two "infotainment" services (picture puzzle and riddle) has been developed. The Lofoten area was chosen as the target region for development and trial of these services. The focus of this evaluation report has been on the value creation concerns in the project, related to the customer and the service providers, and the innovation project organization. Based on analysis of project documentation and qualitative interviews with selected service providers, the report summarizes experiences concerning value creation from the pilot services developed in the project. The evaluation is based on the structure-conduct-performance (SCP) framework, focusing on the relationship between structural conditions, business model options, and intrinsic and extrinsic value drivers.

The evaluation reveals that a range of valuable results has been produced by the MOVE project. This includes a comprehensive survey of tourists in the Lofoten region in 2004, identifying motives for tourist behaviour and providing valuable input to the design, development and marketing of mobile tourism services. It also includes a field trial of pilot services identifying attributes valued by mobile tourist services users. In addition, twelve master theses discussing important service concepts relevant both to customer and service provider value, and presenting scenarios contributing to understanding the variation in value drivers related to different types of mobile tourist services have been published.

Interviews with service providers illustrated the two-sidedness of the mobile marketplace. Due to resource constraints, end user services have been focused stronger than value creation for tourist service providers in the project. Evaluation of the innovation project organization shows how the challenges involved in balancing simultaneous attention to supply side and customer values may imply a need for an open innovation model. Overall, the project has developed considerable knowledge that serves as a solid foundation for continued research on the development of tourism services for value creation in a two-sided mobile marketplace.

Norsk sammendrag

Rapporten presenterer resultatene fra evalueringsaktiviteten i prosjektet MOVE. MOVE er et brukerstyrt innovasjonsprosjekt finansiert av Norges Forskningsråd under PULS-programmet, samt av følgende partnere fra industri og akademia: Telenor, Geomatikk, Høgskolen i Agder, Høgskolen i Finnmark, Norut IT, Statens Vegvesen og Universitetet i Tromsø. Prosjektet er gjennomført i perioden februar 2004 - oktober 2006.

Formålet med MOVE-prosjektet har vært å utvikle en lokasjonsbasert elektronisk markedsplass for mobile reiselivstjenester, inspirert av marknadsbegrepet. Prosjektet har vært knyttet opp mot prosjektet Nasjonale Turistveier, med fokus på utvidet tjenestetilbud for turister langs utvalgte veistrekninger. Lofoten ble her valgt ut som region for utprøving av tjenestene utviklet i MOVE. Følgende pilot-tjenester er utviklet og utprøvd i prosjektet:

- *KartGUIDE*; tjeneste for kartbasert navigasjon mellom interessepunkter via håndholdt terminal. Interessepunkter klassifiseres i kategorier, og informasjon og kontaktinformasjon til tjenestetilbydere vises for hvert punkt.
- *Aktørportalen*; et interaktivt verktøy for posisjonsbestemt registrering av informasjon om turismetjenester for visning i KartGUIDE.
- *MOSAIKK*; Java-basert puslespill på mobilen der turisten pusler frem bilder av attraksjoner og severdigheter i aktuelt område, og der informasjon og kontaktinformasjon til tjenestetilbyder vises når puslespillet er ferdig.
- *REBUS*; en WAP-basert rebustjeneste der brukeren via gåter, bilder og tips skal identifisere og besøke attraksjoner eller severdigheter i aktuelt område.

Relatert til verdikjeden for reiselivstjenester har prosjektet også inkludert både oppstrøms- og nedstrøms forskningsaktiviteter. Oppstrøms aktiviteter omfatter forskning på standardisering av reiselivsinformasjon, konseptuelle rammeverk for reiselivstjenester og kundeatferd i reiselivsmarkedet. Nedstrøms aktiviteter inkluderer forskning på forretningsmodeller for reiselivstjenester, inntektsmodeller, og aktiviteter relatert til kommersialisering av pilot-tjenestene fra prosjektet.

Evalueringsaktiviteten i prosjektet har fokusert på verdiskapning for kunder (turister) og tjenestetilbydere, samt organisering og gjennomføring av innovasjonsprosjektet. Som rammeverk for evaluering av verdiskapning er benyttet et Structure-Conduct-Performance (SCP) rammeverk som fokuserer på forholdet mellom strukturelle betingelser (marked, aktører, produkter/tjenester, etc.), valg av forretningsmodell ("conduct") og kostnadseffektivitet og kunde verdi ("performance").

I henhold til dette rammeverket skapes kunde verdi gjennom indre og ytre tjenesteegenskaper. Indre tjenesteegenskaper utgjøres av egenskaper ved den mobile tjenesten ”i seg selv” (eks. tilgang til informasjon, underholdning, brukervennlighet, bruksnytte). For mobile reiselivstjenester kan man for eksempel tenke seg at tjenester gir verdi fordi de gjør det enklere å gjennomføre en reise (bruksnytte) eller de kan gjøre ellers kjedelige etapper i en reise underholdende (underholdning).

Ytre tjenesteegenskaper utgjøres av egenskaper ved brukernettverket og ved kvalitet og variasjon i tilbudet av komplementære tjenester. Med brukernettverket tenker man både på antall brukere av en tjeneste og styrken av relasjoner mellom brukere av en tjeneste. For mobile reiselivstjenester kan man tenke seg at verdien av en diskusjonstjeneste om et bestemt reisemål er helt avhengig av et visst brukervolum eller et visst engasjement fra brukerne. Med komplementære tjenester menes tjenester som brukeren knytter sammen i en brukssituasjon. For mobile reiselivstjenester kan man tenke seg at verdien av en stedsavhengig rabattordning er helt avhengig av at et visst antall tilbydere av rabattsteder deltar. Rammeverket fokuserer på tosidigheten i mobile reiselivstjenester, der størrelsen eller styrken til brukernettverket og mangfold i tjenestetilbudet vil være en nødvendig forutsetning for at både turister og tilbydere av reiselivstjenester tar mobiltjenesten i bruk. Med tosidighet menes at en tjeneste skaper verdier først når både turister og tilbydere sammen tar tjenesten i bruk. Ikke alle mobile reiselivstjenester er i samme grad preget av denne tosidigheten. Som vist over kan enkelte tjenester gi verdi gjennom indre egenskaper i seg selv, slik som underholdningen i et spill eller bruksnyttene i et kart. Andre tjenester kan bare gi verdi gjennom tosidighet, slik som en mobil informasjonstjeneste der både turistenes erfaringer og reiselivsselskapenes tilbud skal brukes til å gi turistene anbefalinger om attraksjoner, overnatting og spisesteder. Rammeverket kan brukes til å kategorisere slike tjenester og til å identifisere aktuelle forretningsmodeller for de ulike kategoriene av tjenester.

Evaluering av MOVE som innovasjonsprosjekt er basert på et rammeverk for kategorisering av aktiviteter innen tjenesteinnovasjon (DeJong et al. 2003). Det inkluderer vurdering av innovasjonstyper, innovasjonsprosesser, innovasjonsdrivere og innovasjonsresultater.

Som datagrunnlag for evalueringen er benyttet dokumentasjon fra de ulike aktiviteter og leveranser i prosjektet i form av prosjektrapporter, masteroppgaver og interne prosjektnotater (for fullstendig oversikt over leveranser og prosjektdokumentasjon henvises til www.moveweb.no), samt innsamling av kvalitative data gjennom intervjuer med utvalgte tilbydere av reiselivstjenester og

informasjonstjenester. For evaluering av prosjektorganisering er i tillegg innhentet data gjennom deltagelse på erfaringsutveksling ved avsluttende prosjektsamling.

Relatert til verdiskapning for kundesiden ble det sommeren 2004 fremskaffet grunnlagsdata om motiver og atferd for turister i Lofoten gjennom en omfattende spørreundersøkelse ("Lofotenundersøkelsen"). Resultatene har dannet grunnlag for innledende segmentering av turister. Nytt, brukervennlighet og kompatibilitet med andre reiselivstjenester (som for eksempel guidebøker) ble identifisert som de viktigste indre og ytre tjenesteegenskaper for mobile reiselivstjenester. Undersøkelsen gir viktig input til design, utvikling og markedsføring av mobile reiselivstjenester.

Beskrivelsen av konseptuelt rammeverk for den mobile markedsplassen i MOVE viser at prosjektet til en viss grad har lagt til grunn egenskapene identifisert i Lofotenundersøkelsen. Hovedfokus er på konseptene nytte og "moro", mens ytre tjenesteegenskaper i mindre grad er vektlagt i konseptbeskrivelsen og pilot-tjenestene som er utviklet i prosjektet. Sommeren 2005 ble det gjennomført en pilot-test av tjenestene KartGUIDE, MOSAIKK og REBUS. Til tross for at problemer knyttet til installasjon av tjenestene og motivasjon av testbrukere resulterte i et begrenset datagrunnlag, ga denne pilotstudien viktige resultater for å forstå muligheter og begrensninger for å skape kunde verdi fra mobile reiselivstjenester. Resultatene fra pilotstudien viser at KartGUIDE-tjenesten oppfattes som nyttig, med kartnavigasjon og tilgang til informasjon om interessepunkter som viktigste funksjonalitet. Studien gir også indikasjon på at det er en sammenheng mellom variasjon i komplementære tjenester (for eksempel mangfold og kvalitet i interessepunkter) og opplevd nytte.

I tillegg til disse to undersøkelsene er det gjennomført tolv masteroppgaver i tilknytning til prosjektet. Disse diskuterer interessante tjenestekonsepser som er relevante for både kunde verdi og tilbyder verdi, og presenterer scenarier som bidrar til forståelse av variasjonen i verdidrivere relatert til ulike typer reiselivstjenester. Samlet representerer masteroppgavene en imponerende kunnskapsproduksjon og formidling.

Med hensyn til verdiskapning for tjenestetilbydere er den viktigste datakilden intervjuer med utvalgte tjenestetilbydere i Lofoten-regionen. Informantene hadde alle kjennskap til MOVE-prosjektet gjennom tidligere kontakt i ulike stadier av prosjektet, men de fleste hadde liten brukserfaring med de aktuelle pilot-tjenestene. Intervjuene inkluderte derfor også mer generelle betraktninger fra informantene om hvilken betydningen tjenestekonseptet i MOVE kan ha for verdiskapning innenfor tilbyderens virksomhetsområde. Det lokale destinasjonsselskapet og deres papirbaserte infoguide ble oppgitt å være den viktigste eksisterende kanal for markedsføring av reiselivstjenestene. Tilbyderne uttrykte generelt en positiv holdning til konseptet mobil

markeds plass, der tilgjengeliggjøring av et mangfold av tjenester ble betraktet som viktig for turistnæringen i Lofoten som helhet. Verdi for den enkelte tjenestetilbyder var avhengig av i hvilken grad tjenestene retter seg mot kundesegmentet de betjener (for eksempel individuelt reisende, gruppeturister, barnefamilier etc.). Tilbydernes fokus på kunde verdi som forutsetning for egen adopsjon av tjenestene illustrerer tosidigheten i dette markedet. For KartGUIDE var de viktigste verdidriverne brukervennlighet, nytte og variasjon i komplementære tjenester. Muligheten til raskt og enkelt å kunne annonsere nye eller oppdaterte tjenestetilbud til ulike målgrupper ble oppfattet som den viktigste funksjonaliteten. Variasjon i komplementære tjenester ble ansett å være viktig for å skape kunde verdi. Dette omfattet både utvidelse av interessepunktene til også å inkludere praktisk informasjon for reisende (bensinstasjoner, matvarebutikker, etc.) og integrasjon med andre tjenester og funksjoner (SMS varsling, søk etter ledig overnatting, online booking). Med hensyn til de spill/underholdningsbaserte tjenestene vurderte tilbyderne disse til å ha liten betydning for verdiskapning for det dominerende turistsegmentet i regionen (par i alderen 40-55 år), mens det potensielt kunne ha en effekt overfor yngre målgrupper. Disse vurderingene må ses i lys av at informantene i liten grad hadde prøvd disse pilot-tjenestene, og at tjenestene heller ikke ble fullt utviklet i prosjektperioden.

Tjenestetilbyderne anså det for å være naturlig med en desentralisert organisering av innholdsproduksjon for tjenestene i en mobil markeds plass, der de selv kunne ha ansvar for produksjon og vedlikehold av innhold basert på felles standard for innhold og struktur. Betydningen av lokal forankring og eierskap ble også påpekt som en forutsetning for adopsjon av tjenestene blant de mange små reiselivsbedriftene i regionen. Konseptet Aktørportalen ble vurdert å være i tråd med tilbydernes oppfatning av egnet grensesnitt for en tjeneste for innregistrering og oppdatering av innhold. Med hensyn til betalingsmodeller utgjorde erfaringer med eksisterende portaltjenester (for eksempel Finn.no, Tilbud24) et naturlig referansepunkt for informantene, der det benyttes ulike kombinasjoner av fast medlems/annonseavgift og gebyr per salg. Tilbydernes betalingsvillighet var generelt avhengig av dokumentasjon av målbare effekter fra tjenestene.

I tillegg til intervjuene med tilbydere av reiselivstjenester, ble det også gjort intervjuer med tilbydere av ulike former for informasjonstjenester relatert til tjenestekonseptet i MOVE. Dette omfattet ansvarlig for infrastruktur-tjenester i prosjektet, en leverandør av informasjons/innholdstjenester til tilbydere av turistinformasjon, og et nyetablert firma for kommersialisering av KartGUIDE-tjenesten for et utvidet marked. Da kun den første av disse hadde detaljert kunnskap

om MOVE-prosjektet fokuserte intervjuene på overføring av informantenes generelle perspektiver på verdi-drivere for informasjonstjenester til konseptet mobil markedsplass. Informantene pekte på at mobile reiselivstjenester skaper mange ulike verdier og at et mangfold av tjenestekategorier skaper et mangfold av verdier. Det kan også overføres til inntektsstrømmer der alternative verditilbud gir variasjon og større robusthet i inntektsgrunnlaget til en mobil informasjonstjenesteleverandør. Grunnlaget for slike inntektsstrømmer legges antakelig i en kombinasjon av åpne og lukkede forretningsmodeller der tilbyderen tar kontroll med enkelte tjenester og overlater til åpne modeller å skape mangfold, variasjon og innovasjon i andre tjenester. For eksempel kan en informasjonstjenestetilbyder standardisere og kontrollere interessepunktinformasjon mens registrering av slik informasjon og anledning til å lage nye sluttbrukertjenester basert på registrert informasjon kan overlates til andre markedsaktører som gis adgang til informasjonen og til enkle, åpne utviklingsgrensesnitt.

Informasjonstjenesteleverandørene fremhevet brukervennlighet som den viktigste indre tjenesteegenskapen ved en mobil reiselivstjeneste og deres erfaring tilsa at den piloterte KartGUIDE tjenesten måtte utvikles i mer brukervennlig retning. To informanter pekte også på at kartgrensesnittet ikke nødvendigvis gir det mest brukervennlige åpningsgrensesnittet mot en mobil reiselivstjeneste. De vurderte begge om ikke bilnavigasjonssystemer var mer tilrettelagt for å bruke dette som åpningsgrensesnitt og utgangspunkt for komplementære tjenester, mens reiselivstjenester på mobiltelefonen måtte ha et annet åpningsgrensesnitt og et annet utgangspunkt for bruksnytte. Alle informasjonstjenesteleverandørene understreket viktigheten av mangfold og kvalitet i komplementære tjenester som en forutsetning for bruksnytte av mobile reiselivstjenester. Det betyr at hensynet til tosidighet må veie tungt under utvikling av slike tjenester og at høy grad av involvering av og klare effekter for reiselivstjenesteleverandører derfor er nødvendig for å skape aksept for og verdier av slike tjenester.

Informasjonstjenesteleverandørene understreket verdien av MOVE-prosjektets mer konseptuelle resultater. Blant annet ble verdien av det underliggende konseptet bak KartGUIDE, en demonstrasjonsvideo av dette konseptet, samt den piloterte realiseringen av konseptet vurdert som stor. Ikke minst i forhold til erfaringene dette har bidratt til å bygge opp før kommersialiseringen av en tilsvarende mobiltjeneste som er under lansering.

Siden MOVE-prosjektet er et brukerstyrt innovasjonsprosjekt og siden tosidigheten ved mobile markedsplasser gjør at et innovasjonsprosjekts organisering

kan sees som en del av forretningsmodellen for de utviklede tjenestene (styringsform) har evalueringsrapporten også drøftet noen sider ved innovasjonsprosjektets organisering. Normalt vil et innovasjonsprosjekt omfatte stimulering av noen innovasjonsbetingelser, og gjennomføring av en innovasjonsprosess som leder ut i en eller flere bestemte innovasjonstyper som gir noen innovasjonsresultater. Det er dermed stor bredde i de effekter et innovasjonsprosjekt av denne typen kan ha. MOVE-prosjektet har da også gitt resultater med stor bredde. For eksempel kan kunnskapsoppbyggingen som er skjedd gjennom mastergradsoppgavene gi kunnskapsmessig grunnlag for fremtidige innovasjoner i området. Det samme gjelder de erfaringer som er bygget opp med hensyn til å skape en plattform for mobile reiselivstjenester, inkludert standardisering av reiselivsinformasjon, selv om mer dokumentasjonen av disse innovasjonsresultatene hadde vært ønskelig. Det synes også som om MOVE-prosjektet har organisert sin innovasjonsprosess som et relativt tradisjonelt utviklingsprosjekt. Hensynet til tosidighet kan imidlertid tilsi at eksperimentering med andre organiseringsformer og andre typer innovasjonsprosesser kunne ha vært interessant. Det gjelder som nevnt over både bruken av åpne innovasjonsmodeller, kombinasjon av sentraliserte og desentraliserte organisasjonsformer, tettere integrering av reiselivsaktører og bedre koordinering med andre regionale og nasjonale initiativ og aktører på området. Når det er sagt, skal det imidlertid også fremheves at prosjektet har blitt opplevd som interessant, relevant og godt ledet av de involverte partene.

Det kan utledes implikasjoner fra MOVE-prosjektet i seg selv og fra dette evalueringsarbeidet. Her konsentrerer vi oss om evalueringsarbeidet som har implikasjoner for både tilbydere av mobile reiselivstjenester og videre forskning på disse. Tilbydere av mobile reiselivstjenester må balansere brukervennlighet og bruksnytte i sine tjenester. Ikke alle tjenester skaper verdi ved de samme indre egenskapene, men brukervennlighet synes å være nødvendig på tvers av tjenestekategorier. Bruksnytte synes å være viktig ved mobile reiselivstjenester, og spesielt for informasjons- og transaksjonstjenester oppnås kundeverdier ved mangfold og kvalitet i komplementære tjenester. Spesielt synes komplementaritet med ikke-elektroniske reiselivsartefakter å være sentralt. Mobile reiselivstjenester synes å kreve en segmentering av markedet i forhold til utforming av grensesnitt og markedsføring.

Siden tosidighet preger denne typen reiselivstjenester er forretningsmodeller som stimulerer til samtidig aksept av den mobile reiselivstjenesten blant både reiselivstjenestetilbydere og turister avgjørende for verdiskapning. Tilbyderne av de mobile reiselivstjenestene, og spesielt plattformen for utvikling av slike tjenester må

derfor utforme forretningsmodeller for sitt eget tilbud samt tilpasse seg eksisterende forretningsmodeller blant reiselivstjenestetilbyderne og eksisterende eiere av relaterte informasjonstjenester. Tett involvering av disse synes derfor viktig i utviklings- og innovasjonsprosjekter for denne typen tjenester. Innovasjonsprosjekter for mobile reiselivstjenester bør derfor antakelig følge en åpen innovasjonsmodell og bygge videre på etablerte aktørers infrastruktur og kunnskaper.

For videre forskning reiser evalueringsarbeidet flere uavklarte spørsmål. MOVE-prosjektet har aktualisert utfordringene ved å omsette kundeatferdsteori til designimplikasjoner for mobile tjenester. Videre har det påvist vanskeligheter med anvendelser av tradisjonelle mikroøkonomiske og strategiske modeller på tjenester preget av tosidighet. Spesielt aktuelle er utfordringene knyttet til å utvikle normativ teori for utforming av strategier og forretningsmodeller i tosidige markeder. Videre synes også forskning for å utvikle normative modeller for innovasjon i markeder preget av tosidighet å være aktuelt. Totalt sett representerer MOVE-prosjektets arbeid og kunnskap en solid plattform for videre forskning på mobile tjenester generelt og på mobile reiselivstjenester spesielt.

Preface

This report is written as part of the MOVE project. The MOVE project is a BIP (Brukerstyrt innovasjonsprosjekt) funded by the Research Council of Norway and the following industry and university partners: Telenor, Geomatikk, Norwegian Public Roads Administration (Statens Vegvesen), Agder University College (Høgskolen i Agder), Finnmark University College (Høgskolen i Finnmark), Norut IT, and University of Tromsø.

The purpose of this evaluation report is to summarize and discuss the experiences gained in the MOVE project on the three problem areas of customer value, service provider value and innovation project organization. Professor Per Egil Pedersen (Faculty of Engineering and Science, Agder University College) and Professor Bjørn Erik Munkvold (Faculty of Economics and Social Sciences, Agder University College) have been responsible for the evaluation activity.

We thank the selected representatives of tourist service providers and information service providers for taking part in the interviews in the empirical part of this study. Sigmund Akselsen and Bente Evjemo at Telenor R&I provided useful comments.

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Per Egil Pedersen Bjørn Erik Munkvold

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1. Introduction

This report presents the results of the evaluation activity specified as part of the MOVE project. The aim of the MOVE project has been to establish a location-based electronic marketplace, offering mobile tourism services. The focus of the evaluation has been on the value creation concerns in the project, related to the customer and the service providers, and the innovation project organization. This section introduces the problem, purpose and approach of the evaluation, provides a brief presentation of the MOVE project, describes the evaluation areas in more detail, and presents the structure of the report.

1.1 Problem, purpose and approach

Mobile tourism services represent the combination of two types of services – mobile services and tourism services. A variety of both these service types is offered, so it comes as no surprise that a variety of mobile tourism services may also be developed. Identifying the services that will create value to both service providers and end-users is the main problem addressed by most mobile tourism service innovation projects. Service success, however, may not be obtained by identifying a successful service concept alone. Service concepts must be transformed into service platforms, service interfaces must be developed and distributed, service interfaces must be accepted and adopted by developers and end users, and service business models must be accepted and adopted by service providers. Thus, service innovation projects like the MOVE project involve a variety of research, development, dissemination and commercialization activities.

Evaluation of innovation projects may involve focusing mainly on innovation results in the form of increased customer value, improved efficiency and the number of innovations commercialized. Evaluations may, however, also take a broader scope summarizing the experiences gained through a project, the knowledge developed as well as the innovation results in the first, narrow, sense. For services in general, a service innovation framework (e.g. DeJong et al., 2003) may be used as a framework for broader scope evaluations. The problem with such a broader scope evaluation is that it requires considerable resources because it involves innovation project partners as well as related value chain players and potential end-users. Another problem is that such service innovation frameworks are general frameworks that may be applied to describe all kinds of service innovations. Because mobile tourism services are most

often network services with mobile specific service attributes, a more focused evaluation framework may be more useful.

