THOUGHT LEADERSHIP FORUM

THE REALITY OF CONVERGENCE: MOBILE CONTENT

FIRST TUESDAY ZURICH

NOVEMBER 2006

Results and Findings

Think Tank > Panel & Discussion > White Paper

Knowledge Partner PricewaterhouseCoopers

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Forum Producer First Tuesday Zurich

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Keynote Speakers:

Tomi Ahonen	Author and Strategy Consultant
Stefana Broadbent	Ethnographer, Swisscom Innovations
Kurt Hemecker	VP Business Development, Echovox

Event Producer:

Chris Gopsill	Executive Producer, First Tuesday Zurich

Moderator:

Susan Kish	CEO, First Tuesday Zurich

Event Manager:

Fabian Pfortmüller	Event Manager, First Tuesday Zurich

Table Facilitators:

Karel Doclo	Producer, First Tuesday Zurich
Károly Christian Köpe	

Foreword

Foreword

This document represents the results of a Thought Leadership Forum "The Reality of Convergence: Mobile Content" conducted on November 14, 2006 in Rüschlikon/Zürich, together with sector analysis before and after the event. The Forum gathered together key opinion leaders and stakeholders from across the telecom, Internet, media, and entertainment sectors to strategise and debate the impact of Convergence on the future of their industries.

Why the Thought Leadership Forum?

In this world of increasing specialization, which is more than offset by escalating connections and globalization, our best chance for insight is often not individual or specialised experts but through networks.

The Thought Leadership Forum (TLF) is a daylong business think tank that brings together key stakeholders and opinion leaders from business, industry, government, academia and society to engage in intense dialogue on strategic topics critical to business.

Those gathered become a knowledge network that assesses issues critical to industry growth and development from a diversified perspective. The TLF encourages peer-to-peer understanding and engagement and facilitates business innovation and strategy development by providing the platform and tools that help industry leaders and subject matter experts exchange ideas and insight within a stimulating and protected environment. The TLF is one of many platforms and services that First Tuesday Zurich offers to communicate trends and drive industry change. It actively applies the philosophy presented by James Surowiecki that, "under the right circumstances, crowds are remarkably intelligent, and are often smarter than the smartest people in them." [1]

The Issue

The rules of engagement for capturing value from content are changing rapidly. This is due to dramatic changes in consumer acceptance and expectations, coupled with the maturing of enabling technologies.

The boundaries between work and private life are becoming less distinct, while more of the workforce is project focussed rather than employer focussed. Major owners of traditional content are granting easy on-line access, while the growth of "user generated" content is continuing exponentially.

As content and access become ever more readily available, consumers' time and attention is becoming scarcer. It is predicted that the winners will be those who fully understand the real needs of each consumer, and supply relevant value-adding services to ensure a rich and rewarding on-line experience.

1. James Surowiecki, The Wisdom of Crowds, Doubleday Publishers 2004

Foreword

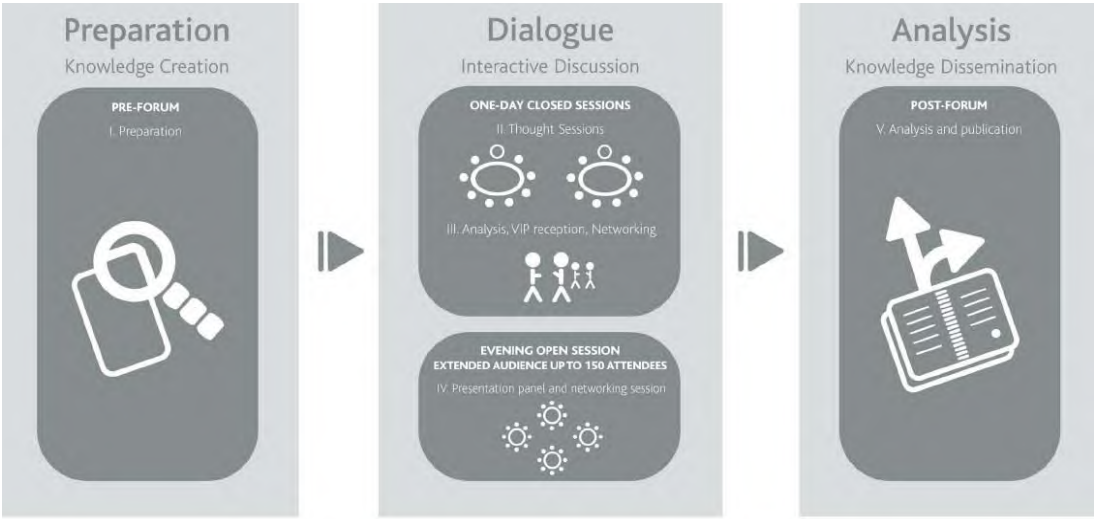
As these trends continue, what are the keys to success for companies directly involved in generating, adding value to, aggregating and distributing content, as well as providers of infrastructure and technology?

It is behind the backdrop of these uncertainties and questions that First Tuesday Zurich organised "The Reality of Convergence: Mobile Content" TLF as a way of identifying and exploring the internal and external forces shaping these industries in order to better position us to consider the implications and possibilities for the future.

The Format

The "Reality of Convergence: Mobile Content" TLF was comprised of a structured closed-session discussion among an exclusive group of Thought Leaders that took place in the afternoon at the Gottlieb Duttweiler Institute (GDI) in Rüschlikon, Switzerland. Thought Leaders are carefully selected based upon their knowledge, experience and perspective. This year's "The Reality of Convergence: Mobile Content" TLF drew Thought Leaders from a wide range of corporate enterprises and organizations, as well as government and academia.

The two evening sessions were open to a wider public, and featured three keynote presentations as well as interactive workshops with the Thought Leaders and all participants.



Foreword

The Results

The results of the "Reality of Convergence: Mobile Content" TLF including Thought Leader interviews, commissioned research, keynote speeches and group exercise results can all be found in subsequent pages of this publication.

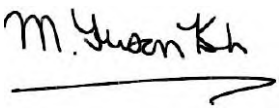
Special Thanks

First Tuesday Zurich would like to thank our Partners at PricewaterhouseCoopers for their generous support of this Thought Leadership Forum. We would like to thank the Thought Leaders, for their time and collective expertise in enabling us to unleash the "Wisdom of the Crowds". Special thanks go to our Keynote presenters for providing challenging and inspirational interludes (Tomi Ahonen, Stefana Broadbent and Kurt Hemecker). We would also like to extend a grateful thanks to our knowledge providers Evalueserve, who provided the industry background research found in the Thought Starter.

Last but not least, we would like to thank Paul Seaman for his role as interviewer, speech editor and White Paper author and our table facilitators (Karel Doclo and Chris Köpe) who helped guide the table discussions throughout the day and evening.

Sincerely,

Chris Gopsill
Executive Producer
First Tuesday Zurich



Susan Kish
CEO
First Tuesday Zurich

Presenting Partner

Name	Title & Company Name
Peter Angelos	Senior Manager Business Development - New Markets; Jamster International
Adrian Bisaz	Vice President Business Development Europe; Oxy Systems
Christoph Cronrath	Head New Business Initiatives; Roche Diagnostics
Henrik Czurda	Head of Group IT Strategy Office; Swiss Re
Herbert Gerber	Head of Market Analysis Mobile; Sunrise
Oliver Gerstheimer	Managing Director; chilli mind GmbH
Markus Gyhr	CEO & Founder; Ultra Images AG
Oliver Haeggberg	Founder; Value-Grid-Partners
Raoul Heinkel	Course Director, Mobile Application Design ; University for Applied Science and Arts Zurich (HGKZ)
Frank Hermans	Principal, Business Advisor Global Services; Ericsson
Anuj Jain	Head of Convergence Development; Orange Group
Volker Jantzen	CEO; SVOX AG
Rajinder Jhol	Chief Architect; solveIT.ch
Roland Keller	Innovation Manager; BenQ Mobile
Angelo Mathis	Senior Manager Systems & Process Assurance; PricewaterhouseCoopers
Franco Monti	Director; PricewaterhouseCoopers
Jan Peschka	Business Consultant; Swisscom AG
Trudi Schifter	European Agent / Technology Advisor; Telenav Inc / Fleming Family and Partners
Sören Stamer	CEO & Co-Founder; CoreMedia AG
Werner Trattnig	Director Menlo Park Europe; PricewaterhouseCoopers
Ofer Tziperman	CEO; Locationet
Francesco Vass	VP Marketing & Content; Zattoo
Marc Vollenweider	CEO ; Evalueserve
Urs von Arx	Head of Section Mobile and Satellite Services; Fed. Office for Communications (BAKOM)
Peter Wittwer	Partner, Technology, Infocomm & Entertainment; PricewaterhouseCoopers

Keynote Presentations:

Tomi Ahonen	Author and Strategy Consultant;
Stefana Broadbent	Ethnographer; Swisscom Innovations
Kurt Hemecker	VP Business Development; Echovox

Thought Leaders

Keynote Speaker

Tomi T. Ahonen
Author and Strategy Consultant

Tomi T. Ahonen is an author of four global bestsellers and an advisor to the 3G telecoms industry. He lectures at Oxford University's courses on 3G and digital convergence. Appearing on TV on six continents, Tomi has been quoted in over 150 press stories in a dozen languages and has presented papers to over 150 conferences.

His customer list covers global telecoms, starting with Ericsson, Orange, Motorola, Nokia, NTT DoCoMo, Siemens, TeliaSonera and Vodafone.

He is a founding member of ForumOxford.com, Carnival of the Mobilists, Wireless Watch and Engagement Alliance.

Earlier Tomi set up and headed Nokia's 3G Business Consultancy Department and oversaw Nokia's 3G Research Centre, and prior to that he was Nokia's first Segmentation Manager.

Tomi's books are Communities Dominate Brands (with Moore, 2005), 3G Marketing (with Kasper & Melkko, 2004), m-Profits (2002) and Services for UMTS (with Barrett 2002). Tomi's next book will be Digital Korea released later in 2006.

Peter Angelos
Senior Manager Business Development, *Jamba/Jamster*

Peter Angelos has 12 years experience in the Telecoms, IT & Digital media industries. Currently he is responsible for the international expansion strategy & rollout of Jamba services into new markets. Jamba is Europe's largest vendor of mobile content and is owned by Verisign & News Corporation.

Prior to Jamba, Peter was responsible for the portfolio of products and services at Orange Switzerland, defining the company's product development roadmap, managing the rollout of programs such as 3G, and consulting internally on initiatives to improve revenues from products already deployed in the market.

After obtaining an engineering degree from Bristol University, Peter entered the telecommunications sector as an IT-consultant to major telecommunication operators, where he supported their rapid growth as GSM took off around the world. He holds an MBA from Rotterdam's RSM Erasmus University, and lives with his family in St-Prex, Switzerland.

Thought Leaders

Adrian Bisaz
VP of Business Development Europe, *Oxy Systems*

Adrian Bisaz has over 15 years experience as an IT and telco industry sales and marketing executive in Europe and the USA.

Prior to Oxy Systems, as the principal of New Market Ventures, Switzerland, he consulted for leading US companies to help develop their presence in Europe by establishing partnerships, extensive distribution and resale networks, and successfully growing sales to mobile operators across Europe.

Prior to that, as Head of Internet and E-commerce for Orange Switzerland, he established the initial Internet and e-commerce strategy, built the team, established links with content partners, and launched the first mobile data service.

In the USA in the 90's, Adrian built a number of start-up companies and held senior roles at Assured Digital, Quarry Technologies and Fujitsu-Nexion.

Adrian holds an MBA from City University Zurich/Washington State, a teaching degree from University of Fribourg, and a BS from the College of St. Croix, Switzerland.

Keynote Speaker

Stefana Broadbent
Ethnographer/Customer Observatory, *Swisscom Innovations*

Stefana Broadbent is responsible for the development of the Customer Observatory at Swisscom Innovations. The Observatory employs ethnographic techniques to study the evolution of customers' usage of Information and Communication Technologies over time.

Before joining Swisscom Innovations in 2004, she was in the management team of IconMedialab, a multinational digital consultancy listed in Stockholm. In 1993 she founded CB&J, a company specialised in human factors and user research that was acquired by IconMedialab in 1999.

For over 15 years, Stefana has carried out observations in homes and workplaces to monitor how technology is being used in daily life, with the aim of designing services and solutions that are successfully adopted by customers.

Stefana holds a Ph.D. in Cognitive Science from the University of Edinburgh, she has been a lecturer in Anthropology and Ergonomics and has published in the field of digital interaction. Stefana lives with her family in Bern.

Thought Leaders

Christoph Cronrath
Head New Business Initiatives, *Roche Diagnostics GmbH*

Christoph Cronrath is responsible for new Business Initiatives at Roche Diabetes Care, a division of F. Hoffmann-La Roche Ltd. There he has led many activities and projects in the field of telemedicine together with larger telecommunications companies as well as start-ups. He is also responsible for implementing numerous solutions in this field that enable people with diabetes and their healthcare professionals to better manage diabetes by using modern communication technologies.

Prior to his current role he has held positions in strategy, business development and marketing in the Diagnostics and the Pharmaceutical Divisions of Roche as well as working for the German Ministry of Research and Technology in planning, implementation and evaluation of health care funding programs for academic and industry research.

Chris holds a PhD in Biology and a masters degree in Economics.

Henrik Czurda
Head of Group IT Strategy Office, *Swiss Re*

Since 2004 Henrik Czurda has been Head of the Group IT Strategy Office at Swiss Re. In this role he worked with the Group Information Officer and senior business executives to develop and initiate the Company's new IT strategy. He also helped define Swiss Re's new global IT organisation into which all decentralised IT units have been integrated.

Prior to Swiss Re, after spending two years as the Julius Bär Head of Business Technology, he was appointed as their Head of IT Strategy Architecture and Security Department. He has also held roles in The Boston Consulting Group (BCG); at Arthur Andersen where he led their Swiss-wide eBusiness Trust and Assurance Group; and at PriceWaterhouse as manager of Information Systems Risk Management.

Henrik has been an elected member of the IT Committee of the Swiss Institute of Certified Accountants and Tax Consultants.

He holds a PhD from the University of Zurich, Switzerland, Faculty of Economics, Business Administration and Information Technology.

Thought Leaders

Herbert Gerber
Head of Market Analysis Mobile, *Sunrise*

Herbert Gerber has more than 20 years experience in IT hardware/software and services, communication technologies and services and convergence.

In a number of positions and assignments analyzed customer needs and requirements, managed customer relationships and developed proposals for major outsourcing and international network projects. He has also developed products and services in ICT, advised internal and external clients, has led operational and strategic projects and worked in sales and marketing.

Today he is working as Head of Market Analysis at Sunrise Mobile – prior to this position he worked for 4 years for the Swisscom Group as Manager Strategic Research. Previously he helped as Head of Competitive Analysis at diAx, the first alternative Swiss mobile provider to enter the Swiss market.

Herbert is specialised in strategic and tactical research and analysis. He graduated in automation and information technologies from the “Fachhochschule Furtwangen” Germany.

Oliver Gerstheimer
Managing Director, *Chilli Mind GmbH*

In 2001 Oliver co-founded chilli mind, an international high-level think tank for creativity focused on “Digital Innovation Design” – creating new business models, designing useful convergent services and applications, initiating and managing strategic ideation projects and optimizing products, based on contextual usability patterns.

Oliver stepped into the ‘Land of Mobile Business’ in 1998 inspired by his passion for user-centric design thinking and the upcoming growth of innovation through digital migration.

Oliver is also a lecturer at the University Kassel and at the University of Applied Sciences and Arts Zurich. Together with Christian Lupp, Oliver received the Scientific Award 2002 of 'Vodafone Stiftung für Forschung im Mobilfunk' (Germany).

Oliver graduated as a product designer and holds an additional degree in “Innovation Management & Technology Assessment” from University Kassel.

Thought Leaders

Markus Gyhr
CEO & Founder, *Ultra Images AG*

In 2000 Marcus Gyhr founded Ultra Images in Zurich, the Leading Swiss Postproduction company, which finishes and distributes TV commercials for major brands and advertising nets. Ultra Images works closely with marketers and distribution technology companies, helping them to adapt and to face the challenges in the changing world of advertising. Ultra Images is now expanding its business to include archiving and content creation to better cover the needs of industry and consumers.

Markus has been a specialist freelancer for finishing hi-end TV commercials throughout Europe.

Moreover, as creative director for Bavaria Film in Munich, he was responsible for the on-air promotion of several major TV stations. The company was one of the first partners of Beam.tv in London, which is a worldwide distribution network of TV commercials and archiving facilities that many consider the industry standard.

Oliver Haeggberg
Founder, *Value-Grid-Partners*

Oliver Haeggberg is the founder of Value-Grid-Partners, a hands-on business development structure with a background in venture capital, private equity, change management and strategic consulting capacities.

Oliver is focused on market entries, strategic partnering and promoting the businesses of his clients. Among his recent tasks was the promotion of Yellow Pages in combination with localised services and navigation tools.

Oliver is a former member of the VP-level managing board of T-Venture, the corporate venture capital arm of Deutsche Telekom. Prior experiences include working for Arthur Andersen, Grant Thornton and Thyssen Handelsunion.

Oliver started his career at Treuhandanstalt, Berlin, managing and privatising a portfolio of former state owned companies in the shipyard and vehicle construction industries.

He is a graduate of the University of St. Gallen, HSG.

Thought Leaders

Raoul Heinkel
Course Director Mobile Application Design,
HGK_Z (University for Applied Science and Arts Zurich)

Raoul Heinkel set up the post-graduate course Mobile Application Design at the HGK_Z (University for Applied Sciences & Art Zurich) in 2001. It was Europe's first academic program related to shaping the future of handheld devices. The program he devised is premised on the strong belief that mobile computing is on the verge of emancipating itself from peer-to-peer communication to encompass a broader and more ubiquitous usage – affecting all areas of human interaction

Raoul has over 10 years experience in the fields of multimedia, marketing, and on-screen content development.

Prior to his engagement in Zurich, Raoul's career led him to the MediaLab at ZKM in Karlsruhe as a project manager, to live broadcasting for France Télévision in Strasbourg and to advertising as a consultant for EuroRSCG Düsseldorf.

Raoul graduated in 1994 from The European Business School in Oestrich-Winkel.

Keynote Speaker

Kurt Hemecker
VP Business Development, *Echovox*

Kurt Hemecker is Echovox's VP Business Development, and is responsible for global business development and carrier relations.

Prior to joining Echovox Kurt was VP Services of MobileChannel.Net, a leading wireless company known in the industry for launching the MTV Ringtones services throughout Europe and Asia. Before joining MC.N Kurt was COO of GTN Telecom and previously occupied senior management positions with companies such as British Telecom, Infonet and Plessey Communications.

Kurt received a Masters in Computer Science from Stevens Institute of Technology - New Jersey, USA.

Thought Leaders

Frank Hermans
Principal Consultant and Business Advisor, *Ericsson Global Services*

Frank Hermans is Principal Consultant and Business Advisor at Ericsson Global Services.

He works on assignments to implement strategic business solutions on end-user (converged) services with new startups as well as global operators. He has led the implementation of several new Mobile Media initiatives ranging from events, football championship to more recently e.g. converged offerings like BT Mobile and Bluephone, currently known as Fusion.

Current activities focus on Media and Entertainment content delivery business cases and IMS.

Anuj Jain
Head of Convergence Development, *Orange Group*

Anuj Jain is Head of Convergence Development at the Orange Group, a company in which he has held several positions over the last seven years in Switzerland. Currently he is working on key initiatives regarding the convergence between France Telecom fixed, mobile and Internet business units.

Before working for Orange, he was Head Location Based Services (LBS) responsible for the development and launch of LBS in a number of European countries. Formerly, he spent four years with SGI (Silicon Graphics Inc., a computer manufacturer) working in different functions such as process, product and quality control.

He holds a Masters degree in Micro-engineering from the Swiss Federal Institute of Technology in Lausanne.

Anuj speaks English, French, Hindi and some German. He loves all racket sports, Indian classical music, photography and philosophy.

Thought Leaders

Volker Jantzen
CEO, *SVOX AG*

As Chief executive of SVOX, a Swiss company specialising in speech technology that he founded in 2000, Volker Jantzen is a highly regarded expert in the fields of speech interfaces. The company's focus is on embedded speech output solutions.

Today, leading automotive companies and Tier-1 suppliers as well as portable navigation players count on SVOX's expertise for the development and maintenance of their speech interfaces."

In addition to his work for SVOX, Volker is an honoured member of the advisory board for the respected and industry-leading Speech Technology Magazine. His experience in human-machine interfaces makes him a frequent interviewee in leading telematics & navigation publications.

Volker holds degrees in Business Administration and Computer Science. His research field at the Swiss Federal Institute of Technology in Zurich, and subsequently at IBM, comprised text-to-speech, speech recognition and computer linguistics.

Rajinder Jhol
Chief Architect, *solveIT.ch sàrl*

Rajinder Jhol has a decade of hands-on experience as a software and business architect specialising in the field of media, Internet and mobile & wireless solutions. He creates products and shares knowledge with global companies in telecommunications, software development, governments and other cool start-ups.

Rajinder combines his philosophical heritage, artist expressions and technological clairvoyance to implement and steer innovation driven projects.

Prior to working in the "techno" business, Rajinder was a contemporary artist exploring different media expression forms. Rajinder believes in a freethinking universum and works towards his mission that all work will become more human and responsible in terms of the ecosystem.

He holds a Masters in Economics.

Thought Leaders

Roland Keller
Innovation Manager, *BenQ Mobile*

Roland is an Innovation Manager and member of the Portfolio Management team
at BenQ Mobile and enjoys delineating future mobile communication products.

He worked for more than five year at Siemens Corporate Research and Siemens Communication and holds several international patents. Roland has enhanced experience in Man-Machine Interaction Design. As Design Manager he initiated, drove and managed rapid 2D and 3D prototyping and concept visualization mainly in the field of interaction design. Before working for Siemens, Roland was freelancing as a Designer in Germany, USA and South Korea.

Roland graduated from Kusthochschule Berlin in Industrial Design, and lives with his family in Zurich, Switzerland.

Angelo Mathis
Senior Manager, *PricewaterhouseCoopers Ltd*

Angelo Mathis has worked for PwC since 2001, leading audit and consulting engagements for major telcos (wireline, wireless and multimedia), addressing issues in provisioning, assurance and billing processes, systems and cost models. His competency covers practically all elements of the telecom revenue chain, from switches up to the billing systems and financial systems.