We suggest applying a structure-conduct-performance (SCP) (Bain 1951, Kadiyali et al., 2001) framework adapted to mobile services (Pedersen et al., 2005) as the basis for discussing the efforts and results of the MOVE project on three problem areas:

- The creation of customer value
- The creation of service provider value
- The organization of the service innovation project

Each of the three problem areas are reviewed in section 1.3. Of the three problem areas, the creation of customer and service provider value are given most attention in this evaluation report. The SCP-paradigm provides a framework for discussing the relationship between the three problem areas. Because many mobile tourism services are network services characterized by two-sidedness, the interplay between customer and service provider value is of particular relevance. Furthermore, structural conditions also represent structural determinants of innovation, and business models are designed with service production, distribution *and* service innovation in mind. The acquisition of knowledge in these three problem areas is one of the objectives of the MOVE-project and the evaluation sub-project reported here has been asked to focus these problem areas in particular (MOVE, 2003).

The purpose of this evaluation is to summarize and discuss the experiences gained in the MOVE-project on the three problem areas of customer value, service provider value and innovation project organization. This activity was defined in the project proposal as a value creation assessment sub-project. It was not designed as a traditional evaluation sub-project with evaluation of the general achievements of the MOVE project. Instead, it was designed as a sub-project that should summarize and discuss the experiences gained on these particular problem areas and discuss the implications of what had been achieved in these areas of the project. Such implications include industry relevant implications as well as implications for further research.

The approach applied in this report involves the presentation of a basic framework that may be used to summarize and discuss the efforts and results of the MOVE project in the three problem areas mentioned above. A SCP-based framework is suggested and presented in section 3. The framework has mainly been developed elsewhere (Methlie and Pedersen, 2005) but is adapted to the evaluation purpose of this report. Several sources of empirical data have been established in the MOVE project that are of relevance to value creation and service innovation. In the sub-

project reported here, we have also collected qualitative data on value creation and service innovation from informants involved in the MOVE project. The secondary sources and the qualitative interviews represent the foundation for the SCP-based, qualitative discussion of the experiences gained from the MOVE project on value creation and service innovation reported here.

1.2 The MOVE project

The MOVE project is an applied research project funded by the Research Council of Norway (RCN) and the following seven research and industrial partners: Telenor, Geomatikk, Norwegian Public Roads Administration (Statens Vegvesen), Agder University College (Høgskolen i Agder), Finnmark University College (Høgskolen i Finnmark), Norut IT, and University of Tromsø. The steering committee for the project was formed by the first three of these partners, together providing more than half of the project funding. The total budget of the project is approximately 20 mill NOK, with RCN funding 4,5 mill NOK through the PULS program. The project period was February 2004 through October 2006. The MOVE project aimed at establishing a location-based electronic marketplace, offering different mobile tourism services. Four pilot services have been developed:

- *KartGUIDE* is an application providing tourist guide functionality to the mobile handset. The application facilitates map-based navigation in points of interest (POIs) covering selected geographical areas. POIs are classified in different categories and the user may specify which categories to be displayed. Contact information may be used within the application to address the POI in question by phone or WAP. The application runs on JAVA and communicates with a central POI database over the mobile network. A simpler version based on WAP (WapGUIDE) is also provided (<http://move.tele.no/movewap>). A video presenting the KartGUIDE concept was also developed, including example presentations from two of the major tourist service providers in Lofoten.
- *AktørPortalen* is an interactive, web-based tool that makes it possible for the tourist service provider to enter information about the tourist service offered, locate it on a map and file it in the POI repository.
- *MOSAIKK* offers end-users the possibility to puzzle pictures selected from the geographical area in question. Commercial actors in the tourist industry are providing the pictures and contact information is displayed upon completion of the puzzle. The application is JAVA-based.

- *REBUS* is a simple WAP-service challenging the mobile user through riddles, pictures and hints to identify attractions or sights in the selected area.

In addition, the project has also worked on concepts for picture-based initiation of dialogue between tourists and service providers (MMS2Search) and travel diaries based on pictures plotted in Google Earth and Google Maps.

The MOVE project has also included upstream and downstream research activities. Upstream activities include research on standardization of tourist information, on the conceptual frameworks for tourism services and on consumer behaviour in tourist markets. Among the downstream activities are research on business models for tourism services, revenue model development and activities to commercialize the pilot services developed in the project.

The original idea of the MOVE project was to develop infrastructure and services for a tourist marketplace on mobile terminals termed the mobile “market”. The term corresponds roughly to the idea of transforming the offerings of classic, physical markets to a virtual environment accessed through mobile terminals. Among the characteristics of this type of markets are their two-sidedness in the form of a multitude of providers or suppliers bringing their offerings to the marketplace and a variety of customers interacting with these suppliers as well as with each other. A successful “market” requires variety and volume in both supplier offerings as well as customer preferences.

In the MOVE project, the idea of the mobile “market” was combined with tourism services through a focus on national tourist routes. The Norwegian Public Roads Administration has established a project identifying a set of national tourist routes with particular offerings and information services along tourist routes of particular environmental and cultural interest to the car or bus tourist. The MOVE project was integrated with this project through the selection of the Lofoten region as the area of its empirical investigations and pilot service tests.

Among the important upstream research activities of the MOVE project is a study of the consumer behaviour of the Lofoten tourists (Viken et al, 2004). This study and literature studies of the state of the art in mobile tourist services were used as a basis for developing the conceptual service framework for tourism services reported in Finnset et al. (2004). The conceptual framework is illustrated in figure 1.1.

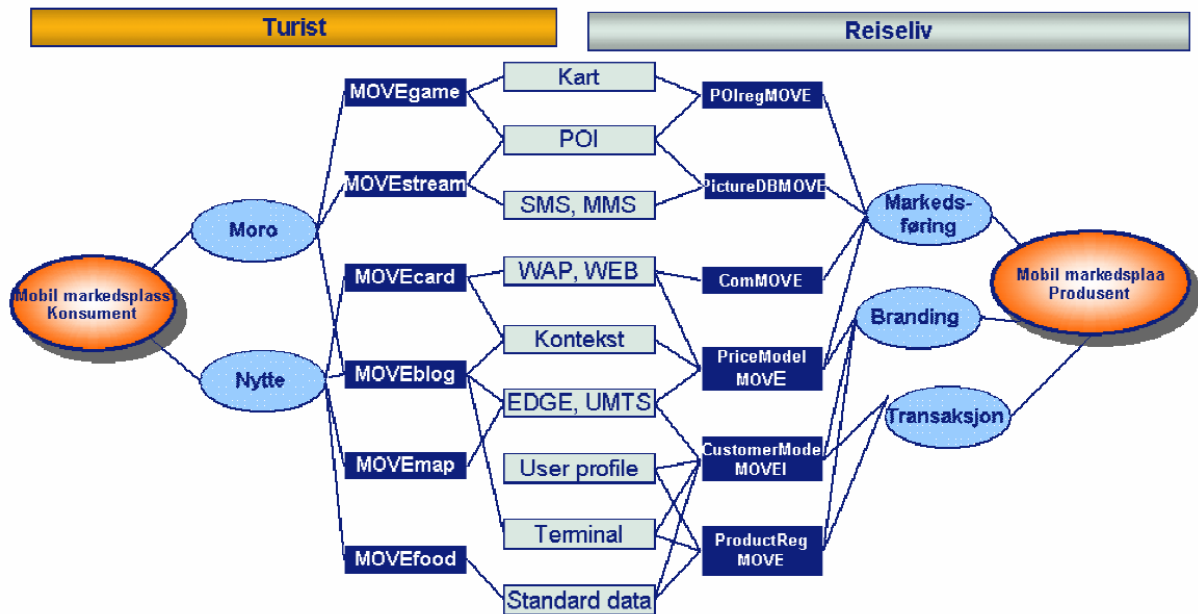


Figure 1.1 The conceptual framework for the “mobile marketplace” in MOVE

Figure 1.1 illustrates the interaction of the supplier side, shown on the right hand of the figure, and the tourist, shown on the left hand side. To stimulate variety and volume in service offerings, three service concepts were defined on the supplier side of the framework; marketing, branding and transaction services. On the tourist side of the model, two service concepts were defined; fun and usefulness. Pilot services were suggested to either provide the infrastructure for these service concepts or offer end-user services based on these service concepts. Infrastructure services are shown in the dark squares of figure 1.1. Among the research work conducted on infrastructure for tourism services in the MOVE project are research on the standardization and time-stamping of tourism information, integration of location-based, map and POI information, and on context sensitivity.

The end-user services that were piloted were developed by the industry and research partners of the MOVE project and a number of masters theses were published based on these efforts. As part of these theses a number of theoretical investigations were also conducted on the principles of, and infrastructure for, mobile tourism services. As a result of these efforts, considerable knowledge resources on the foundations and development of mobile tourism services have been produced. For more information on the deliverables and publications resulting from these efforts, we refer the reader to the MOVE project website (www.moveweb.no) and the project summary report (Akselsen et al., 2006).

Among the important downstream activities of the MOVE project are business modelling efforts identifying potential revenue streams and paths of commercialization for the pilot services as well as the establishment of a spin-off company from the project efforts; MobileInfo. This company has been established as a subsidiary of Geomatikk, one of the industry partners with the purpose of introducing commercial mobile services based on the pilot services, but with refined end-user interfaces and with focus on attractions and events in the Oslo-region. The domain name “Her.no” has been registered and will be used to market these commercial services.

1.3 Areas of evaluation and report organization

Being a value creation assessment sub-project, three areas of evaluation were identified during our study. Because many mobile tourism services are characterised by two-sidedness, it was obvious that the evaluation study must include supply/provider side investigations as well as demand/tourist side investigations. Because two-sidedness also influences innovation for mobile services, we have also chosen to include an investigation of the development and innovation processes of the project. Focusing value creation assessment implies that other valuable contributions of the MOVE project, such as its theoretical, methodological, and educational achievements are not assessed and reported here (see e.g. March and Smith, 1995, p. 255).

1.3.1 Customer value and adoption of mobile tourism services

Our framework for evaluation is based on some simple assumptions of the relationship between adoption, service attributes and customer value. Mobile services may be adopted as a result of social influences or general attitudes towards these services, but recent studies suggest that the main drivers of mobile service adoption and customer value are motivational (Nysveen et al., 2005; Pedersen et al., 2005). Thus, we assume that mobile service adoption results from perceptions or expectations of customer value. The drivers of customer value may, however, be both instrumental and experiential/hedonic. For example, usefulness is relevant to customer value and adoption, but also the ability of mobile services to express end-user identity and the ability to provide enjoyment or relaxation are important (Nysveen et al., 2005). Thus, an evaluation of the services developed in the MOVE project should include an investigation of the attributes of the services developed, and the ability of these attributes to drive customer value.

Mobile tourism services are network services. For network services, customer value emerges from two different value driving attributes. *Intrinsic attributes* refer to the inherent attributes of the service itself, whereas *extrinsic attributes* emerge from the networks of providers and users of the services.

1.3.2 Service provider value and business models

Most network services are offered in markets characterized by two-sidedness. Two-sidedness refers to the “chicken-and-egg”-like problems occurring when services are based on an underlying complements platform or the interaction between network service users to create value. When the complements platform is the basis for the two-sidedness, service providers must adopt the service platform to develop or distribute their end-user services. End-users on the other hand are believed to adopt the service platform only when a variety of services are offered, often by several service providers. Thus, service providers await the adoption of the service platform by other service providers as well as by end-users before investing heavily in service development and distribution. Firm and value network level conduct in markets characterized by two-sidedness include behaviour not covered by the traditional strategy concept and this has been the basis for the growing popularity of the business model concept (Osterwalder et al., 2005). The term includes dimensions of revenue generation and sharing, governance and collaboration forms as well as the dimensions traditionally covered by the strategy concept; the value proposition and the market strategy. Consequently, the business model concept and theory on business models are applied in this report to describe and evaluate the supply side activities of the MOVE project.

The different mobile tourism services offered may differ considerably in their service attributes. Instrumental mobile guides may be characterized mainly by their usefulness or ease of use. Mobile blogging services may be characterized by their ability for users to express their identity and the attractiveness of the services depends strongly on the size or strength of the user network. Mobile gaming services like “treasure hunting” are characterized by their ability to enjoy and provide escape during less attracting parts of the travel. Also, in the case of “treasure hunting”-like gaming services, enjoyment is based on the adoption of the “treasure hunting platform” as a service platform among tourist destination or tourist attraction representatives. Because the drivers of value vary considerably across these service categories it is unlikely that mobile tourism services are best offered through one, universal business model. Instead, mobile service characteristics as well as the structural characteristics

of the individual tourist markets that the mobile tourism services are offered in, influence the available and optimal business model options of mobile service providers. The way variation in structural and service characteristics allows variation in business model dimensions of the supply side providers in the MOVE project is consequently also included in this part of the evaluation.

1.3.3 Innovation principles and project organization

Being an applied research project including activities for commercializing mobile tourism services, the MOVE project may also be evaluated as an innovation project. Innovation projects include development activities, but development is not limited to innovation in technology alone. Service innovation includes innovation in service concepts, business models and service processes. This suggests that the MOVE project should be organized as an innovation project stimulating and facilitating innovation in service concepts, business models, governance of service development and service processes as well as technology development. These issues are particularly important for service development projects like MOVE, where service adoption and customer value is influenced by the two-sidedness of its service markets.

From this discussion, we suggest that service development projects like the MOVE project may be considered innovation projects. This affects project organization, and in general, the project will include a broader set of development activities, a greater variety of partner participation, a closer involvement of partners and an intensified focus on provider and customer values than traditional development projects. Thus, the boundary between the development activities of MOVE and the innovation and commercialization activities of its partners is likely to be blurred and this is likely to be reflected in project organization. For example, piloting in innovation projects includes piloting of service concepts and business models, and not just piloting of service interfaces, technological platforms and infrastructure. This should also be reflected in the organization of the MOVE project.

1.3.4 Report organization

The discussion of areas of evaluation above implies that this report should reflect three areas of evaluation, and this provides the basis for the organization of the report. Evaluations, however, require frameworks based on a set of empirically validated and theoretically sound relationships. We provide the basis for such a framework in section 2, where the final evaluation framework is also presented. In section 3 we present the methods applied to provide data for investigating the three areas of evaluation. Our

findings in these areas are presented and discussed in section 4. In the final section, we summarize our conclusions and suggest some industry implications as well as ideas for continued innovation research on mobile tourism services.

2. Evaluation framework

Evaluations are always based on some form of variance analysis. Variance is inferred from divergence of observations from expected behaviour or standards based on some theory, framework or model. In this report, we apply an evaluation framework based on empirical studies of the relationship between structure, conduct and expected performance from industrial organization literature (Bain, 1951; Kadiyali et al., 2001). The framework is adapted to mobile services in general and to mobile tourism services in particular. Before presenting the evaluation framework in section 2.3, we briefly present our understanding of and approach to mobile tourism services as well as some of the relevant theory used as a basis for the applied evaluation framework. For a more elaborated presentation of this approach, we refer to Pedersen et al (2006).

2.1 Mobile tourism services

Mobile tourism services represent a mixture of mobile services and tourism services. Both these services types have been characterized and categorized by several authors. In the following, we focus on the characteristics of mobile tourism services stemming from their being mobile services. Some important characteristics and categories of mobile services are presented in section 2.1.1. In this part, we focus on characteristics of mobile services believed to represent customer value drivers, not just general characteristics of mobile services. In section 2.1.2, we use these characteristics to suggest a categorization of mobile tourism services that may be used as a basis for this evaluation study.

2.1.1 Characteristics and categories of mobile services

Several characteristics have been proposed that are believed to be unique to mobile services. One of the most obvious characteristics of mobile services is the lack of constraints related to time and space (Balasubramanian et al., 2002). According to Balasubramanian et al. (2002), time is a resource that is very limited in a modern person's life, and thus, very costly. Mobile services giving flexibility in time and space access to information should therefore be valued highly by customers. Watson et al. (2002) discussed what they label the "u-commerce" construct. Three characteristics of u-commerce discussed by these authors are relevant for information accessibility: ubiquitous access (access everywhere), universal access (the possibility to stay

connected wherever the customers are), and unison access (the integration of various communication systems that enable a single interface or connection point).

Lot21 (2001) argued that mobile phones are very personal and that only friends, family, and co-workers are allowed access to users' cellular phone number. This was supported by Siau et al. (2001), who argued that mobile communication can be personalized to represent information or services appropriate for the individual customer. Furthermore, uniqueness (that the information customers receive is adapted to the time of the day, customer location, and customer roles and preferences) is also one of the dimensions of the "u-commerce" construct presented by Watson et al. (2002). Another dimension enabling personal services through mobile channels is the possibility to send relevant and time sensitive information to a loyal customer, for example Doyle (2001) and Kannan et al. (2001) argued that wireless devices are ideal for maintaining customer relationships. The reason is the ability to provide truly personalized content and services by tracking personal identity, by the ability to track consumers across media and over time, by the ability to provide content and services at the point of need, and finally, by the capability to provide highly engaging content.

Through mobile channels, information can be sent to all mobile users within a specific geographic region. In addition, mobile services are typically used to coordinate social networks. Information received by one member of a network is often forwarded to other members of the network (Doyle 2001). Studies in uses and gratification research have also focused on the unique gratifications of mobile channels. A study by Leung and Wei (2000) revealed that mobile phones were viewed as a mark of status and social identity, and that they were used to express fashion and status and to integrate with peer social networks. A study by Ling (2001) showed that mobile phones are used to express fashion and for presentation of self. Results from these studies indicated that gratifications for using mobile devices are related to the expression of characteristics of the individual. Thus, the characteristics of information accessibility, information personalization and information dissemination are believed to be important characteristics of mobile services (Nysveen et al., 2005).

These characteristics may be used to categorize mobile services. For example, Nysveen et al. (2005) used these characteristics to suggest that mobile services could be categorized as goal directed versus experiential focusing on differences in the utilization of the accessibility characteristic, and as machine versus person interactive focusing the information accessibility characteristic. Empirical studies revealed systematic differences in the importance of motivational, social and behaviour factors explaining the adoption of these services.

The characteristics above, however, all stem from the intrinsic attributes of mobile services. Intrinsic attributes refer to the inherent attributes of the service itself, whereas for network goods such as mobile services, extrinsic attributes emerge from the networks that provide and use the service. This involves an extension of the traditional typology of intrinsic and extrinsic sources of value suggested by Holbrook (1996), and underlines how network services are different from traditional products and services where extrinsic attributes often originate from complementary supplier services and consumer investments (Mathwick et al., 2001). The two types of attributes represent the sources of intrinsic and extrinsic value unique to network effects products as suggested by Lee and O'Connor: "*extrinsic value... is unique to network effects products... is the set of benefits derived from outside the product itself, such as the size of the installed base and the availability of compatible and complementary products...*" (Lee and O'Connor, 2003a, p. 244). These attributes, consequently, represent drivers of customer value.

Most mobile services include both types of value drivers, but services are to a varying degree characterized by the importance of each of the types of value drivers. Also, extrinsic attributes drive value in different ways. Communication services may drive value through extrinsic attributes of the user network – their direct network effects. Content service, may drive value through the variety and quality of the network of complementary content offerings – their indirect network effects. However, the importance of intrinsic attributes, user network attributes and complements network attributes as value drivers may be used to categorize mobile services. Table 2.1 provides an overview of potential intrinsic and extrinsic attributes and suggests a categorization of mobile services based on these value driving attributes.

Customer value driver	Characteristics of mobile services
Intrinsic attributes	Information accessibility Information personalization Information dissemination Enjoyment Expressiveness Ease of use Usefulness Intrinsic service quality Technical specifications (network bandwidth, dial-up speed, configuration settings, coverage, signal strength, etc.)
Extrinsic attributes	User network attributes Network size Network strength User resource contribution Quality of resources shared by network members Complements network attributes Complementary service variety Speed of complementary service development Complementary service quality Compatibility with content or other platform standards

Table 2.1 Value driving attributes of mobile services

In the next section, we suggest applying the three types of value as a basis for categorizing mobile tourism services, and in section 2.2, the value drivers and their value driving mechanisms are elaborated.

2.1.2 Categories of mobile tourism services

Tourism services are a subcategory of travel services. As for travel services, such services may be categorized by the provider offering them. For example, Methlie et al. (2003) categorized them according to the position of the provider in the value chain. This categorization, however, does not use the characteristics of the service as its basis. Watson et al. (2004) suggested categorizing tourism services by the phase of the tourist experience. Consequently, tourism services may be categorized as supporting the planning, touring and reminiscing phases of the tourist experience. Many tourism

services are information services. Such services may be categorized according to the information source being physical or virtual. Another way to categorize tourism information services is by the information source being commercial or noncommercial and by the type of information being personal or impersonal (Fodness and Murray, 1997). However, many tourism services are not information services, but provide the tourist and/or travel experience in itself. Categories of such services are like those found in industry classification systems and include services as transportation, hotels and lodging services, amusement and recreational services, and dining services found in the NAICS¹ classification, or hotels, restaurants, transport and travel agencies services found in the NACE² classification. Some of these services may only be offered in physical contexts, whereas others, such as travel agency services or parts of the service offering of physical service providers may be offered in virtual contexts. In their analysis of tourism services offered in virtual contexts, Methlie and Nysveen (2000) focused online tourism services and categorized these services as distribution services and value added services. An example of distribution services is online ordering and reservation systems. Value added services may be further categorized according to the types of value they contribute to (Evans and Wurster, 1997). An example of this type of service is community services. The values of these services, include, but are not limited to customer values.

While Methlie and Nysveen (2000) focused value added services of travel agencies, destination and attraction sites may also offer similar services. Thus, categorization systems may be designed applying Watson et al.'s (2004) phase classification as one dimension and Methlie and Nysveen's (2000) value based classification as the other. In table 2.2, examples of services using such a classification scheme are shown.

A similar typology as that of table 2.2 has been suggested by Nysveen and Lexhagen (2001), but with a more empirically derived value dimension. In table 2.3, examples are found of traditional online services as well as mobile services. By restricting services to online services, typologies of tourism services may be identified.

¹ North American Industry Classification System

² NACE - Classification of Economic Activities in the European Community

Value type	Planning	Touring	Reminiscing
Content value	Travel bundling service	Coupon service	Destination community service
Infrastructure value	Fare price comparison service	Mobile map guide	Online “property lost” service
Context value	Multimedia destination presentation	Media rich mobile guide	Video sharing service

Table 2.2 Examples of value added tourism services

For example, Pan and Fesenmaier (2000) suggested using information flows as a basis for the classification of services because most online tourism services at that time were found to be information services. While the typology reflects the status of online tourism services at the time of the study, it identifies the user as a relevant dimension of the typology. For example, online tourism services may be offered by professional users to other tourism service providers, they may be offered by providers for tourists or they may be offered by tourists for other tourists. In the first and third type of services, user network attributes are important to user value. Thus, user and provider relationships are of different importance the customer value of different categories of tourism services.

Turning to mobile tourism services, the categorizations and typologies of services appear to be more ad hoc or based on empirical observations. For example, Eriksson (2002) suggested car navigation systems, on trip information systems, parking information systems, public transport management systems, pedestrian support systems, security and emergency services, tracking services and mobile e-commerce as relevant service categories. Based on their ethnographic study of city tourists, Brown and Chalmers (2003) suggested visit sharing services, guidebook services, map-based services, pre-and post-visiting services, and leisure and pleasure services. This categorization is based on observations of tourist behaviour and studies of the artefacts used by tourists during their stay. Thus, transforming existing artefacts used by tourists from physical to digital form could prove a valuable basis for identifying interesting mobile tourist services. Berger et al. (2003) focus location based services and use the phase model of tourism to suggest mobile services for planning/booking, transport, accommodation, and destination support. O’Brien and Burmeister (2003) used the idea

of the virtual service space to suggest information space (e.g. destination information), transaction space (e.g. reservation services), distribution space (e.g. map-based services), and communication space services (e.g. customer feedback and tourist messaging services).

In the MOVE project, the concept of a mobile marketplace was used to suggest categories of mobile services supporting the experiences of a visitor of a physical marketplace. To provide services using this metaphor, the combination of two types of service infrastructure categories is required. The service infrastructure categories directed at the end-user are experiential services, communication services, community services, map-based services, goal-directed information services, and entertainment services for the tourist (Finnset et al, 2004). Furthermore, the categories directed at tourism service providers are point of interest registration services, multimedia-registration services, communication management services, pricing services, consumer information management services, and product information management services. From the combination of these service infrastructure categories, the following service categories are suggested: Basic services (e.g. existing telecommunications services like SMS and MMS), map-based services, point of interest based services, context services, user profile services and data management services.

The categorization of mobile tourism services in visitor and provider services by Finnset et al. (2004) also illustrates the two-sidedness of many mobile tourism services. Mobile tourist services where user network attributes are important to customer value will not create customer value until a sufficient number of users or a sufficiently strong user network has been established. For example, a service for exchanging tourist opinions on attractions will not create value to other tourists until a sufficiently strong group of tourists has adopted and actively used the service. Mobile tourism services where complements network attributes are important to customer value will not create customer value until a sufficient number of complementary services are offered through the service platform and it will not create business value until a sufficient number of users use it. For example, a mobile guide service will not create customer value until a considerable or selected number of providers post their point of interest (POI) information through it (use it as a platform), and it will not create business value to these providers until a sufficient number of users uses it. Some mobile tourism services, however, may create customer value mainly based on its intrinsic attributes. For example, a map or route in itself or a downloaded, destination related game service may not rely on extrinsic attributes to create customer value. Thus, two-sidedness is not equally present in all mobile tourism services. An important

basis for understanding variation in the business models applied to different mobile tourism services may be an understanding of variation in the importance of two-sidedness across categories of mobile tourism services.

From this brief review, we conclude that service categorizations are designed for a particular purpose and no general service categorization or typology may easily be identified. The purpose of the service classification, whether it is used to suggest scenarios for service development or to provide managerial advice, must be used as the basis for the classification. Here, we suggest a service categorization with the main purpose of investigating the relationship between business model options, service attributes and customer value.

Using the value driving attributes of mobile services presented in section 2.1 for mobile tourism services, an alternative categorization of mobile tourism services is suggested. The main purpose of this categorization is to provide an analytical basis for discussing how business model options may be optimized for different categories of services. As suggested in section 2.1, value may be driven by the intrinsic attributes of a service or from the extrinsic attributes reflecting their network effects. In table 2.3, some examples of mobile tourism services in each category are suggested.

Customer value drivers	Example mobile tourism services
Intrinsic attributes	Entertainment service used during travel (mobile game), Mobile guide service used at the destination (mobile museum guide)
User network attributes	Communication service used during travel, community service used to share opinions and experiences (tourist community service)
Complements network attributes	Information service (mobile map-based guide), reservation service spanning several attractions or destinations (mobile reservation service), discount or coupon service (mobile coupon service)

Table 2.3 Examples of mobile tourism services categorized by value driving attributes

In section 2.2 we present recent theory and selected empirical studies of the general relationships between structural conditions, business models, governance

forms of innovation and customer value for mobile services. This theory is applied in an evaluation framework presented in section 2.3.

2.2 Business models, governance forms, innovation and customer values

2.2.1 How structural conditions influence business model options

Even though the choice of business model is a strategic decision, the options are constrained by the structural conditions of the individual service providers as well as the general industry infrastructure. Research on business models has so far been very descriptive and conceptual. This is also seen in research using the conceptual framework of sectoral systems of innovations on mobile communications (Breschi and Malerba 1997; Malerba 2004). Less attention has been devoted to how structural conditions impact on these choices. Instead, explanations of mobile data services success span from focusing specific factors, such as the choice of an appropriate revenue model to general systemic explanations, such as the dynamics of industry ecosystems (Vesa, 2003). The most common approach, however, is to combine a set of technological, business strategic and behavioral or cultural factors. For example, Henten et al. (2004) suggested technology, economy, market development and structure, marketing, socio-cultural, policy intervention and regulation as the relevant explanatory factors.

Authors have also investigated different forms of regimes facilitating or inhibiting specific behaviour by service developers and providers. For example, Godø (2000) suggested the innovation regime of a nation or sector is a structural determinant of the behaviour that is likely to be exercised by service developers and providers. Hommen (2003, p. 153) suggested that in the future, regulatory structure and technological development will favour equipment suppliers and service providers to the detriment of “conventional” telecom operators. Another example is Funk (2004), who suggested that regimes in the form of “technological trajectories” of a sector or nation may facilitate or inhibit particular business models. Finally, regulatory regimes, such as licensing policy (Ure, 2003) or interworking requirements (Hagen and Nafstad, 2003; Northstream, 2002) have been suggested as important conditions for stimulating or inhibiting particular business models. Thus, service providers’ choice of business model options is influenced by structural conditions and structural conditions both directly and indirectly affect the service attributes of mobile tourism services.

2.2.2 How business model options affects service attributes

Popular uses of the business model concept involves “how you get paid” or “how you make money” (Chesbrough and Rosenbloom, 2002). The idea is that the business model concept is required because the way “business is done” is different from before, and concepts like “strategy” do not sufficiently capture these new forms of business. Thus, more scholarly writers have applied definitions, such as “*how the firm plans to make money long-term using the Internet*” (Afuah and Tucci, 2000), stressing that the “new economy” or “the Internet” is what requires “new forms of doing business”. More academic approaches stress the difficulty in defining the business models concept without referring to a number of underlying dimensions (Chesbrough and Rosenbloom, 2002). One of the early attempts at defining the concept was Timmer’s (1998) suggestion that a “*business model is defined as the organization (or architecture) of product, service and information flows, and the sources of revenues and benefits for suppliers and customers*” (p. 31). Similarly, Weill and Vitale suggest that a business model is the “*description of the roles and relationships among a firm's consumers, customers, allies and suppliers that identifies the major flows of products, information and money, and the major benefits to participants*” (Weill & Vitale, 2001, p. 34). In a recent review of the business model literature, Osterwalder et al. (2005a, p. 17-18) suggest a business model “*is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a definition of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams*”. As Osterwalder et al. (2005) we find the business model concept as a tool or framework most interesting.

Recently, several authors have applied the business model concept to mobile commerce and mobile data services contexts (Bouwman, 2003; Campanovo and Pigneur, 2003). With some variations in propositions, these authors mainly suggest four dimensions of business models; the product innovation, the customer relationship, the infrastructure and the financial dimensions, covering the product related value proposition, the customer related value proposition, the structural dimension and the revenue dimension, respectively (e.g. Campanovo and Pigneur, 2003). The business model dimensions discussed in this report correspond to the dimensions suggested in these studies. We are, however, more interested in the relationship between business model dimensions and between business model dimensions and performance. Using a

three dimensional framework for business models, some examples of inter-dependencies may be given. For example, revenue models and governance forms are highly interdependent. To stimulate collaborative governance forms agreements must be made on the distribution of generated revenue. Thus, open governance forms require revenue models with easily observable revenue objects and revenue sharing agreements that let partners predict and survey the developments in revenue generation. Another example is the relationship between value proposition and market segmentation. Complex services with deep and specialized value propositions require that end-users understand and feel they control the services to generate customer value. Behavioural control of this kind may require end-user experience and some times even expertise. Thus, deep and specialized value propositions require careful segmentation of end-users. A final example that crosses resource considerations and customer value considerations may be when platform services are introduced. Again, only experienced end-users may be able to generate customer value from platform services with great service variety. In fact, Pedersen et al. (2005) found a negative relationship between service variety and customer value for mobile platform services for customers with low behavioural control, whereas this relationship was positive for customers with high behavioural control.

The examples presented above also illustrate the second type of business model relationships suggested - the relationship between specific options along business model dimensions and the performance effects of choosing specific options under different structural conditions. These relationships have been given less attention in the literature on the business model concept. Instead, performance effects of the choice of options for product-, customer-, financial- and infrastructural business model dimensions are treated separately in individual research areas such as product innovation, industrial organization and strategic marketing research. In the industrial organization field, however, one acknowledges the causal relationships between structural market conditions and business model options, and between these strategic choices and performance in the “structure-conduct-performance paradigm” (Bain, 1951). In this framework, performance is measured by a firm’s business values such as profitability. The mobile data service industry, however, is an emerging market of network services where performance may better be measured by perceived and anticipated customer values. Thus, integration between business model options and perceived customer values is necessary in the mobile data services industry. It is well documented that the choice of specific business model options affects the intrinsic and

extrinsic attributes of the product or service developed and produced (Nicholls-Nixon and Woo, 2003; Sengupta, 1998; Stuart, 2000; Zahra and Nielsen, 2002).

2.2.3 How service attributes create customer value

As discussed above, many unique intrinsic attributes have been mentioned characterizing mobile services, such as accessibility, personalization and information dissemination. A problem with considering accessibility and “being personal” as unique attributes of mobile services is that these attributes are general and may be unrelated to the content of the mobile service. Even though the lack of constraints related to time and space has been suggested as the basis for the usefulness of mobile services, usefulness is mainly determined by the content of the service – its functionality. Often, the usefulness of mobile services depends on other users using the same service rather than the accessibility or personalization attributes of the service. This is particularly true for communication or person-interactive services, where extrinsic attributes are more important for creating customer value than the intrinsic attributes of the service. Still, for information or machine-interactive services, the usefulness of the service is an important intrinsic attribute. Another unique intrinsic attribute found important in four studies of mobile service adoption by Nysveen et al. (2005) was enjoyment. Even for services with functionality that was believed to be unrelated to enjoyment, such as mobile payment services, enjoyment was found to be a relevant intrinsic attribute (Nysveen et al., 2005). This finding corresponds well to studies of mobile services in uses and gratification research suggesting that gratifications of “relaxation” (Leung and Wei, 2000) and “nutz-spaz” (Höflich and Rössler, 2001) are important to the adoption and use of mobile services.

Intrinsic attributes of a service may also be characterized by its technical specifications, for example related to speed and capacity. It is difficult to determine such attributes for services in general, and mobile services are no exception. Still, attributes such as network bandwidth, dial-up speed, coverage and signal strength have been suggested. For example, in a service quality framework for mobile services, Nordman and Liljander (2003) suggested that dial-up speed and configuration settings were important components of service quality.

Empirical results indicate that mobile devices and services are used to express and confirm the users’ identity, suggesting identity expressiveness is also an important attribute of mobile services (Nysveen et al., 2005). Such symbolic and expressive attributes of mobile services may be considered extrinsic attributes because they result from the service being used in a network context. However, the most often mentioned

extrinsic attributes of network services derive from direct and indirect network effects. Direct network effects are the effects related to increasing value of a service as the size of the network increases (Liebowitz and Margolis, 1999). Person-interactive services that are not typically categorized as communication services (e.g. discussion-, contact- and self- support services) have a somewhat more complex set of direct network effects, but these effects are nonetheless related to network size. Thus, network size is an important extrinsic attribute of many mobile data services. For example, social coordination, suggested as one of the most important gratifications of SMS usage, may not be exercised without sufficient network size. Extrinsic attributes believed to be driving customer value through direct network effects are termed user network attributes here. Whereas user network size is the most important user network attribute, authors have also suggested user network strength (Frels et al., 2003) and member resource contribution (Asvanund et al., 2004) to be important user network attributes.

While user network attributes are important extrinsic attributes of communication services, network attributes related to indirect network effects are more often believed to drive the value of information, transaction or machine-interactive services. Indirect network effects originate from direct network effects when the network good or service is a platform for complementary services and products (Gupta et al., 1999). For example, in the MOVE project the KartGUIDE service was intended to serve as the platform for complementary services offered in the mobile marketplace concept. In general, mobile data services differ with respect to their potential as a platform for complementary services. For example for information and machine-interactive services like premium SMS, MMS content services, mobile Internet access or online game services, value generation opportunities through indirect network effects are great. From the concept of indirect network effects, a set of operational extrinsic service attributes, such as complementary service variety, speed of complementary service development and complementary service quality may be derived. For mobile data services, compatibility with a set of content standards may be a similar intrinsic attribute that increase in importance as the number of providers offering content services (e.g. games, information services) increases. As for direct network effects, considerable attention has been given to the importance of indirect network effects in consumers' assessment of service or product value. For example, researchers in economics, marketing and information systems have concluded that the availability of complementary goods affects the prices that can be obtained for network goods (Basu et al., 2003; Brynjolfsson and Kemerer, 1996; Gandal et al., 2000). Extrinsic attributes

believed to be driving customer value through indirect network effects are termed complements network attributes here.

Recently, end-users' perception of network attributes has been given considerable attention. Studies of innovation adoption take sensitivity to network effects into consideration and argue that network size is more important when the network is small than when it is large. This suggests that adoption likelihood is sensitive to critical mass and anticipation of future network size (Shapiro and Varian, 1999). For example, the use of pre-announcement and commitment announcements are examples of strategies used to convince end-users that future network size is expected to be large and that it will increase quickly (Lee and O'Connor, 2003; Montaguti et al., 2002). Perceptions and anticipation of user network attributes have also recently achieved considerable attention in information systems, strategy and marketing literature (Frels et al., 2003; Gallagher and Wang, 2002). Most of these studies have been conducted in professional end-user markets suggesting that direct network effects are taken into consideration in professional end-users' value assessment process through their interpretation of user network attributes. Few similar studies are found for traditional consumer markets. However, economic theory on network effects assumes that consumers are somehow able to make such assessments and includes network size elements in consumers' utility functions (e.g. Katz and Shapiro, 1992).

A recent study by Asvanund et al. (2004) revealed that consumers combine increasing and diminishing return considerations. The findings showed that consumers consider network strength and quality of the file sharing network, not only network size, when assessing the value of participating in a network. For complements network attributes, end-users' appreciation of complementary service variety and innovativeness may vary across user segments. In professional business markets, such as business software or server operating systems markets, it is likely that complementary service variety is assessed and appreciated (Frels et al., 2003). For simple consumer network goods where the complementary goods are content goods delivered on a content distribution platform such as a video game platform, this is also very likely (Schilling, 2003). However, for complex or radically new network goods and services, like mobile data services, the assessment and valuation of complements network attributes are much more difficult. In this case, consumers will often also have to assess the value of future indirect network effects resulting from adopting the network goods platform. This is an even more difficult task requiring considerable experience and cognitive capacity.

2.3 Evaluation framework – model

For the purpose of this study laid out in section 1, we propose an evaluation model following the structure-conduct-performance (SCP) framework briefly introduced above. The SCP model may be further split into operational models to be used as research models, analytical frameworks and empirically testable models. The conceptual SCP model is illustrated in figure 2.1.

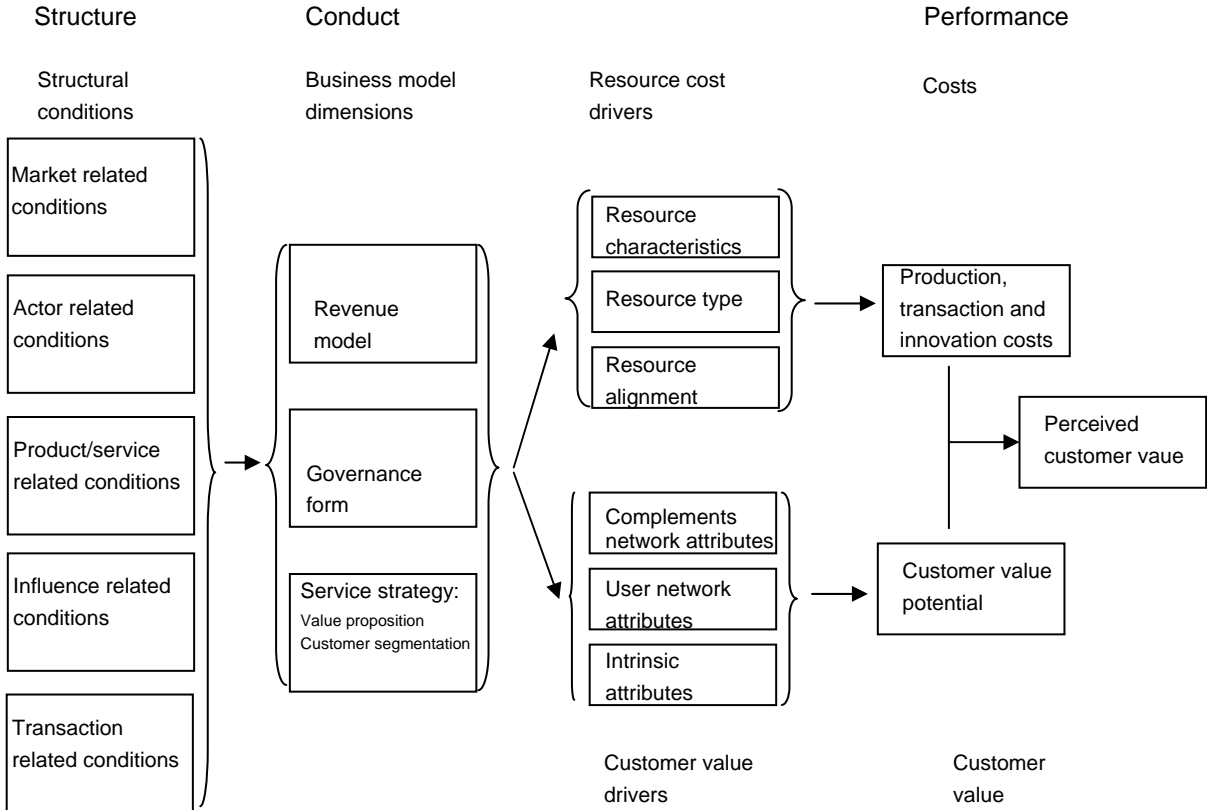


Figure 2.1 General SCP framework

This SCP framework has three main components. First, structural conditions include market related, actor related, product/service related, influence related and transaction related structural conditions. These structural conditions are assumed to restrict business model options. Business model options are illustrated in figure 2.1 by four business model dimensions. The revenue model options cover the financial dimension of the business model. The governance form options cover the infrastructural dimension of the business model. Finally, the service strategy options cover the value proposition and customer relationship dimensions of the business model. The choices of particular business model dimension options represent the

“conduct” component of the SCP-paradigm. Business model choices are believed to have performance effects. In the SCP model of figure 2.1, we focus cost efficiency and customer value as the relevant performance components. To model the causal relationship between business model decisions and performance, two types of theories have been applied. The causal relationship between business model decisions and customer value is modelled combining theory of the economics of network goods and consumer behaviour theory. As discussed above, the main drivers of value are believed to be of either intrinsic or extrinsic kind. Intrinsic value drivers stem from the inherent attributes of the mobile data service itself whereas extrinsic value drivers stem from attributes of the network of users and complementary services offered. As shown above, network based value drivers represented by user network and complements network attributes, are of great importance for mobile services.

Resource based theory (e.g. Barney, 1991) suggests one of the main sources of sustainable competitive advantage is the resources available to the firm or value network. In particular, control of resources that are difficult to imitate, immobile, non substitutable and rare are important to competitive advantage. Furthermore, resource types may be knowledge or property based (Das and Teng, 2000). Finally, resource alignments may be more or less supplementary or complementary (Das and Teng, 2000). In the model of figure 2.1, these characteristics of resources are considered as resource cost drivers so that transaction and innovation costs are believed to increase if the firm or value network is to gain control over such resources. For example, access to highly immobile, property based and complementary resources are believed to increase transaction costs, whereas access to non imitable, non substitutable, knowledge-based resources are believed to increase innovation costs, particularly if governance form is not designed to minimize such costs.

In a SCP-framework, structure may affect conduct of different kinds and conduct may affect performance of different kinds. Examples of performance types are financial results and customer value. Each SCP-model defines its particular performance dimensions. Furthermore, each SCP-model includes one or more causal relationships between structure and conduct, and between conduct and performance. Structure – conduct relationships may be based on theories such as diffusion of innovations theory, path dependency theory or resource dependency theory, just to mention a few relevant theories. Conduct – performance model relationships may be based on theories such as transaction cost theory, resource based theory or strategic marketing theory, or a combination of several theories. Thus, SCP models represent a conceptual framework for applying more specific operational models to particular

markets. In this report, the framework is applied as an evaluation framework for the knowledge, services and infrastructure developed through the MOVE project focusing mobile tourism services. Thus, sections 3 and 4 are organized along the SCP-framework presented. The methods applied and reported in section 3 are applied to cover variables and issues covered by the applied SCP-framework and the discussion of findings is based on selected theory reviewed above that is considered relevant to mobile tourism services.

3. Method

A combination of methods has been used for evaluating the three areas of customer value creation, service provider value creation, and innovation project organization. First, we have analyzed available project documentation, including presentations of concepts and services as well as data on value drivers for customers and service providers. An overview of the main document sources is provided in Appendix A. To supplement these sources, we have conducted qualitative interviews with tourist service providers and information service providers involved in the MOVE project (see Appendix B). The method of these studies and the method applied in this evaluation project are briefly presented below.

3.1 Customer value and adoption evaluation method

To discuss the experiences gained from the MOVE project on customer value, independent studies of customer value should have been conducted. This was also the intention of this evaluation project. The original plan was to conduct an evaluation study based on the commercialized or “near-commercialized” services that was targeted in the MOVE project. Delays in the plans for commercializing spin-offs from the project made this evaluation project rely on secondary data sources for the discussion of service attributes, adoption and customer value.

Three secondary sources have been used for this purpose including “Lofotenundersøkelsen” (Viken et al, 2004), the “Pilot-study” (Evjemo et al., 2005) and a collection of the masters theses associated with the MOVE project. In the following, the methods applied in these secondary sources as well as the methodological principles applied when using these sources in this report are presented.

3.1.1 “Lofotenundersøkelsen”

The purpose of the “Lofotenundersøkelsen” (Viken et al., 2004) was to describe the Lofoten tourist with respect to demographics, motives for visiting Lofoten, the use of information sources, the attractions visited and the general tourist behaviour during the visit, and finally, the image of the Lofoten region as perceived by the tourists. Being a descriptive study, the data is not designed for causal inference on relationships. Still, “Lofotenundersøkelsen” reports results on some of the relationships between the aforementioned variable categories that may be used to discuss and propose causal relationships for further study.