Prior to PwC, Angelo held several technical and management roles in the development, testing and maintenance area, both for services and products in the telecom industry. He has been responsible for an operation and competence centre and for several years was chairman of the technical committee of the European distributors of a major Telecom System Producer, being actively involved in the shaping of service management in the voice and data convergence.

Angelo holds a Master of. Science Degree from “Politecnico di Torino” and an MBA from the University of Rochester, NY.

Thought Leaders

Franco Monti
Director, *PricewaterhouseCoopers Ltd*

Franco Monti is a Partner and part of the advisory group at PricewaterhouseCoopers, Zurich, Switzerland. Mr. Monti has international experience with corporate and public networks, mobile and landline telephony and alliance management.

Franco spent about half of his professional life in various line functions, during his last assignment as Deputy CEO of a Swiss consumer electronics company (High Tech)

In the past Franco worked for several European telecommunications companies in France, Belgium, Italy, Portugal, Spain, Greece, Germany and Switzerland. He also worked in several workgroups of the international Telemanagement Forum (TMF).

He has two master degrees in both computer engineering (ETH) and business administration (HSG).

Jan Peschka
Business Consultant, *Swisscom AG*

In 2001 Jan Peschka joined Swisscom Innovations in the Department of Economic and Social Aspects. Today, he continues his creative networking activities to support Swisscom´s market success, for example in the Swiss Knowledge Management Forum. He is also the private lecturer in charge of Hochschule St. Gallen for the Human Resources Development.

From 1997 to 2000 he was head of marketing and human resources development for the I. P. C. AG. In 1992 he founded the International Project Center network, a pool of interdisciplinary and international experts who focused on the interface between human beings and technology. He led several large projects in the areas of e-learning and SME-Networks with a budget of more than 6 Mio. CHF. Before that he worked eight years in the retail business (1982-1990), moving to consulting and training at the start of 1991.

He holds a Master in International Marketing from Reutlingen University of Applied Science and in Law from Freiburg University, as well as a Doctoral degree in Economics.

Thought Leaders

Trudi Schifter
Technology Advisor, *Fleming Family and Partners*
European Agent, *Telenav Inc*

Trudi Schifter is presently an Advisor to Fleming Family and Partners Private Equity (London), European Agent for Telenav and Founding Partner of Yew Ventures i.G.. She is a board member of Anam Mobile Ltd., past board member of UBLOX AG, and past observer to the boards of Radioscape Ltd., and ASK SA.

Trudi has 25 years of technology management and venture experience. She has held senior managerial and supervisory roles with many companies including iGlobe Partners, MTONE and The State of California's European Offices of Technology. Trudi is also the founder of "Cal-IT Europe". She started her career with General Electric in new technology business development, strategic partnerships and new ventures.

Trudi holds a Degree in Engineering Sciences from Lehigh University, USA and an MBA from IMD, where she co-founded The Venture Capital Club.

She lives in Zurich and enjoys golf, marathons, tennis, skiing, classical flute, painting and scuba diving.

Sören Stamer
CEO & Co-Founder, *CoreMedia AG*

As CEO and co-founder of CoreMedia, Sören Stamer has led the company since its launch in April 1996. With his commitment to a strategy of long-term success and innovation, Sören has guided CoreMedia along a steady path of purely organic growth.

At the age of 24, Sören founded CoreMedia, after having worked with partners on the business concept during his studies at the University of Hamburg. Thanks to his qualifications in business management and his IT expertise, Sören was quickly able to position CoreMedia as a technology partner for demanding media companies; this proved the basis for its future success.

Sören is an experienced speaker and author of a number of publications on innovative content technologies and multi-channel strategies. He has made significant contributions to the development of concepts and technologies at the junctures of media, telecommunications and IT.

Sören graduated from the University of Hamburg and lives in Hamburg, Germany.

Thought Leaders

Werner Trattnig
Director, *PricewaterhouseCooper's Global Technology Centre Menlo Park*
Director, *Corporate Finance in Frankfurt, Germany*

Werner Trattnig advises industry leaders in the converging technology, entertainment & media and infocom industries. He is a recognised expert in developing compelling service innovations and business models based on structured financing.

After receiving a PhD in Computer Science and a PhD in Business Administration, Werner became a professor at Stanford University's legendary Computer Systems Laboratory. He received IBM's 30.000 US$ Junior Faculty Award, and contributed as guest professor at M.I.T. to the development of the Internet. Prior to joining PwC Werner held for more than 10 years various CEO positions at listed multinational companies.

Ofer Tziperman
President, *LocatioNet*

As co-founder of LocatioNet, Ofer Tziperman leads the Company's marketing, sales and business development activities. Under Ofer's direction LocatioNet has become one of the leading technology providers in the local search and off-board navigation markets, with an international presence in Europe, USA, Latin America, Africa and Asia.

Prior to establishing LocatioNet he was VP Marketing for OTI, a public high-tech company that specialises in contactless smart card technology. Ofer played a major role in turning OTI from a young start-up company into an international organization with subsidiaries and front offices around the world.

He has over 12 years of extensive experience in international business and in the marketing of high-tech products, and in 2000 the World Economic Forum nominated him as a 'Technology Pioneer'.

Ofer is an attorney and practiced commercial and business law. He holds an LLB degree from Tel Aviv University.

Thought Leaders

Francesco Vass
VP Marketing and Content, *Zattoo Inc.*

Francesco Vass is the Vice President Marketing and Content of Zattoo Inc. Zattoo acquires, transports and presents TV programs in one player for broadband Internet users anywhere. At Zattoo, Francesco leads the company's efforts to secure compelling content that attracts and retains users. He also oversees all marketing activities, from gaining customer insights to developing advertising campaigns.

Before joining Zattoo, Francesco served as consultant at McKinsey & Company, where he advised clients in the telecom and media industries on strategic issues. Previously, Francesco was deputy head of product development at Sunrise, Switzerland's largest new telecom operator. At the beginning of his career he held positions at UBS and Cisco Systems.

Francesco holds an MSc in Electrical Engineering from the Swiss Federal Institute of Technology in Zurich and an MBA from INSEAD in France and Singapore. He lives with his wife and two children in Zurich, Switzerland.

Marc Vollenweider
CEO, *Evalueserve*

Marc Vollenweider founded Evalueserve, a professional services firm with 1300 employees, in December 2000. Evalueserve provides 100% customised primary and secondary business information and intellectual property research & analysis to its 600+ clients in the US, Europe and Asia from its research centers in Delhi, Shanghai, and Santiago de Chile. Marc also focuses on the European sales region of Evalueserve, global key accounts, investor relations and corporate development.

Before founding Evalueserve, Marc was a Principal with McKinsey & Co. in Switzerland and India. He was a member of the global healthcare leadership group, with previous roles in the financial services practice and as head of the McKinsey Knowledge Center, Marc joined McKinsey in early 1990. His functional interests include sales & marketing, innovation as well as organizational behaviour.

Marc has an MBA from INSEAD, and a Masters in Telecommunications from the ETH, Zurich. Marc is married and has four children.

Thought Leaders

Urs von Arx
Head of Section, *Federal Office for Communications (BAKOM)*

Urs von Arx is Head of Section in the Telecom division of BAKOM where he is responsible for regulatory matters related to mobile and satellite services and especially for the award and surveillance of service licences for mobile and satellite operators. In this function, he leads licencing processes for the award of GSM-, UMTS- and BWA- licences.

Urs has over 15 years experience in the mobile communications industry. From 1991-1997 he worked with Telecom PTT Biel (today Swisscom) as Vice President Technical Services in the Radiocom Division. There, he was head of the regional network rollout, first of the NMT-900 and later for the GSM network.

Urs holds a degree in electrical engineering from the school of engineering in Biel (Switzerland) and a degree in business administration from the Swiss school of business engineering in Olten.

Marc Weder
Manager Communications Sector Alps, *Microsoft*

Marc Weder is Communications Sector Sales Manager for Microsoft Switzerland. He is responsible for an international team addressing major telecom and media companies in Switzerland and Austria.

Before joining Microsoft Switzerland Marc worked for Arthur D. Little Switzerland in the telecommunication, information and media practice. In the role of Senior Manager he was responsible for the acquisition as well as the execution of strategy projects in the telecom industry.

Prior to his career as strategy consultant Marc worked in the IT department of Siemens Schweiz in the business team of SAP projects.

Marc graduated in Business Administration from the University of St. Gallen and Lancaster. He lives with his family in Zurich, Switzerland.

Thought Leaders

Peter Wittwer
Partner, *PricewaterhouseCoopers Ltd*

In 1992 Peter Wittwer joined the Partnership of PricewaterhouseCoopers in the Audit and Business Advisory Services section of the company. He is the Client Service Partner responsible for several international and national quoted companies in Switzerland and the USA. He is also the Partner in charge of the Bern office and leads the Swiss practice for Technology, Telecommunication, Entertainment and Media. He has been with the company since 1987.

Peter has over 20 years experience in the areas of consolidation and application for international accounting standards (ICA) as well as initial public offerings (IPO's). He has gained extensive experience in Melbourne, Denmark and Singapore.

Peter is a Swiss Certified Accountant.

Married, with 2 daughters, his hobbies include skiing, hiking, biking and tennis.

Interview 01 – Thought Leader

> Dr. Werner Trattnig
Director, Menlo Park Europe, PricewaterhouseCoopers

Could you first explain what is going to be different about business models in the near future as convergence takes off and mobile content becomes more pervasive?

Let me distinguish between two things. One is enablement, which is the technical aspect of convergence. The other is new business models.The way I look at convergence is that the new technical platforms enable innovative business models, typically built by various companies in the value chain that traditionally did not cooperate.

So, how would you describe the essence of convergence and the new mobile content market today?

When I talk about business models I refer to three key elements of risk: market, technical performance and financial. It is no longer sufficient to offer excellent technical performance, like the traditional Telcos. The issue is to get access to new types of markets and sales channels.

Take a media company for example. It most likely has established distribution channels for media, say, CD ROMs for music, or newspapers etc., that serve its established customer base. However, the media company utilises different sales channels than does the traditional Telco.

"If you – besides your technical platform capabilities - manage to tap different distribution channels to access new types of consumers and market segments, and if you can finance your innovative business development, then you are well positioned to become a future player in the convergence business."

So when you consider the market risk in this business you have to assess how many consumers you are going to reach with your content through potentially new sales channels based on a technically converged platform. To address the technical performance risk as well as the market risk on a nationwide scale requires significant investment. It adds up to several hundreds of millions of Euro. That is beyond the financing capabilities of most companies in the value chain and it bears a significant financial risk.

Then again, if you can separate spotlessly clean technical performance risk from market risk and from financial risk, then you can assign the financial risk to the capital market. In that case you have made a significant step forward.

If you – besides your technical platform capabilities - manage to tap different distribution channels to access new types of consumers and market segments, and if you can finance your innovative business development, then you are well positioned to become a future player in the convergence business.

Interview 01 – Thought Leader

Therefore, companies that have established access to markets, and which are keen to offer attractive, innovative content, are best positioned for future success.

However, the greatest opportunity and challenges are in marketing and application innovation if you want to develop blockbusters.

What kind of services are we talking about?
It seems to be impossible to predict successful future services. For example, nobody predicted the success of the SMS service. Nobody predicted the success of Second Life or Habbo Hotel. What this implies is that hundreds of innovative ideas will have to be developed and market tested before a new blockbuster arises. It is like in the pharmaceutical market where huge investments in R&D are necessary to create a blockbuster. However, if you take Apple with its iPod and iTunes as examples, some companies seem better poised to develop innovative services than others.

We have a lot of routes to the market: GSM, 2G, 2.5G, 3G, 3.5G and even 4G. There are WiFi, WiMax, cable connections, satellite and broadband over copper wires. Will these various existing investments in infrastructure slow down the development of a converged market?
It is the market which decides upon the success of one technology over the other. Today's mobile service providers, such as Vodafone, have a very large customer base in which their traditional services are becoming commodities rapidly. Their challenge is to keep their customer base while maintaining the ARPU [average revenue per user]. The real threats for the mobile service providers come from well financed new market entrants with innovative services and market access.

Consumers, however, tend to be lazy and prefer fewer, but more comprehensive, service providers. If possible, and price competitive, consumers would rather buy tailored services, including Internet, TV and telecommunications, from one provider. As a consequence, new business opportunities arise for service integrators, distributors, wholesale sellers or virtual operators who bundle distribute and resell services to a large customer base.

Consumers generally do not care about underlying technology, whether that's 3G or WiMax. They do care, however, about performance and things like automatic handovers between cells for roaming purposes.

A typical question raised at technical conferences is: "what is better 4G or WiMax". It is a stupid question. In established markets, like Europe, UMTS networks have been deployed and can be upgraded efficiently to HSDPA. Nobody would seriously consider to sink billions Euros of investment just because a new technology for base stations like WiMax comes along. But it is a completely different story if you go to Eastern Europe, Asia, Latin America or Africa where the initial infrastructure investments have not been completed yet.

Interview 01 – Thought Leader

Are you underestimating the potential of 4G and WiMax?
Let's look at the numbers for Germany. To reach with WiMax 75% of the population you have to cover around 25% of the area. This implies the deployment of 10 000 bases stations. The total cost of the investment required to install a competitive nationwide WiMAX network comes to between two and three billion Euro. In addition, the investor could not expect any return on such an investment over the next three to six years.

In summary, to compete head on with a company that has an existing operational 3G network is a challenge only for the very high-risk investor. Consequently, it is unrealistic to expect anybody either in Germany or the UK to deploy a nationwide network based on an entirely new technology.

Are you saying that the way forward over the next few years is to build on the existing infrastructure?
Absolutely. We are talking about overlays and upgrades in existing technology, such as HSDPA.

How do you see this unfolding in the near- to medium-term?
First of all, there is considerable excess capacity in the UMTS networks. No significant quantum leap with regard to bandwidth demand is on the horizon over the next three years. Operators will start to offer wireless services at aggressive prices because of the under utilisation of existing networks.

What we will see, however, is that modern applications will have a growing appetite for bandwidth. In Germany for instance, demand for bandwidth in megabits per second is forecasted to exceed supply; even under the assumption that all available spectrum suited would be dedicated to wireless applications.

Will there be another inflated spectrum boom, as we saw with the 3G auctions of a few years ago?
Spectrum is a limited and valuable resource. As to the current price of spectrum, 3.4 GHz in the USA recently sold for around 13 billion dollars.

When the crossover point arrives, and demand for spectrum exceeds supply, then we will see a totally new game. At that time we expect to see rapid price increases. Assuming, that is, that regulation will continue to be ineffective in its attempt to control markets. So, the owners of the needle eyes, i.e. spectrum, will be in a very comfortable and profitable market position.

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Business Information – Market Overview 31/10/06 – Research Expert

Evalueserve Research Expert: **Thought Starter on Mobile Content Evolution**

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1. OVERVIEW

1.1 Evolution

1.1.1 Introduction

The mobile phone has witnessed a major transformation from being a mere voice communication device to an indispensable tool for managing private life, business, and sharing experiences across the world. Equipped with technologically advanced features, such as colour screens, high memory and processing capacity modern-age mobile phones serve as cameras, audio and video players as well as games stations. With the increase in the number of subscribers the market for mobile services is constantly expanding. However, the increase in subscribers has not translated into a proportionate increase in revenues for the mobile network operators. With voice revenues becoming stagnant in the mature markets, network operators are increasingly looking forward to non-voice value added services (VAS) services to drive growth. Although SMS accounts for a major share of revenues from mobile data services, non SMS-based data services or mobile content has also gained significant popularity due to the following reasons:

- Higher ARPU generated
- Greater advantage in terms of customer acquisition
- Improved customer retention, i.e., lower churn
- Better network utilization

Both Mobile operators and content providers have been motivated to drive growth of the mobile content industry; consequently, they have introduced an increasing range of content forms, which are user friendly and packaged attractively. The introduction of new network technologies has led to an increase in the data transmission rates, drastically improving the ability to provide digital content to mobile devices. This has enabled operators to move from delivering simple graphics and ring tones to offering rich media content like music files and video clips to consumers.

Figure 1: Evolution of Mobile Content with Respect to Content Complexity

Content Complexity: High → Low

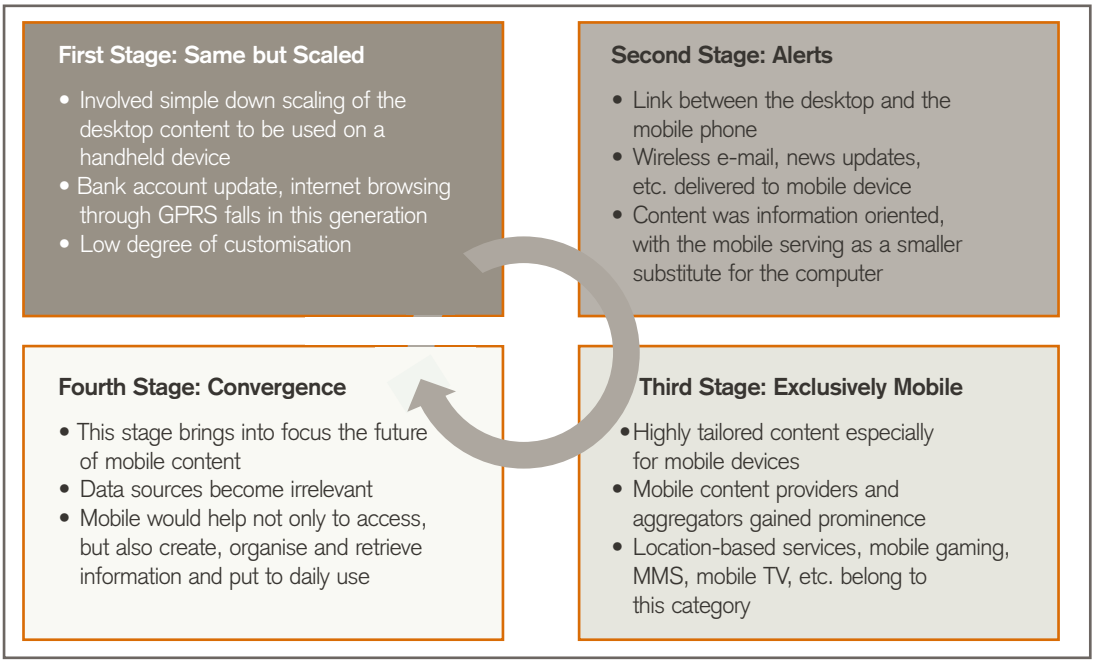
Enterprise Applications	Entertainment	Communication	Information	
• Corporate data access • Sales Force Automation (multiple locations)	• Video on demand • Mobile Journalism (MoJo) • Mobile Movies	• User-generated content • Location-based dating	• 3D Navigation • Internet Search • Mobile Health Assistant	2005 onwards
• Mobility Solutions • Push e-mail • Asset Tracking	• Music • Video clips • Mobile TV	• Instant Messaging • Social Networking • Dating	• LBS • Traffic Check • Mobile Internet	2002 - 2005
• Internet Access • Mobile Organiser	• Java Games • Polyphonic tones • Animations	• MMS • Mobile e-mail	• Maps, Directory Assistance	1999-2002
• Stock Updates • Alerts	• Ring tones • Wallpapers • Logos	• P2P Messaging	• News Updates • SMS-based alerts	1997-1999

Source: Evalueserve Analysis

1.1.2 Evolution of Mobile Content: The Four Stage Model

Mobile content has evolved at a significant pace over a short period of time. The entire evolution of content can be mapped into a simple four stage model. Each stage represents an increasingly sophisticated and valuable descendant of mobile content. While the first two stages were just a starter for mobile content, the third stage reflects the current status of the mobile content industry. The fourth stage is the pinnacle of mobile content, i.e., a stage which imparts to mobile the capability of integration across applications and across sources of data. In this stage mobile would replace the desktop in the true sense. The fourth stage would enable two-way interactions across all media – television, broadband, fixed line and mobile.

Figure 2: Mobile Content Evolution: Four Stage Model



Source: Evalueserve Analysis, Brighthand [1]

1.1.3 Future of Mobile Content: Evolution through Innovation

As the mobile market matures, sophisticated digital content will accompany the rapid advances in technologies enabling content creation and content access. Mobile content is expected to follow the path taken by internet content, i.e., the user generated content route. The key future opportunities in the market include:

- Capturing value from user-generated content
- Creating content to exploit mobile handset's position as an extremely personal and intimate device
- Personalised content
- Creating content that has greater utility in the daily routine of the users
- Content that takes into account the technological and societal changes
- Integration of services, for instance, integrating location-based services and community (dating) services to provide users with information that is most appealing to them; the sense of location and the warmth of togetherness

1. http://www.brighthand.com/default.asp?newsID=12047

1.2 Technologies and Platforms

1.2.1 Technologies Enabling Content Development

The ability to create content and services that personalise the user experience on mobile devices is critically important. To cater to this need, at present, there are three main platforms to help content developers build new applications and device interfaces that enable high levels of customisation and personalisation of content. They are:

- BREW
- Java
- .NET

1.2.1.1 BREW

BREW (Binary Runtime Environment for Wireless) is a content/application development platform for mobile phones developed by Qualcomm. This platform is used for the generation of various kinds of mobile content such as interactive games, rich enterprise solutions, location based services and other mobile content. The BREW platform allows the complete control over the mobile hardware; therefore only authentic BREW developers are allowed to upload and execute software on the supported handsets with theirdigital signatures.

1.2.1.2 Java

Java is a collection of software and product specification developed by Sun Microsystems in 1991 under the code name of "Green Project". Today, a majority of the mobile phone markets are running Java-based content and applications, making Java the leading platform for mobile content development. There are around 700 Java technology-enabled handset models, which provide a whole gamut of application and information for the user.

1.2.1.3 .NET

.NET compact framework is a product from Microsoft based on the Microsoft .NET Framework. Applications built on .NET framework are ideal for deployment on mobile phones, PDAs and Pocket-PC devices. It uses the libraries just like .NET Framework as well as the libraries designed specifically for mobile devices. It is used to build web controls that run on the web server using a Wireless Markup Language (WML) via Wireless Access Protocol (WAP) in Internet-enabled phones.