The study was conducted as a questionnaire based survey involving a convenience sample of 733 tourists visiting the Lofoten region between July, 20 and August 6, 2004. The questionnaire was distributed by hand at the locations Fiskebøl, Svolvær and Moskenes to 1800 potential respondents in three versions (Norwegian, German, English). The study was consequently not designed as a traditional representative survey of Lofoten tourists. For further discussion of the consequences of lacking representativeness on the validity of the results, we refer to Viken et al. (2004).

The variables measured in the survey range from simple demographic variables to multi-item measures of motives and image/attitudes toward Lofoten. No *general* theoretical framework was used to identify concepts that were measured. Instead, conceptual models and identified concepts were chosen from the literature on each area of investigation (e.g. motives, information sources, attitudes). In general, most variables were shown to be reliable and developed from well defined and previously published theoretical constructs. Thus, the internal validity of the study is considered acceptable. External validity is, however, threatened by the sampling method applied in the study. Thus, generalization of results across Lofoten tourists should be done with care.

Of particular relevance to the potential customer value of mobile tourism services are the findings on motives and information sources.

3.1.2 The “pilot-study”

The purpose of the “pilot study” (Evjemo et al., 2005) was to investigate end-users’ perception of the pilot services developed in the MOVE project, to collect ideas for further development and show piloted services to tourist service providers in the Lofoten region. The three consumer services and the provider service described in section 1.2 were used as the basis for the field trial. The “AktørPortalen” service that was designed for POI-registration and administration was not used by service providers during the field trial. The service was, however, used by project researchers for POI-registration. The services were made available for the period August 3-25, 2005, but data collection was conducted in the period from August 4 to August 9.

The population of respondents for the field trial was defined as Norwegians on vacation in Lofoten. The sampling method could best be characterized as a convenience sample. Because the pilot was designed to create attention and interest among service providers and potential end-users as well as as being a framework for systematically recruiting field trial respondents, no traditional sampling plan was set up. The availability of the services was marketed on relevant web-sites, in the local

media and 1400 information folders were distributed by hand. Respondents were recruited at the ferry quay in Bodø, while waiting in their car for the ferry to Moskenes, and at the tourist office in Svolvær.

The field trial procedure was not formalized. The typical procedure, however, consisted of a demonstration of one or several services to the respondent including optional help in installing the required software on the respondent's mobile phone. At the tourist office in Svolvær, the MOVE video illustrating the KartGUIDE service was also shown to the respondents. Next, the respondents were asked to participate in a questionnaire survey and to use the service during their visit. Use of the services was free of charge, but users paid for data traffic.

To capture data during respondents' use of the services, logs were designed. For the "KartGUIDE" service an installation log, a user behaviour log and a POI-log was designed. For "MOSAIKK" and "REBUS" simple user behaviour logs were designed. The data resulting from this procedure consists of 107 answers to the questionnaire, 13 debriefing interviews with respondents actually using the services, the user behaviour log of "KartGUIDE" for 61 respondents and the simple user logs for the other services. Traditional data analysis was mainly applied for the answers of the questionnaire. When compared to the "Lofotenundersøkelsen", the "pilot study" included a larger proportion of men and a larger proportion of younger respondents. This may influence the reliability and validity of the data.

The questionnaire included single item measures of ease of use, usefulness and enjoyment for each of the three services. A single item measure of intentions to use was included along with simple demographic and mobile phone usage data. In addition, respondents that installed any of the services were asked to leave their contact details for a debriefing interview. The debriefing interview was administered as a structured interview. It focused on the "KartGUIDE" service only and included measures of user behaviour, usability problems, a simple measure of willingness to pay, measures of behavioural control, social norms and expressiveness. In addition, more demographic data was collected.

The "pilot study" provided data that are valuable in understanding the drivers of customer value for mobile tourism services. In particular, the relationship between intrinsic attributes and customer value could be investigated using these data. The piloted services also represent demonstrable services that provide a basis for discussing service provider value with tourist service providers.

3.1.3 Master theses

A third source of data and results on service attributes, adoption and customer value is the master theses that have spun off the MOVE project. A total of twelve master theses have been written. Here, theses that include studies of end-users, explicitly discuss end-users' valuation of service attributes as part of user scenarios, or conduct empirical investigation in some form of the demonstrator or pilot services developed are included as relevant secondary sources. The following theses are of relevance:

- "Interaktive kart på handholdte terminaler som primært brukergrensesnitt for en kontekstsensitiv digital turistguide" (Schürmann, 2004)
- "Context-aware Mobile Gaming" (Lopatina, 2005)
- "Nasjonale turistveger - også for turisten? En undersøkelse av hvilken betydning turisten har i stakeholdernes diskurs ved utviklingen av de nasjonale turistveger i Norge" (Garnes, 2004)

Schürmann (2004) includes a brief discussion of the characteristics of the tourist and a description of four user scenarios. Even though no empirical investigations are conducted, Schürmann (2004) discusses service attributes of relevance to mobile tourism services. A map guide demonstrator is presented and in addition to POI-identification, Schürmann (2004) also discusses including functionality for travel diary writing and route planning. This functionality is, however, not implemented. Lopatina (2004) develops a prototype mobile gaming service and discusses the relationship between mobile gaming and tourism. Several examples of mobile gaming services are reviewed and six user scenarios are suggested. The scenario "Geopuzzles" is focused and a demonstrator service is developed.

Garnes (2004) is a thesis in tourism, not in ICT. Thus, focus is on stakeholders in the national tourist route project in the Jæren and Ryfylke regions. The thesis includes interviews with 18 informants, but no tourists. Approximately one page of the thesis is dedicated to information and information services. Value creation is, however, discussed, but with a focus on easily tangible measures such as the number of visitors and the time they spend as tourists in a region.

3.1.4 Secondary source use

From the three secondary sources, final reports were available to this evaluation project. In addition, data from the “pilot-study” were available to us, but we found no reason to reanalyze this material for the purpose of this evaluation report. Thus, the summary and discussion of service attributes, adoption and customer value in section 4 is based on the information found in the secondary sources as interpreted by the authors of this evaluation report. The framework presented in section 2 is used for the interpretation of the results, and as such, they are reinterpreted in light of the results of other empirical studies of mobile services and the theoretical framework presented in section 2.

3.2 Service provider value and business models evaluation method

Two secondary sources of information have been used for this part of the evaluation. In addition, a qualitative study including interviews with tourist service providers, information service providers and representatives of other organizations associated with the MOVE project was conducted for the purpose of this evaluation report only. The methods applied in these studies are presented here.

3.2.1 The study of the conceptual framework for MOVE

This study (Finnset et al., 2004) is briefly discussed in section 1. The main purpose of the study was to develop a conceptual framework for the “mobile marketplace” in the MOVE project. The study mainly uses secondary sources to describe the characteristics of the Lofoten tourist, it suggests categories of end-user services relevant to both tourists and tourist service providers, it describes an underlying service infrastructure for these end-user services, and it describes the pilot services developed at that point in the MOVE project. Some of the master thesis scenarios described in section 3.1 are used as bases for the end-user services directed at the needs of tourists. For the purpose of this report, the study mainly adds value through its conceptualization of the “mobile marketplace” and the implicit importance of two-sidedness incorporated in this conceptualization.

3.2.2 The study of tourist service providers

The study has been published as an internal project report (Grav and Finnset, 2004) and includes a review of Lofoten as a tourist destination, information service providers in the region and their offerings. It also includes a discussion of service concepts of relevance to MOVE, and this part is of most relevance to the discussion of

value in MOVE. The study summarizes and extends most of the scenarios discussed in the masters theses presented in section 3.1 and implicit in some of these summaries one may find ideas on customer and service provider value as perceived by the MOVE project management. No systematic empirical method is reported for the generation of the reviews and the study should be used as a secondary documentation of service value ideas only.

3.2.3 The evaluation interviews

Due to a somewhat fragmented documentation of service provider value considerations in the MOVE project, it was decided that a simple qualitative study was required to collect data on this area of evaluation. A simple study of key informants was designed due to the rather exploratory nature of the research question being investigated. Two categories of service providers were identified; tourist service providers and information service providers. Representative informants from these categories were identified by the MOVE project management. The list of service providers interviewed is shown in appendix B. All key informants were selected due to their experience with the MOVE project and their position as service providers in the relevant tourist service value network. Thus, both their experience with the MOVE project as well as their knowledgeable evaluations of relevant service provider values were important. Interviews were held with 9 informants on 7 interview sessions for tourist service providers and 3 informants on 3 interview sessions for information service providers. Thus, some of the tourist service provider interviews were organized with more than one informant present during the interview. Interviews with tourist service providers were conducted by the second author in the Lofoten region in July, 2006. The interviews with information service providers were conducted by the first author in Oslo and by phone on three different days in July and August, 2006. A simple procedure in which the interviewer introduced the topics of an interview guide and used a probe guide rather freely during the interview was applied. Complete interview guide including the topic guide and the probe guide used to raise simple questions to the informants are shown in appendix C.

Within this procedural framework, informants were encouraged to reflect freely and openly on the questions of the interviewer. On average, interviews lasted for approximately 60 minutes. All interviews were taped and summaries were written by each interviewer after the interview.

The structure of the interview guide was designed from interview guides applied in similar studies of mobile data service providers (Methlie and Gressgård, 2006). The

structure was, however, modified to fit recent developments in the applied framework presented in section 2. To make the interview easier to the informant, service provider value and customer value driver questions based on this framework were organized in a structure starting with the informants' own services. The interviewer then turned to similar questions reflecting service provider and customer values of the MOVE project. The following topics were covered: Service description, service attributes, value propositions, service context, customer context, supplier context, value chain partners, market characteristics, competitive characteristics, strategies, knowledge of the MOVE pilot services, MOVE pilot service attributes – intrinsic and extrinsic, context etc, value chain of MOVE pilot services, market characteristics of MOVE pilot services, competitive characteristics of MOVE pilot services, value drivers of MOVE pilot services, reflections of relationship between MOVE pilot service attributes and value drivers, reflections on two-sidedness, future and improved service concepts based on the MOVE pilot services, the MOVE project as an innovation project. Analysis results are reported in section 4.2.

3.3 Innovation principles and project organization evaluation method

Three sources of data were used as a basis for discussing the innovation principles and the project organization of the MOVE project. First, all secondary sources mentioned above reflect the MOVE project's perspective on and organizational approach to service innovation. Thus, these sources may also be used as secondary sources of information on the MOVE project as a service innovation project. No particular sections, however, in these sources are devoted to service innovation principles. Thus, reflections made on the perspectives on service innovation that may be inferred from secondary sources are reported in parallel with the two primary sources used.

The first of these primary sources were a section of the qualitative interviews conducted with tourism and information service providers presented in section 3.2. This section included questions probing the informants to reflect on both the organization of the MOVE project as an innovation project and as a general research and development project. The interview guide and corresponding probes are shown in appendix C. The treatment of these data followed the same principles as those reported in section 3.2.

Finally, the MOVE project organized a debriefing seminar in Svolvær in September, 2006. In this seminar, a session was devoted to discussing participants'

experience with and reflections on the MOVE project as a research and innovation project. Three issues were discussed during the session: Deliverables and results, project organization, and improvements. The session was taped and written out by the second author. The principles for analyzing the session were the same as those for the interviews presented in section 3.2. In addition the framework for categorizing service innovation activities suggested by DeJong et al. (2003) was applied as a structuring framework. The framework categorizes service innovation activities according to innovation condition related activities, innovation process related activities, activities focusing particular innovation types and activities focusing particular innovation results. Analysis results are reported in section 4.3.

4. Findings and discussion

As may be inferred from the number of studies and development efforts in the MOVE project presented in section 3, the knowledge that has been developed is considerable. It ranges from knowledge of tourist behaviour to infrastructure of information services. The focus of this evaluation, however, is to summarize findings of relevance to value creation. In the following, findings with respect to customer value are summarized and evaluated in section 4.1 and findings with respect to service provider value are given the same treatment in section 4.2. In section 4.3, some of the findings that are of relevance to the MOVE project as a service innovation project are summarized and evaluated.

4.1 Customer value and adoption of mobile tourism services

In section 3, we concluded that the evaluation of findings of relevance to customer value should be based on the material already provided through the studies of the MOVE project. This is partly due to the availability of relevant results from these findings and partly due to the fact that no publicly available services were available for separate customer value investigations at the end of the project period. The results of four studies are of relevance; the “Lofotenundersøkelsen”, the “pilot-study”, the masters theses and the study of the conceptual framework for MOVE.

4.1.1 “Lofotenundersøkelsen”

Starting with the findings from “Lofotenundersøkelsen”, we apply the framework presented in section 2 as a basis. Thus, intrinsic attributes are discussed first, extrinsic attributes second, adoption third, and customer value last.

“Lofotenundersøkelsen” (Viken et al., 2004) characterizes the age distribution of the Lofoten tourist population as being peaked around the mean of approximately 48 years. The tourists are in general more international with Germany as the largest country of origin after Norway. The Lofoten tourist also seems to be well educated. In general, the demographic characteristics of this population suggest that intrinsic attributes of usefulness, ease of use, service quality and compatibility are of more importance to the customer value of mobile tourism services than expressiveness, innovativeness and enjoyment. Based on numerous findings (e.g. Nysveen et al., 2005) that mobile data services are first adopted for their experiential attributes and that such attributes most often reflect the mobile specificity of mobile data services, the population of Lofoten tourists may not have been the ideal trial population for service

introduction and they may not represent the most promising segment to continue mobile tourism service commercialization in.

Results from “Lofotenundersøkelsen” on motives for visiting Lofoten are particularly interesting. A theoretical framework for identifying relevant motives previously applied in tourist behaviour studies is applied (Ryan and Glendon, 1997). The results from “Lofotenundersøkelsen” reveal five motives termed “recreation”, “challenge”, “discovery”, “sociability” which, to some extent, were also identified by Ryan and Glendon (1997), and a dimension termed “naturopplevelse”, which is not easily translated, but may be termed “experiencing nature”. Applying gratification theory (e.g. Lin, 1996), one could argue that the gratifications of the media used to communicate or collect information should match the motives of the tourists. In this case, intrinsic service attributes should provide gratifications that match the motives revealed in “Lofotenundersøkelsen”. “Lofotenundersøkelsen” does not use these motives in explanatory models of tourism behaviour, but use them to psychometrically segment the Lofoten tourists into four segments. Norwegians are overrepresented in the segment covered by the “sociability” motivation, which suggest that this is an important gratification if the mobile tourism services are directed primarily at the Norwegian tourist segment. Foreign tourists are overrepresented in the segment seeking “recreation”. For both these segments, “experiencing nature” was also important. Two segments were termed “highly motivated” and “deviant motives”. The relevance of these segments is unclear. Even though the study suggests segmentation may be valuable to understanding the Lofoten-tourists, the segments and the motives are not used in further investigations of information seeking behaviour and behaviour during the visit.

The motives unveiled in “Lofotenundersøkelsen” suggest ideas of how usefulness is provided. For users with “sociability” motives it is obvious that the usefulness of a mobile tourist service should appeal to the “sociability” motive and correspondingly for the “recreation” motive. The common “experiencing nature” of both segments also indicates that “nature” should be a common factor of all instrumentality of the service. For more experiential motives, the segment with “recreational” motives seems to be of most relevance. It is likely that these tourists represent potential users with strong identities, and there is an opportunity in providing identity expressiveness through the services that they are offered to stimulate adoption and create customer value. A problem, however, is that this identity may be associated with non-technological values, such as environmental behaviour and “nature”. In any case, segmentation of the tourists may be of relevance when offering a variety of trial services driving value

from different attributes. This is something that could have been taken into consideration when deciding to offer the pilot services with a Norwegian interface only.

With respect to information search behaviour, “Lofotenundersøkelsen” reveals some interesting behavioural patterns that may be of relevance to intrinsic and extrinsic attributes of mobile tourism services. As expected there are great differences in the use of information sources in the planning and visiting phases of the trip. While experience, recommendations and online sources of information are important in the planning phase, guidebooks (used as scripts, not maps) and to some extent, the mobile phone are important during the visiting phase. In particular, this use of the mobile phone is important to the “sociability” motivated (Norwegian/Nordic) tourists. Thus, the mobile phone already has an important role during the visiting phase, but this role may perhaps best be enhanced by integrating it with, and providing it as complementary to, the guidebook. An interesting observation is also made in information sources for dining experiences being much more local and impulsive than for all other services consumed. This also suggests that tourist services should be marketed differently through complementary mobile tourism services. These findings suggest usefulness, ease of use and most importantly, compatibility with *all* artefacts used during the visiting phase are important intrinsic attributes. They also suggest ways in which usefulness may be provided, in particular through an extensive use of regular communication functionality of voice and SMS, and by providing this functionality as a complementary service closely integrated with guidebooks.

For the extrinsic attributes, the findings of “Lofotenundersøkelsen” suggest differences in the importance of user network attributes and complements network attributes. First, the general findings on demographics and individuality suggest that extrinsic attributes may be of less importance to customer value of mobile tourism services in this region than in other regions. Thus, different attributes may be focused for different regional services. Second, the same findings also suggest that user network size may be of less importance than user network strength among the user network attributes. This may be particularly important to the tourists driven by “recreational” motives.

The most important findings, however, are of relevance to the importance of complements network attributes. While complementary service variety may be of some relevance, the length of the stay and the regional focus suggest that complementary service quality may be more important than variety. The characteristics of the tourists in this region also point in the same direction.

Furthermore, when looking at the importance of information sources, the complements network do *not* simply refer to complementary mobile services based on a common mobile platform. Thus, the idea that a set of tourist service providers may offer information of their offerings on the same underlying platform is insufficient when it comes to understanding the artefacts involved in these tourists' complements network. In particular, the importance of the guidebook as a script during the visit suggests that at least this artefact should be included in the complements network and provide parts of the platform for the complementary mobile tourism services offerings in this region. Thus, compatibility with the guidebook and integration with the guidebook become important elements in obtaining high perceived complementary service quality.

The trial region of Lofoten and the focus on the car tourist also have some implications for the context within which customer value is created. Extrinsic attributes like user network size may be of less relevance whereas network strength may be of greater relevance to these mobile contexts. Variety of complementarity may be of less relevance, whereas quality of complementary services, compatibility across complementary service providers and compatibility with existing artefacts used during the visit may be of greater importance. The fact that visits of the kind found in the Lofoten region are often "once in a lifetime" events lasting for only a limited period may suggest that the true customer value of the extrinsic (and some of the more instrumental intrinsic) attributes is not unveiled if the mobile tourism services are adopted and used for a short period only.

With respect to adoption, two issues that have not been discussed above are particularly interesting. Previous research (e.g. Nysveen et al, 2005) indicates that norms and behavioural control are of relevance to mobile service adoption. Norms, however, seem to influence adoption mainly for a limited time, typically when services are new and strong social influence suggests early adoption. The demographic characteristics of the Lofoten tourist suggest that subjective norm is not an influential driver of mobile service adoption. For behavioural control, two components suggest opposing influences. First, financial resources are not considered an important limiting factor to mobile service adoption in this user group. Resources, in the form of skills and experience on the other hand may be a limiting factor. Investigations of technology readiness may provide valuable information in uncovering if lack of such resources is a limiting factor in adoption (Parasuraman, 2000). The fact that the users have financial resources may be of no importance if the service attributes are perceived as being of little value and thus, the general willingness to pay for mobile tourism services is low. This is also indicated in other research on willingness to pay

for new digital services in general, where willingness to pay and intention to use must be understood as different concepts and are explained by different causal models (Nysveen and Pedersen, 2004).

For all experiential goods and services in particular, adoption is a prerequisite for customer value. Barriers to adoption are, consequently, barriers to the creation of customer value. With the characteristics of the tourist presented in “Lofotenundersøkelsen”, overcoming these barriers is not a simple task. The study, however, indicates valuable results that may be used to create mobile tourism services with attractive attributes that may motivate these tourists to overcome other barriers to adoption. Simultaneously, the barriers to adoption must be lowered. Not all such barriers are motivational and examples of barriers that should be lowered are lack of social influence and perceptions of behavioural control. Such barriers are, however, also affected by service attribute perceptions. Examples of important service attributes that may be used to overcome service adoption barriers are ease of use and compatibility. Consequently, such attributes should be particularly focused for the type of tourists found in this region.

Our general conclusion is that the investigations conducted in “Lofotenundersøkelsen” provide valuable input to the design, development and marketing of mobile tourism services. The extent to which the MOVE project has taken this input into consideration in the design and piloting activities of the project is further discussed below.

4.1.2 The study of the conceptual framework for MOVE

While the study of the conceptual framework for MOVE (Finnset et al., 2004) does not include behavioural studies of potential users, it expresses the intention of the MOVE project to develop services with particular service attributes and the perceptions of the MOVE project members of how customer value may be created. In particular, scenarios and service concept descriptions are of relevance. An interesting basis for the evaluation of customer value perceptions among MOVE project members may be a comparison of valuable attributes derived from “Lofotenundersøkelsen” with the tourist attributes perceived as valuable by MOVE project members through the conceptual framework.

The conceptual framework includes the service concepts MOVEstream, MOVEcard, MOVEblog, MOVEmap, MOVEfood and MOVEgame, where the terms are relatively self-explanatory. Of these service concepts, only MOVEmap and, to some extent, MOVEgame have been transformed into pilot services. Of these, the

service KartGUIDE is the only mobile tourism service tested in extensive trials. Some of the findings on differences in information search behaviour for dining services versus other services have been implemented and transformed into a specific service concept termed MOVEfood. If the functionality of a mobile service built on this concept includes and creates value from the impulsiveness of tourists on this particular service, it represents a potentially interesting development.

The conceptual framework also includes the concepts POIregMOVE, PictureMOVE, ComMOVE, PriceModelMOVE, ConsumerModelMOVE and ProductregMOVE at the provider side of the service offerings. These concepts are further discussed in section 4.2.

The study includes a set of “concept modules” that are best described as reflecting the gratifications that may be obtained from combining service concepts of the kinds described above. Two “concept modules” are mentioned on the tourist side of the framework; fun and convenience. Convenience is the translation of the term “nytte” suggested by the authors of the conceptual framework report, but normally, “nytte” is translated with the term usefulness. From the discussion above, we see that these “concept modules” rather closely reflect gratifications that may be obtained from intrinsic attributes of the offered services. Focusing the two gratifications of fun and usefulness/convenience means the intrinsic attributes focused are enjoyment and usefulness. Usefulness is obviously an important attribute as may be inferred from “Lofotenundersøkelsen”, but it is more difficult to find support for the importance of enjoyment as an important intrinsic attribute among the tourists in this region. That said, it is highly likely that for other segments of the tourist market, enjoyment may be an important driver of customer value. Consequently, we conclude that there is a lack of variety in the number of intrinsic attributes reflecting the variety of gratifications of the tourists found in the conceptual service framework of MOVE. In particular, the importance of the attributes ease of use and compatibility as inferred from “Lofotenundersøkelsen” is not explicitly treated in the conceptual framework.

As discussed above, usefulness is a perceived construct that stems from a specific functionality of a mobile service. No doubt, usefulness is focused in the conceptual framework of MOVE. The discussion of systems requirements found in the study nicely reflects the functionality of the service offering that is expected to contribute to perceived usefulness. The following functionality is described; profile management (1), map navigation (1), POI management (1), alert setup and reception (1), diary management (2), travel plan management (2), search (2) and route calculations (3). The numbers refer to the priority of the functionality. The POI-management

functionality is not relevant to the tourist side of the conceptual framework. When comparing functionality given priority in the system requirements of MOVE to the potential functionality derived from “Lofotenundersøkelsen”, there are some interesting discrepancies. Profile management may be relevant to segmentation, but has not been implemented. Map navigation has been focused, but it is difficult to identify the map as the single most important functionality of the widely used artefact—the guidebook. Alert based services may be of relevance, but problems are also likely to exist with the identity of this type of regional tourists and opt-in arrangements required for alert services. However, this functionality was not focused. There may be interesting functionality in diary and travel plan management, in particular when considering the importance of the guidebook, but such functionality has not been implemented in trial services. With the findings from “Lofotenundersøkelsen” in mind, the involvement of guidebook publishers or authors in the project or systematic interviews with such informants may provide important value on how customer value is created for tourists in this particular region. Currently, these service providers seem to be among the most successful in creating value by supporting the visiting phase of these tourists.

Extrinsic attributes and value are not given particular attention in the study. Some of the service concepts and in particular some of the scenarios implicitly include considerations of user network and complements network attributes. Of these, user network attributes are given the least attention but are briefly discussed in a scenario on “birdwatchers”. Here, the importance of user network strength versus user network size is well understood. Unfortunately, however, few of these considerations are further implemented in the developed pilot services.

Complements network attributes are given more attention. Still, there is no explicit discussion of how the two-sidedness of complementary market offerings and user network size and strength may operate in a virtual marketplace. It seems that the interplay between tourist value and provider value has not been given sufficient consideration once the conceptual framework has defined the service concepts and attributed them to each of the two sides. For example, the sources of complementary service quality are not discussed. Neither are any analyses provided of what constitutes sufficient complementary service variety and how compatibility of the mobile marketplace may be obtained across complementary mobile services and other information services.

No particular discussion of barriers to adoption and drivers of customer value other than through the intrinsic attributes discussed above is found in the study. The

study includes valuable analyses of some of the relevant intrinsic attributes that a mobile tourism service framework should support, but many of these valuable analyses do, unfortunately, not seem to have been brought further into the development of piloted services.

4.1.3 The “pilot-study”

The objectives and method of the field trial termed here as the “pilot study” were presented in section 3.1. As presented in section 1, the pilot services that were used in the field trial were the KartGUIDE service, the AktørPortalen service³ and the services MOSAIKK and REBUS. In the “pilot study” the MOVEmap service concept is repositioned from what was discussed in the conceptual framework study. The MOVEmap service concept is now considered a platform for the other six service concepts and the MOVEgame service concept is given as an example of a service concept based on MOVEmap as a service platform. Supporting the MOVEmap platform with an interface for registering and administering POI-information is the AktørPortal service.

The primary intrinsic attribute driving the customer value of the KartGUIDE service is usefulness. The functionality providing usefulness is a java-based application showing seven categories of tourist services using icons on a navigation map. The POI categories are lodging, dining, attraction, activity, event, tourist information and a category including a collection of several other POI's. Navigation is possible through keyboard shortcuts. During the trial, more than 200 POI's were registered by the MOVE project and shown. Selecting a POI-icon, a WAP-page with further text, pictures and video clips with information of the POI is presented.

The primary intrinsic attribute driving the customer value of the MOSAIKK and REBUS services is enjoyment. The functionality providing enjoyment for MOSAIKK is a puzzle of pictures from the Lofoten region. When the puzzle is finished a “sales poster” for the related attraction is shown, and the picture may be used as a souvenir or sent as an MMS to a friend. The functionality of the REBUS service consists of a WAP page with a rebus (word puzzle). When solving the word puzzle, the solution may be sent in as an SMS so the end-user can participate in a prize drawing. Through using pictures from different attractions, the intent was also to induce the tourists to visit these locations.

³ The AktørPortalen was used by project members only to register POI's during the trial.

The recruitment procedure of the field trials reported in the “pilot study” resulted in a sample of end-users participating in the trial with rather unique characteristics. The phone requirements, the skills and the motivation required to overcome installation problems make many of the results with respect to behavioural control, perceptions of ease of use and usefulness biased. Still, the results from the field trial are of great importance to understanding the opportunities and limits of creating customer value of mobile tourism services in this particular region. While the attributes presented above are the ones included in the value proposition of the trial providers, the empirical study of the end-users’ reception of these services gives us first-hand results on end-users perceptions and valuation of service attributes. While there is a uniform distribution of male and female tourists in the region, more male than female tourists participated in the trial. This indicates that a demographic segmentation of tourists may also be used in addition to the psychographic segmentation suggested from “Lofotenundersøkelsen”.

The KartGUIDE was perceived as a relatively useful service. The main functionality that provides usefulness is the map replacement functionality combined with immediate access to POI information. These findings are also confirmed in the “citations” from interviews in the pilot study report. Some end-users experienced limitations with the map as a user interface on these small screen terminals. This is also reflected in some of the suggestions for improved functionality. Almost all suggestions cited in the pilot study report suggest improved functionality that extends the usefulness of the service. The suggestions, however, indicate a relationship between complementary service variety and usefulness in each user suggesting that POI’s of their particular interest should be included. This also suggests that there is a relationship between complementary service quality and end-user identity. Exploring these relationships could be valuable. For example, the relationship between profile management and complementary service variety in the mobile marketplace that was originally suggested in some of the user scenarios of MOVE seems relevant. Thus, it may seem that a group of intrinsic attributes including usefulness, ease of use, compatibility and to some extent identity expressiveness may be related to complements network attributes in an interesting way that drive customer value for this type of mobile tourism services. As mentioned above, it may be that this is exactly the combination of attributes that drives the value of guidebooks and explains why several guidebooks on the same destination region may be profitably offered to different segments. With the biased procedure used to reach the final interviewees in

this study, however, functionality suggestions should be interpreted with care when seen from a general value creating perspective.

From the intentional part of the study, KartGUIDE was perceived as an enjoying service, but figures from actual users indicate that perceptions changed with behavioural experience. As mentioned above, enjoyment is related to ease of use, at least in the sense that the term is used in the studies by Nysveen et al (2005). For instrumental services like KartGUIDE, enjoyment is perhaps best termed “usejoyment” - a term describing the surprisingly enjoying experience of adopting an instrumental service that is easy to use. For entertainment services, like games, there may be a reversed relationship between this kind of enjoyment and ease of use (Novak, Hoffman and Yung, 2000).

As mentioned above, complementary service variety was an issue in some of the suggestions of enhanced functionality for KartGUIDE. In fact, the citations suggest that complementary service variety (“all sorts of POI’s should be included”) was more important than complementary service quality (“only POI’s with special offers should be included”). Still, complementary service quality in the form that “POI data should be without errors” was required. These findings are positive in the sense that MOVEmap may be used as the platform suggested in the pilot study with more responsibility given to service providers for POI’s without reducing the perceived customer value of the service. In fact, it may indicate that this may increase customer value and be required to improve the usefulness of the service. User network attributes are not discussed for KartGUIDE. This is not surprising because no functionality using direct network effects to enhance customer value has been implemented in the service.

When looking at the barriers to adoption, the trial included specific questions on this issue. It seems that lack of motivation and problems related to usability and compatibility were the most frequently mentioned barriers. While problems with lacking ease of use have been mentioned most often in the pilot study report, motivational barriers are also important when looking at the responses. A few citations have also been collected on willingness to pay. These support the general finding that different causal paths explain willingness to pay and intention to use. For example, the associations made by end-users to “free” map based services on the Internet may reduce willingness to pay for KartGUIDE whereas experience with such services may actually increase intention to use such services through end-users’ behavioural control and perceptions of usefulness.

The two services REBUS and MOSAIKK were not focused in the trial. None of the interviewed respondents installed these services and findings are based on

perceptions from the demonstration or experience from external users not participating in the regular field trial. Both services were perceived as easy to use and enjoying. This reflects the intended value drivers from the value proposition. From the external users some suggestions for improved functionality, mainly related to improvements in usability, are found. The few responses that relate to perceptions of enjoyment suggest that the enjoyment the services provides mainly appeals to younger users and that enjoyment seems unrelated to usefulness in these pilot services. This also limits the value creating potential of the services when seen from the customer side. No discussion is made of extrinsic attributes in the pilot study report, but previous descriptions of the scenarios in which the services were described included functionality providing user network driven value as well as complements network driven value. Design of functionality that combines enjoyment as an attribute with other intrinsic and extrinsic attributes in value creation is challenging, but represents an area of further investigation for mobile tourism services.

In the pilot study report the findings from the field trial are discussed with particular focus on improvements in usability to improve ease of use and on related research that may be used to enhance the functionality of KartGUIDE to provide usefulness. These are relevant issues, but in this report we would like to direct the attention at including a broader set of attributes in the value proposition of mobile tourism services. By stressing the term value proposition we also would like to suggest that the customer value of mobile tourism services may not stem from a single application, but rather from a set of complementary services using currently applied artefacts during the visit as a platform. Some of these ideas have been explored in a recent master thesis related to the MOVE project (Schürmann et al., 2006) using physical artefacts as a platform. We have mentioned the guidebook as an alternative platform for a bundle of mobile services combining simple and complementary services with functionality the end-user is already familiar with. Combining complementary services makes an innovation project less sensitive to failure in providing customer value for single, complex services and may more easily be directed at different market segments in different service bundles.

4.1.4 The master theses of the MOVE project

A general focus in the masters theses of the MOVE project has been the importance of context sensitivity in mobile services, and context sensitivity has been treated as a universal attribute from which service attributes like usefulness and ease of use may be achieved. Some of the theses have also included personalization as a

universal attribute of mobile services, but few, if any, discuss more operational attributes of mobile tourism services based on personalization.

The user scenarios presented by Schürmann (2004) are characterized by usefulness and enjoyment as the main value driving attributes. Lopatina (2004) on the other hand focuses almost exclusively on enjoyment in her thesis on tourist relevant mobile gaming services. She carefully develops six mobile gaming scenarios and conducts an extensive evaluation and discussion of the attributes and values relevant to both sides of the tourist service market. She discusses the relevant interests of tourists that are met by the services suggested in each scenario. “The Lofoten Island” scenario is an example of an infotainment scenario where attributes of usefulness and enjoyment are combined in a learning environment. The “Geopuzzles” scenario involves a puzzle of a set of destination pictures and mainly appeals to gratifications of escape and relaxation. The “My Route” scenario includes a set of challenges that should be met by the tourist along a suggested route where points are earned. Elements of usefulness may be included and this kind of service may also include personalization and opportunities for identity expression. The “Mobile Fishing” scenario is a blog-like service where fishers report and share their catch information. This is a service which focuses usefulness, as well as value generation through extrinsic attributes. Thus, a variety of attributes are discussed by Lopatina. The scenario used as the basis for her demonstrator, however, may not be the optimal choice when creating value with mobile specific attributes. Instead, in many of her other scenarios, customer value is more likely to be driven by mobile specific attributes. Simple user studies, for example taking the form of focus group studies, could possibly have revealed which of the scenarios were most suited, at least from a customer value perspective.

Extrinsic attributes are not discussed by Schürmann (2004). In general, the work by Schürmann (2004) focuses the map based user interface and, consequently, the importance of two-sidedness is not an issue in this work. Lopatina (2004) suggests scenarios where value creation is based on extrinsic attributes. The value of her “Mobile Fishing” scenario for example depends highly on the quality and strength of the user network of fishers reporting their catch through the service. The value of her “Photo Hunt” service scenario also is influenced by extrinsic attributes. At least if the “Photo Hunt” service is implemented as an equivalent to “Treasure Hunting” services popular in several regions (e.g. Sørlandet), the value of adopting the “Photo Hunt” platform depends on the variety of destination and attraction sites participating and using the platform. Thus, the scenarios of Lopatina (2004) represent interesting

contributions reflecting an understanding of the variety of value drivers of relevance to different types of mobile tourism services. End-user studies based on some of these scenarios may contribute to further understanding of the customer value of mobile tourism services.

Being a thesis in tourism and not in ICT, Garnes' (2004) thesis is different from the other student contributions. A section on value creation reflects the two-sidedness of the services that are involved in creating national tourist routes. Little is, however, said and analysed on tourist information services in general and mobile tourism services in particular.

At least two approaches may be used when initiating student work related to an ongoing research project. Students may be recruited to work in a specific area related to ongoing research activities. This is the approach applied in the MOVE project where most of the students have worked on developing service demonstrators based on a set of theoretically derived principles and scenarios. This creates an infrastructure for student work where the students have much in common and can help each other. The potential danger lies in student work being duplicates of prior work that does not contribute to the progress of the ongoing research project. Another approach is to initiate student work in a variety of areas, for example related to user studies, business studies, demonstrator development and prototype testing. This approach was not applied in the MOVE project, but some of the master theses produced in the project could have been used as a basis for such efforts. In particular, the work by Lopatina (2004) and Schürmann (2004) are relevant if such efforts should be initiated.

With 12 master theses being produced with direct or indirect relations with the MOVE project, impressive results have been obtained for the knowledge creation and dissemination objectives of this part of the project. A somewhat larger part of this work could, however, have been focusing topics of more direct relevance to customer and business value.

4.2 Service provider value and business models

Both document sources and the primary study including qualitative interviews with service providers were used as a basis for investigating the service provider values of the MOVE project. The results of these investigations are presented below in three sections. In each section, the procedure of the investigation is used to organize the results. The framework of section 2, however, has been used as the analytical framework for all results.

4.2.1 Service provider values reflected in document sources

The study of tourist service providers

This project internal study is presented in section 3. The study presents the structure of the information offered by several information service providers, including national and regional providers. Particular focus is put on the categorization of information and how this information is presented to the tourist. It describes some of the marketing program elements used by the information service providers, but this part of the study is purely descriptive. The section on digital services, however, is more analytical. This section includes a categorization of online tourist services that reflects both service provider and customer needs. Thus, service provider value is reflected in this part of the study. Also, two-sidedness in the relationship between customer value and service provider value is included in the discussion following the categorization. In the discussion of service examples, service provider functionality is mentioned in a service for POI-registration. This functionality was later implemented in “AktørPortalen”. Furthermore, functionality for service bundling is mentioned in another service example. Service bundling functionality will include agreements among service providers on bundling platform and standardization of underlying bundling platform. It will also involve cooperative agreements between service providers allowing mobile tourism services to be used as a basis for creating network value. In the action points suggested from the study, service providers’ involvement is focused with specific action points planned in 2005 and 2006. In the period between this study (September, 2004) and the conceptual framework study (December, 2004), the balanced attention given to both customer value and service provider value seems to have shifted towards focus on functionality driving customer value rather than service provider value. According to the project management, this shift was mainly induced by prioritizations made by the the steering committee.

The study of the conceptual framework for MOVE

As mentioned in section 4.1, the main purpose of the study was to develop a conceptual framework for the “mobile marketplace” in MOVE (Finnset et al., 2004). The conceptual framework includes the concepts POIregMOVE, PictureMOVE, ComMOVE, PriceModelMOVE, ConsumerModelMOVE and ProductregMOVE at the provider side of the service offerings. The study includes a set of “concept modules” that are best described as reflecting the functionalities of the concepts that drive service provider value. The “concept modules” are “marketing”, “branding” and “transaction”. Thus, the mobile marketplace was intended to provide functionality for

service providers' marketing, branding and performing transactions, mainly with tourists. When transforming these functionalities into system requirements, it is difficult to identify how the system requirements contribute to these functionalities. Instead, a shift is made from combining customer and service provider value in the conceptual framework for the "mobile marketplace" to a somewhat one-sided focus of end-user based system requirements in the system requirement description. Thus, service provider values generated through marketing and branding are not mentioned. As part of the POI-management requirements of the system requirement list, transaction functionality, however, is mentioned. In the document, no further discussion is made on the conceptual basis for the pilot service "AktørPortalen" that was later developed. Thus, service provider values *resulting* from the use of the "mobile marketplace" as a platform of marketing and branding or the promotion of service providers value networks through mobile tourism services are only briefly discussed. Business model dimensions are not discussed.

4.2.2 Tourist service provider interviews

Nine representatives from seven different tourist service providers in Lofoten were interviewed. These covered different types of tourism services: destination management, tourist information services, main tourist attractions, boat tours, and tourist accommodation and catering. The informants were selected by the MOVE project management on the basis of being key providers of tourist services in the region, and also having been involved with the MOVE project at various stages.

The presentation of the interview results is structured in three parts. First we focus on the tourist service providers' own services and business models. Second, we summarize the providers' perspective on the two key services in the MOVE pilot: KartGUIDE and AktørPortalen. Third, we present the informants' views on other services and potential service enhancements.

The tourist service providers' own services and business models

Destination Lofoten serves as the coordinating body for the tourism sector in Lofoten, with over 140 membership companies in the region. The members pay a yearly fee ranging from 1.900 til 23.000 NOK dependent on company size. Destination Lofoten is a private limited company owned by local municipalities and some of the tourist service providers in the region. The primary focus of Destination Lofoten is on marketing and selling the members' services in the national and international market, and developing new tourism services in the region. They are

currently developing a masterplan for Lofoten, defining the further tourism strategy for the region. So far, their marketing activities have thus not primarily been directed towards individual tourists, although they also run the tourist office in Svolvær. This has also been restricted by the financial situation and marketing activities towards the end users are expected to increase in the coming years.

Destination Lofoten publishes the InfoGuide brochure which is considered the key guide for accommodation and activities in Lofoten (printed in 65.000 copies in six languages). In addition, they maintain a website for download of brochures and information (<http://www.lofoten-tourist.no/>). Today Destination Lofoten maintains information about the membership companies, but in a new version of the Tellus system (Tellus Destinator) (www.tellus.no) the companies themselves can maintain this information. However, this will mainly be rather static information, about extended capacity, new (permanent) offers, etc. In addition, Destination Lofoten runs a project with the aim of establishing an on-line booking system by January 1st 2007, in collaboration with a set of their membership companies. This will be based on the CityBreak system, provided by Skiinfo (www.skiinfo.no).

The other tourist service providers in the interview sample mainly serve individual tourists, although groups and course/conferences also comprise part of their market, especially outside the summer season. Some informants point to how bus tourists tend to press prices down, and typically stay for one night only. Infrastructure and logistics also limit this type of tourism for some of the providers. Only the boat tour company has bus tourists as their primary market, as they are dependent on filling up their trips. Yet, they still do some ad hoc marketing efforts towards individual tourists for filling up vacant seats, such as putting up poster adds in the local city centre.

Overall, the main tourist segment is stated to be Norwegian couples older than 40 years, thus confirming the results from “Lofotenundersøkelsen”. However, according to the destination management company for western Lofoten, it is difficult to define clear market segments as they have visitors from 34 different nations in one season. There are also “niche” segments of tourists related to specific attractions, such as fishing, bicycling, and kayaking. These tourists often stay longer in the area than the average car tourist. Only one of the tourist service providers reported having many families with children among their visitors.

In general, the market for tourism services in the Lofoten region can be characterized as fragmented, with many small, family-owned companies. Several of the informants stressed the importance for the region of having a multitude of

complementary tourism services. The providers all participate in some form of collaboration with providers of complementary services. While most of this collaboration is of an informal nature, there are examples of larger, more formalized efforts such as Lofoten Cruise (with around 20 providers developing packages for cruise passengers) and Lofoten Vinter (collaboration with 26 providers for extending the season for individual tourists to also include the winter months). Examples of regional collaboration include the destination management company serving the western part of Lofoten, and the collaboration among the providers in the Storvågan area (aquarium, museum, art gallery, and hotel/rorbuer). Competition in general is described as tough, with the competing market spanning the whole arctic region (Iceland, Northern Finland, North Cape, etc.).

In addition to channeling much of their marketing through Destination Lofoten, the tourist service providers also use a large number of national and international tour operators for selling their products. For example, Kystopplevelser is mentioned as the most important agent for one of the providers. Further, the providers also use other traditional marketing channels such as web pages, brochures, travel magazines, attendance at travel conventions, customer visits, etc. The number of hits on the providers' websites is considerable, with for example approximately 280.000 unique hits on the Destination Lofoten pages during the summer months. The tourists increasingly use the web for planning their visits. Especially Norwegians tend to arrange their trips themselves, while the foreign visitors book through agencies. Several informants explain how they earlier used to distribute information folders at the ferry quays, etc., but that they stopped this practice as it was resource demanding and also difficult to measure any effect from this.

The InfoGuide from Destination Lofoten is mentioned by several informants as the most important channel during the tourists' visit in Lofoten. Thus, any commercial service based on the MOVE pilots is recommended to be advertised here. Further, the informants find the "mouth to mouth" channel to be important, where tourists share experiences during their travel when they meet at night at the accommodations. The reception at their accommodation was also mentioned as an important source of tourist information.

The tourist service providers' perspective on KartGUIDE and AktørPortalen

The providers' knowledge of and experience with the KartGUIDE service basically reflected their degree of involvement with the project. While a few of the informants have had regular contact with the project, at least until Summer 2005, the

rest of the informants have mainly attended some meetings in the early stages of the project. Consequently, only three of the informants had tested the service themselves during the pilot period. None of the informants had in-depth knowledge of the results from the field trial during summer 2005. Although having access to the project report from this trial, they typically did not have time to go through this in any detail. A brief demonstration of the WapGUIDE service (the wap version of KartGUIDE) was provided during the interview.

Overall, the discussion with the informants on the value propositions from the MOVE services reflected the two-sidedness of this market, as the tourist service providers focused much on customer value as a basis for their own value from the MOVE services. Related to the KartGUIDE service, the main value driving attributes focused was ease of use, usefulness and complementary service variety.

Ease of use was stressed to be important for end user adoption. In general, the informants viewed the KartGUIDE as a pilot, and thus expected that there would be need for improvements. Some questioned whether the interface of mobile terminals was ideal for this type of information services, e.g. compared to laptops. One informant found the current list of POIs in the pilot version of KartGUIDE to be somewhat unstructured. Technical specifications in the form of installation procedure/configuration settings were regarded to have been barriers during the field trial, and the informants testing the service had experienced problems with slow response time. (This was also a problem in the demonstration of the WapGUIDE during the interviews).

In general, all informants agreed that the tourists visiting Lofoten are ready for using this type of mobile service, with the adoption of mobile phones now being universal. However, Norwegians were perceived to be somewhat ahead of other nationalities regarding their sophistication in use of mobile services. The wap interface in the pilot version of the WapGUIDE was also perceived as a potential threshold to be overcome, at least for the older users, and one of the informants also considered this technology to be an intermediate stage only in the technological development. The informants had somewhat different perceptions on how many tourists brought their PCs, but some thought that using laptops with GSM would provide a better interface for services like the KartGUIDE than mobile phones.