1.2.2 Java: The Leader in Content Development Platform

Although the three platforms; BREW, Java, .NET offer a wide range of tools and application development resources, Java is more widely accepted in the wireless applications market. This can be attributed to the following factors:

- Java can run on any platform and device, irrespective of the carrier or network operator.
- A wide range of devices are available for developers to build applications for
- It can run both locally or on a network providing a wide scope for advanced enterprise applications.
- It allows interoperability between multiple technologies on the same device.

Other platforms such as BREW do not provide such flexibility and interoperability between different devices. As BREW provides full control of the handset, only registered developers with BREW can simulate their applications using their unique signature provided by Qualcomm by paying a fixed registration charge. Also, some platforms work only on the specific devices with chipsets enabling the execution of applications on that platform.

1.2.3 Technologies Enabling Content Delivery

New data services, interactive TV and evolving Internet behaviour have greatly influenced mobile data usage. Multimedia-rich content has forced a reconsideration of the radio access technologies to achieve a fairly difficult task, namely high capacities (data transfer speeds) at a low cost.

Table 1: Evolution of Mobile Content Delivery Technologies

Technology	System	Application	Transmission Technology	Special Features
1G	Analog	Voice	AMPS, NMT, TACS	First mobile phone systems to be used
2G	Digital	Voice, little circuit switch data	TDMA, GSM, CDMA	Data service available, secure, broader coverage; speed: 9.6Kbps to 14.4 Kbps
2.5G	Digital	Voice, high speed switch data, packet switch data	GPRS, EDGE, CDMA 2000 1X	Web browsing, E-mailing, voice mailing, positioning capability; Speed: 14.4-384 Kbps
3G	Digital	Voice, packet switch data	CDMA-2000, WCDMA, TD-SCDMA	Multimedia data, Internet connection, global roaming; Speed: 384 Kbps to 2 Mbps
4G	Digital	Voice, packet switch data	OFDM, MC-CDMA	Virtual navigation, Tele-medicine; Speed: up to 1Gbps

Source: Evalueserve Analysis

Many industry analysts refer to an intermediate technology, 3G evolved or Super 3G, which offers mobile and interactive TV, enhanced video telephony, multiplayer gaming and information sharing using the 3G long-term evolution (3G LTE) standard.

With the ever increasing demand for innovative content (such as mobile TV), the technologies enabling their delivery have also evolved. Both technology and demand for content have gone hand-in-hand. If technology on one side has acted as a push factor for users to demand richer content, demand for content on the other side has prompted technology players to develop newer technologies capable of delivering content at higher speeds and with better quality.

Mobile TV has been the focus area for a majority of operators across different geographies due to its significant potential. According to a Juniper research report, worldwide mobile TV revenues are expected to grow to USD 11.7bn by 2011. Most discussion of mobile broadcasting technology revolves around dedicated networks, such as DVB-H, DMB and MediaFlo. On the other hand, in the

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short term, 3G itself could provide the most attractive broadcasting solution for mobile operators, using the 3G MBMS standard, which requires relatively small changes to the underlying 3G standard.

Although the most touted view is that multiple standards can exist peacefully in the mobile TV domain, Europe has favoured the DVB-H standard more than other standards. A study by Frost and Sullivan indicates that even though DVB-H will not cover most of the European market before 2010, it should emerge as a winner in the European mobile landscape.

Emerging technologies in the mobile arena cannot focus solely on access speeds and the technical complexity. Some of the key factors that will govern the deployment of new and emerging technologies are as follows:

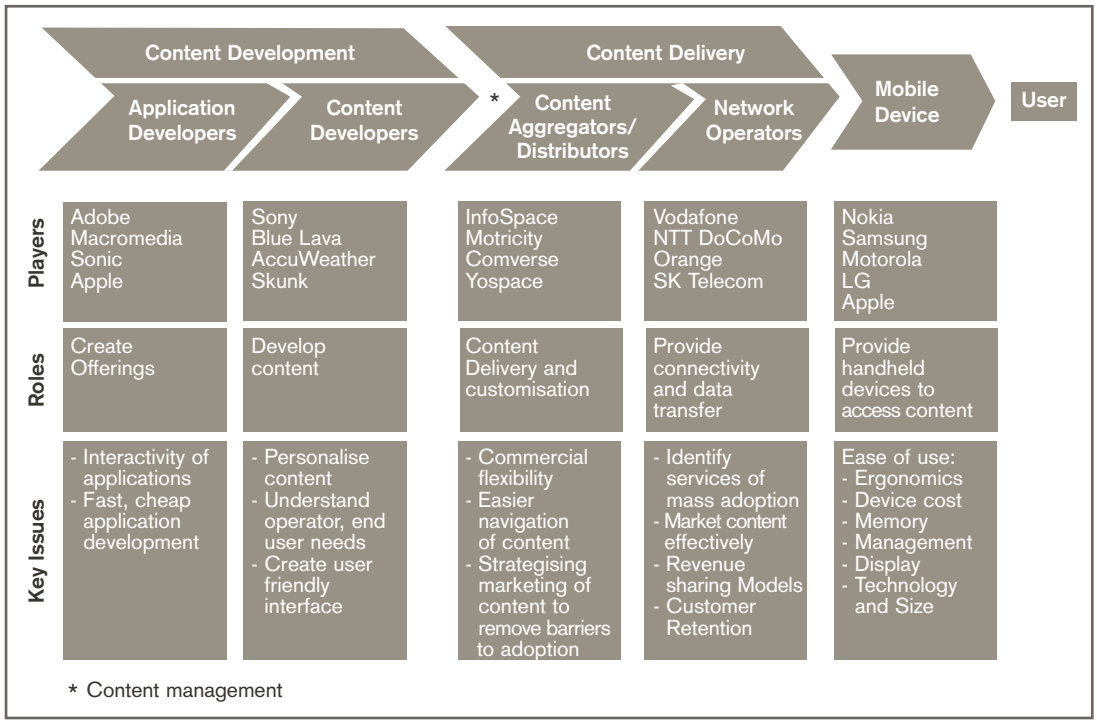
- Access infrastructure that will help operators to mix several technologies, each of which has its optimal usage
- A real-time trade-off between the existing and new access technologies, which will offer the best possible service to the users.
- New technologies which are yet to be deployed should permit progressive introduction without jeopardising existing investment and achieve high capacity at lower costs
- Spectrum Availability: Spectrum availability and quality is another critical issue, and often the chief constraint that players have to contend with. It impacts coverage, quality of services and deployment costs. In Europe, astronomical spectrum licensing fees were collected years before the 3G service was developed, requiring major investments to build the 3G networks, severely affecting mobile operators' margins. Today, suppliers of any new wireless technology have great difficulty in accessing adequate radio spectrum in the EU, despite the fact that many radio frequency bands are actually under-used. Most spectrums throughout the EU are awarded through individual licences, where the number of licences is limited. This means that a new service can normally make use of spectrum only at the expense of existing uses or users.

The emergence of new technologies such as mobile WiMAX which has been popularly touted as an alternative to the existing 3G networks has further fuelled the spectrum availability issue. According to a recent stand taken by the GSM Association, a band of spectrum should be restricted to 3G use only; however, supporters of WiMAX want that the band be kept “technological neutral” to stimulate innovation. Operators have yet not been able to obtain the returns that they foresaw before introducing 3G. Introduction of another new technology, i.e., mobile WiMAX in the same spectrum band could hamper the already immature 3G market.

However, with the phasing out of old technologies, new spectrum bands will be unearthed which could serve the long awaited demand for the “scarce commodity”, the spectrum. With the switchover of analogue terrestrial television broadcasting to digital transmissions, up to 375 MHz of radio spectrum could be made available for innovative services, such as mobile broadband offerings from 3G operators.

Also, there is unused 450 MHz and 600 MHz band spectrum in Europe, which would be up for re-assignment when the old analogue phone networks are taken out of service. This band has a great coverage advantage as it can cover a large urban area without the need of many cells. On the other hand, 2.1 GHz service would require dozens of cells to achieve the same coverage.

Figure 3: Mobile Content Value Chain



Source: Evalueserve Analysis

The above value chain shows the various steps involved in the lifecycle of content, from development of applications on which content is developed to consumption by the end user. Mobile handsets through constant technological developments have played a significant role in the evolution of mobile content. Mobile handset manufactures have a very strong relationship with almost all participants of the value chain, barring content aggregators.[2] As increasingly sophisticated mobile devices are being launched, it has become crucial for the content providers to fully exploit the run-time capabilities of the device. Other forms of content such as user-generated mobile content have become a reality owing to mobile phones with enhanced features such as, interoperability with the PC, camera functions, etc.

Apart from technical advancements in content development and delivery, the mobile content landscape has also changed with respect to the destinations used by the end users to access content. Traditionally, operator portals have dominated the online mobile space. However, their focus and investments have been primarily confined to mass-market services to cover the widest possible space of subscribers. With the rise of 'special interest' content providers[3], content packaging and aggregation has become more user-friendly. Content providers are now increasingly expanding their activities in the mobile content market and are seeking to engage with end customers more directly and in a more innovative manner. However, this scene is likely to be dominated by bigger players like Jamster, Bingo, etc., as it requires significant marketing investment to impart visibility to their brands in the vast mobile media space.

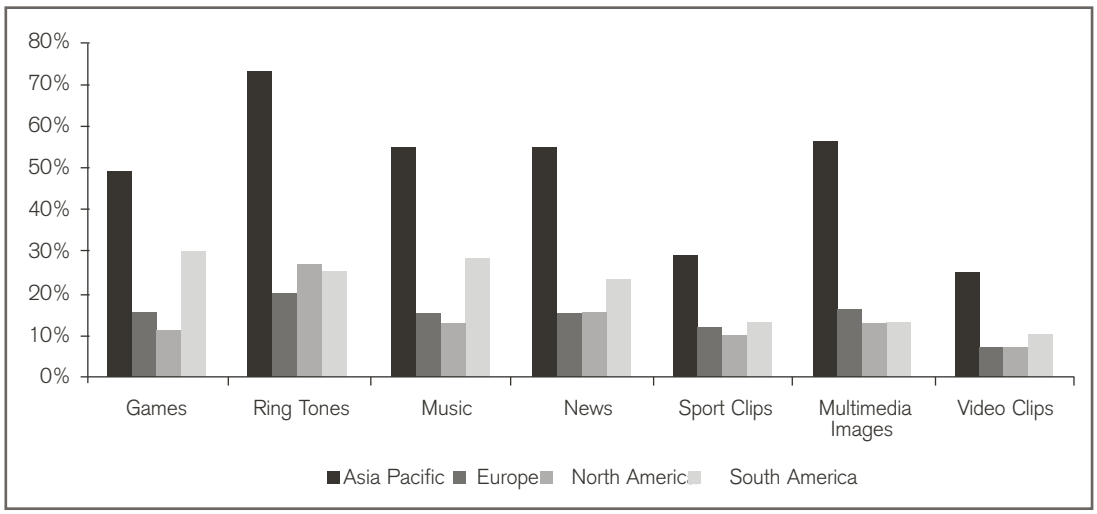
2. Content aggregators primarily syndicate a wide variety of content from various sources and original content developers, and make it available to mobile operators through various delivery formats.
3. Special interest content providers are companies who focus on providing content related to highly specific areas of interest to a small set of consumers.

2. MARKET FORCES

2.1 Market Snapshot

According to Strategy Analytics, revenues from global mobile content services will grow from USD 13.7 billion in 2005 to USD 41.9 billion in 2010.

Figure 4: Expected Content Usage in 2006



Source: LogicaCMG [4]

In 2006, Asia Pacific (led by highly advanced markets, i.e. Japan and Korea) is expected to record the highest percentage of users accessing different types of mobile content. Presently, the mobile content market is mainly driven by content applications, such as music, games, ring tones and news and information services. In the majority of markets video services are still waiting to take off in a big way. However, with the emergence of faster access technologies, higher resolution displays, greater memory capacities of the handsets; mobile video and music are expected to be the key drivers of mobile content growth in the next few years. Various trends that are presently being experienced in mobile content market globally are discussed below.

2.2 Trends

2.2.1 Screen Size: Small Screen vs. Big Screen

The market for mobile handsets is rapidly shifting from the 'functional-based design' of 1990's to the more imaginative and innovative forms with pocketability being the key factor. The development of screen size has been proportional to the development of mobile applications and services. With the evolution of media-rich content, there has been a need for more advanced mobile handsets with better and bigger screens with high resolution and faster response rate to support these applications.

4. http://www.logicacmg.com/page/400002835

Resolution and size are not the only screen properties which are gaining more prominence; interactivity with mobile screens is also gradually getting impacted. Today, the handsets are much more interactive due to the integration of touch screens, which can be operated with a finger or a special stylus. This provides a significant scope for interactive applications, like interactive TV, interactive games, etc.

2.2.2 Mobile Social Networking

The success of social networking on the wired Internet has highlighted the feasibility of the next biggest medium- the mobile phone. Mobile social networking systems (or SNS) are in a nascent stage, but if implemented in a strategic manner, it could well repeat the 'online social networking phenomenon'[6]. Some of the factors that could assist in the popularity of mobile SNS are as follows:

- Mobile is an extension of the original self- it is used to connect with friends and strangers especially among the youth; users in the age group of 13-28 years form the majority of active users on social networking sites; hence, the demand for such services already exists.
- Mobile SNS can potentially deliver a higher value than the PC Internet-based social networking by rendering information on the users' location as well.
- With higher penetration of video camera-enabled phones, mobile SNS has the ability to capture spontaneous and intimate moments or experiences and share them instantly with friends.

The social networking domain has been primarily dominated by personal social networks. Big players such as MySpace, Microsoft (with Slam) and Google (with Dodgeball) have already made a foray into this market. However, professional social networks have also gained a fair degree of significance with LinkedIn, openBC, Ecademy etc. operating in this market. openBC, a popular business networking platform, also allows its members to access many features of the site by logging on with their mobile phones.

Location-based social networking/dating services are likely to gain more popularity in the near future. However, with mobile advertising still underdeveloped, aspects such as 'cumbersome navigation' and 'revenue generation' need to be addressed to make mobile SNS a profitable reality.

2.2.3 User Generated Content: Just A Fad?

The successful integration of multiple media production devices into one, such as mobile phones with high resolution digital cameras has catalysed the growth of user-generated content (UGC). Today, the user can play a definitive role in the content generation cycle rather than being a mere spectator at the receiving end. Although UGC has proven to be important for the wired Internet, mobile medium, however, is a different playing field altogether. User generated content (or UGC) has its own pros and cons as listed in the table below:

6. Source: http://gigaom.com/2006/10/23/mobile-user-generated/

Figure 5: User Generated Content: Pros and Cons

Pros	Cons
The content can be really versatile as all users can become potential content developers.	Credibility of the content and the creator could be questioned
UGC can fill the gap that the content providers could not as new devices make it a lot easier to create and share content.	Since a major portion of user created content is often irrelevant and subscribers have to pay for the mobile data, billing levels may become unacceptable
UGC can be a compelling content as it would cover events and issues that are closer to the users.	Display screen size is one of the key factors for the popularity of content, UGC could find it hard to adapt to smaller displays and overcome the related limitations
UGC has the potential to bind the users not only among themselves but also with the portals to which they contribute	UGC suffers from the syndrome that a few unprofessional contributors could totally spoil the reputation of other serious contributors

Source: Evalueserve Analysis

In spite of hurdles and obstacles, there are a host of compelling reasons to encourage user-created mobile content. UGC can not only act as a perpetual source of content, but can also add a lot of value to the existing content created by professionals. For example, users could go to a game site on the wired Internet, create a new racetrack for a racing game, download it to their phone and share it among friends. The portability of mobile phones imparts great utility to users by allowing them to share their immediate experiences with others. To exploit this potential market, a popular online user generated site, YouTube recently announced a service whereby users can upload videos through their mobile phones. Members can shoot clips/videos with their mobile phones and e-mail them to an assigned e-mail address, from where the videos/clips would automatically get posted under the user's profile.

European operators have already taken some initiatives in this arena, and have also gained some success with it. "See Me TV", a Hutchison 3G service, has allowed users to access more than 100,000 videos and photographs, and translated them into more than 12 million downloads . European users have a relatively higher video-adoption level as compared to those in the United States, which has helped companies to push mobile social services, which highlight photo and video profiles. Word of mouth publicity associated with UGC could well establish it as a compelling form of mobile content.

However, the issues of credibility, regulation, and ownership need to be addressed at an implementation level before UGC can successfully launch itself into the mobile content space.

2.2.4 Mobile Enterprise Solutions

The rapid progress in the mobile computing market has fostered the development of new mobile business applications, which can be used to automate and streamline businesses operations. With the development of technologies enabling real time communication, like 3G, WiMAX, etc.; mobile workers

can have access to the systems whenever and wherever they need. Improved bandwidth, increased transmission and cheaper mobile devices are the key drivers for the adaptation of mobile enterprise solutions in the niche market.

Various factors that have led to the acceptance of mobile enterprise solutions in business are as follows:

- Real time access of information by mobile workers 'on the go'
- Greater management control with minimum administration
- Quick resolution of problems and schedules by improved decision-making capabilities
- Management can keep a track of their assets easily and can know of the developments as they happen
- Reduced operational cost and improved efficiency due to elimination of labour-intensive and error-prone processes

Today, organisations are radically shifting towards integrating mobile business into their operations. The reasons for this are the wide gamut of opportunities that are possible- -especially in sales, maintenance, delivery, and field technicians in the areas of healthcare, retail, manufacturing, etc. According to a study by Frost and Sullivan, European firms spend 32% of their telecom and networking budgets on mobility solutions. With technology adoption on the rise among enterprises, Eastern Europe especially is likely to increasingly contribute towards investments in mobility applications and technology infrastructure. However, regulatory compliance and data security concerns need to be addressed immediately to enhance adoption.

2.2.5 Emerging Mobile Applications

2.2.5.1 Smart Posters
Content access technologies such as Radio Frequency Identification (RFID), WiMAX, Near Field Communication (NFC), etc., have added a new dimension to the field of mobile content access. One can download/access relevant information by simply placing his/her mobile phone in front of the 'smart poster', which triggers the content server to transfer the information to the user's handset. This breakthrough in mobile commerce can be used in various outlets, music shops, airports, museums, etc., and the content can vary from transferring a ring tone, to downloading music, video clips, special offers, etc. related to the product.

2.2.5.2 Mobile Medical Assistant
Mobile phone services have started integrating themselves into 'Health and Diagnostic' solutions by providing a wide range of information content related to the health and well-being of the user. These services encompass information on health news, dietary recommendations, mobile monitoring and health management by doctors and/or parents. Traditionally, mobile services available to the users have been general information oriented, whereby, users can log on to a WAP site to either chat with a doctor or mail their questions. Health and fitness related updates in the form of an SMS can also be received by subscribers.

An innovation in this area is a service application provided by HealthPia, the HealthPia Mobile Diabetes Application. This service provides a real time interactive information exchange between the patient and the doctor. The application makes use of embedded biosensors into the battery pack of a cell phone. Users, by applying a small blood sample to a standard strip administer blood tests. The strip when inserted into the phone can read the results and tabulate it in the form of graphs. This data can be sent in real-time to a doctor through the wireless network. Other similar services exist, wherein a mobile phone can be used in real-time to track and transmit patient condition across to the concerned sources.

New dimensions have also been added using GPS and other location-based services. Cell phones can now be used as a digital fitness device using Global Positioning System, where users such as runners, walkers, and cyclists can in real time maintain records with details such as the distance travelled, the speed, and the approximate calories burnt. Applications are highly customised to the user's needs and preferences and play the role of real-time interactive interfaces between users and their physicians.

2.2.5.3 Mobile VoIP
Internet telephony (VoIP) over mobile phones is on the way with the popular application Skype already having launched its mobile application on 18 March 2006 in partnership with mobile operator Hutchison 3G. The service could radically change the way cellular subscribers would use their handsets in the future. At present it is likely to face technical roadblocks, as good quality VoIP calls would require advanced networks with HSUPA (high speed uplink packet address) along with other network enhancements.

2.3 Key Success Factors

Fresh and compelling content and applications, along with the complexity inherent in today's mobile content market will add to the rising pressure on wireless carriers (network operators), content developers and handset manufacturers. In today's context, content needs to be more compelling, customisable, and delivered faster than ever before. Well-executed content strategies and availability of good quality infrastructure can fundamentally change the way mobile business is conducted and will help to establish a subscriber relationship that is deeper, longer-lasting, and more profitable than before.

2.3.1 Content Providers
The critical factor that would determine the success of content providers is to interact with customers in a more direct and innovative manner. The key success factors for the content providers are outlined below:

- Mainstream content should be made available to users from various channels including the operator. Hence, for the content providers to gain further prominence, content will have to appeal to more niche needs.
- Timeliness and relevance of the content has the highest impact on the usability and the demand of the content. For instance, football-related content just before the World Cup acted as a huge draw for the users.
- Mobile browsing is not as user-friendly as Internet browsing on the PC. Hence, enabling easier navigation of content would come across as a critical success factor for mobile content.

- Developing content that could be delivered over newer and innovative channels, such as RFID-triggered personalised local content (smart posters) can promote a more direct interaction with the end users.

2.3.2 Network Operators

Network operators serve as the final access provider of content, and also the owner of relationships with the mobile phone subscribers. However, with the content landscape changing, in spite of their dominant position in the market, carriers might experience difficulties in leveraging their position. Key issues that deserve attention are:

- Network operators not only need to differentiate themselves from their competitors by providing unique value-added services but also manage the complexities of content acquisition, management, and delivery.
- Carriers need to be more prepared to handle and also to exploit the major media events to drive the demand for content. Such events may include the Football World Cup, the release of an awaited movie, etc.
- Operators need to adopt and adapt to radically new business models. They should be able to change/forge alliances to provide rich content and greater freedom of choice.
- To remove earlier barriers to adoption, network operators need to focus on mass-market, user-friendly content that will drive further adoption and usage, while also supporting their competitive positioning in content markets.

2.3.3 Handset Manufacturers

Mobile handsets have served as a key factor for the uptake of newer forms of content. Colour displays, integrated cameras, enhanced data storage and downloading capabilities, customised handsets, with continual improvements in processing power, sound and visual quality have enabled the users to break the voice barrier and embrace a host of multimedia-rich content. However, to stay competitive, the handset manufacturers not only need to address technical issues but also understand the market dynamics.