Related to usefulness, the main customer value was stated to be easy access to information about the tourist services, as a form of “mobile handbook” or “mobile guide”. This could possibly also be extended with SMS based booking services (see discussion on this below). Closely related to this, the complementarity of services was

emphasized by most informants as important for creating customer value. Regarding information content, they considered it important that a service like KartGUIDE includes different categories of POIs of relevance for the tourist. In addition to the categories provided in the pilot version, “practical” POIs such as gas stations, supermarkets, disposal of camper septic tanks, etc., were mentioned here. One of the informants stressed the importance of providing a clear structure for these services, with predefined categories of POIs. Further, several informants here envisioned an integrated search functionality for increasing usefulness of the service. One informant also suggested that Destination Lofoten could provide recommendations for attractions, things to do etc. through this system. Another informant also pointed to how this service could support the current initiative of developing the winter season, providing access to information while regular tourist information services are less available as a form of “first aid” to the tourists.

During the interviews, some examples of updated video contents developed by the MOVE project were shown to further illustrate the possibility for integrating this as part of the POI information. This was perceived as attractive by the informants. One informant found the textual information and video illustration for his attraction not to be sufficiently related to each other, thus stressing the importance of this.

Further, being able to subscribe to SMS alerts for different interest categories (attractions, fishing, kayaking, hiking trails, etc.) was considered potentially useful for making tourists aware of different offers that they else might miss. Here some informants pointed to the results from “Lofotenundersøkelsen” showing that many car tourists do not use activity offerings during their travel. New potential interest categories were also mentioned here, such as “nice beaches”, “Sculpture Landscape Lofoten”, and “midnight sun alert”. As expressed by one informant: *“For us to reach out with information and find effective and efficient ways to communicate is clearly interesting. It could be that at a certain time the entire Lofoten is not covered in fog, and that some tourists are burning to see the midnight sun. Then, if they to subscribe to this type of message, I think they should get this instead of missing this the one day this happened. Because we see now how good weather has become a scarce resource, so then you need to act fast. “Now there is clear weather on the north coast – drive to Eggum!”*

However, the challenge of keeping this type of services updated was also mentioned. Some informants also expressed concern that push services like this could easily be perceived negatively by the tourists if the level of precision was too low or the availability of the service was restricted. In the discussion related to this several

informants stressed the need for adapting such a function to different tourist categories (e.g. individual tourists vs. group tourists) and to the type of tourist service. For example, sending out a large number of alerts for an activity with a limited number of participants (e.g. boat trips) was perceived as “dangerous”. Another limitation pointed to was that the tourist service offerings in the region are relatively static compared to larger cities, for example regarding cultural events such as concerts. Yet, one informant saw the possibility for sending out a daily alert about cultural events (e.g., festivals, concerts, etc.) to tourists subscribing to this interest category.

Several informants meant that a service like KartGUIDE needed to be integrated with an on-line booking service, as only providing information about the services would perhaps not be enough. The on-line booking project currently undertaken by Destination Lofoten was here brought up by several. Since Destination Lofoten’s system will require a PC, also making this available through mobile phones was considered very interesting. Combined with search functionality for vacant rooms in Lofoten, this would enable the tourists to “book their rooms on the ferry”. Yet, as shown from Lofotenundersøkelsen, many tourists already have pre-planned their trips in detail. One informant explained that his company is now developing its own on-line booking service on his web pages, while still being part of the on-line booking project. This is to try to get as many direct bookings as possible, to reduce provision payment to the destination management company.

The possibility for using SMS booking from the KartGUIDE service was perceived differently among the informants. The most positive was the informant providing accommodation, restaurant and activities, not having any concerns about using such a service for booking rooms, tables in the restaurant, etc. The information provided should be very concrete, getting the customer in “buying mode”. Others pointed to the challenge of combining SMS-based booking with the existing manual booking systems:

“If the booking system is not digital and cannot reply directly to an electronic request there builds a que, and in the meantime the wife has perhaps taken a booking on the phone so that what you replied was “yes” suddenly has become “no”, and then you have to trace these people. If there is something they [the providers] fear, it is to introduce systems that require much extra work during a busy season”.

And another informant simply stating that: *“We do not want direct booking, they need to call and check availability first”.*

Again, for attractions like galleries and museums that do not require bookings except for larger groups of tourists, information about opening hours etc. would be

sufficient. Consequently, one of the providers in this category has decided not to take part in the on-line booking project.

The tourist service providers' considerations regarding value from KartGUIDE for their services varied somewhat according to whether they expected this to increase sales or not. However, all informants expressed a positive attitude towards the service when considering the potential for the region as a whole: *"If we take Lofoten as a whole, if you want to generate traffic you need a multitude, you need many providers"*.

The main potential value from the KartGUIDE service was perceived as to be able to dynamically update information about vacancies and special offerings. As described earlier, the current procedure for this involves manual distribution of information to many different sources, without any guarantee that this reaches the end users. Being able to broadcast new offers and attractions "on the fly" was expected to save time and increase the possibility for filling up vacancies: *"Currently we send email or fax to Destination Lofoten, to the tourist office, all hotels, etc. If I myself could register special offerings, e.g. availability of rorbuer, that would be very positive. "Vacancies" as a special category, would have been ideal. "Find vacancies in Lofoten". I use a lot of time for announcing that we have vacant rorbuer"*.

However, many of the tourist providers are already fully booked during the summer season. Further, for providers mainly targeting organized group tours, this form of ad hoc booking is of less importance.

The informants' views regarding potential revenue models were not very explicit. Several stressed that their willingness to pay for this service was dependent on the information service provider being able to document effects from use of the services: *"If this can help us in filling up vacancies we are willing to cover a part of the pot. If we see that it has an effect. That we actually are able to fill up and that we save time as well. Then it would be very interesting for us to participate in paying for the service."*

"If this gives results for us, then we would be willing to pay an extra price [in addition to a basic subscription fee]. If it provides concrete results. If we are to pay several thousand NOK, and I know that this does not give any results, then after a while I probably will not be interested in participating. But if this can be documented, that they can track this, then I am very interested in paying 1 NOK per contact or whatever this would be. Almost like a newspaper add."

One of the informants believed it would be wrong to demand a high entrance fee in the start-up phase, and that one should be more modest with prices for accommodation and activity providers. Further, he stated that his willingness to pay

for the service would increase if Telenor use resources on marketing: *“If my company sees that Telenor spends some money on marketing their service. This makes it more attractive for me to pay for the service, if I see that Telenor has a full page add in the Info guide. And that they may have something in different places, for example on the ferry, in airports. Then it starts to be damned interesting for me to be in, when I see Telenor is spending some marketing money”*

Experiences with existing portal services (e.g., Finn.no, Tilbud24) was made by several of the informants as examples of the type of revenue model they would expect from KartGUIDE, e.g. a basic fee for membership with add, and then possibly a fee per hit/booking. One informant here mentioned that the basic fee also serves a purpose of limiting non-serious actors. When discussing negotiation of revenue model, it was brought up that some of the tourist service providers might argue that this service would only secure sales that would have occurred anyway, as many providers are fully booked in the peak season. It was also pointed to the potential benefit for Telenor and other information service providers of being able to negotiate provision structure with the destination management company instead of a large number of small providers. One informant also discussed potential revenue model related to a search functionality, where larger providers could pay more for being “searchable” in a larger region such as Nordland.

Regarding governance forms for value creation, the informants agreed that the provision of contents for the KartGUIDE service should be decentralized to the tourist service providers. One informant here discussed how this type of initiative in general needed to be anchored locally, to gain the necessary trust. He suggested using the existing collaboration forums for small tourist service providers as the basis for this development, such as local tourism associations, considering the regional level (Lofoten) as to be too general. Further, he suggested that Telenor could provide an open technology platform, where local champions could then both “recruit” tourist service providers and aid these in providing contents (pictures, video, etc.). One of the informants considered having control of the information content as a requirement for him to be willing to pay for this service.

The informants see a great potential benefit from being able to announce new available services (e.g. rooms and special deals) easily and “just in time”. However, the informants also saw a clear need for standardization of structure and contents for the information to be provided, that should be provided as some form of template. Concrete examples mentioned here were number of lines of text, and standard categories for different types of services (e.g., accommodation, meals, attractions, and

activities). Several informants also stressed the need for quality assurance of the information.

None of the informants were familiar with AktørPortalen as this service had not been made available or demonstrated for any of the tourist service providers. The discussion of this service was thus based on print-outs of the user interface for registering and editing POIs. The informants in general perceived the user interface to be “manageable”, and the functionality of this to be in line with what they would expect from this type of service. Some of the informants acknowledged the potential for using this service to provide quick and frequent updates of current offerings such as available rooms, current activities and attractions, but also stressed how this required that this system was very easy to use, only requiring “a few buttons to press”.

The tourist service providers’ perspective on other services and service enhancements

The informants had very limited knowledge of the other services developed in the MOVE project, i.e. MOSAIKK and REBUS, thus restricting the possibility for specific discussion of these services. A brief demonstration of MOSAIKK was provided during the interview, as an introduction to a more general discussion on the value of services based on entertainment. (The REBUS service proved not to be available). In general, the informants saw limited value of services primarily based on enjoyment. The following statement can be regarded as representative for their attitudes towards this: *“I don’t think I would be interested in paying anything for this. I think we should provide the entertainment when they [the tourists] get here, and that we instead should focus on straight information”*. At most they regarded this to be complementary services to the KartGUIDE that should be offered free both for the end users and the tourist service providers, and the characterization of these services as “toys” was used by several informants. The informants explained that this view was partly based on their main market segment being tourists older than 40, and that these services were expected to have more appeal to kids/youngsters. Further, some of the informants also acknowledged that their position also reflected their own personal view of the mobile phone as primarily a work tool. Finally, one of the informants also characterized these services as “light weight”, implying that the quality and restricted focus of these resulted in limited value.

Regarding enhancements of the existing services, some suggestions for new categories of POIs and SMS alerts were mentioned in the previous section. In addition, one informant suggested that a valuable further development of the KartGUIDE service would be to provide locatin-based information for hiking trails, which based on

GPS could provide maps of the hiking trails together with related information about the scenery. He thought it would be easier to attract customers to services that could be used for enhancing their nature experiences, rather than looking for accommodation. In general, this informant also suggested that instead of focusing mainly on the small tourist provider companies as their primary market, Telenor should approach the local municipalities and tourist authorities to see how these services can provide general information related to nature and culture. Several pointed to that the services should also be provided in foreign languages. Further, the importance of integration with on-line booking and search functionality was emphasized by several informants.

As for new potential services, the informants were positive towards services that would enable tourists to share their experiences, both during and after their travel. However, few specific suggestions related to this were mentioned. When informed about new services currently being developed in the MOVE project, such as the MMS2Search (M2S), some informants found this exciting while others were more indifferent. Without any demonstration of these new services, it is difficult for the informants to reflect on the potential of these.

4.2.3 Information service provider interviews

As presented in section 3, interviews were held with 3 information service provider informants. The structure of the presentation of these interviews follows the structure of the tourist service provider interviews.

The information service providers' own services and business models

In interviews with information service providers, this section of the interview was used to familiarize the interviewer with the informant and to get their views of what contributes to their own value creation. This is important because all informants have been in a situation similar to the MOVE project trying to identify what kind of information service is likely to create provider value through customer value. The three informants are differently positioned. One has chosen to create value through infrastructural services, one through services offered to the destination information providers and one through the design of attractive and dynamic services to non-tourist end-users. This also reflects some of the opportunities for the MOVE project, both when it was initiated and in further commercialization. Service provider value may be created through infrastructural services, aggregator services and through end-user services. Whereas the focus of the MOVE project has been on end-user services, some of the informants stress that value creation may also result from the other service

categories. One of the informants stressed their value proposition as being “*breadth of offerings in infrastructural services*”, and another said: “*Our value added lies in our function as a hub, we aggregate information nationally and make it available in a variety of distribution channels*”.

Thus, the value propositions of the informants’ own services reflect some of the alternative value propositions that may apply to commercialisations of the MOVE project.

With respect to revenue models and revenue sharing, the three informants apply very different models reflecting their differences in value propositions. One informant focused the value of having a separate software service that may be licensed. This makes it easier to generate revenue as a combined revenue stream: “*First of all, we are a regular software house. This generates revenue from licenses and support service revenues. In addition it generates development revenues for adaptations and revenue from hosting for those who want us to host their web sites.*”

The other informants are more focused on single sources of revenue. However, all stress that revenue must primarily come from the service provider side, also in mobile tourism services. For example, one said: “*We may take a cut on SMS and MMS services, but mainly we have to make agreements with service providers and take a cut from them for marketing their services in new channels*”.

Due to differences in service offerings, market strategies and focused segments also vary from attracting segmented end-users to serving destination service providers and professional end-users. Their views of their own governance forms, however, share many similarities with their focus on hierarchical or strong-tied collaborative governance forms. They all believe that to provide unique value and to maintain a unique value proposition, closed governance forms are necessary. For example, one of the informants who uses an open group of Norwegian and foreign developers for their innovation projects said that for the unique attributes of their service, they would apply hierarchical governance forms: “*We have seen a service provider who uses freelance people for this, we would, however, like to hire an editor that worked with this content and adapted it to the mobile channel*”.

This illustrates a reflected attitude among the informants in combining open and closed forms of collaboration for different parts of their service offering. These unique values are controlled by hierarchical forms and the less important parts of the value proposition are free to more open innovation.

Finally, summarizing the unique values that each of the service providers mentioned is difficult. We would like to do this by quoting some of the terms that refer

to attributes or sources of value mentioned by the informants on their own service offerings. One informant focused the value created through customer value: “5 good offers, quality, adaptation to the mobile channel, fresh information, dynamic information, intuitive interface, fun and useful”.

Another informant focused more directly on service provider values, mentioning: “Improved effectiveness of the service provider, variety of distribution channels we offer to the service provider, standard for easy categorization, national focus”.

Finally, another service provider focused what may be termed infrastructural values that affect a variety of service providers all utilizing the underlying infrastructural platform to support their individual value propositions: “Breadth of infrastructural services, knowledge, providing infrastructure as a main source of value, importance of an infrastructural marketplace”.

These statements are cited here to show the variety of value drivers that may be relevant to information service providers, and that this should perhaps also be reflected in value driver variety for mobile tourism services.

The information service providers’ perspective on KartGUIDE and AktørPortalen

While the informants knew their own value propositions and could articulate this in a consistent manner, the knowledge of the activities and services of the MOVE project varied considerably. One informant had been rather intensively involved in these activities, whereas the two other only had fragmented knowledge of its activities and piloted services. Thus, the interviews focused on transferring the informants’ general perspectives on value drivers for information services to what they knew of the MOVE project and to reflect on the consequences of their own experience and knowledge to mobile tourism services. The interviews on this issue were split into two sections, one focusing on the map-based information services, in particular KartGUIDE and AktørPortalen and one more freely reflecting on the other services of the MOVE project and possible enhancements and service ideas.

Two issues of relevance to value were focused. One is the value proposition of these services in the MOVE project. Another is the more general value contribution of the MOVE project as a whole. Starting with the value propositions, it is not surprising that the value propositions focused for MOVE services reflect the informants’ view on the sources of value for their own services. All informants mentioned one attribute contributing to customer value that was important – ease of use. For example, one said: “We saw that the need was there for services of this kind, but the functionality and intuitiveness of what was proposed in MOVE wasn’t it”. Another said:

“Personally, I would never use a service like that, it just didn’t give you the right user experience”. Except from ease of use, the opinions on the importance of other attributes as value drivers varied. One informant reflected on the importance of usefulness and the relevance of map-based interfaces and said: *“I just consider map-based interfaces as something mandatory, it can’t be the main interface for a useful application of this kind”*. Another said: *“I don’t know, in a car navigation system, a map-based interface as the main interface may be useful, but on the mobile, I just don’t know”*. These informants suggested other functionalities to be sources of usefulness. In particular, *“timeliness”* and *“quality of information”* were mentioned as important drivers of usefulness-based value. The same two informants also reflected on enjoyment and said it is important, but difficult to integrate in a map-based interface. One said: *“It is easier to combine fun and usefulness when applying a more free and intuitive interface”*. Another was more sceptical and said: *“I believe infotainment may be important to mobile tourism services, but that is in car applications, for example listening to a fairy tale from Gudbrandsdalen in your car where attractions are integrated in the fairy tale as you drive, but on the mobile, I just don’t know...”*

One of the informants mentioned the importance of creating communities through mobile tourism services. He pointed out the difficulties in that for people who just stayed at a destination for a short period and suggested that perhaps, other sources of community should be used. For example, he said: *“Consider a divorced father out with the kids, it’s easier to create a community from attractive events for this user group than for a particular destination”*.

All informants mentioned the importance of complementarity. However, the sources of complementarity that was mentioned differed with their experiences with own services: One of the informants focused the value to both other service providers and to customer value of having *“relevant POI’s in the POI-base”*. By this he meant POI’s adapted to the personal interests of the end-user that were perceived as relevant both in time and interest space. He suggested that the value proposition of this kind of services should be based on the sources of POI-information having first-hand experience with the POI’s. Another informant who also stressed the importance of the quality of POI-information was more pragmatic and said that *“It’s all in the individuals who are responsible for providing POI-information. Some take this seriously, there you have a chance to get good services developed, in other regions, it just doesn’t work, and these regions you just have to let them live their own lives”*.

When it comes to the value contribution from these services in the MOVE project, the informants mentioned a variety of important contributions that they felt may be integrated into future value propositions. One said: *“We have developed quite some experience with mobile tourism services, map-based services and infrastructure for such services. What we found out was that we lack expertise on the right interfaces and the venture part of commercializing such services. But that will be different in the next phase”*. Such contributions also include conceptual contributions. For example, another informant said: *“The value was really not in the pilot service, but in the conceptual idea. The video they made really illustrated that, that’s what we will be working with, the conceptual idea, not the pilot services”*. This citation shows that the conceptual ideas and their illustration in the produced video of the KartGUIDE service represent an important type of service provider value not resulting directly from developed services.

When probing more directly on service provider values from the MOVE project, the general opinion was that it was somewhat difficult to identify service provider value through the applications being developed. For example, it was difficult to find traditional effectiveness values of rationalizing the standardization of POI-information and streamlining of POI-management across channels from the project. Both these sources of value were mentioned, but as examples of lacking contributions from the MOVE project. One said: *“One of the problems was a lacking involvement of relevant players in tourist information standardization and tourist information service development. In further projects, this must be strengthened.”* Another said that *“You cannot start registering these things for an individual channel, you have to play with the partners out there and connect and adapt to the information stream that has already been established”*.

Reflections on revenue models were also influenced by the informants own experience. Still, two of the informants found that revenue should mainly be generated at the service provider level. That was why some of the findings on willingness to pay from the pilot study were considered rather irrelevant. One said: *“To the end-users these services must be free, we have to generate revenue from other sources than that”*. One of the informants referred to their own sources of revenue and stressed that variety of revenue sources is necessary for a service provider in these markets. One informant also reflected on the fact that revenue might come from end-users indirectly through forwarding of announcements and so on, but not until critical mass has been established, he said: *“First, we must establish critical mass on the supply side, then we*

must work with critical mass on the customer side. Then we may consider customer side revenue”.

Due to their complexity, issues in the choice of governance forms for value creation were probed more directly than some of the other issues. All informants agreed that collaboration with content providers was necessary and that this could not be kept under hierarchical control. This is somewhat different from how they think of governance for their own services. Thus, many of them see their own way of handling governance as the only relevant form also when extending it into mobile tourism services. Still, some examples were given of successful collaborative models. One said: *“In Stavanger we do that, the local culture agencies register all kinds of attractions and events using our platform and Stavanger Aftenblad is allowed to use it freely in their newspaper. Then they can focus on writing editorial material and there has been a fantastic growth in the number of attractions registered and in the number of users of the event calendar service”.* All informants focused the importance of the POI-information, but only one said that they needed to take control of that function. As seen from the citation above, the idea of this informant was to use their own content editor for adapting POI-data to the mobile service. *“Not until later”*, the informant said, *“can we make this a responsibility of the POI-information owners themselves”.* One of the informants also said that this was the most valuable asset of the content providers – high quality information of relevant attractions and events, and that mobile tourism service providers *“...will have to pay for that in a period before critical mass is established”.*

All informants considered the development model as the most appropriate innovation model, reflecting their own experience. When probing on open innovation models, they said this might be a good idea, but only when an acceptable content platform had been established. None of them see open innovation as a relevant initial innovation model for mobile tourism services.

All informants agreed that there are some problems in the market segments represented by tourists and the value propositions of mobile tourism services. One of the informants said straight forward that: *“The mobile tourist service is not the idea we will develop further. We will use the ideas from the MOVE project but approach other market segments. Our segments are the urban technology users that first of all are interested in events and attractions that are local to their own city. We see this as the first step. Later, we may expand the service nationally or to other segments, but traditional tourists are not the first segment to expand to. Instead, consider a city student as a “long-term tourist”, we have to establish a long-term relationship with*

them. Later, when this is established we can use their user habits to make them use the service when they travel to Hemsedal or Tjøme". Another informant said: *"The Lofoten tourist segment was not perhaps the most interesting for this kind of services. Also, when you see the quality of the POI-information in the Lofoten region, it makes it even more difficult"*. The main arguments are that first of all, the segment must be experienced in using mobile services. Second it must have some interests in common that makes this kind of services relevant, and most informants feel that *"being at a specific destination for a limited time"* is not a sufficient basis for such commonalities.

The information service providers' perspective on other services and service enhancements

With respect to the value propositions of the MOSAIKK and REBUS services, all informants said that using enjoyment as a driver of value is relevant to mobile services, but they felt that the difference between the instrumentality focus in the KartGUIDE service and the simplicity of these two services didn't show how enjoyment could be integrated as an important value driver in mobile tourism services. One of the informants also said that he believed the enjoyment driver to be of less value to mobile phones as terminals than to other mobile terminals, such as car navigation systems. He said: *"When walking down the street in Oslo, I don't know if being entertained through the mobile in your hand is all that relevant really"*. Using services like REBUS was also seen as a social activity and that it had to be related to complementary services. One of the informants said: *"Well, REBUS, I don't know, but if you do it like treasure hunting, the way you have done with "Skattejakt på Sørlandet", that's interesting, but on the other hand, the mobile should only be complementary in that case"*.

Some of the informants were willing to speculate on enhancements and other services, but they were all rather careful in their suggestions and speculations. One informant said he saw markets for advertising on the mobile to be something that could be relevant to the enhancement of the services piloted in the MOVE project. The idea was that brands could be related to attractions in a more continuous way, where end-users opted in for advertising on a long term basis. Thus, advertising and POI-registration could be handled on the same POI-management platform. That, he felt, could be a potential service attracting both providers and end-users. Another informant pointed at the importance of branded goods to some consumers and that services could also be developed to provide *"brand location and brand track tours to interested consumers"*.

One of the informants represented the commercialization partner of the MOVE project, and he was the most articulate in expressing enhancements away from map-based interfaces and mobile tourism services to event or attraction based services in a local region with timeliness and local attractiveness as the drivers of value. In this case, tourists are not the relevant segment, but local inhabitants seeking new events and attractions in their local environments. Examples that were mentioned were: *“Five good offerings of my interest in my local environment right now, or “pub crawl” services taking me through a collection of beer offerings, or services that are tailored to give you the best events or attractions to visit when having so and so time available right now”*.

One of the informants also stressed the unique gratifications given by each mobile medium, and that services have to support interplay between these media and between fixed and mobile media. For example, services may be complementary but each part of service bundle must be adapted to the unique functionalities of each individual media. He also said: *“Even with one type of terminal, say the mobile, chat, SMS, MMS and voice are used in different but complementary ways. That’s why services using these different functionalities must be different and complement each other”*.

4.3 Innovation principles and project organization

The sources for discussing the innovation principles and project organization issues of the MOVE project were briefly presented in section 3.3. In the following, we organize this discussion according to these sources.

4.3.1 Innovation principles and project organization reflected in secondary sources

Following some general principles of service innovation projects (DeJong et al., 2003), such projects are believed to affect four elements of service innovation. They are believed to affect service innovation conditions including climate related, process related and external conditions. As a second element, they are believed to be based on or supporting particular innovation processes or process stages. As a third element, they are believed to focus particular innovation types, preferably those including the characteristics of service innovations, and finally, they are believed to focus particular innovation results. Using this as a frame of reference, we briefly discuss our reflections that we make from the document sources presented in section 3 on the MOVE project as an innovation project.

On the first element of the framework, conditions for innovation, the MOVE project has created a meeting place across organizations of people with interest in mobile tourism services ranging from research problems to commercialization interests. A network of industrial partners has been established that we believe will continue to work together on these topics after the MOVE project is finalized. Among the most valuable resources that have been developed from the project is the knowledge of mobile tourism services that is now present at university research groups, research institutes, service developers and service providers that have been involved in the project. An issue for reflection is however, if even more could be obtained on these dimensions had the project been organized particularly with this in mind. Some examples may here be mentioned. The network of partners involved in the project may have been too narrow to stimulate continued innovation in mobile tourism services, particularly when it comes to the final network of truly involved partners. These considerations must, however, be balanced with considerations of the complexity of an innovation project including many partners. This may also call for a more decentralized model of organization than the one chosen in this project. Another example is the active stimulation of external conditions. Often, innovation projects with central public funding like this one is used to spin off complementary activities funded by regional interests and more commercially oriented local venturing efforts. A more decentralized project management model might also have been used to initiate such efforts.

With respect to the applied innovation process model, a fairly traditional development process model seems to have been used as a framework for the entire innovation project process, as well as for the sub-projects involving pilot and demonstrator developments. In the master theses, methodology is fairly well described, but in other parts of the secondary source material innovation process methodology and development process methodology are only given limited attention. For example, in the service concept framework report, design methodology is mentioned and a simple model is shown, but only one page is allocated to this topic. In the pilot study report, even less space is devoted to service development methodology. One may suggest that one of the results from the MOVE project may be service innovation design methodology in the area of mobile tourism services, but if so, this methodology is under-documented. Unquestionably, the MOVE project has produced new knowledge in the area of service innovation process methodology, and some documentation of this methodology may represent opportunities for further publications from the partners involved. Consequently, when it comes to innovation

process methodology, it is difficult to evaluate and it seems to have followed traditional development project methodologies. Examples of process characteristics that could have been valuable to service innovation projects of this kind are extended customer involvement, extended partner involvement among value chain partners and open innovation process methodology (see e.g. Chesbrough, 2003; Von Hippel, 2005).

While the original proposal for the MOVE project included a variety of innovation types including interface innovations, infrastructure innovations, process innovations and value network innovations, the main type of innovation resulting from it has been interface innovations. A considerable effort has been put into this innovation type and valuable results have been produced. As discussed in section 4.1, however, the project focus on interface innovations grew gradually over the lifetime of the project with correspondingly less attention being paid to the other innovation types of the original proposal, with the project steering committee exerting decisive influence on this prioritization. This is not unique to the MOVE project because service innovation projects in general seem to focus more on the tangible types of innovations when easily visualized results are gradually required by project partners and external stakeholders. Some of the less easily visualized results of other innovation types produced in the MOVE project are considerable results on the standardization of formats for mobile tourism information and the infrastructure required for providing such services. Again, some of these results could have been better documented but as long as the documentation is acceptable for internal dissemination much has been obtained. When it comes to value chain and process innovations, the results are fewer. Many of these innovation types focused in the proposal and in the early stages of the project could perhaps be better maintained by a different innovation project organization.

4.3.2 Innovation principles and project organization reflections from qualitative interviews

This section presents the reflections on innovation principles and project organization from the interviews with tourist service providers and information service providers.

Interviews with tourist service providers

As discussed in section 4.2.2, the degree of involvement in the MOVE project varied among the tourist service providers. None of these were formal partners in the

project, but some had played a more active role both as informal discussion partners and related to the planning and conduct of “Lofotenundersøkelsen” in 2004 and the field trial of the pilot services in 2005. Others had only been in contact with the MOVE project at one or two information meetings in the early stage of the project. Common for all was that there had been little contact with the MOVE project during the last year of the project, and the tourist service providers would have wished to receive more information on the results from the 2005 field trial as well as updates on the further development in the project. While some of the informants acknowledged having received the project report from the 2005 field trial, none had found time to go through this rather extensive report in any detail. Rather, they expressed a wish for a more brief and easy to read presentation of the main results.

Some also pointed to how the field pilot trial could have been better marketed and coordinated toward the tourist service providers. For example, one of the informants told that he was not made aware of the field trial until one of his guests happened to show him how he had found information about the service on his mobile. Further, some thought there should have been a more systematic follow-up at the tourist service providers during the field trial, to collect data on whether the tourists’ visit in any way had been triggered through use of the KartGUIDE pilot. It was also considered a disadvantage that the field trial had started too late in the summer season, both because this gave rather limited time and since during this period the number of Norwegian tourists were starting to decline compared to foreign visitors. Since the user interface of the pilot services was in Norwegian only, the latter group was not targeted users for this trial.

Their informal, and for some rather peripheral, role in the project implied that the informants had few explicit reflections related to innovation principles and project organization. Those who had less interaction with the project thought they could favourably have been more actively involved related to the development of the services. But they also admitted that they could have taken a more proactive stance towards this themselves, also related to obtaining information about the project. High workload during the summer season was here mentioned as a factor limiting this.

Only one of the tourist service providers discussed the value of a more open innovation model, where local “champions” could provide service contents (e.g., pictures and videos) for Telenor to be distributed through the MOVE platform and also serve as mediators between the small tourist service providers and Telenor. In general, the representatives for this service provider stressed the importance of local involvement in this type of innovation project, where these activities should be

channelled through the existing local arenas already involved in developing tourist service innovations. This was considered necessary to obtain the trust and buy-in required for adoption of the services, and would also make it possible to “bundle” the MOVE services with other existing services. Further, the local “anchoring” of the innovation project was considered important for developing information services with sufficient quality and depth regarding local knowledge, instead of more superficial contents.

Overall, the tourist service providers’ general attitude towards the MOVE project can be characterized as positive, and they all expressed interest in continuing dialogue with Telenor regarding possible further development of the MOVE pilot services.

Interviews with information service providers

Interviews with *information* service providers’ reflections on the MOVE project as an innovation project revealed that the service providers differed greatly in their involvement with MOVE project management. Thus, only one of the informants had first hand experience of operational project organization and management. This informant said that “*compared to other research projects he had taken part in, the MOVE project was very well managed and organized*”. He also said that he had been part of a group of researchers and developers that due to the termination of the contract with one of the original participants had cooperated closely on the development activities of the project. Consequently, this work in particular “*had been most interesting and also very well managed*”. The other informants had only been involved through other partners in dyadic relationships. However, one of the informants did not see this as a limiting factor when utilizing MOVE related results. He said that “*we checked if there were any limitations to the exploitations of these results, but there wasn’t, everything was very open, so we decided to start the commercialization ...*”. The third informant was somewhat more reserved when it came to the project’s openness to already established infrastructure and said that “*the partners of this consortium may not have reflected the dominating partners in this landscape, and thus, they tended to try to reinvent the wheel*”. By this comment, we understood the informant to suggest that representatives from the established infrastructure of tourist POI information and closer involvement of representatives from parallel tourist sector innovation projects would have been preferred.

All informants were explicitly probed on the relevance of alternatives to a traditional development project organization of the MOVE project. They all said they saw the relevance of more open innovation models in this area, but that it might have

been too early to establish this as a major innovation model at the start of the MOVE project. First, they felt, one has to establish and develop relevant knowledge of technology and potential service acceptance.

4.3.3. Project organization reflections from the debriefing seminar

The participants at the debriefing seminar in September 2006 were all the formal project partners except the Norwegian Public Roads Administration, plus the two service providers who had been most actively involved in the project. The participants' view on the innovation principles and project organization typically reflected their role in the project.

Regarding conditions for innovation the participants generally emphasized the value of the network of project partners as a source of competence complementary to their own (mobile services, tourism research, value network and business model competence, etc.). The project manager expressed how an explicit goal in the project had been to utilize the competence at the research institutions in the innovation process. While he felt the project had succeeded partly in this, he also acknowledged how this could have been improved further through a more proactive use of this competence as a basis for the pilot and commercial services. One of the academic partners here also argued that there should have been more dialogue between the different partners in the process of planning the empirical studies, to map the specific competence of each partner to be better able to make use of this, as well as to identify competence areas lacking in the project. Related to this, one of the informants pointed to how the large geographical distance among the project partners had limited the possibility for more frequent meetings, and suggested that more extensive use of video meetings and other forms of electronic communication could have resulted in a stronger "bonding" among the project partners.

Regarding the project organization, some unplanned changes have occurred during the project period with two of the original partners leaving the project. This has resulted in the number of partners working on infrastructure development being reduced to one. The remaining partner considered this to be an advantage, enabling a more concentrated effort and reduced communication and coordination costs. One informant explained how the fact that his institution was not a member of the project steering group had made him decide not to take on the responsibility for a sub-task in the project. He was of the opinion that all partners responsible for sub-tasks in the project should be represented in the steering group, where the important decisions were made. The academic partner pointing to the need for more dialogue in the project

thinks this could have been facilitated through an organization in smaller sub-groups within the project. Further, several participants expressed a wish for a stronger connection to other external parties involved in similar projects, especially the Norwegian Hospitality Association (RBL) and the BIT project. Another suggestion was the establishment of a formal reference group of tourist service providers.

All participants gave credit to the project management for a well run project. However, some felt that the information from the project at times could have been more frequent and systematic, especially in the phase of planning the 2005 field trials. The project manager himself explained how an important lesson learned from this project was the need for a more decentralized organization of the activities, with clear responsibilities for different sub-tasks placed with project partners. However, this decentralized structure also needs to be balanced against the need for coordination in this type of innovation project where the final results cannot be specified in detail at the outset.

When reflecting on the innovation results several pointed to that the initial goals for the MOVE project were perhaps too ambitious, covering both interface innovations, infrastructure innovations, process innovations, and value network innovations. As a result, it has not been possible to realize all of these goals, and in particular the focus on value creation for the tourist service providers has been toned down in favour of the end user services. Whereas customer value is important to all innovation projects, the two-sidedness of mobile tourism services required a balanced attention to supply side and customer values. Both these values and their interrelationship have been discussed in sections 4.1 and 4.2. The question here is whether the project and its organization could have been designed to balance these innovation results better. By somewhat clearer roles and by balancing roles of project partners throughout the project one may have remained focused on the two-sidedness of innovation project results. While some had mixed roles others had responsibilities for project results that were not sufficiently integrated in the efforts of other participants. Adding to these difficulties were also the fact that a major project partner withdrew from the project. The responsibility for balancing the variety of innovation results suggested in the original MOVE proposal lies at the steering committee and project management. As we understand the development of the project focus, the steering committee was represented by project members that focused tangible innovation results at the customer side of the project. That said, there is always a trade off between balancing variety and quality of focused results, and there is no reason to believe that delivering tangible results on the customer value of application

functionality could have been obtained without reducing the attention paid to other innovation results.

Besides this, the perceived relative importance of the different project deliverables varied some between the participants. Among the tourist service providers, Lofotenundersøkelsen was emphasized as perhaps the most important deliverable, providing valuable background information about tourist behaviour and information search as well as illustrating the potential for further development of services. For these participants, the pilot services were considered more as useful illustrations of how mobile services can support tourists, rather than representing value in the current stage. The groups responsible for technology development and the commercialization of this naturally regarded the pilot services and related concepts as the most important innovation result. In addition, the MOVE video was also emphasized as an important contribution for illustrating the innovation concept.

In discussing areas where the results could have been improved, the academic partners pointed to how the project's ambitions regarding research publication have been somewhat unclear. Further, the decision not to conduct an extended pilot trial during summer 2006⁴ resulted in reduced access to empirical data for further analysis and evaluation of the services compared to what was originally planned for. One of the participants also thought the project should have put more emphasis on establishing basic data for the services, instead of mainly focusing on interface development.

⁴ The project had originally planned with conducting a large scale field trial of the MOVE pilot services during summer 2006. However, due to delays in the process of defining contractual agreements related to access and quality of information contents, as well as distribution of services by a commercial actor (MobileInfo), it was not possible to conduct this field trial within the 'time window' of the 2006 summer tourist season.

5. Conclusions, implications and further research

This report has presented the results from the evaluation activity in the MOVE project, focusing the three problem areas of value creation for customers (tourists), value creation for providers of tourist and information services, and organization of the service innovation project. The evaluation of value creation has been based on the structure-conduct-performance (SCP) framework, focusing on the relationship between structural conditions, business model options, and intrinsic and extrinsic value drivers. The evaluation of the innovation principles and project organization was based on the framework for categorizing service innovation activities suggested by DeJong et al. (2003). The empirical basis for the evaluation has consisted of analysis of project documentation including master theses, qualitative interviews with selected providers of tourist and information services, and participation at project seminars.

Related to the first problem area of value creation for customers the investigation conducted in “Lofotenundersøkelsen” identified motives for tourist behaviour, as a basis for defining tourist segments for the Lofoten region. Usefulness, ease of use, and compatibility with other tourist service artefacts (e.g. guidebook) were identified as the most important intrinsic attributes. Regarding extrinsic attributes, the characteristics of the Lofoten tourists imply that complementary service quality may be more important to customer value than variety and that network strength may be more important than network size. In general, the study provided valuable input to the design, development and marketing of mobile tourism services. The study was well founded in tourist behaviour research, also representing a weakness because design, development and marketing implications were not explicitly covered but had to be inferred by project members responsible for design and development.

The 12 master theses developed related to the project represent an impressive knowledge creation and dissemination. They discuss important service concepts relevant both to customer and service provider value, and present scenarios that contribute to understanding the variation in value drivers related to different types of mobile tourist services. Expanding the topics for the master theses beyond concept specification and development of demonstrators to also include focus on customer and business value, could have further increased the contribution from the student work to other areas in the project as well.

Analyzing the conceptual framework for MOVE shows how the value drivers identified in “Lofotenundersøkelsen” only to some extent have been taken further. It can be argued that there is a lack of variety in the number of intrinsic attributes

reflecting the variety of gratifications of the tourists found in the conceptual service framework of MOVE. While the intrinsic attributes focused are enjoyment (“fun”) and usefulness, the importance of the attributes ease of use and compatibility as inferred from “Lofotenundersøkelsen” is not explicitly treated in the conceptual framework. Extrinsic attributes and value are not given particular attention in the study.

The data from the pilot field trial in 2005 was mainly limited to the KartGUIDE service, as none of the interviewed respondents installed the other available services (REBUS and MOSAIKK). Technical requirements, and the skills and motivation required to overcome installation problems, resulted in a biased sample of end-users participating in the trial. Still, the results from the field trial are considered to be of great importance for understanding the opportunities and limits of creating customer value of mobile tourism services in the pilot region.

Regarding value for service providers, the conceptual framework for the mobile market place in MOVE specifies the concept modules of marketing, branding, and transaction. It is difficult to identify how these concept modules have been transformed into system requirements for the pilot services. Instead, we point to a shift made from combining customer and service provider value in the conceptual framework to a somewhat one-sided focus of end-user based system requirements.

The interviews with tourist service providers revealed how they basically focused on customer value as a basis for their own value from the MOVE services, thus reflecting the two-sidedness of this market. Related to the KartGUIDE service, the main value driving attributes focused were ease of use, usefulness and complementary service variety. Being able to quickly and easily announce new services or service updates was focused as the main value from this service, although more so for providers targeting individual tourists than those mainly serving group tourists. Complementary service variety was emphasized as important for creating customer value, with inclusion of practical information for the tourists among the POIs as well as integration with other services and functions (SMS alerts, search for vacancies, online booking). The tourist service providers indicated a preference for a decentralized governance form, where they would be in charge of content provision and maintenance. Establishing local ownership was also referred to as a requirement for adoption of this type of services among the small tourist service providers. Regarding revenue models, familiar models from existing portal services were a natural reference for the informants. The providers’ willingness to pay was stated to be highly dependent on documented effects from the services. In general, the informants saw limited commercial value of the services based on enjoyment. However, this latter

view should be interpreted in light of the informants' very limited exposure to the MOVE pilot services intending to combine enjoyment with complements network attributes (MOSAIKK and REBUS).

Whereas the focus of the MOVE project has been on end-user services, information service providers stress that value creation may result from a variety of service categories. The value propositions of the information service providers' own services reflected some of the alternative value propositions that may apply to commercialisations of the MOVE project. This also represents opportunities for creating multiple revenue streams. Information service providers believed that to provide unique value and to maintain a unique value proposition, closed governance forms are necessary. However, combining open and closed forms of collaboration for different parts of service offerings was considered important. As an example, standardization of POI information and service functionality may be controlled by vertical integration whereas POI information registration may be controlled by market players, such as tourist information providers, accessing open interfaces.

With respect to the MOVE pilot services, all information service providers mentioned ease of use as particularly important and pointed to problems with ease of use in the KartGUIDE service. The opinions on the importance of other attributes as value drivers varied, but none of the service providers found enjoyment a very important driver of customer value for mobile tourism services. Two of the providers questioned the combination of tourism services and mobile phones and suggested that maybe the services piloted in the MOVE project were more relevant in car navigation systems or that some of these service concepts on the mobile phone were more relevant to other users than tourists. All information service providers focused the value of complementarity, mainly in the form of complementary service variety.

With respect to the general value contributions from the MOVE project, information service providers focused the importance of the MOVE video and the pilot services to illustrating service concepts driving customer value. They all agreed that service provider value had been given less, and perhaps too little, attention in the project.

The MOVE project has used a traditional development process model, resulting in a product innovation that is now taken further in a commercialization process. While the original proposal for the MOVE project included a variety of innovation types including interface, infrastructure, process and value network innovations, the main type of innovation resulting from the project has been interface evaluation. Although valuable results have been produced in this area, the other innovation areas

remain somewhat under-reported. This particularly relates to the new knowledge in the area of service innovation design methodology produced in the project, the results on the standardization of formats for mobile tourism, and the infrastructure required for providing such services.

The project is characterized by the participants as having been well run and organized. Some more interaction in smaller groups could have facilitated a more systematic and proactive utilization of the project partners' competence. Further, closer contact with the tourist service providers could have been maintained both in the early phases of discussion and development of pilot services, and in the later stages of analyzing the results from the field trials. Still, all the formal and informal project partners express a positive attitude towards the project, and an interest in discussing possible further development of the MOVE concepts.

Implications

The MOVE project is a large service innovation project and implications may be drawn from this evaluation based upon the findings of the MOVE project itself and the findings of this evaluation study. Thus, implications may be summarized as “what we have learned” from the MOVE project and “what could have been different” from this evaluation study. Starting with the MOVE project itself the consortium of project partners have gained experience with mobile services that implies that they now know more of the interfaces, infrastructure and innovation project organization that such services require. For example, they have identified how ease of use must be combined with usefulness for mobile tourism services to be adopted. They have also identified obstacles in service infrastructures with respect to standardization challenges that must be overcome to progress further in commercializing these services. Finally, they have identified the diversity of requirements stemming from the two-sidedness of mobile tourism service innovations. To illustrate this understanding they have all said they better know how to further develop these services after what has been learned, and the commercialization partners are keen to continue their efforts on further development of these services.

While this knowledge is mostly internal to project partners, some of the findings have also been published with corresponding implications to other service providers, developers and operators. The findings from this evaluation study have implications both to MOVE project participants and the generally interested audience. First, our findings from reinterpreting project publications have implications for the types of service attributes that should be focused for mobile tourism services. In particular, we

would like to stress the importance of combining ease of use and usefulness with complements network attributes. In the context of this project, this implies focusing on services that provide complementarity to the existing set of artefacts used by tourists. Also, this implies that mobile tourism services should mainly rely on known service functionality of mobile services but provide their unique value through complementarity and compatibility with existing artefacts. For service provider value, we have seen how this was focused early in the project, but that the challenges of developing advanced interfaces and the use of user scenario methodology favour service concepts that are tangible and close to the end-user. This means service provider values for services developed in two-sided markets must be given special attention by project management. One of the ways to do this is to see that service provider representatives are given strong positions in the management of such service innovation projects. Our data material on service provider values is limited, but it seems that such value is created by a multitude of value drivers. For example, some of our informants gave examples of multiple revenue streams from a multitude of value drivers of service provider offerings. Examples are software fees, shares of content and traffic revenue, shares of advertising revenue and revenues from support and hosting services. It is obvious that managing the multitude of value drivers behind these potential revenue streams and developing the service elements reflecting them in an innovation project are challenging. This is also one of the reasons that innovation projects in two-sided markets have to be organized to reflect the balance of customer and service provider interests. We have tried in this report to show how a simple SCP-framework may possibly provide guidelines for balancing such interests.

In addition to value drivers, this evaluation was asked to focus particularly on business model implications. From the interviews with project participants, we were somewhat surprised to see that the traditional development model was considered superior to more open innovation models for mobile tourism services. The reason, we were told, was the newness of the service category and lack of knowledge. Correspondingly, closed forms of governance were recommended to provide unique value propositions to mobile tourism services. These arguments are contrasted by empirical observations that radical innovations are often found in open innovation systems and that previously developed mobile services have been successfully commercialized using open governance forms. We have discussed these issues of mobile tourism services in detail elsewhere (Pedersen et al., 2006). Thus, support for the superiority of either closed or open governance forms may be sought in differences of service categories. This is also supported by some of the tourist and information

service providers in this evaluation study who focused the use of more open innovation models than those applied in the MOVE project for services relying on complementary service variety for customer value and on multiple sources of service provider value. With respect to value propositions, some implications for the design of services and their mobile specificity have been mentioned above. For the market strategy part of the value proposition, this evaluation has revealed that due to lack of technology readiness and identity characteristics, at least of the Lofoten tourists, tourists may not be the obvious market segment for commercializing advanced mobile services. Instead, much of the knowledge gained through the MOVE project may perhaps best be applied to similar mobile services targeted at more innovative end-user segments. This is also what is currently focused in the commercialization efforts resulting from the MOVE project.