- Handset manufacturers need to address the customisation needs of the carriers, to meet their increasing demands. The need is not only to manufacture customised devices to ensure network compatibility with different operators in different regions, but also to manufacture handsets that meet extensive specification lists on a handset-by-handset and carrier-by-carrier basis.
- They need to develop a consistent user interface (or UI) across applications. UI is the most important consideration for users who frequently download/use mobile content.
- With convergence coming into play, handsets should now be able to support interconnectivity, i.e., mobile and PC through easier to use interfaces and software.
- Mobile handsets need to keep pace with the newer content forms. For instance, bigger screens are seen as an essential feature for mobile TV service. Moreover, such features enable handset manufacturers to differentiate their products.

3. THE RIGHT BUSINESS MODEL?

The mobile content market has ridden the wave of change at a very significant pace and has changed the business environment significantly. Today, the market has become much more complex. The success of different players will depend on their customer relationship which has made it imperative for all participants in the value chain to position themselves correctly to attain/retain relationship with the end user. In many ways the mobile market has followed in the footsteps of the Internet, particularly with reference to extensive partnerships, rich media offerings and user experience.

On the Internet, the content providers directly target consumers whereas in the mobile domain, the predominant access route to the consumer has been the network operator. Europe and especially Western Europe has defied this trend with the operators increasingly engaging in revenue sharing models that enable content providers to offer and also handle billing of services. Although technical and rights management discussions are very important, finding the right business model is a major issue that needs to be addressed. Business models have been classified on the basis of ownership of the content:

Operator controlled:
According to this model, the operator would enjoy his dominance and retain his position as the central figure in the value chain. The operator would share a direct relationship with the consumer and the content provider would act as a media house provisioning content to the operator for a share of the revenues. The key issues/concerns that need to be addressed in this model are as follows:

- Identification of services of mass adoption. This, however, could lead to a loss of revenue generated from high return niche content.
- Operators could also find it increasingly difficult to manage billing, provisioning and most importantly security of content.
- Content is not the only differentiator for the operators. Moreover, by investing in service and content delivery platforms, etc., the operators may eventually reduce time to market their core services.

Provider controlled:
This business model has significantly gained grounds in the European region, with the content providers enjoying a fair deal of dominance over the customers. Currently, around 70% of the content revenues in Europe come from off-portal content. Network operators would primarily function as a medium for accessing the content. Some of the key issues/concerns for this model are as follows:

- Big players will enjoy an unfair advantage over the smaller ones due to the high investments required to effectively market mobile content to various customer segments.
- Revenue leakage. Revenue leakage refers to a situation where the content downloaded by a user does not get billed on account of network and mediation-related issues, such as incomplete records, parsing errors, failure to create records and other frauds. This results in a loss of revenue not only to the operators, but also to the content providers. This issue is currently the source of much contention in the premium SMS market where revenue leakage is estimated to be as high as 15-20 percent.
- Enabling delivery of content via mediums other than the operator's network is crucial. For example, RFID triggered personalised content or smart posters.

Thought Starter

Alternative Mixed Model (or Shared Model):
This brings to the fore a very practical business model whereby the content available to the customer is a mix of off-portal (around 80%) and on-portal (20%) content. The operators here would provide more user-specific content that would meet the basic needs of the users as well as the operators. This model has the following advantages:

- Operators will still have some relationship with their customers and not totally loose out to the media houses.
- Off portal content which is more appealing to the users would continue to earn the revenues that it does as well as allow operators to outsource content creation and management to media-centric vendors.
- The operators will also be able to detach their brand name from unknown, niche or unbranded content offering, which might not be authentic.
- This will provide the operators with an increased customer choice, and also provides the opportunity to cherry pick the best off-portal content for their own portal offerings.
- Content providers will also benefit as there would be no barriers to enter the content market and small providers provisioning niche content would also gain significance.
- By reducing the level of content customisation on their own, operators can shift resources to testing and certifying off-portal content. This would help them to improve customer experience and hence, help generate additional revenues and reduce churn.

4. LEGISLATIONS AND REGULATIONS

The digital revolution has brought about the need to regulate the distribution/reproduction of mobile digital content such as audio, video, publishing, computer games and software. Today, phones are acting as a popular source of entertainment and information by providing movies, music, e-books, Internet, etc. to 'on the go' users. Users are empowered to view the same digital content in new and innovative ways with mobile phones becoming mightier and more powerful than ever before. This has made it crucial to ensure that the delivered mobile content is not only regulated with reference to the content viewed but also protected from piracy.

The European Union has recently proposed its own set of rules governing mobile content distribution and production. Some of the main legislations are discussed below:

4.1 EU E-money Directive

The EU E-money directive defines the rules on how the m-commerce business needs to be structured. The directive seeks to impose blanket regulations for transactions via mobile devices. Key issues associated with the directive are as follows:

- Players involved in the m-commerce value chain may have to obtain an e-money license or a waiver
- Each EU member state has interpreted the directive differently. Hence, different countries have different restrictions.
- The directive has faced a major criticism that the legislative developments must be tailor made to the unique requirements of the mobile communications industry; one should not rely on blanket legislations to address the concerns

Legislation	Impact
EU E-money Directive	Owing to unbalanced regulation across different EU countries, mobile operators and their content partners face an unfair disadvantage while developing their operations throughout Europe.

4.2 Television Without Frontiers Directive (TWFD)

TWFD seeks to regulate the new media content broadcasting over all mediums including mobile. Key issues associated with the directive are as follows:

- The proposed extension of the directive to all audio-visual material would mean 'a significant regulation of the Internet'.
- The directive is not able to truly reflect the nature of the new interactive, on-demand, IP-based services, such as IPTV, Video on Demand and mobile TV which is under development.
- At present there are disparate national rules for the protection of minors, against incitement to racial hatred and surreptitious advertising. The EU hopes to replace these with a basic, EU-wide minimum standard of protection for audiovisual on-demand services.

Legislation	Impact
Television Without Frontiers Directive	• Increased regulatory burden for content and new media industry with little benefit to business or consumers • The new directive could be damaging as it runs the risk of reducing Europe's competitive edge and stifling its innovation

4.3 DRM: Current Landscape

Content security started with simple encryption of digital content but it consequently became less effective. Limitations which created the need to establish a more secure content delivery platform were:

- Possibility of decrypting files from the encrypted ones when they were in use
- Encryption doesn't prevent the user from making a copy of the content
- Easy forwarding of the copyrighted content via internet

Digital Rights Management (DRM) is a technology developed to prevent the illegal distribution of copyrighted digital content empowering content providers/authors with more right and control over their products. The control is not only over permissions and constraints but also over the obligations related to content like forwarding, copying, etc.

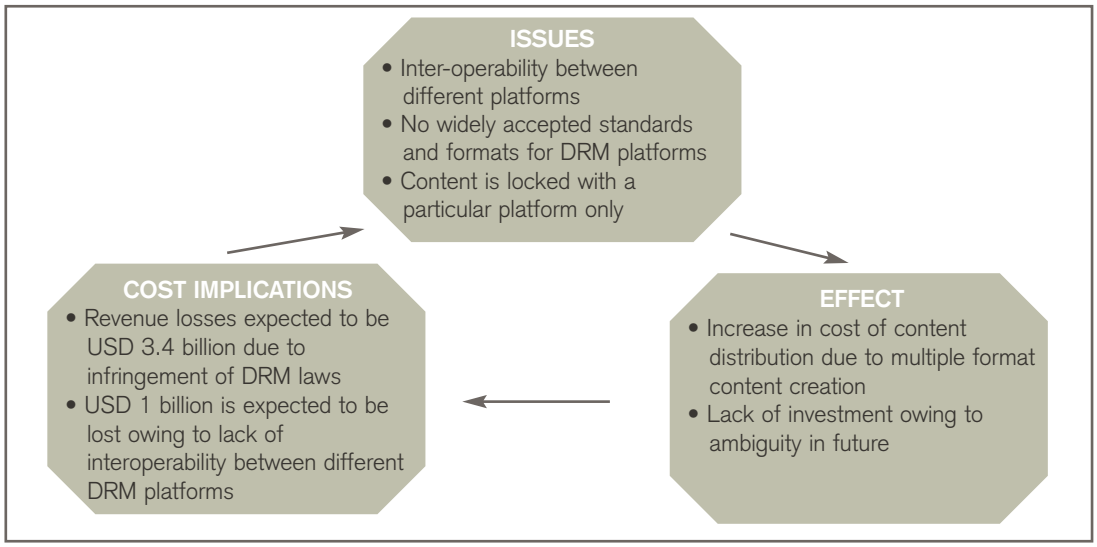
DRM platforms attach different rights to the digital content with different price tags on each right depending on the attributes. Depending on the DRM platform, these rights can be delivered to the end user via different means:

- Along with the content (combined delivery): In combined delivery, the rights object or usage rules are packaged with the content into the DRM message. Content providers can set rights for playing, displaying, printing content. Content that has been delivered using combined delivery cannot be forwarded.
- Separately (separate delivery): In separate delivery, content and the usage rights are delivered using separate channels. The content is encrypted and converted into a DRM content format and assigned a content encryption key (or CEK). The user can forward content, however, to view the forwarded content, the user at the receiving end has to request for new rights and the CEK to unlock the content.

There are a lot of platforms available in the market for protecting the ownership rights of content providers and aggregators. There are also new trends emerging such as digital watermarks and OMA DRM (a Digital Rights Management system invented by the Open Mobile Alliance).

Some of the common concerns addressing these platforms along with their effect and cost implications on the market are discussed below:

Figure 6: DRM: Issues, Effects and Cost Implications



Source: Evalueserve Analysis

4.4 DRM Platforms

There are many platforms in the DRM market each one catering to the different needs of content owner, aggregators, distributors and network operators. Some of the popular DRM platforms available in the market are discussed in the following table along with the vendor name of the platform provider.

Table 2: Major DRM Platforms

Platform Name	Company	Description
EMMS	IBM	Includes support for content owners, businesses, retailers and customers by enabling them to digitally protect and secure their copyrighted digital content like digital media
RightsISystem	Intertrust (jointly acquired by Sony Entertainment and Royal Philips Electronics)	Includes content packaging software, servers, content rule governing clients, and other toolkits for integrating similar applications
OpenMG	Sony	OpenMG allows rights management, media authentication, copyright protection, digital content management and licensing
Helix DRM	Real Networks	Helix DRM is a comprehensive and flexible platform offering secure media packaging, license generation and high-quality content delivery across all major platforms
Windows Media Rights Manager	Microsoft	This platform is particularly useful for content providers and retailers for secure distribution of digital media files where rights are encrypted in XrML

Source: Evalueserve Analysis

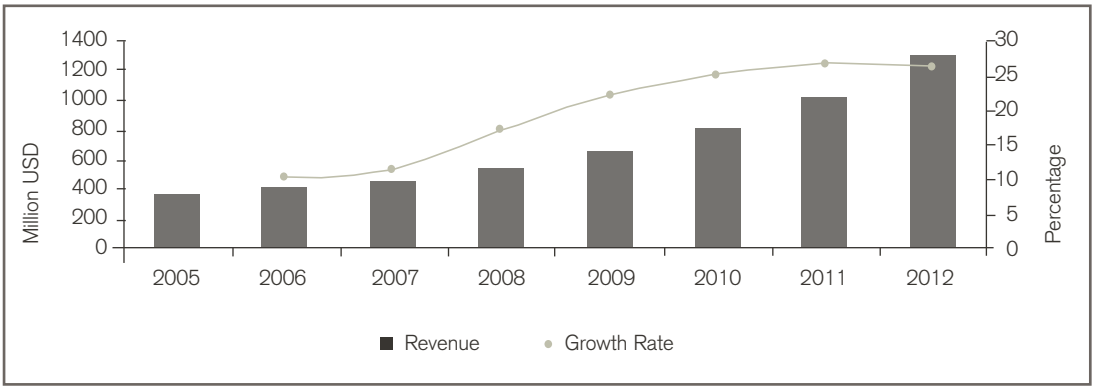
4.5 DRM: Future

DRM should impose both policy management and policy enforcement. The ideal DRM system would be one which:

- Is user friendly
- Is device independent
- Is interoperable
- Supports flow of digital data freely over public channels in encrypted form without resistance

The market potential for DRM is significant, as shown in Figure 7:

Figure 7: Digital Rights Management Market Revenue Forecasts (World)



Source: Evalueserve Analysis

5. CONCLUSION

The arrival of advanced applications and handsets has not only spurred the demand for newer and media-rich mobile services and content, but has also introduced new levels of complexity in the mobile content market. With technological evolution in the delivery of content and the rise of multiple standards (such as DVB and DMB), this complexity is only expected to increase in the future. If on one hand, users have gained the advantage of accessing a large amount of content, both specific and niche; on the other hand, it has translated into increased pressure on all parties in the value chain-the carriers, content developers, content aggregators and handset manufacturers. As a result, new opportunities are being created in the mobile ecosystem for solutions that can aid content developers, carriers and handset manufacturers by providing the ability to efficiently create, customise, and deploy a uniform user experience.

ANNEXURE

Glossary

AMPS	Advanced Mobile Phone System
BREW	Binary Runtime Environment for Wireless
CDMA	Code Division Multiple Access
DVB-H	Digital Video Broadcasting - Handheld
EDGE	Enhanced Data rates for GSM Evolution
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
HSDPA	High-Speed Downlink Packet Access
LBS	Location Based Services
MBMS	Multimedia Broadcast/Multicast Service
MC-CDMA	Multi-Carrier Code Division Multiple Access
MoJo	Mobile Journalist
MVNO	Mobile Virtual network Operator
NFC	Near Field Communication
NMT	Nordic Mobile Telephone
OFDM	Orthogonal Frequency Division Multiplexing
RFID	Radio Frequency Identification Device
S-DMB	Satellite Digital Multimedia Broadcasting
See Me TV	See Me TV is a Hutchison 3G service that allows users to share their self made videos
SNS	Social Networking System
TACS	Total Access Communication System
TDMA	Time Division Multiple Access
TD-SCDMA	Time Division-Synchronous Code Division Multiple Access
TWFD	Television Without Frontiers Directive
UGC	User Generated Content
VAS	Value Added Services
VoIP	Voice over Internet Protocol
WAP	Wireless Application Protocol
WCDMA	Wideband Code Division Multiple Access
WiMAX	Worldwide Interoperability for Microwave Access
WML	Wireless Markup Language
XrML	eXtensible Rights Markup Language

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USER GENERATED CONTENT: IS IT ONLY A FAD?

> **Tomi T Ahonen,** 3G Author and Strategy Consultant

So did you know that we now have a test to find out if you are addicted to the mobile phone? There are three different tests that you can take, and any one of them will reveal you are. First of all, if you've ever noticed that you were typing deeply that text message and while writing it you've crashed into a traffic sign, you are addicted to the mobile phone. Or if somewhere at your office or your home, you have that one drawer - for some of us it is two drawers - that are full of the batteries and car kits that are all incompatible with each other, you are addicted to the mobile phone. But the most revealing part - and this is for all of us in the room who are older, who are married and have a long-term relationship - you're watching that romantic movie with your wife or your husband and that really magical moment comes in that movie and you turn to your wife and you say, "Oh, honey, they're playing our ring tone," you are addicted to the mobile phone. Let's look at user-generated content.

For those of you again who know me, my first three books were all about 3G, but my latest book, the fourth book, Communities Dominate Brand is not a mobile telecoms book. It looks at user-generated content, viral marketing, interactivity on digital TV, on broadband Internet and on the mobile phone. So in that sense it is a departure from where I was before, but I think even more relevant today to us in this room.

And, secondly, with my Nokia background, my mobile phone addiction and the kind of stuff that I've been talking about around the world, almost every chapter ends with the thought, "Oh, by the way, all of this will be even more pronounced in mobile." So, yes, there's a hidden mobile message even in the black book, even though it is supposed to be covering all of that digital convergence.

So, let's take a look at user-generated content briefly and see how much of it is a fad and how much of it is reality. So, we start with interactivity and the old media. If we look at, for example, television, we find that 20 percent of the total British population already vote on television shows. Now this is something I expected young people to do, but 20 percent, that goes much beyond just the teenagers. This is voting for reality TV shows like Big Brother, like Pop Idol et cetera, and in terms of numbers, it is an astonishingly strong interest.

Where is this going next? If you want to be the next rap star, here is your opportunity. If you want to be the next M&M; the next 50Cent; the next P Diddy, then why don't you do SMS to TV rap? What you do is you take out your mobile phone and then you send out this little 160-character poem which is your rap lyrics and you send it on to the TV screen. On the TV there is an avatar, a digital puppet, and you decide is he black or white? Many rappers are black. You decide what kind of haircut he has, and then this is in Finland, so you decide what accent he raps in. Does he rap with a Finnish accent, with a Swedish accent, with an American accent, maybe a British accent, a Jamaican accent et cetera? Then you throw in your rap lyrics. Two live DJs comment on it and, of course, the young future pop stars and rock stars, hoping that their lyrics are discovered, send it again and again.

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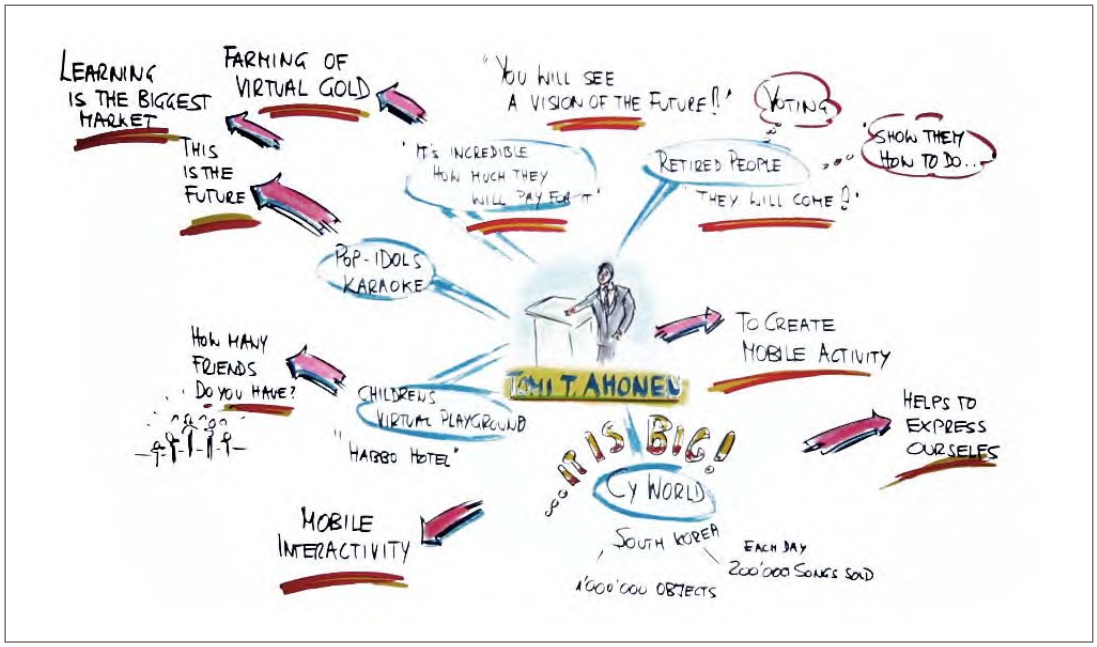

The average cost of person-to-person SMS text messages in Finland is today EUR 0.06. This service, for would-be rap artists, charges EUR 1.62, that is how much of a premium people are willing to put on user-generated content to get their own stuff seen on television. Launch it. Do it. It's absolutely crazy.

I feel sad about the parents of these teenagers and the budget. You know what happens, but this is reality. It's not just young people. The world record for the greatest amount of television viewers actually participating in a show was just set in Norway a month ago. Fifty-six percent of the people watching the television show threw in votes, voted by mobile phone. Here is the amazing number on that slide: they are mostly retired people. Nobody under the age of 55 watches this music show, so these were all retired people. More than half of them watching the show actually sent a vote into the show to participate. Don't for one moment think that older people cannot join the mobile Internet and mobile services. It takes longer for them to adopt it, but they will come.

Incidentally, Danseband Jukebox is the service on that TV show. It's a live band which plays music requested by the viewers and they play the kind of traditional classical dancing, waltzes, tangos, cha-cha et cetera and many of the old couples listen to it at home in their living room. They actually clear the living room, moving the table because they dance to the music as it's played; something that old people like to do, but here is the participation.

In terms of old media absolutely, yes, we can bring that participation there. The best example comes out of Pop Idol, American Idol, Nouvelle Star in France, Australian Idol, et cetera, China Idol and so forth. The Pop Idol format, it has run in 31 countries a total of 67 runs, it has had more than 3.2 billion viewers around the world generating 1.9 billion televotes via SMS around the world. In most markets where it runs, it has been the most watched show ever. Not in most markets, some markets,

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"The mobile phone is the only device that 30% of the world's population carry" Tomi Ahonen The Financial Times 1 Sept 2005

but in every market it runs it's usually the best-watched show of that time, of that week. In many markets like in Norway, like in Australia, it is the highest watched television show ever, higher than the Olympics, higher than the football world championship et cetera.

So for four years the owners of Pop Idol have been generating that programming and playing with the format. You would think in four years they have perfected it. That it is absolutely as far as you can go. The biggest hit, the most watched TV format in the world. And yet a little advertising agency in Finland last Christmas totally changed the concept, doubling the total traffic. This is what they did: As you watch Pop Idol and you see those 12 people on television, and you think that they are horrible at singing. You say, my wife has a better singing voice, she's a great singer. You take your phone, you dial this number and say, "Honey, why don't you go and sing this song and we put you into the contest?" And she sings and then you get your brother and your sister and your mother and your daughter and everyone else to go vote for her. So everyone votes. All at once she's the top person on the peoples' Pop Idols. The peoples' variant running parallel to the television show. It is always played when the TV show goes to the commercial break. Then they show who are the top leading vote getters of the peoples' idols. Of course, the winner of peoples' idols gets the automatic entry into the actual television show Pop Idol next year when it runs again.

Interesting concept, right? If you think of it first from the television producer side, this is engagement and user involvement beyond anything ever possible in broadcast TV before. Up to last Christmas, it was always the producer of the television show who decided who participates. They selected the actors and the directors. They selected the contestants on TV shows. They made a variation of that with Who Wants to be a Millionaire. In Who Wants to be a Millionaire, if you answer the right questions on the phone well enough you get invited into the audience. Still you have to be lucky to get into the game. But it's possible to try to get into the game. Peoples' Idols in Finland was a first time ever that a regular viewer could decide, I'm going in. I want to join this television experience and nothing could stop them.

Now Finland has a population smaller than Switzerland, only five million people. Out of those five million people, only 1,682 people were brave enough to sing. For a telecom service that's an utter disaster, a failure, a complete waste of time. It's a huge effort for nothing; except look at the traffic, 150,000 people listened to them. They voted 1.95 million times - from a Finnish population of five million people, almost two million votes. For this we had more votes than the parallel series of Pop Finnish Idol running on TV, which was still the most watched show, and generated a new record for television voting in Finland. This is the future of Pop Idol. This is the future of engagement, of interactivity on the traditional media.

So let's move past the traditional media and look at-- oh, in terms of money, a billion dollar business today. Do we want to be in it? Of course we do. It'll be 1.5 billion in 2006. So let's look at interactivity and the Web. So on the Internet, what can

we do on interactivity there? Young people today are measuring their popularity by how many friends they have on My Space. We have exactly the same phenomenon happening on Bebo in England, and on mixi in Japan. We are seeing it on CyWorld in Korea and so forth.

Now companies are starting to discover their popularity. How many friends does someone like Green Peace have on their site on My Space? Habbo Hotel, how many of you in this room have heard of Habbo Hotel? Excellent. Very good. So this is two-thirds of the room. So this is the children's virtual playground. It was started a couple of years ago in Finland. It has seven million people around the world. The amazing numbers come in. First of all, the usage-- it's for teenagers aged 12 to 16, right? For those teenagers the average usage time is 40 minutes, four-zero, 40 minutes. Heavy users spend two hours a day inside Habbo Hotel. Their parents actually tell them, "Jimmy, stop playing on the computer. Go watch television." This is what parents are doing now-- they're worried that-- too much breakage, pain and everything happens while you sitting at the computer. Money, teenagers don't have any money. What does a 13 year old, 14 year old do? They don't have credit cards. The payment is through SMS; Premium SMS. And look at this, $5 a year per subscriber, $0.42 per month. For a teenager that's a huge amount of his total disposable income that he puts into this buying a couple of new toys inside the room in Habbo Hotel and so forth. Can there be money? Absolutely, yes.

Second life:

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Take Second Life. Companies are starting to enter into Second Life. Second Life is approaching a million users[1]. Now here's some interesting numbers. Of the property sold inside Second Life, all of the land that has been bought is already larger than the City of Boston. People have bought virtual property. So now major companies are buying islands and setting up properties in there. What can we do with this? Bringing it back to mobile, if you have a virtual environment, you can bring in mobile links and mobile elements. An excellent example of that is Botfighter from Sweden. This is a game online where you design your robot ready to fight other robots. Then there is the location element that is tied to your mobile phone. As Tomi comes to Switzerland, suddenly he discovers new enemies of Botfighter. People in Zürich say, "Oh, I notice that you have a robot with wheels and big arms and I have this kind of robot, would you like to fight?" So wherever I go-- then I'm in London-- different robot enemies appear to me and say, "We would like to challenge you for a fight," and so forth. So adding that kind of location information and the movement. Look at the traffic. In Sweden, they get a million SMS messages a month on Botfighter.

How about this then? Let's take this a step further - engagement online - Rihanna, our Hip Hop dance artist from America, released the latest version of her dance video SOS. And she made an online version of it where every one of the dancers is clickable. You can click on one dancer and isolate that dancer's dance moves and then you can practice them. Then the other people are not in front or behind and you can totally learn the full set of the steps and so forth. So this is the way that we can build online engagement, online interactivity. Will teenagers do this? Will they love this? Absolutely.

So, let's take this onto the mobile phone. What can we do on the mobile Internet? First of all, fascinating numbers are coming from user studies. Forty-eight percent of British teenagers think it is perfectly okay that while I'm talking to you, I'm sending a text message to my friend. Now how rude is that for older people? We think that you should be paying attention to me. But they have their phone in their pocket and they are sending a text message to someone else. Incidentally, for those of you who are developing the child tracker or child finder. This will never fly. Teenagers already are avoiding contact with you. Thirty-seven percent of teenagers admit to avoiding contact by their parents. If we put on the child tracker or child finder in the hope that you will get a full sense of security; the kid will leave the phone at Billy's house where he is supposed to be doing homework, when really he goes out to the party at Janet's house or whatever.

What can we do with this stage? One is that our mobile phone expresses ourselves; so do our blue jeans. Now we have the first jeans manufacturer who allows SMS text messages to be sent literally on the butt of the jeans. So Uranium jeans and more of this kind of clothing now are coming with this type of display.

See Me TV in Britain, in Italy, Austria and all the Hutchison markets -- in Britain in the first six months they had 30,000 clips that were uploaded and they were viewed four million times. Thirty thousand clips viewed four million times, the ratio of original content to shared content is more than 1 to 100. The very valuable lesson from this and the See Me TV principle is that if I create the content and someone else looks at it, I'm paid. I get one penny every time someone looks at my content. Of course, the most popular content was a girl who showed her breasts and everyone looked at that. They say more than half of the content on See Me TV is adult oriented, is over the age limit of 18. It's to be expected on something that is on a new media, but this is what young people do.

1. On April 18th 2007, at the time of publishing this document, the number of residents had already risen to 5.7 million: http://secondlife.com/whatis/economy_stats.php

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Take the anti-Valentine's Day. When you want to have a Valentine's Day for adult people, you give cards with hearts and chocolates and so forth. But in the UK people were invited to use their camera phones and send in their pictures on the anti-Valentine's Day. Don't do what your parents do. Do what is appropriate for you and your generation.

How about this? This is where I think the future is going. Sugar Babes, the youth band in England, asked their audience to submit videos of dance moves. Sugar Babes promised to put it on their stage. So the next time when they tour their fans' favourite dance moves will be incorporated into their act. Is this not engagement with your fans? It is something that was not possible before. But today every teenager in Switzerland has a camera phone or their friend has a camera phone. Every one of them can now create video for whatever band, whatever thing that you want to have them participate with.

In terms of business models, let me go through this quickly. They said that ringing tones are dead. Luckily Jamba did not listen to that. Last year Jamba made half a billion dollars out of this horrible thing we call Crazy Frog. I hate the music. I hate the concept, but it made a beautiful amount of money. The businessman in me says, "Applaud, excellent job."

The mobile TV value chain? The first suggestion has been offered by TeliaSonera in Finland, that the division of money should be this: it was set out there as a benchmark for the industry to discuss. TeliaSonera said it should be 40 percent for the content owner, 35 percent for the broadcaster, 25 percent for the telecoms network as an opening discussion. So obviously even the mobile operators are no longer as greedy as they were in the days of WAP and so forth.

CyWorld Screen shot

19 million Koreans (38% of the Korean population) are users of CyWorld

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But the case I want to end on is CyWorld. How many of you have heard of CyWorld? Hands up. Okay. If you think MySpace is big. If you think YouTube is big. If you think Flicker is big. If you think blogging is big. If you think Habbo Hotel is big. CyWorld is YouTube and MySpace and Flicker and Habbo Hotel and blogging and mobile blogging combined. If you think iTunes is big, toss in iTunes there. If you think e-Bay is big, e-Bay is there as well. Look at some of the numbers. Thirty-eight percent of South Koreans have already acted inside CyWorld. Thirty-eight percent of Korean people blog and share pictures on CyWorld. Take businesses. 30,000 businesses have discovered CyWorld. Every single major brand in South Korea, whether it's Coca-Cola, whether it's Nike, whether it's Levi's, whether it's McDonald's, whether it's Pizza Hut, they're all there. They are not there just promoting themselves. Already today half a million items of digital content are for sale inside CyWorld. Just on music alone, 200,000 songs sold every day inside CyWorld: the largest music outlet in Korea, CyWorld. The absolute obvious future and the best endorsement of CyWorld is that it just launched in America.

American teenagers who are sampling both MySpace and CyWorld say that CyWorld is like MySpace, but two years into the future. This is the future. Go study it. Take a look at the English language pages and you will see a vision of the future.

So is there money in it? Mobile communities were just measured by Informa. Mobile communities are worth 3.45 billion dollars this year. It is the fastest growing industry of all time. For mobile operators it is the second highest value-add revenue source after ring tones. It's bigger than adult entertainment, bigger than online gambling, bigger than online gaming. That's mobile social networking; get into this game.

So, let's summarise four thoughts for you. Interactivity is appearing on traditional media. We can make money out of that. It is appearing on the Internet. Mobile can bring more to that and most of all it is appearing on the mobile phone, that is where the big opportunity is for us. Please make money in this and when you do, tell me, I will blog about you. I will tell the whole world about you. I want to celebrate great Switzerland's success in this and build that future together. So thank you.

INTRODUCTION – "MOBILE CONTENT"

Internet content is going mobile as broadband and wireless interconnect. The way we communicate for different purposes is being fundamentally altered in the process. This is not just a quantitative or locational shift in the amount of content we access by what means. This is a new sphere of engagement in the market that is ripe for experimentation and risk. How this might accelerate existing trends over the next three years is the subject of this White Paper.

There are three main questions to answer. What is going to be the substance of mobile content on the wireless Internet? Second, which business models will succeed? Third, which parts of today's value chain will benefit most from this growing market? This document summarises the shared insights of a group of Thought Leaders who met to discuss The Reality of Convergence: Mobile Content, on November 14th, 2006, in Zurich.

One of the most important trends is digital fragmentation. Some observers, including the Economist, argue that newspapers are in free fall[1]. Many families no longer share a national experience when they watch the evening news in their living rooms on TV. Instead, viewers increasingly receive customised 100-second video-news bursts on their 3G phones; or review world events from an immense variety of sources on their desktop PC, online and alone. We are witnessing the segmentation of content, audience and services into ever-smaller, more targeted units.

Contemporary consumers get to choose which provider they select for which services and capabilities. They purchase personalised content and personalised services. Possibly the unpredicted success of ring tones and SMS, driven by young people, provides a foretaste of the surprises yet to come.

The reality of convergence

More and more of today's smart hand-held devices communicate with applications embedded at the margins of the Internet. They distribute intelligence through forward and reverse caching, provide mobile end user authentication, customer profiling and stream multi-media channels. It is the technology that makes peer-to-peer communication possible.

This convergence of communication and computing enables a new age of integrated voice, data and TV services. Delivered over mobile networks it modifies how we work, rest and play by transforming how we access and consume telecommunication, media and entertainment.

The umbrella term for this change is Web 2.0. This describes a digital ensemble of blogs, videos, pictures, audio, entertainment and other forms of content distribution and formation. It expresses how new technology and applications turn customers into active rather than passive players in the marketplace. Wikis, search engine optimization, participation, syndication and tagging are the new buzzwords.

1. Who killed the newspaper?, Economist print edition, Aug 24th 2006

Forum Results

In summary, the modern mobile wireless market is as much about uploading, sharing and linking with other people – one-to-one, one-to-many, many-to-one, or many-to-many - as it is about downloading and looking at content.

In business terms, the global mobile content services market was estimated to be worth around US$13.7 billion in 2005[2] In addition, the rapidly expanding "mobile social networking world" was worth US$3.4 billion[3]. That, while still small compared to its potential, makes it a bigger business in value terms than online adult entertainment, gambling and gaming.

Forum Overview

The Forum was divided into three sessions. The first Thought Session was a closed interactive workshop with the Thought Leaders, where they focused on the future consumer drivers, value chain and business model implications, from the perspective of four different consumer groups.

The two evening sessions were open to a wider public, and featured three keynote presentations as well as interactive workshops with the Thought Leaders and all participants. The main topic of the interactive session was "Practical implications: Enterprises and Society". This was conducted in nine parallel workgroups, each focusing on the implications of mobile content on different enterprises or sections of society. The time frame for assessment of changes was 2006-2009.

The edited transcripts of the three keynotes can be found in different sections of this publication. This section focuses on reporting the findings of the interactive discussions from the afternoon and evening sessions.

Session 1

- Closed Thought Leader Working Session
  User Perspective - Value Chain and Business Models

Session 2

- Keynote Address
  Tomi T. Ahonen, Author and Strategy Consultant
- Results of the Thought Session
- Keynote Address
  Kurt Hemecker, VP Business Development, Echovox

Session 3

- Keynote Address
  Stefana Broadbent, Ethnographer/Customer Observatory, Swisscom Innovations
- Public Workshop Groupwork
  Enterprises and Society

2. Strategy Analytics, as quoted by Tomi T Ahonen in his keynote speech.
3. Informa, Mobile Communities & User Generated Content Oct 26th 2006.

Forum Results

THOUGHT SESSION 1: VALUE CHAIN AND BUSINESS MODELS

The Thought Leaders began the Forum with a survey that asked them to list what digital mobile services they access today and which ones they think they will access in 2009. The results chart the speed at which the Thought Leaders predicted the converged mobile Internet will take off.

Most of the Thought Leaders categorised themselves as being first or early adopters of mobile technologies, services and lifestyles, while a few labelled themselves as late adopters.

Almost 70% of the Thought Leaders said they already create online content of their own. About 46% reported using keyword-tagging services such as BlogMarks, the collaborative bloggers' link management project. The same percentage said they also create Mashups that combine content from various Web sources, such as maps, pictures or text, and which take their name from Hip-Hop DJs mixing tunes.

The Thought Leaders estimated that their use of mobile journalism would double over the next three years.

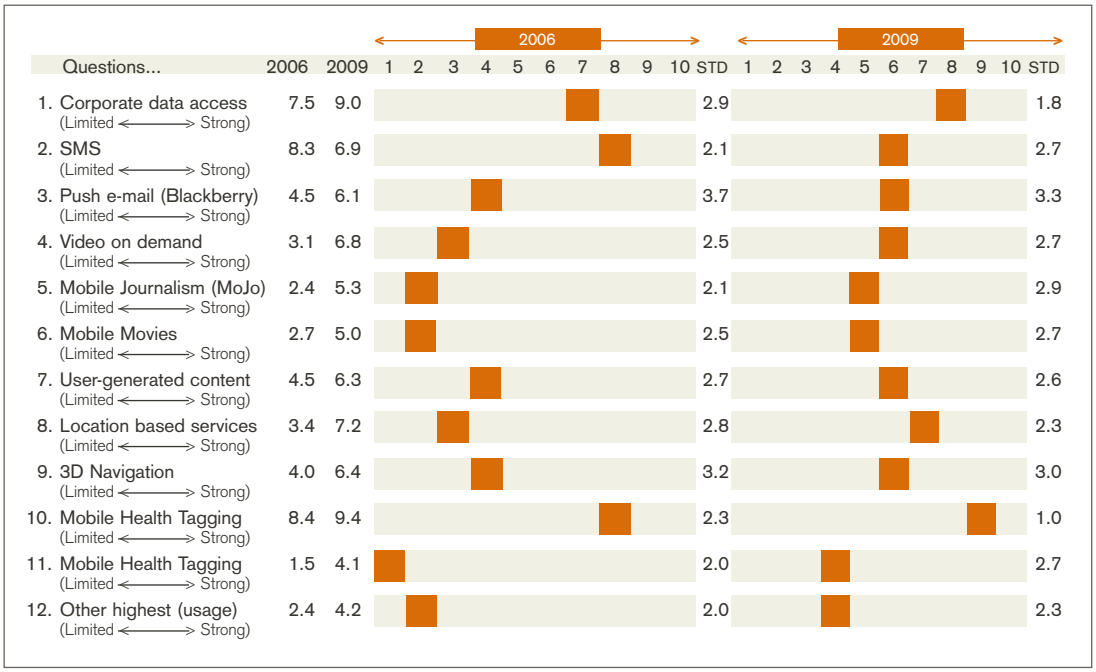
Moreover, whereas only two of them currently download video on demand regularly, and the majority not at all, virtually all them expected to be doing so frequently, if not constantly, within the next three years. They recorded similar results when it came to mobile film usage between now and 2009. Only one forecasted he or she would not be using video on demand in 2009.Two out of 28 indicated they would not access mobile films either.

The responses also indicated a sharp increase in their usage of mobile, or available by mobile, user generated content, 3D navigation and location-based services over the next three years from today's relatively low starting point.

The one exception was SMS. Many of the Thought Leaders noted that other devices and methods would replace it; though other contributors in their keynote speeches suggested SMS is still growing in usage.

Forum Results

Results – Thought Leader profiles



Following this warm-up exercise, the Thought Leaders divided into four separate groups that met in parallel, each looking at the market from the perspective of different consumer sectors: teenagers; road warriors; wealthy sports fans and the golden oldies from the so-called silver haired generation. (Definitions of these different consumer sectors are given in the next sections).

First they were asked to brainstorm what most motivated consumers from a demand point of view in their particular market segment. Second, in a follow up discussion, they were asked to examine the implications of their findings for business models and the alignment of the value chain in terms of winners and losers.

The major value chain players were listed as: application developers; content developers; content aggregators; network operators; mobile device producers; and User Generated Content -UGC- professionals (drawing an analogy with bloggers). The Thought Leaders were requested to add other value chain participants they considered relevant to their market segment.

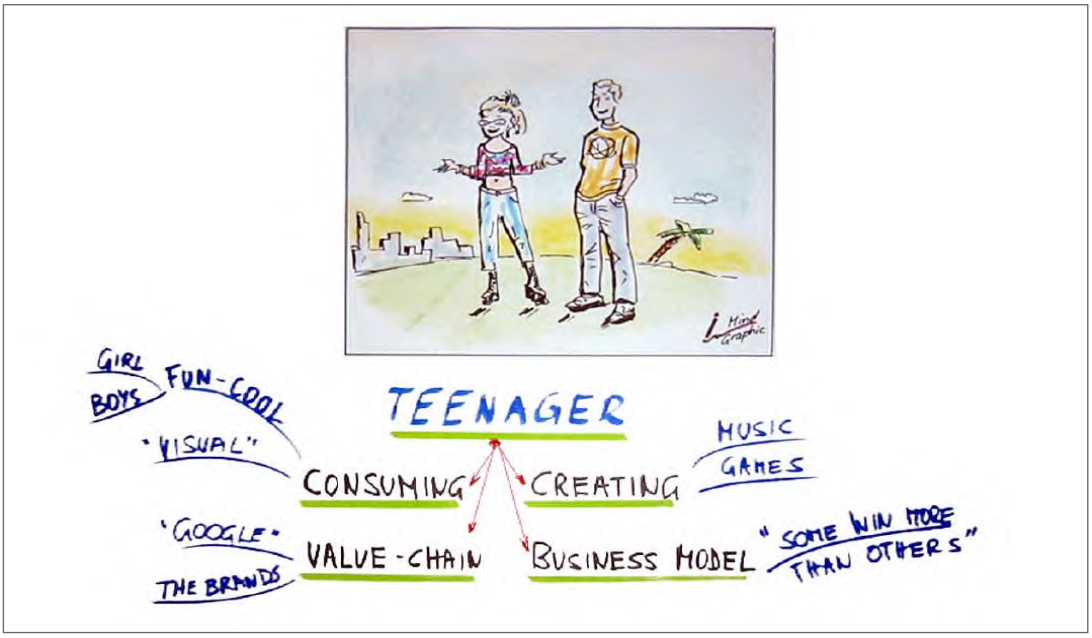
Overall, a consensus emerged between the four groups. It centred on simple things related to communication, messaging and alerts, including: staying in touch with the office; advertising your achievements; belonging to a group and sharing information, particularly with family and friends; the ability to feel important by being given news quickly; and the desire for a better work-life balance.

The Thought Leaders also highlighted that the issue of security was significant, in the sense of getting details on flights and feeling safer in the event of another 9/11-style attack.

Forum Results

However, when the groups reported back their findings in detail, significant specific differences emerged. These related to customer needs, favoured business models and expected winners and losers in the value chain. In essence, the groups found that there were differences in terms of the needs of the consumers in the market segment they addressed.

Teenagers



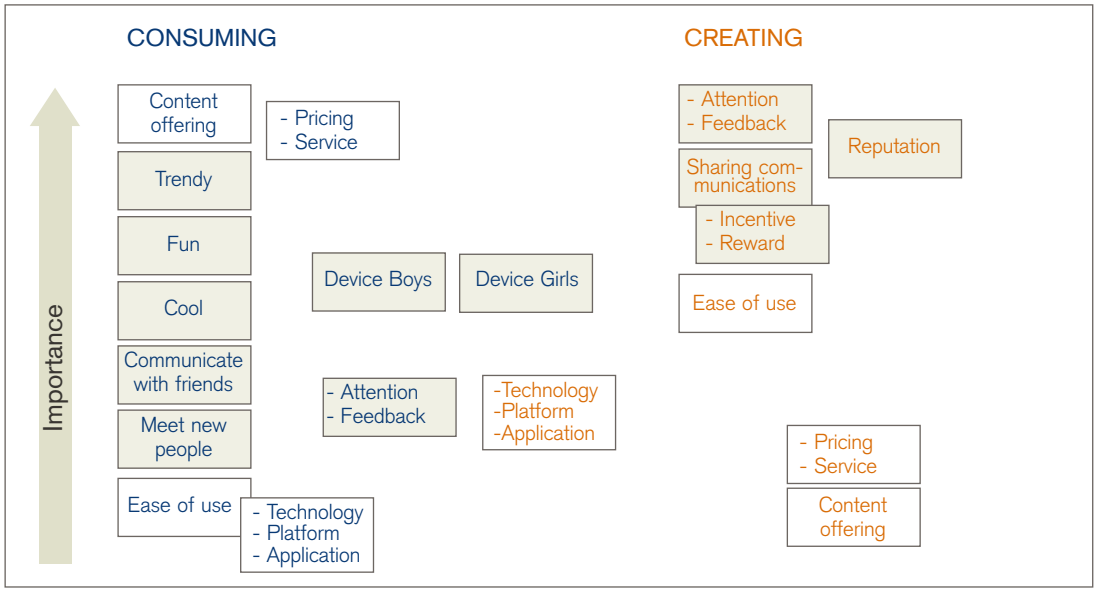
First, the group defined the segment as covering the 13-to-19 year range, even though they recognised that the teenage mindset can start early and extend for longer than that. Then the Thought Leaders discussed how for nearly every teenager the most important aspect in their life was communication: with their friends, with their peers, family and others. They said that for teenagers digital computer- and wireless-based communication goes on relentlessly, even as they multitask at home.