Our findings on innovation project organization suggest that for services in two-sided markets specific attention should be paid to the composition of project partners and the attention given to service development of relevance to both sides of the market during the project. They also suggest that such balance should be sought in all phases of the innovation project. This is particularly challenging in phases of the project requiring intensive technological or behavioural research. Finally, they also suggest that openness to changes in project focus is important as technological and behavioural changes are likely to influence the original foundation of the innovation project as it evolves.

Implications for further research

Two types of implications for further research are of relevance. First, but not most important, are the implications for further research applying the framework and principles of this evaluation study. Second, and most important, are the implications for the area of mobile tourism services revealed through this evaluation study. Starting with the first set, applying an SCP-framework as the basis for this evaluation study, the appropriateness and weaknesses of the framework have been revealed. The framework has proven useful as a general framework for analysing the value drivers of different service categories and topics related to the choice of optimal business models for different service categories. Thus, it seems to be an appropriate general framework for business model analyses. By using the framework for evaluation, however, several weaknesses suggesting further theoretical development have also been revealed. For example, the importance of structural conditions related to lack of standardization or the importance of the inherent characteristics of a service area are not obvious when

applying the framework. Two other issues are the importance of feed-back mechanisms from value drivers to business models and the dynamics of two-sided markets are not easily analyzed applying the framework. This suggests further theoretical development is required. Even though only qualitative primary research was applied in this study, it seems that the SCP-framework provides a firm basis for measuring relevant issues in mobile services innovation projects.

The most important implications, however, from this study are the implications for further research on mobile tourism services. The investigation has revealed how studies of tourism behaviour represent valuable sources of information in design, development and marketing of mobile tourism services. Careful attention, however, must be paid to the “translation” of theoretical models in consumer behaviour into relevant end-user models that may be applied by developers and service designers. A theoretical challenge lies in bridging consumer models and end-user models beyond the level of service interface design. Another theoretical challenge lies in transforming economic and business strategic theory of two-sided markets into appropriate models for service innovation and design. Currently, much of the theory of two-sided markets is descriptive or explanatory and gives few normative implications for service design.

Following this line of reasoning, more implications may be drawn from this study on methodological challenges. First, the lack of methodological principles for service design and development in two-sided markets is a considerable challenge because most online or mobile services are characterized by two-sidedness. This is the case for all services built on some form of shared platform, such as mobile and online content services and mobile and online communication services. Second, as complementary service variety was valued by customers and service providers from the MOVE services, methodological variety may be valued by providing more innovative project results. One of the efforts of the MOVE project where such variety could have been used was in greater variety of the methodological approaches applied in the master theses. In service innovation projects where technological innovation is complemented by behavioural innovation, methodological variety may be used to uncover behavioural barriers to value creation. Furthermore, methodological variety also in service development and design may create more innovative and at the same time compatible service concepts. For example, methodologies that to a greater extent involve both service providers and tourists may be useful also to mobile tourism service innovation.

Finally, the evaluation study has identified a set of problem related challenges for further research on mobile tourism services. One of these challenges is to explore the

design implications of the behavioural research conducted in the MOVE project further. For example, results from the pilot study suggest a relationship between complementary service quality and end-user identity that could be explored further. Another example is how service personalization may be used to develop more focused service strategies with corresponding differentiation in business models. Furthermore, the study may suggest that complementing the end-user oriented research of the MOVE project, more research should be conducted following the line of development deriving from providing service provider value. A follow-up of the MOVE project could end its effort by joining the results from the end-user oriented research results with the results of its service provider oriented results. As such, the comprehensive set of results and knowledge developed through the MOVE project represents a firm basis for further research efforts on mobile tourism services.

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Appendix A – Main document sources of evaluation

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Appendix B – Service providers interviewed

Destination Lofoten (<http://www.lofoten.info/>)

Geomatikk AS (<http://www.geomatikk.no/>)

Lofotakvariet (<http://www.lofotakvariet.no/>)

Lofoten Tourist Enterprises AS (<http://www.datadesign.ws/lte3.htm>)

Lofoten Tourist Enterprises Limited (www.lofoten-incentive.com)

Lofotr - Vikingmuseet på Borg (<http://www.lofotr.no/>)

M/F Gamle Lofotferga (<http://www.lofotferga.no/>)

Mobile Info AS (<http://www.mobileinfo.no/>)

Svinøya Rorbuer (<http://www.svinoya.no/>)

Tellus IT (<http://www.tellus.no/>)

Appendix C – Interview guide

Topic guide: Tourist service provider interviews

Intervjuguide tilbudssiden – Move

0. Navn og lokasjon på informant og hvem denne representerer

1. Tjenestekontekst – WapGUIDE/KartGUIDE/Aktørportalen – komplementstyrt tjeneste

1.1 Tjenesten vi tilbyr – hva dere tilbyr som hovedtjeneste

1.1.1 Tjenestetype, egenskaper

- a. Beskriv hvilke tjenester dere leverer til kundene/turistene
- b. Hvordan markedsføres tjenestene overfor kundene?
 - i. ulike kanaler, medier
- c. Hvordan betaler kundene for tjenestene?

1.1.2 Tjenestetilbud/verditilbud

- a. Hvilken verdi skapes for kunden gjennom tjenesten?
- b. Hva er kundens motiver for reisen?
- c. Kundens motiver for å besøke/bruke denne reiselivstjenesten
- d. Hva gjøres spesifikt ved tjenesten for å møte motivene?

1.1.3 Kundekontekst, brukskontekst og kundeoppfatninger

- a. Hvilke ulike kundegrupper betjener dere?
 - i. Demografi, alder, familie, individuell, livsstil, etc.
 - ii. Transport og reiseform
 - iii. Overnatting, reiselengde
- b. Hvilken kjennskap har dere til kundenes preferanser og oppfatninger av tjenestene dere leverer?
- c. Gjennomført noen kundeundersøkelser?
- d. Hvilke andre tjenester i regionen bruker turistene sammen med deres tjeneste?
- e. Hvordan kombineres reisen til Lofoten med annen reiseaktivitet (i Norge, under dette besøket, generelt)
- f. Hvordan deler turister opplevelsen/bruken av tjenesten seg i mellom (familie, treffes, diskuterer før/etter), og er reiselivstjenesten avhengig av samhandling mellom flere turister?

1.1.4 Leverandørkontekst og verdikjede, inkludert posisjon

- a. Hvilke samarbeidspartnere har dere, og hvilke aktiviteter/leveranser utføres av hver av disse?

1.1.5 Markedsforhold og konkurranse

- a. Hvordan vil du karakterisere markedet dere opererer i?
 - i. Få/mange aktører, tilvekst av nye aktører

- ii. Dominerende aktører
- iii. Grad av konkurranse, hvem er de viktigste konkurrenter?
- iv. Grad av samarbeid med andre aktører i markedet?
- b. Hvordan tror du markedet vil utvikle seg fremover?
 - i. Kort sikt
 - ii. Lang sikt

1.1.6 Strategi og perspektiver

- a. Hvilken strategi har bedriften for videre utvikling av tjenestetilbudet?

1.2 Rolle i prosjektet/kjennskap til innhold

1.2.1 Beskriv hvilken form for kontakt du har hatt med MOVE-prosjektet.

- a. diskusjonspartner
- b. leverandør av innhold til Kartguiden

1.2.2 Hvilken kjennskap har du til pilot tjenestene i prosjektet (Kartguide, Mosaikk, Rebus)

- a. Installert og prøvd selv
- b. Fått demonstrert
- c. Har du selv sett hvordan dine tjenester markedsføres i Kartguiden?
- d. Kjennskap gjennom brosjyremateriell, avisomtale eller lignende

1.3 Reiselivstjenesten i WapGUIDE/KartGUIDE/Aktørportalen – forretningsmodell (Gjennomgås bare som en samtale ut fra kjennskap. Mer detaljert for destinasjonsselskaper)

1.3.1 Tjenestetype, egenskaper i forhold til WapGUIDE/KartGUIDE

Klassifisering/egenskaper
Forhold til WapGUIDE/KartGUIDE som plattform

1.3.2 Tjenestetilbud/verditilbud i forhold til WapGUIDE/KartGUIDE

Leveranse til WapGUIDE/KartGUIDE
Verditilbud til kundene
WapGUIDE/KartGUIDE's verditilbud til tjenesteleverandøren
Segmenter

1.3.3 Kundekontekst, brukskontekst og kundeoppfatninger i forhold til WapGUIDE/KartGUIDE

- a. Hvordan ser du for deg at turistene kan bruke Kartguide i forhold til din tjeneste (søk, informasjon, bestill, bekreft o.s.v.)
- b. Hvilken type bruk tror du vil være mest aktuell?
- c. Har du registrert noen henvendelser fra kunder via Kartguiden under prøveperioden i august 2005?

1.3.4 Leverandørkontekst og verdikjede, inkludert posisjon i forhold til WapGUIDE/KartGUIDE

Hvem deltar i verdinettverket for tjenesten og hvilke aktiviteter utfører disse?
Plassering i leverandørkjeden for WapGUIDE/KartGUIDE
Kjennskap til andre i leverandørkjeden
Samhandling nedstrøms, oppstrøms og horisontalt
Inntektsstrømmer og inntektsmodeller, herunder inntektsmessige og andre

forutsetninger for engasjement i verdikjeden
Styringsform for tjenesteengasjementet

1.3.5 Markedsforhold og konkurranse

1.3.6 Betydningen av og kvalitet på ulike verdidrivere

Indre verdidrivere

Brukernettverk

Komplementnettverk – utdypes for denne tjenesten

(variasjon, kvalitet og engasjement)

1.4 Reiselivstjenesten i WapGUIDE/KartGUIDE/Aktørportalen – adopsjon og teknologimodenhet

(Gjennomgå som en samtale der det også muligens må diskuteres rundt bilder/skjermbilder av WapGUIDE/KartGUIDE og Aktørportalen)

1.4.1 Brukervennlighet

1.4.2 Bruksnytte

1.4.3 Underholdningsverdi/bruksglede

1.4.4 Formidlingspotensiale/uttrykk

1.4.5 Tjenestekvalitet

1.4.6 Mobilspesifikkhet

1.4.7 Normer – mellommenneskelige og ytre

1.4.8 Ressurser – teknologiske og atferdmessige, herunder segmenteringsgrunnlag

1.4.9 Teknologimodenhet

1.4.10 Bruksintensjon nå og fremtidig

1.4.11 Antakelser om kundenes bruksintensjon

1.4.12 Antatt kunde verdi

1.4.13 Bruksbarrierer og utløsende bruksfaktorer – kunder

1.4.14 Bruksbarrierer og utløsende bruksfaktorer – egen (aktørportal/annet)

2. Turistens bruk av informasjons- og andre reiselivstjenester

2.1. Turistens/kundens bruk av tjenester før reisen

2.2. Turistens bruk av informasjonstjenester under reisen (kartbok, kart, guidebok, turistkontor, telefontjenester, andre turister)

2.3 Turistens bruk av andre tjenester under reisen (spill, litteratur/lese bøker, se TV, polere campingbilen/bilen, fiske) og hvordan er forholdet mellom informasjonstjenester, din tjeneste og denne tjenesten (substituerbar, supplement, komplementær)

2.4 Hvilke typer tjenester/informasjonstjenester som brukes sammen med din tjeneste gjør at opplevelsen/verdien av din tjeneste øker klart?

2.5 Hvilke typer teknologi ser du at kunden bruker under reisen (PC, mobil, TV, PDA), og hvilken betydning har teknologi for turistene under reisen? Likt for alle turister?

2.6 Hvilken betydning har mobilen for kunden under reisen. Ser du spesielle bruksmønstre for mobilbruk hos dine kunder? (Evt. med prober fra del C i vedlegg).

2.7 Turistens bruk av tjenester/informasjonstjenester etter reisen (reiseopplevelsesdeling, flickr, erfaringsdeling, epinions, opplevelsesdeling i familien, kontakt med nye man har møtt, kontakt med deg/deling med deg) og hva sier turistene om verdien av ulike informasjonstjenester i etterhånd eller ved gjentatt besøk/planlegging av det?

3. Sammenheng mellom Move tjenester og den tjenestebruk som er avdekket i 2.3

Probes med WapGUIDE/KartGUIDE, Mosaikk, Rebus

4. Fremtidige og alternative tjenestekonsepser

4.1 Skisse eller ideer til modifikasjon av eksisterende tjenestetilbud

- a. Har du noen forslag til endringer for MOVE-tjenestene for å utvide tilbudet for turistene?

4.2 Alternative og helt nye tjenestetilbud

- a. Har du noen tanker/ideer om hvordan mobile tjenester kan benyttes til nye tilbud for turistene?

5. Prosesserfaringer - Move

5.1 Prosesskvalitet

- a. Hva er dine erfaringer fra kontakten med MOVE-prosjektet.
- b. I hvilken grad føler du at prosjektet har satt fokus på dine interesser som tilbyder av turisttjenester?
- c. Ting du mener burde vært håndtert annerledes?

5.2 Involvering og fortsatt engasjement

- a. I hvilken grad føler du at du er oppdatert på status i MOVE-prosjektet?
- b. Har dere blitt involvert i tilstrekkelig grad gjennom prosjektet?
- c. Har du interesse av å involvere deg i videre oppfølging av prosjektet?

5.3 Andre synspunkter på Move-prosjektets prosessarbeid

Probe guide: Information service provider interviews

Probespørsmål med tilpasning til innhold-/informasjonstjenesteleverandører inn i Move

Bakgrunn

Move prosjektet inneholder en evalueringsstudie. Jeg er her i den forbindelse. Vi som evaluerer skal skrive en evalueringsrapport, men det er ikke meningen at det skal være en tradisjonell evaluering som sier om dette har vært vellykket eller ei, men mer en oppsummering og en systematisering av hva man har lært i prosjektet og hva det kan brukes til videre....

0.

Jeg tenkte vi skulle snakke litt om fem områder, først deres tjenester i sin alminnelighet, de tjenesten dere har jobbet med inn i Move prosjektet, så litt om det som er blitt til WapGUIDE/KartGUIDE (+Aktørportal), så litt om mobile reiselivstjenester og framtidige tjenester, og til slutt litt om erfaringer fra Move prosjektet som prosjekt.

1.1.

1.1.1

Kan du beskrive den tjenesten/de tjenestene som er deres hovedtjenester?

Hvilke av disse leverer dere direkte til sluttkunde?

Hvordan markedsføres disse?

Hvordan betaler sluttbrukeren for disse tjenestene

1.1.2

Hvilke verdier/merverdier skaper dere for kunden gjennom tjenestene deres?

Hva tror du er sluttbrukernes motiver for å bruke de tjenestene dere leverer?

Gjør dere spesielle tiltak for å avdekke og møte sluttbrukerens motiver for å bruke tjenestene deres?

1.1.3

Hva slags sluttbrukere er det som bruker deres tjenester, alder, kjønn, erfaring, o.s.v.?

Hvilke av tjenestene dere leverer har spesiell relevans i en reiselivssammenheng?

Hvilke turister bruker i så fall disse tjenestene og hvordan?

Vet dere noe spesielt om dette? Er det gjort kundeundersøkelser?

Hvilke andre tjenester brukes deres tjenester i sammenheng med?

Er det slik at sluttbrukerne deler tjenesten med andre eller at tjenesten brukes av flere sammen? Er det typisk for tjenesten at verdien øker når flere bruker den?

1.1.4

Er tjenesten avhengig av samarbeid med andre for å inngå i en sluttbrukertjeneste?

Hvordan? Beskriv verdikjeden av de som samarbeider for å få fram tjenesten som en sluttbrukertjeneste?

Hvordan er avhengighetsforholdene i verdikjeden fram mot sluttbrukertjeneste, er det slik at kvaliteten på tjenesten er avhengig av samarbeidspartnerne eller ar dere kontroll med den selv? Hvordan?

Er det slik at sluttbrukerverdien er avhengig av at andre leverer innhold til tjenesten, eller er det slik at andres innhold er helt avhengig av deres leveranse? Hvordan takler dere slike relasjoner?

1.1.5

Er det mange som leverer omtrent det samme som dere leverer?

Er det noen av disse som dominerer mer enn andre? – Beskriv konkurranseforholdene?

Hvordan tror du konkurransesituasjonen og markedet vil utvikle seg fremover?

Markedet generelt da.... (hvis bare konkurranse over)....?

1.1.6

Hva er deres hovedstrategier for å møte denne utviklingen fremover?

1.2

Da tenkte jeg vi skulle gå litt mer inn på Move prosjektet og de tjenester og aktiviteter dere har jobbet med i det prosjektet.....

1.2.1

Hvilken rolle har dere og tjenestene deres hatt i Move prosjektet?

Hvis du kort skal beskrive hva som har kommet ut av deres engasjement i Move, hva ville du legge vekt på da?

1.2.2

Hvilket kjennskap har du til de tjenestene som har blitt utviklet i Move?

Har du noen umiddelbare synspunkter på disse tjenestene?

Har du testet en del av dem selv?

1.3.

Da tenkte jeg vi skulle konsentrere oss om den tjenesten som er blitt til WapGUIDE og som bygger på KartGUIDE og at POI-leverandører bruker aktørportalen.. Da ser vi på litt generelle forhold først og så ser vi på innhold og grensesnitt og slike ting etter hvert.....

1.3.1

Hvilken rolle har deres tjenester hatt i forhold til denne tjenesten?

Hvis du skulle beskrive denne tjenesten, hvordan ville du da beskrive den som mobil reiselivstjeneste?

Hvordan ser du på tjenesten i forhold til søketjenester som Opplysningen 1881, Sesamsøk eller lignende på WAP? Hvordan ser du på den i forhold til lokale WAP-informasjonstjenester?

Hvordan ser du på MoveWAP som en plattform for å bygge nye tjenestetilbud? Er noe av infrastrukturen som er etablert her grunnlag for nye tjenester? Utvidede tjenester?

1.3.2

Hva er den konkrete leveransen dere evt. har inn i WapGUIDE?

Hvordan bidrar denne leveransen til WapGUIDE's kunde verdi?

Hvordan skaper eller kan WapGUIDE skape verdier for dere som underleverandør/tjenesteleverandør?

Hva er etter din mening de kritiske suksessfaktorene for WapGUIDE sett i forhold til den leveransen dere har inn i tjenesten?

1.3.4.

Hvordan vil du beskrive samarbeidet av aktører som skal til for å få WapGUIDE som tjeneste til å fungere? Hvilke aktører må samarbeide og hvordan?

Hvor er dere plassert i dette verdinettverket?

Hvor godt kjenner dere de andre partnere i verdinettverket? Har dere andre relasjoner med dem?

Hvilke verdier kan det ligge for de ulike aktørene i et slikt verdinettverk?

Hvordan ser du for deg at man skal stimulere til innovasjon og dele verdiskapning i et slikt verdinettverk? Er det spirer til det i dag?

Hvordan ser du for deg at inntekter skapes og deles i et slikt samarbeid og hvilken rolle mener du dere bør ha i et slikt samarbeid?

1.3.3

Hva slags kunder/sluttbrukere ser du for deg som brukere av WapGUIDE? Alder, interesse, teknologimodenhet o.s.v.?

Er disse like eller skiller seg fra de sluttbrukere dere vanligvis leverer tjenester for?

Hvilken betydning vil WapGUIDE kunne ha for en turist, for turistens kundeverdi?

Hvordan ser du for deg at WapGUIDE blir brukt av turistene, bruksfrekvens, før/under/etter reisen?

Har dere gjort egne kartlegginger av brukere eller brukserfaringer?

1.3.6

Hva er det som gir kundene verdi i WapGUIDE er det tjenesten i seg selv, det at mange legger inn POI eller det at mange bruker tjenesten som er avgjørende for at tjenesten skal bli suksessfull?

1.3.5

Hvordan er markedssituasjonen for en tjeneste av typen WapGUIDE? Hvordan ser du den for deg fremover?

Hva skal til for at dette markedet utvikler seg positivt?

1.4

Da tenkte jeg vi skulle se konkret på tjenesten WapGUIDE og/eller aktørportalen avhengig av hva du har kjennskap til?....

Hvordan vil du beskrive brukervennligheten til tjenesten?

Hva med bruksnyttene?

Er denne tjenesten en unik tjeneste for mobilen?

Er det noe som tilsier at påvirkning fra andre gjør at tjenesten blir tatt i bruk slik det er for SMS-tjenester f. eks.?

Har brukerne forutsetninger for å ta den i bruk?

Er det noe ved tjenesten som er utløsende faktor for bruk eller barriere for bruk?

Hvordan ser du på at bruken av en slik tjeneste er avgrenset i tid og rom (f. eks. bare Lofoten, bare under en ferie?)

2. (Spesifikt for WapGUIDE/KartGUIDE, ikke hvis de bare har sett aktørportalen)

Hvordan blir denne tjenesten brukt sammen med andre tjenester som en turist bruker før og under reisen tror du?

Hvilke andre tjenester/hjelpemidler er viktige og hvordan er sammenhengen mellom WapGUIDE/KartGUIDE og disse?

Tror du turister bruker andre typer teknologi under reisen? Hva med før, er det noe som er spesielt med f. eks. Lofoten i så måte?

Hvordan er sammenhengen mellom de andre mobiltjenestene turister bruker og WapGUIDE/KartGUIDE, f. eks. vanlig tale, SMS, MMS, o.s.v.?

3 og 4.

Det har jo blitt utviklet noen andre tjenester i Move også, slik som Rebus og Mosaikk, jeg vet ikke om du kjenner disse, men tenkte vi skulle se litt på andre tjenestekonsepser og eventuelle endringer i innholdet i mobile reiselivstjenester som WapGUIDE/KartGUIDE.....

4.1 og 4.2

Kjenner du til disse alternative tjenestene, og hva synes du om de?

Er det andre tjenestekonsepser du mener kunne være relevante for turister?

Er det endringer i WapGUIDE/KartGUIDE konseptet som kan gjøres for øke relevans og suksess som mobil reiselivstjeneste?

Er dette noe dere vil videreføre eller ta initiativ til etter Move-prosjektet er avsluttet?

5.

Da tenkte jeg vi til slutt skulle snakke litt om erfaringene med Move prosjektet som prosess/prosjekt...

5.1

Hvordan vil du beskrive det vi gjerne kaller prosesskvalitet i Move prosjektet, d.v.s. hvordan det har blitt ledet, hvordan dere har fått medvirke, hvordan prosjektet har utviklet seg og ivaretar partneres interesser o.s.v.?

5.2

Føler du at dere har vært sterkt involvert i prosessene i Move prosjektet?

Er det ting du kunne ha ønsket annerledes i forbindelse med din/deres involvering i Move-prosjektet?

Hvordan har dere tenkt å følge opp det arbeidet som er blitt gjort gjennom dette prosjektet?

Er det andre kommentarer eller ting du gjerne vil si nå helt til slutt?