Teenagers need attention. Therefore their content or chosen medium must generate enough admiration among their friends and other relevant audiences to create a good image. Moreover, if teenagers consume third-party content, it generally has to be fun, cool and interesting, they said.

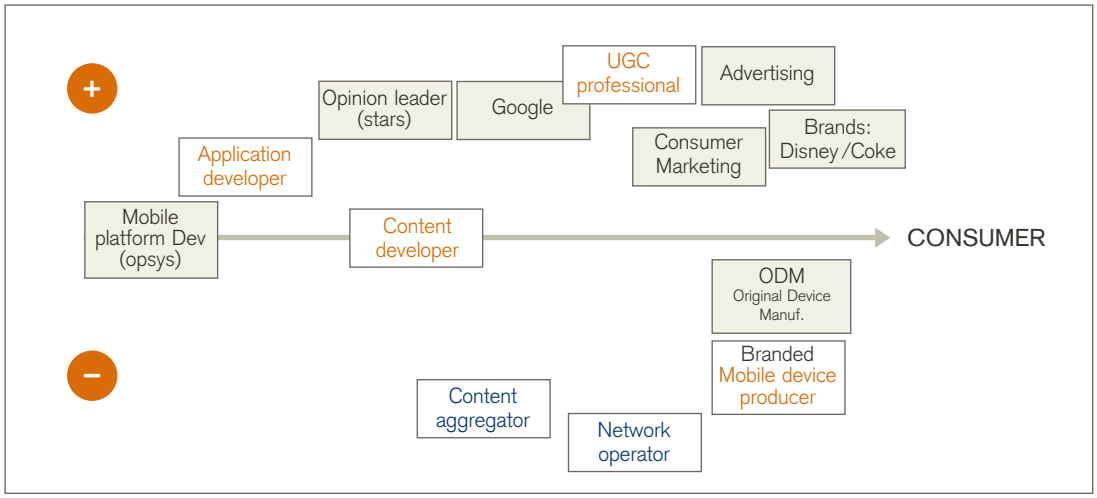
It is also an age at which gender differences become important. The Thought Leaders emphasised that there is a difference between teenagers in the types of device that appeal to girls as opposed to boys. Girls generally remain less tolerant of technical complexities than do boys. Girls are likely to have different interests to boys; less football and more culture and fashion, for instance.

Forum Results

User decision criteria - Teenagers



Value chain implications - Teenagers



However, communicating, projecting and creating visual images is just as much an attraction for boys as for girls, said the Thought Leaders.

"In terms of creation they are the age group which needs feedback. They like to have the feedback on who they are and how they feel, and to have what they're doing noticed by their peers. Therefore, they will certainly be producing content, probably very visual content. We assume that they will be more and more capable with mastering their visual instruments. They will be contributing that type of content and sharing it with their friends."

Business Model - Teenagers

Another influential force they identified was pricing and who pays for the services that the teenagers use: parents or teenagers?

"So if it's the teenagers, pricing is a very crucial part. We tend to know from our research that at a certain age it will be the teenagers who are paying and that they are very money conscious."

Describing how this affected future business models, the group said that companies such as Google are both application developers and content aggregators, and because of this they deserved a category of their own in the value chain.

"So we had to put Google somewhere because we think that it will be still very high in the value chain."

They also placed opinion-leaders (by which they meant stars in the entertainment, sports, music or movie world) at, or near, the top of the future value chain.

In terms of other winners, they said:

"The other players that will remain very strong are the brands, the advertisers and obviously user-generated content."

Forum Results

Then they highlighted that application developers are going to do quite well in comparison to content developers, while mobile platforms, which included the operating systems, were placed in the middle of this group's value chain hierarchy.

The group stressed that all the players in the teenage market stood to win in terms of making money, only that some stood to win more than others.

Regarding the "relative losers", they said:

"The clear losers, but again we are talking about proportions, are the network operators because, clearly, we feel that it's a pipe more than anything else."

This group also predicted that big Chinese companies would come into the market to challenge the dominance of existing device manufacturers.

"Children"

Having looked at teenagers, this gives us a moment to consider an even younger audience; children. Today they are increasingly active on the mobile Web, for instance, posting videos on O2's "LookAtMe" website and even earning revenue for themselves based on the number of viewings their show receives. This is not a free for all. It is a moderated service that protects the interests of young people from inappropriate content while still allowing creativity to flourish. However not all companies active on the Web are as careful as O2 and other such major players.

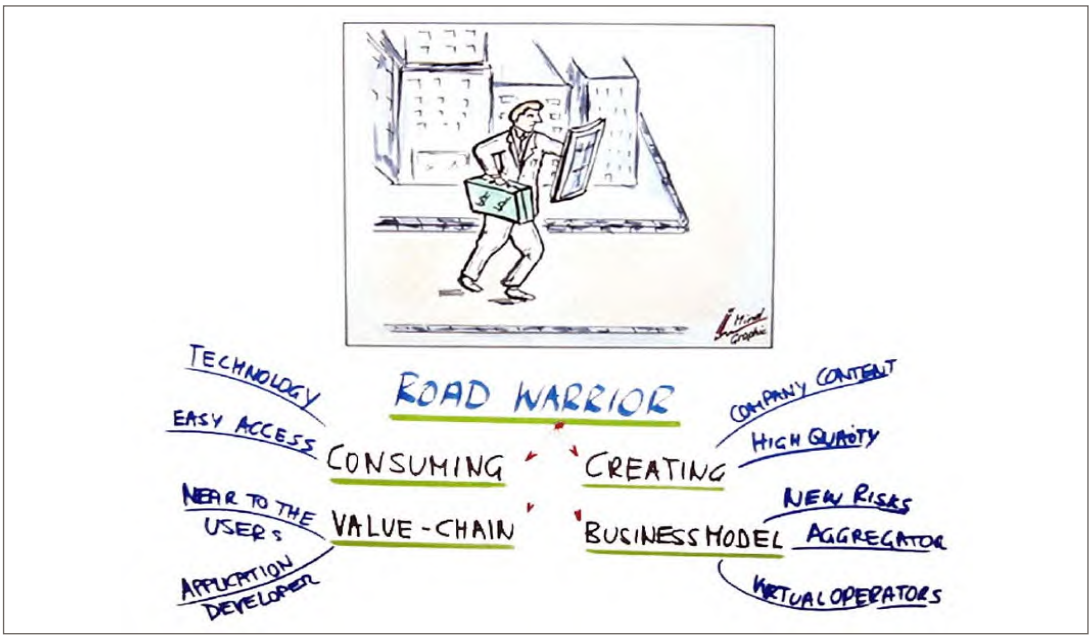
There are, then, genuine concerns relating to the misuse of mobile technology among young people. One is that they might view immoral or illegal content. Another is that the social networks they encounter may not be safe ones.

The other side of the argument is that mobile devices reassure parents that they can easily discover the whereabouts of their child, so long as the device is switched on and the child is cooperative. One of the big bonuses for children is that they can access Google to research their homework while they wait for the train to and from school.

All the major companies involved in the mobile social networking value chain say loudly that they take their responsibilities towards children seriously.

Forum Results

Road warriors



This professional market segment works hard and spends excessive amounts of time at airports and in hotels. The biggest downside of mobile technology for road warriors is a hazy demarcation line between their work, rest and play. Put differently: their work life balance is tilted strongly towards their work.

Pricing, within reason, is not a major issue for road warriors, as they benefit from communicating at somebody else's expense. They themselves, however, are mostly not rich, said the Thought Leaders.

The content produced and consumed by road warriors is focused on serving the needs of the companies they work for. Therefore the ability to share content outside of the company is not a strong selling point because that is limited by complex security, commercial and professional issues, they said. One Thought Leader commented:

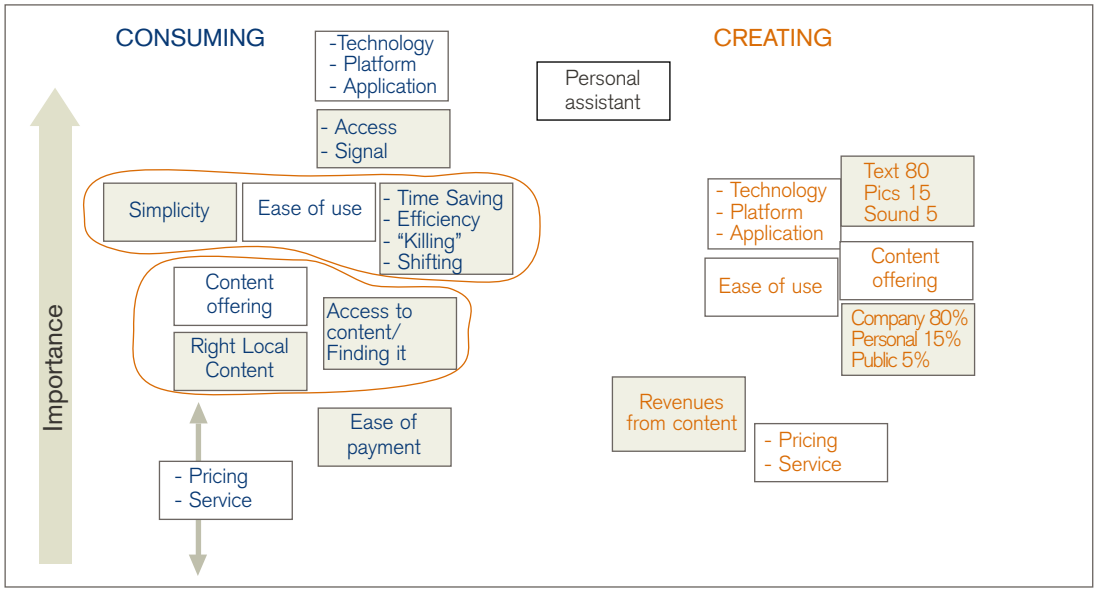
"I would say 85 percent is e-mail, presentations, documents that you share within the company. So what's important is that the technology works for us to be able to create those e-mails, those presentations."

One of the major challenges for road warriors is to find user-friendly technology with which it is easy to access the Internet. Preferably, they require a single service package rolled into one effective mobile portable device.

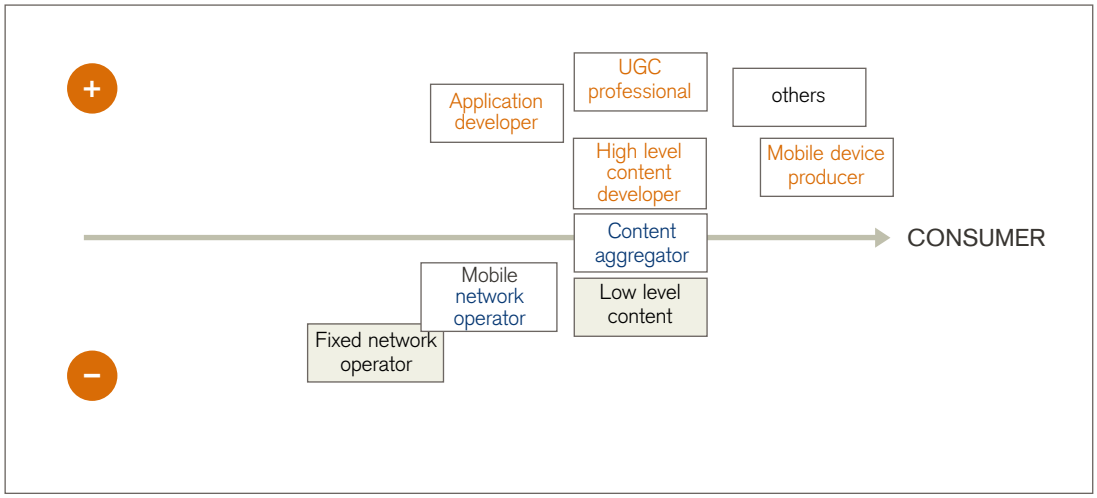
"We see the mobile device producer still leading [the value chain] in the future. We see good potential for high-end mobile devices: the latest gadgets and the most exciting ones. They will have high risk, but they will have high return. And we shall see low-level mobile device manufacturers fight for the margin of revenue that they can have."

Forum Results

User decision criteria - Road warriors



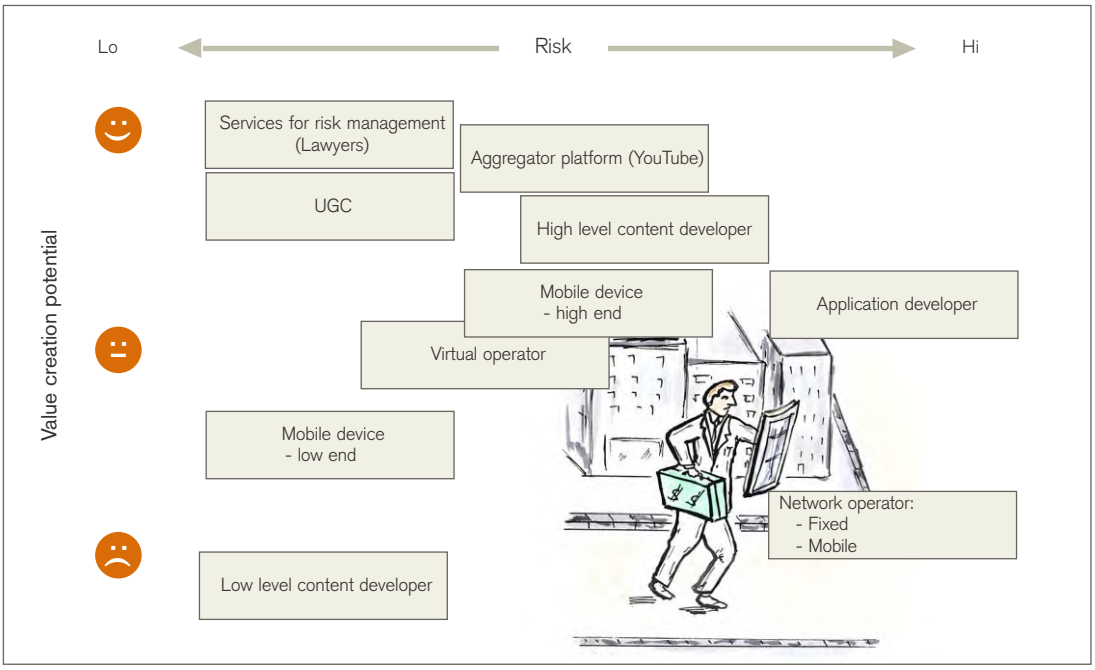
Value chain implications - Road warriors



For road warrior technology to be effective, the infrastructure must be in place in all locations they travel to, whether that is in Japan, Europe, Asia or the US. In addition, devices must come equipped with software and applications that are compatible with their back office systems so that road warriors can do their jobs efficiently and without distraction.

Forum Results

Business Model - Road warriors



Regarding the rest of the value chain, it is content creation companies and presentation developers who are the players that are of most importance to road warriors, said the Thought Leaders. Application developers were also felt to remain important because road warriors want quick access to relevant business information. The content aggregators will remain significant in this sector because they provide a filter for road warriors, helping them decipher what is relevant, what is not. They added:

"The losers are the operators because we [road warriors] don't really care who the operator is as long as the service works. If it's a mobile operator in Japan or another one in Chile it's not really an issue for the road warrior."

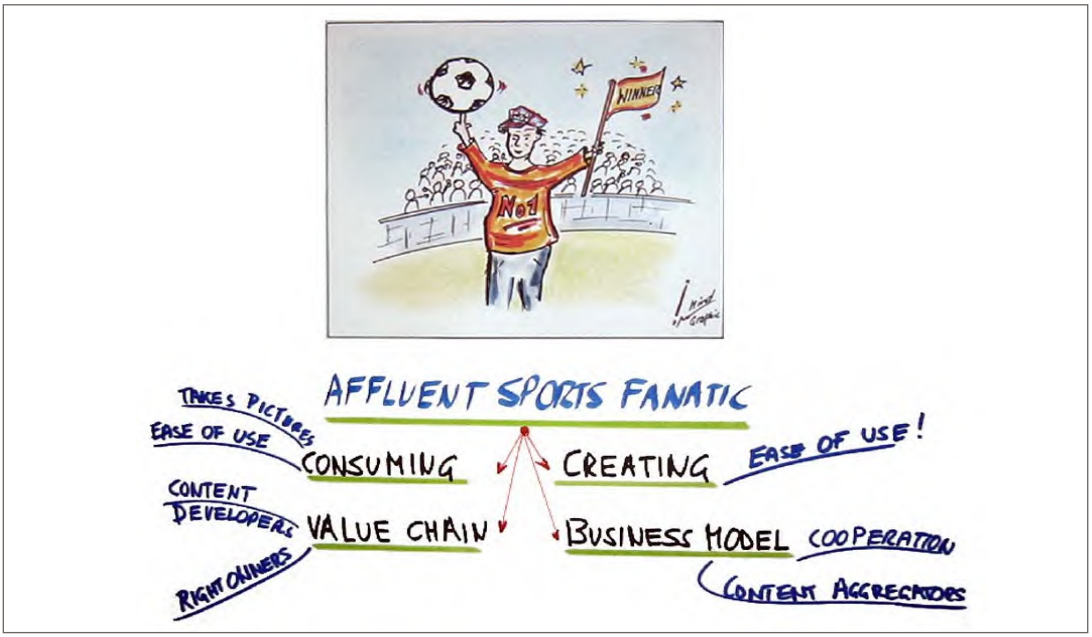
This working group drew an important distinction between normal and virtual mobile operators. They argued that virtual operators have less risk and more potential than the incumbents when it comes to serving this sector's requirements.

"So we see them, as well as the aggregators, having a very interesting business. So it's high potential, in terms of return on investment. The risk can be high but they are not sitting on huge investments, so it's a place where you can invest."

They also identified a role for on-road services provided digitally to road warriors by people such as lawyers, in order to reduce their risk exposure

Forum Results

Wealthy sports fans



Few groups are as diversified, proactive and passionate as sports fans. So it was not surprising that this group had one of the more fun and heated discussions. First they discovered they were all involved in, and impacted by, different types and aspects of sport.

"We had a big discussion because sports fanatics do not agree among themselves. So we have the one who is a soccer fan and the other one who is a soccer player, and the two of them disagree."

The Thought Leaders did agree, however, that there was a major distinction to be made in this market between content generated by amateurs and by professionals.

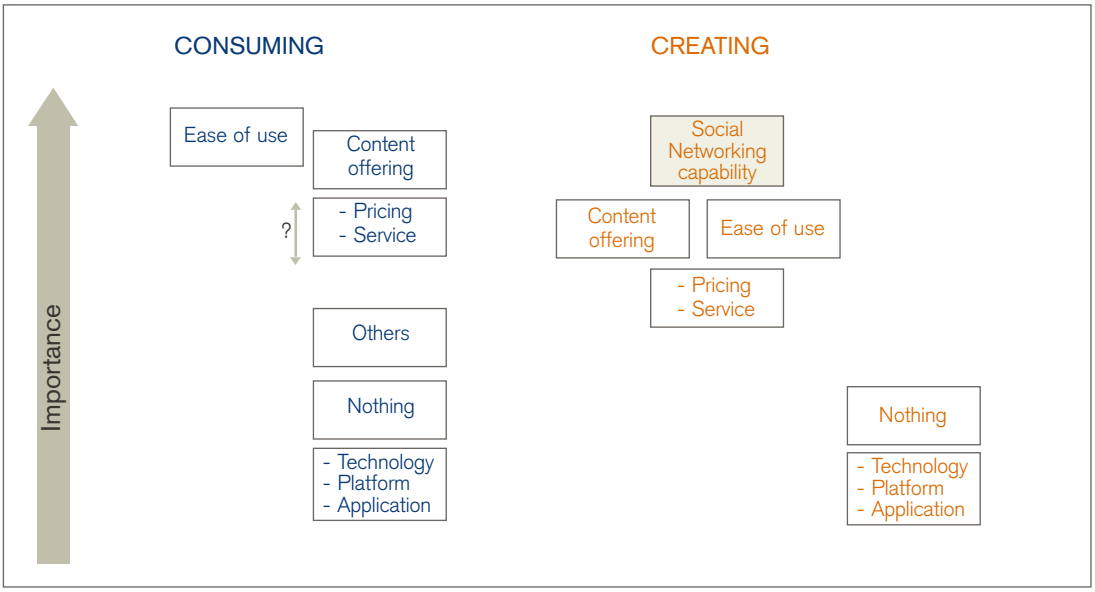
There was a consensus in the group that the driving force in this market was the desire to create and share content. Sports people like to network and access information in real-time about scores, results and general sporting issues. In this regard, the group stressed that ease of use of mobile devices and software applications were of great significance to sports people.

"The social networking capability is very important once it comes to creation. I record my way of skiing and upload it. Or I'm in a stadium and record the goal and upload it. So user-generated content professionals or content developers are important in this market."

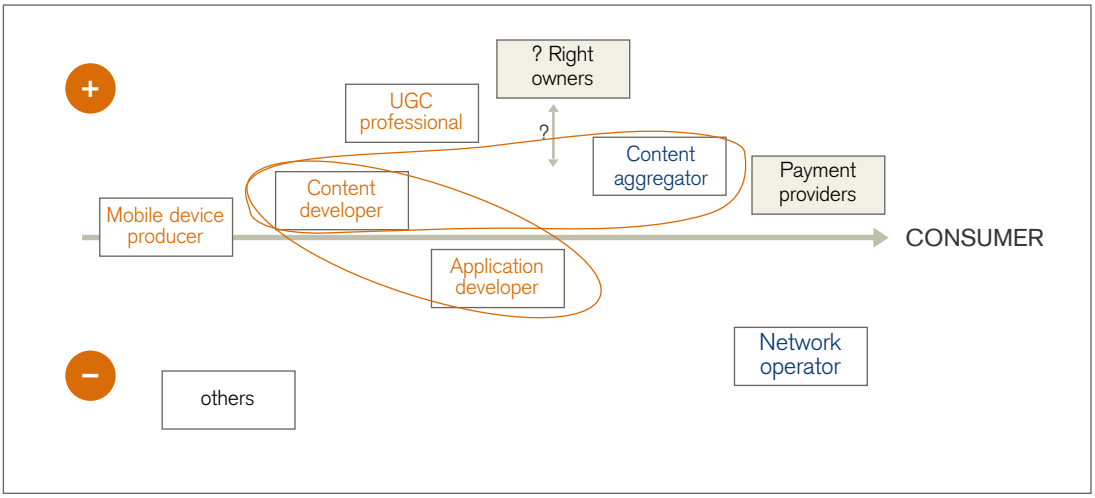
Looking at how the development of convergence and mobile content impacts the future value chain, this group said amateur content would not eclipse that produced by professionals:

Forum Results

User decision criteria - Wealthy sports fan



Value chain implications - Wealthy sports fan



"The value chain in the sports field looks like this. The mobile device producer are important, but not as important as, for example, the user-generated content professionals, because these are the ones who really create the content and make it available."

Forum Results

Business Model - Wealthy sports fan

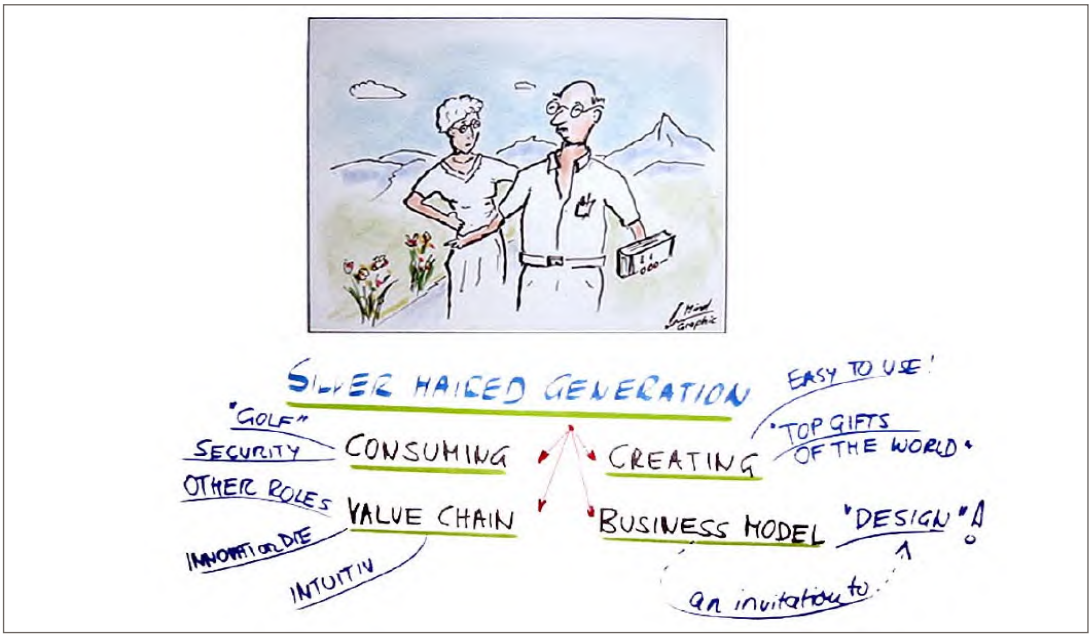
The Thought Leaders also said that they had identified a new player in the chain, which is the event owner, such as FIFA, Olympic Games organisers and sponsors. They are, they emphasised, very powerful bodies because sports people are fanatical and demanding people. Hence, the bodies or companies that own the rights to sports content were considered to be in a prime commercial position. That is why event owners with digital rights ownership were predicted to be major winners in the future.

In terms of the business model, this group listed the winners, in order, as digital or event rights owners, user-generated content professionals and content aggregators and then amateur user-generated content producers. They also predicted that the importance of mobile device manufacturers, content developers and network operators would remain on a par with their status today.

They said, however, that all the players in the value chain would have to become more innovative to remain profitable.

Forum Results

Silver haired generation



Getting older does not mean that modern technology falls by the wayside. More likely it means that how we use it changes. The older generation remains exposed to mobile services, new devices and other possibilities via their children and grandchildren who can inform, and even coach, them. Moreover, the next wave of golden oldies will have had almost a lifetime's exposure to digital technology, which will give them an advantage over the current generation.

Golden oldies have time on their hands and often money in their pockets. The more prosperous among them travel a lot, perhaps as much as fifteen times a year. As they record their trips, they increasingly wish to share this content immediately with others: photographs, video streams, taped messages and sounds sent in real time from their latest adventures. As the Internet becomes more pervasive, said the Thought Leaders, families, including grand children, as well as friends back home, become virtually ever closer and fewer clicks away.

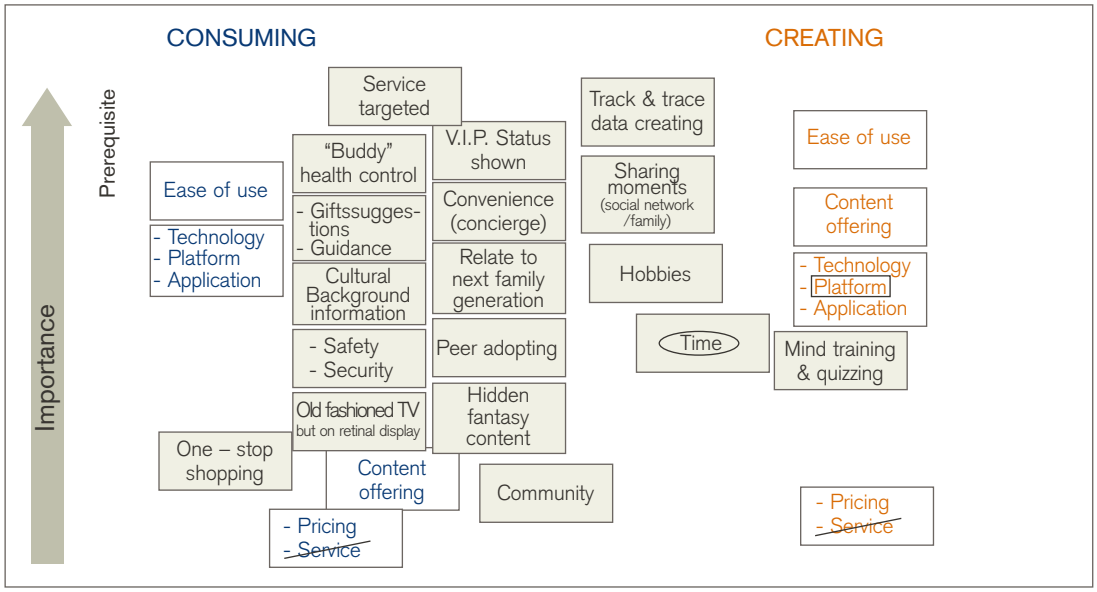
The Thought Leaders said that as we get older the simplicity of user interfaces on mobile devices becomes more important. This is because, in most cases, our dexterity, eyesight and hearing decline over time. Moreover oldies do not want 57 different features on their mobile devices; such complexity is more likely to frustrate them than please them.

One placed himself in an oldie's shoes with regard to services that excite, saying:

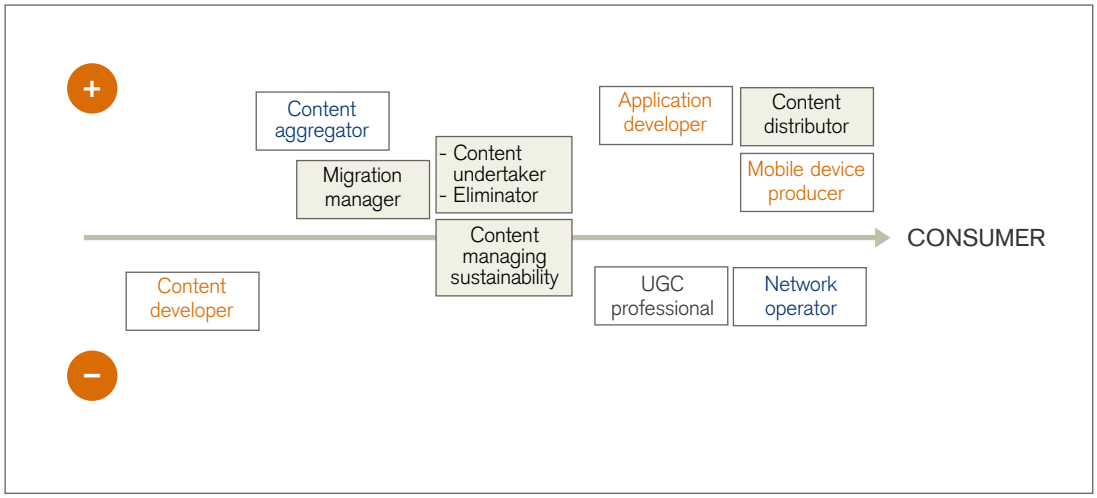
"Give me the top gifts of the world. So to make it short, there is a lot of content we use, but it must be perfectly fit content. There is a cross-function called easy-to-use. Don't use it as an application field; because we pay people to make really cool services for us, as we are rich. So just do it for us. And again, there is content and there is content of culture. We want to get it [produced and sent] in the contextual way when we are doing all these trips and, yes, we will use [third party] content."

Forum Results

User decision criteria - Silver haired generation



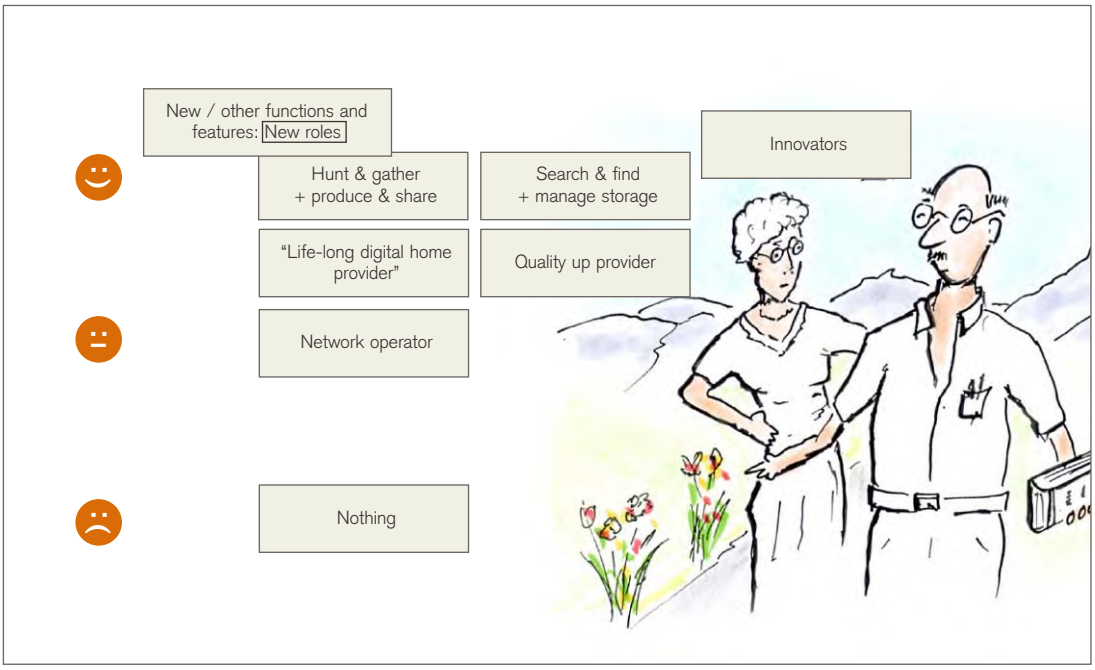
Value chain implications - Silver haired generation



The Thought Leaders saw many advantages of the pervasive Internet for old people. These included staying in touch and connecting with their friends, neighbours and carers. In addition, the mobile communication enables old people to solve problems immediately when they are outside their homes, for instance, by alerting a doctor or nurse of an urgent health problem. The technology could even include automatic and instant alerts to health services when a heart or other bodily function is in trouble. Mobile devices will also enable carers and loved ones to track and trace the whereabouts of oldies.

Forum Results

Business Model - Silver haired generation



Regarding how this translates into winners and losers in terms of business models, this group was reluctant to be precise.

"There is not one business model. There are lots of business models. So we just call it business model design and this is what we have to create in the whole value chain."

They emphasised that future success depends on whether the players in the value chain were innovative enough to create new business models for themselves when circumstances alter.

"Of course, businesses develop over time. Take a petrol station that 20 years ago was selling petrol; today it is an 'Adventure Petrol Station' selling lots of things."

"So choose your role. You're a networker today, who are you in 2009? If you're a content producer today, who are you in 2009? We believe the losers are going to be those companies who are not changing or innovating their roles continuously."

They summed it up as "innovate or die".

Forum Results

Business model winners and losers

The afternoon's Thought Leaders did not produce a consensus on which parts of the value chain would do better or worse than others. Nevertheless some clear trends did emerge that are worth recording. The biggest beneficiaries in the value chain were identified as digital rights owners and content aggregators.

The largest disagreement among Thought Leaders was over the fortunes of device and application developers, whose predicted fate varied between market segments considerably. It seemed that most participants agreed that network operators were least well equipped to take advantage of future opportunities. Keith Teare, CEO of edgeio, came down firmly on the side of the device manufacturers in his interview:

"…the carriers have a new enemy in the handset manufacturers. The handset manufacturers are going to become friends of consumers against the carriers."

He predicted that Yahoo, AOL, Microsoft, Apple and Skype were the next generation of communication providers.

Dr. Werner Trattnig, Director, Menlo Park Europe, PricewaterhouseCoopers said in his interview:

"….companies that have established access to markets, and which are keen to offer attractive, innovative content, are best positioned for future success.

"It is the market which decides upon the success of one technology over the other. Today's mobile service providers, such as Vodafone, have a very large customer base in which their traditional services are becoming commodities rapidly. Their challenge is to keep their customer base while maintaining the ARPU [average revenue per user]. The real threats for the mobile service providers come from well financed new market entrants with innovative services and market access."

His point was that that the major issue is getting access to new markets and sales channels, and a large enough customer base to make it pay.

"People will want to watch a little skating dog or singing Chinese teenager. But it's OK for three minutes. There's just so much amateur content you can consume. And then you actually would like a Hollywood production which is well acted and so on, so forth,"

One of the paradoxes of the growing consumption of user-generated content is that it might enhance the value of content produced by professionals from well-established brands:

"People will want to watch a little skating dog or singing Chinese teenager. But it's OK for three minutes. There's just so much amateur content you can consume. And then you actually would like a Hollywood production which is well acted and so on, so forth," said Stefana Broadbent.

Most Thought Leaders emphasised, however, that all parts of the value chain stood to make money in the new environment; only some would do better than others.

Forum Results

Where they said they would invest their money

The Thought Leaders were asked how they would invest their own hard earned cash in percentage terms in the different mobile business models that they had discussed. The same question was also asked of the larger audience that attended the evening session. The results differed.

	Thought Leaders / Allocation %	All participants / Allocation %
Application developer	8.7	17.2
Content developer	9.8	12.3
Content aggregator	10.1	15.4
Network operator	4.6	5.2
Mobile device producer	4.2	4.8
UGC professional (c.f. blogger)	7.5	4.8
Differentiated content	6.4	2.9
Content distributor	4.7	2.1
Rights owners	10.9	8.9
Mobile platform developers	8.0	8.1
Opinion leaders (stars)	3.9	2.5
Original device manufacturer	1.2	1.7
Consumer marketing	3.0	4.0
Brands (Disney, Coca Cola)	8.1	5.5
Advertising	8.9	4.6

Among the afternoon Thought Leaders, the clear favourites for investment were digital rights owners and content aggregators. They also looked especially well on content developers, advertisers, application developers and established brands. Among the significant parts of the value chain they had least confidence in were content distributors, network operators, mobile device producers and original device manufacturers.

The combined audience in the evening had some marked differences of opinion. For them, application developers came in first place. In second place came content aggregators and in third place were content developers. So the major difference was in terms of the assessment of the two groups regarding the fortunes of application developers versus digital rights owners in the future. Neither group seemed to agree with edgeio CEO Keith Teare that device manufacturers were going to be very good investments. However the Forum took place before the Apple iPhone was launched in Las Vegas.

There was near consensus between the two groups that network operators would find life more difficult in the future than they do right now.

Forum Results

THOUGHT SESSIONS 2 AND 3: KEYNOTES AND PRACTICAL IMPLICATIONS

These sessions where held for a larger audience. Following introductions of the Thought Leaders, the opening evening session started with an example of an entire movie shot on a Nokia N-90: http://www.nuovicomizidamore.com/

This was a trailer for a 90-minute movie, which was shown at the Zürich October Film Festival. It is a remake of a 1956 Italian classic called, New Love Meetings, and is an astonishing piece of mobile-user-generated content that demonstrates the power of these tools.

Mobile phone movie:

Practical implications: Enterprises and society

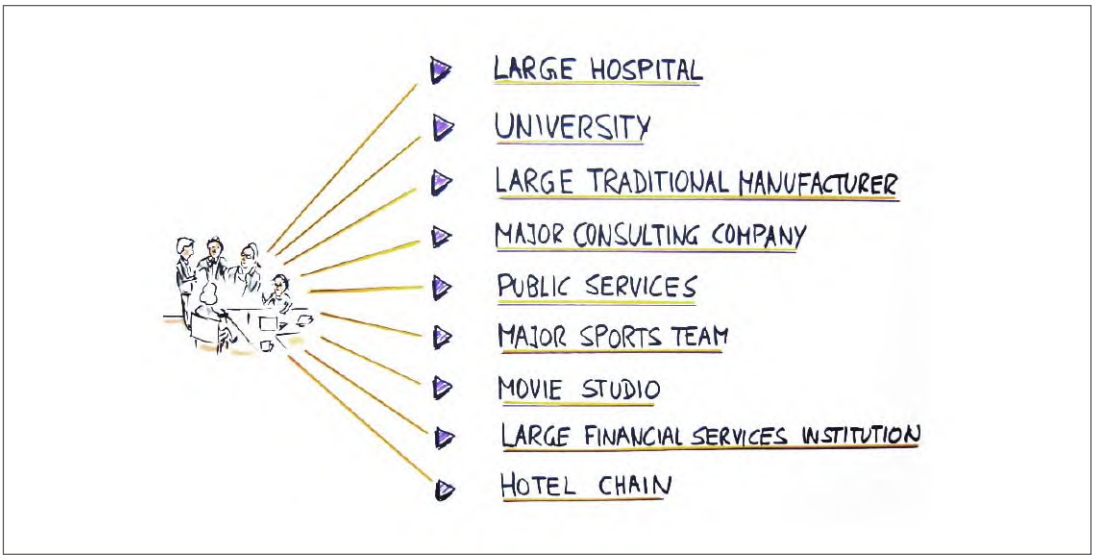
The second interactive session split the audience into nine distinct workgroups to concentrate on different types of enterprise or organisation: large hospitals; universities; large traditional manufacturers; major consulting companies; movie studios; major sports teams; public and emergency services; large financial services institutions and hotel chains.

The groups were asked to answer three questions about will happen between 2006 and 2009:

1. What will be the major mobile content services you rely on?
2. How will they make your life: easier, more difficult?
3. What will drive this progress: forward, hold it back?

Forum Results

Enterprises



Large Hospital

The discussion in this group focused on how to improve yield management by making hospitals more efficient. It looked at the coordination of data, particularly between the hospital, its patients and its own staff with the utilisation of Radio Frequency Identification Devices (RFID). This technology impacts a wide range of activities in hospitals, said the participants.

Examples included: keeping better medical records; introducing superior monitoring capabilities to prevent patients getting the wrong treatment in operating theatres; boosting treatment speeds in emergencies; installing alarm systems that alert staff about changes to the status of patient health and which enhance internal security systems.

This group focused their discussion on improving patient satisfaction and on providing more personalised care. In this respect, monitoring patients electronically was thought to be particularly advantageous. Radio signals and intelligence buried in devices could, for instance, trigger the hospital check-in process and monitor patients throughout their stay until the point when they leave the hospital. They added:

"We would like to put the patient more in a position of a customer."

The group said they recognised the usefulness of providing rich data in hospitals via PDA's to transmit information to patients and staff alike. But they issued a note of warning relating to cost and quality:

"Cost saving is a key issue for the hospital. So we would like to make savings and reduce cost, of course. Quality assurance is a big issue, too. So whenever you touch the bottom line for the costs, you must at least keep up the pace with the quality."

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On the side of hospital building administration they saw a role for wireless technology in facility management: heating, ventilation and illumination.

University

Universities produce quality intellectual content that they mostly own. This has to have a commercial value in a mobile environment, reported this group, just as it does in a fixed one. Universities are also the originators of creative content and new technologies. In addition, students, while not rich, are early adopters of new gadgets and services, observed the participants.

Discussion focused largely on the university's responsibility towards four groups within its domain: students, teachers, researchers, and administration staff. Secondly, the participants looked at what constituted mobile devices in this environment. They decided that students typically have a laptop and that WI-FI access is available on campuses; so laptops are mobile devices.

For students, they identified possible new services based on alerts, messaging and communication. These included notification to students via SMS when their lectures are cancelled and information about where their lectures are and which teachers are delivering them. They also considered creating virtual classrooms via video pod-casts.

"Information overkill is always a topic. If someone benefits, someone else has a disadvantage. Imagine a teacher in front of two hundred students. And every student stares into the laptop. What a feeling is that for the teacher?"

The group reported that the technology made possible virtual interaction between students and teachers in real time, free of wires or the need to meet one another. They emphasised that students would benefit from instant feedback on their questions, comments and work. They considered this advantageous to everybody concerned, although it was felt to be a supplement rather than replacement for face-to-face meetings.

Teachers are continually under pressure to improve their access to students. The group noted that mobile devices could provide multi-media services to students outside of lessons and notify them of special events, such as conferences.

Teachers, said the participants, are certainly interested in wireless collaboration and in sharing information and experiences between academic departments. In this regard, teachers will benefit from remote access to content servers anytime, anywhere.

There are downsides, though:

"Information overkill is always a topic. If someone benefits, someone else has a disadvantage. Imagine a teacher in front of two hundred students. And every student stares into the laptop. What a feeling is that for the teacher?"

For researchers, the group identified benefits such as their ability to join mobile communities relating to their topics of interest or research focus. The distribution of information via pod-casts and video pod-casts was a major plus for researchers, they said.

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"We also thought about machine-to-machine, machine-to-man communications."

Regarding administration, they thought about using RFID services for inventory and logistics work.

Large traditional manufacturer

Expanding on their brief this group decided they would consider the needs of a large manufacturer that is also a multi-national company.

They argued that with so much manufacturing nowadays done offshore there is definitely a need for all sorts of mobile communication. The introduction of widespread video conferencing on mobile phones, including video guidance is a development we are likely to see between now and 2009. The group described how information extracted via mobile videos would be used in situations such as emergencies, with information on technical or maintenance problems sent directly to the field. A technician would simply show visually a technical solution so other experts could review it on their mobile devices and react on the scene accordingly.

"In the case of the crisis, you would like to make sure that each individual knows exactly what he or she should be doing. So by using their mobile phones and sending the exact instructions to each one of them in real-time that might solve the problem."

They discussed how bi-directional management could introduce mobile workforce management techniques using mobile devices.

It might be critical, or desirable, they said, for a large manufacturer to track employees inside and outside the factory using RFID. They also recognised that there might well be acceptability issues among workforces concerned about the implications of such monitoring on their privacy.

"There are some security issues when people will have these additional systems available. This might be a problem in terms of security of information. And then there is the issue of personal acceptance by people because of the need for new technology training."

The group thought that mobile enterprise resource planning would make it easier for dispersed groups to collaborate and allow more people to work from home.

Major consulting company

The major pressing need among mobile consultants is access to intellectual capital such as research results, databases, and legal information. In this regard mobile access provides a great commercial advantage. In the words of a Thought Leader:

"It belongs to knowledge management of intellectual capital known for short as I-cap. It does not matter if the sources are company internal, Internet or from other sources you can buy from other providers."

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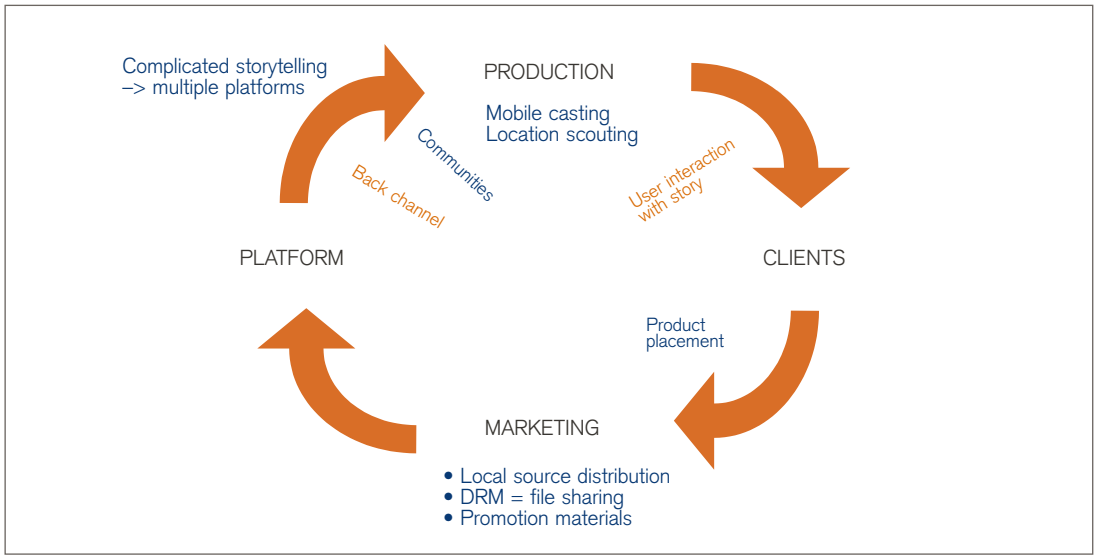
"Easier remote access to intellectual capital makes working life easier. One consequence of this would be flexibility with regard to your working place and time. Like on ski holidays, when you're not skiing, you can use your Blackberry - going up the mountain and skiing down the mountain. But it makes it more difficult because you're exposed to a huge amount of information. Where do you stop?"

Delivering easy access to I-cap may not be straightforward, they said. There are security issues to be considered. Common standards are lacking to make mobile access easy or effective. The group also expressed worries about privacy, data protection and the cost of accessing intellectual capital and, not least, they acknowledged there were digital rights management issues, too.

They regarded the encroachment of mobile technology into the private sphere as having both advantages and disadvantages:

"Easier remote access to intellectual capital makes working life easier. One consequence of this would be flexibility with regard to your working place and time. Like on ski holidays, when you're not skiing, you can use your Blackberry - going up the mountain and skiing down the mountain. But it makes it more difficult because you're exposed to a huge amount of information. Where do you stop?"

Movie studio



This group considered four main aspects of a movie studio: production, clients, marketing and platforms. For each of these points they evaluated and listed relevant mobile services.

Movie studio

They saw an advantage in mobile technology making film production and client relationships more

efficient and effective. They listed potential positive services as being a mixture of mobile interactive storytelling, user created storytelling, mobile location scouting, interactive and context aware or sensitive product placement, cartoons with famous brands and special faces for interactive castings. They commented:

"Clients are viewers. Those viewers will have more or less of an influence on the final story line. That indeed makes storytelling rather complicated. One, because if they interact, it's like programming video games more or less."

Assessing the marketing point, they stressed there would be a huge amount of product placement involved. They believed that in the future we would see interactive product placement in films with click through capabilities to everything shown online. Consumers would, they said, explore product messaging in a sophisticated and interactive fashion during a film viewing, seeing what advertisers want to communicate. The diversion might even become a hit in itself that enhances the film experience. Indeed, many adverts on TV are currently acclaimed as masterpieces and have become part of popular culture. Another advantage of mobile content they reported on was location-based identification.

"Marketing wise, we thought about location and world distribution. For example, you come to Rome and you see a film of Ben-Hur."

Turning to platforms they believed there would be more competition, because making films is going to be cheaper than it is today. On the other hand, they saw some issues with integration, interfaces and standardisation.

They described how every customer would be given his or her personal channel and content, beamed directly at them and downloaded onto a portable device. They added that promotional material would also be distributed via mobile technology.

Digital Rights Management

The area of Digital Rights Management (DRM) is of particular importance for the movie and music industry. The Thought Starter section of this publication addresses the emerging technical solutions and the potential market size.

In this field there have been really significant advances. These include digital watermarks and other tracking technologies that give content owners visibility and protection over what happens to their property after it has been sold. As more mobile digital material is produced we can expect more inventive solutions with even better intelligence and security embedded in both devices and content.

Another possibility is that we could see more "common use licenses" on the market. The Ministry of Sound recently just did this. They allowed anyone to take their latest hit and perform a video of it and upload it on YouTube as a new version, on the condition that The Ministry of Sound has the right to use the new version as well

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We should also expect to see tougher laws introduced to thwart the misuse of copyrighted material. The other major protection will come from continuing to educate the public in their rights and obligations in relation to this sensitive issue. That will become particularly important as new possibilities for cheating and theft present themselves.

"Recently YouTube removed some Japanese cartoons and then removed some NBC Saturday Night Live skits and so forth, preventing them from obviously infringing a copyright", reported Tomi T Ahonen, in answer to a question after his keynote speech[4].

He predicted that this area would remain complex and will be increasingly policed. And he said:

"There is an upside and downside, and if we work at it, we can find it. But obviously we can't steal property. So we do have to recognise the content owners. And that's going to be a big opportunity for lawyers not only throughout the EU, but throughout the world."

However, "Marketing-wise we also saw a problem where we would still be facing file sharing and digital rights management issues", they said.

Major sports team

This group decided that one of the major challenges of a large sports club is to get closer to their fans.

"So the major mobile content services would be plain and simple at the moment, via SMS, MMS and video perhaps. Video streams of the most exciting goals are always important to fans, as is information on timetables. Of course, we could broadcast the results as sports results are critical to the rankings."

They envisaged providing news alerts directly related to particular matches and to the needs of fans. They said mobile communication would be used to support community out reach work by sporting clubs.

There was, they said, the potential for misuse of instant mobile broadcasting technology and shared content networks. One downside they highlighted was the incursion of player privacy by fans or media.

Public and emergency services

Hospitals, police, ambulance services and other public services are both major employers and critical

4. A complete transcript of Tomi Ahonen's keynote can be found earlier in this publication

aspects of modern life. Hence this table looked at their challenge from a number of different angles. One was the challenge of internal communication, another was external communication to the community, and then lastly they analysed intra-organisational and intra-communal communication needs.

They started by considering internal communication.

"What we thought we would like to see is innovations that are happening much faster out in the commercial world than in the public sector, made available on our platforms for internal communications."

"For example, to take and send blood analysis or x-rays or photos from an ambulance to the hospital in advance of it arriving so medical staff are better prepared to handle emergency situations."

They then talked about the need to reduce costs rather than just to add new services. One way is to improve the monitoring and dispatching of information. Certain tasks would benefit from automation, they thought, such as searching Google Earth to see where fires are occurring as part of an advanced fire warning system. This information would be downloaded directly to relevant mobile devices.

"On the external side, I think we actually thought there was more of a business opportunity from that perspective. Things like emergency public alerts and public surveillance. "

They gave the example of the police knowing there is a gang robbery going on at a certain point in time, and then them being able to send out an alert to the neighbourhood that says, "OK everybody, turn on all your lights. Get out."

One Thought Leader reported:

"Actually that happened to me in Zurich. They [the police] knew what was happening. There was no way, however, for them to actually involve the community."

Public services personnel would also boost their effectiveness by distributing simple information to local mobile devices about missing dogs or people, particularly children. The aim would be to get people in the local community to solve immediate problems that require the input and cooperation of a social network.

They said that inter-organisational and communal communication would benefit from improved coordination between cantons, police, the government or the army, or with whoever might have to attend an emergency scene.

This group came up with practical suggestions, including:

- Swisscom, or whomever, could offer a service that addresses understandable paranoia after 9/11 and the Madrid and London bombings. They could sign up five-million Swiss people for, say, five Swiss francs a year, They would then be included in a mobile alert system that covers natural disasters and issues location based warnings on major transport and other

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geographically specific emergencies, alerting people in the vicinity only.
- Cameras could be integrated into mobile phones with infrared capabilities to connect users to public monitoring systems so they can transmit pictures to the right authorities in real-time of people misbehaving.

Large financial services institution

This group first considered business-to-consumer services in relation to online mobile banking and brokering. Then they looked at wider issues such as business-to-business intelligent alert services informing the market of new risk or other changes and at business-to-employee services, such as mobile desktop facilities.

As one Thought Leader put it:

"I think something which will be very interesting is real-time data, real-time market information, or some kind of agent-based mobile alerting service."

On the business-to-business side they said real-time information is going to be important. This is because intelligence and information retrieval agents will be required to alert people based on what happens on the market as it occurs.

For business-to-consumer services, they saw a migration to mobile services of current online services, including banking and brokering, as well as contextual advertising of financial products and mobile payments.

On the business-to-employee side there would also be a specific need for, and an advantage to be had from, the capability for remote and mobile retrieval of customer information as well as employee self service.

"They can work anywhere, any time. You can react faster to the market activities. And of course the downside is that it would be more difficult to maintain some kind of work-life balance, because you're going to be alerted twenty-four hours a day."

Hotel chain

This group brainstormed how to improve the load factors of hotel rooms. They considered the needs of people who arrive late in an unfamiliar city and need a hotel room for the night urgently.

"So we're thinking about a service where you would look for a hotel on your mobile and you get offers in the neighbourhood - the closest one being a little bit more expensive, but you don't have to travel so far. This would help the hotels to increase their room utilisation."

They warned, however, that mediocre hotels might suffer from this service, because software networking will provide both recommendations and honest reviews about hotels. They summed up the service as "real-time, location-based, demand-driven pricing for hotel rooms".

Conclusion

The market is moving fast. Convergence technology that transforms cellular operators into wireless broadband providers of Internet protocol-based services is available today. In South Korea over a million people have used Digital Multimedia Broadcasting on a regular basis since its launch in 2005[5]. In Japan, High-Speed Downlink Packet Access (HSDPA) sparked the ".mobi.coms" boom. More than 130,000 of these domains specifically designed for mobile users have already been registered[6]. Moreover, HPSDA, sometimes referred to 3.5G, now works in 64 networks across 39 countries providing live services.

"Telecom will go consumer goods thinking. Think what would happen if Coca-Cola would act like the telecom industry. We probably would all be bankrupt and Coca-Cola as well. As long as we do not adopt consumer goods know-how and more insights into the behaviour of mankind, there will be no convergence, no mobility, just no money for us"

The Forum's experts were almost at one in expecting the industry to maximise its existing investments in 3G technology.

"If we look at the mobile network operators, their incentive is to make up for dropping voice revenues and also to recoup money from their infrastructure costs, notably 3G," said Kurt Hemecker.

One of 3G's challenges is its bewildering array of conflicting standards. When it comes to the provision of broadcasting services there is: Multimedia Broadcast/Multicast Service (MBMS); Digital Video Broadcast Hand-held (DVB-H); Digital Multimedia Broadcasting (DMB); and MediaFlow.

However it was not the technology that was the focus of discussion: it was how we communicate.

Edgeio CEO Keith Teare said in his interview that cellular content is going to be about interaction, messaging and communicating; not about surfing, browsing and reading.

Stefana Broadbent in her keynote speech observed:

... the mobile phone is mostly about micro-coordination. The calls are short and the content is about deciding what to do tonight, where to meet, etc. In contrast, if I look at SMS, it's mostly about grooming. Grooming is a nice word from ethnology. It's what monkeys do to express love. They take out the fleas from the other monkeys."

Another of the exciting trends that was highlighted in discussion was interactivity. However for every

5. www.wirelessforums.org
6. Financial Times, November 17th, 2006.

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plus there is a minus. As Franco Monti from the Forum Knowledge Partner, PricewaterhouseCoopers stated in his conclusion:
"Beware of interactivity. Interactivity is a very, very good topic. But it could kick back very fast onto the wrong side. If interactivity goes towards blaming others, you have an issue; a serious issue which could risk your business model."

We cannot know what will happen as events unfold in the marketplace. There will be new opportunities and new threats. Hence the key question remains: what kind of content will consumers want to see on the mobile Internet? Is it just a question of moving existing Internet PC applications to the wireless grid? Will we want to see movies, iTV and read our newspapers and other forms of text on a mobile handset?

So risk-taking investments will play an essential role in forging the market. That is why the industry has to remain flexible and responsive. It will need to watch, as carefully as the Thought Leaders do, how consumers experiment with their new toys and possibilities.

Author: Paul Seaman, Zurich

Keynote 02

OPPORTUNITIES FOR INNOVATION

> **Kurt Hemecker,** VP Business Development, Echovox

My name is Kurt Hemecker from Echovox. We are a pan European application mobile service provider. But just before I begin again I'd like to say thank you to First Tuesday Zurich, the producers of the forum and all of their partners, as well as most of all to you for being here.

Echovox has been active in the market for the last six years. It develops mobile applications for media companies to enable them to mobilise and monetise their content. It is also generating new ways of interacting with viewers and turning that from an audience relationship into a customer relationship. As I'm sure most of you here know, in fact all of you here know, consumer behaviour is changing. You know this from your professional experience, your personal experience. Studies and surveys also support this fact. A recent study by Offcom, the UK independent regulator, showed that television is of declining interest to the 16- to 24-year-old age group. In fact they spend one hour less per week watching television than the average viewing audience. Meanwhile, the same group are avid users of the mobile telephone, making on average seven more calls and sending 42 more text messages per week, than the wider UK population.

Nokia multimedia research shows us from a study that they've done that 44 percent of their respondents are using their phone as their primary camera and taking pictures with that. That figure jumps to 67 percent in India. Out of that same population, even though people might not be using that as their primary camera, a lot of people are taking pictures with their mobile phones and starting to record videos. Out of the same study a majority predict that their mobile phone will replace their MP3 player. In fact, 27 percent were already using their mobile device or their mobile phone as their primary MP3 player. Globally the respondents placed a huge value on their mobile phone. For example, 21 percent of the respondents indicated they'd be more upset about losing their mobile phone than they would be about losing their wallet, their credit cards, their house keys or even their own wedding ring. That figure jumps up to 40 percent in China. But interestingly enough, it drops to about six percent in the U.S. So it does show that demographics play an important role in consumer behaviour.

Meanwhile, as consumer behaviour is evolving, there is also a major evolution in content delivery as the primary channel for entertainment as media shifts from traditional media to new media. In the broadcast era, there were relatively few television stations and radio networks. Now, today, in the broadband era, there are thousands of cable channels to choose from. Niche and customised brands are competing head-on with the big global brands and user-generated content. Users are taking a more active role in deciding what they want to receive, where and how they want to receive it, as well as a term called FUBU, which is for us, by us. Undeniably broadband has played a large role in some of these changes. But now there is a major new channel emerging and that's the convergence of mobile content and media.

Some of the things have been uncovered during some of the sessions today. All of the players in the mobile value chain have an incentive to drive the growth of wireless content and services. Not all of

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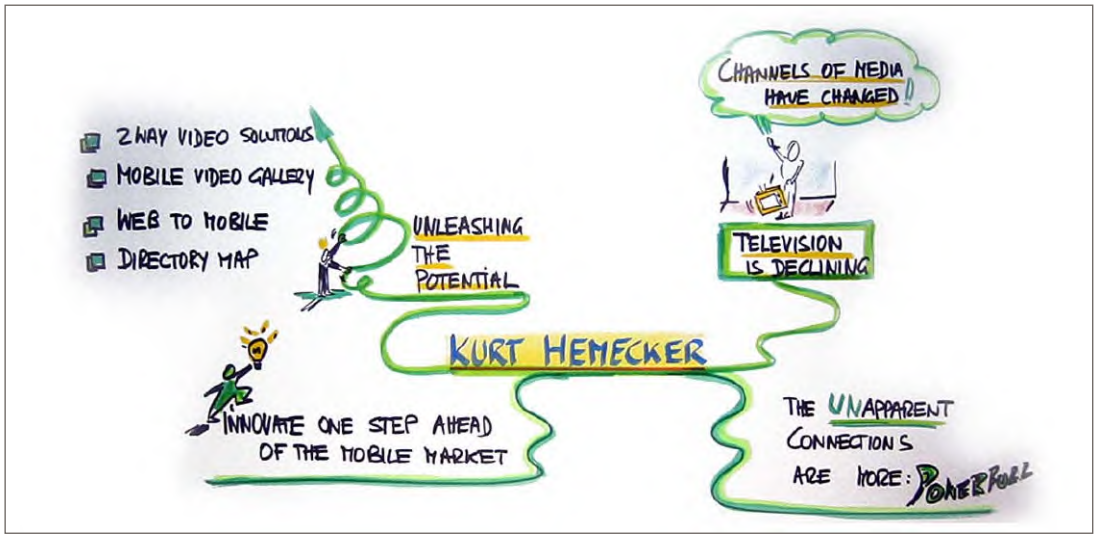


them, however, have the necessary expertise, infrastructure or applications to do this. If we look at the mobile network operators, their incentive is to make up for dropping voice revenues and also to recoup money from their infrastructure costs, notably 3G. The media companies would like to generate more revenue from their content and also develop services to attract and retain their audience amidst a plethora of competing offers. The device manufacturers can increase sales by providing devices with improved or increased functionality, encouraging replacements and upgrades. And, of course, the end user benefits from better and easier access to richer services, richer content and services.

And again, as I think most people in this audience are keenly aware, there are a lot of elements of the puzzle that need to fit together. This is what's happening today as this whole business is evolving. Puzzles such as the content delivery and billing, digital rights management, security and regulatory issues. So there are a lot of pieces to be put together, which is why it's hard to find one single organisation that has all of the competencies within it.

The reason why we're doing this? Well, there's a huge incentive to do it because for those who get it right there's money to be made. According to CIBC World Markets Corporation, in terms of mobile services delivery platforms, the market is forecast to grow from about 300 million dollars in 2005 to over 1.3 billion dollars by 2010. The revenues from wireless content are also expected to show a similar compound annual growth rate of 32 percent.

These new technologies and new services enable new business models to be tried. For example, 3G video is becoming more and more prevalent. We're doing a lot of work with television stations. You can open up interactivity with viewers on their 3G handset. They can be invited by a television producer to make a video call. They call into the show. A producer can screen the caller. Once they pass the screening, the producer can then pass the image of the caller on the screen where the caller can interact with the host of the show or other viewers of the show. And this, again, can generate more revenue for the content or television producer. It also makes for exciting interactivity for the viewer.

Keynote 02

Another example of an exciting new business model emerging is video sharing. It has proven overwhelmingly popular. This possibility is now available through mobile phones and mobile networks. Users can create video with their mobile phones, upload them to a service, and other users can then download the videos. And also what emerges here is a new economic micro system where the people that are downloading content can pay to receive it or view it and some of that revenue can be generated back and credited back to the user that created the content.

In the early days of this business, as some of you are probably aware, there were really no toolsets or building blocks for launching services. If you wanted to launch something, you had to do it yourself. You had to negotiate with the mobile network operators. You had to develop, and sometimes implement, proprietary protocols and billing systems. You had to worry about all the device adaptation and content management. And now, as we see the industry starting to mature in certain aspects, there are services such as smsconnect.com which take out or help with all the underlying complexity of delivering and developing some of these services. This is a portal that provides the ability to launch premium SMS applications in 10 countries, reaching over 500 million subscribers. Anyone can set up or launch a service in about an hour.

Another cool service that has been launched is by a company called Novasys based in Lausanne. This is a service that is provided to companies that are offering directory services assistance. So people call in asking for information. They can call and also ask for direction information. The Call Center agents then push out information to people calling in. They can push out a map to the end user's mobile phone showing them where they are and how to get to where they want to go. And the map is optimised for display on the user's device. This has already been launched by Mobistar in Belgium, with Telering in Austria and I think it's recently also been launched by Swisscom here in Switzerland.

Novasys mobile mapping

So it's interesting to look at the overall trend of what's occurring and where we are today. We are just at the beginning of the offering of 3G services and video service and mobile media, clearly moving into 4G; the definition of which is still evolving. I think some people simply refer to 4G as 3G. I believe there are still a lot of exciting things that will happen. For example, up until now the mobile carriers have played a dominant role in the billing of mobile content to end-users. I think we'll start to see some alternative billing capabilities coming up which could start displacing the dominant role that mobile networks play in that.

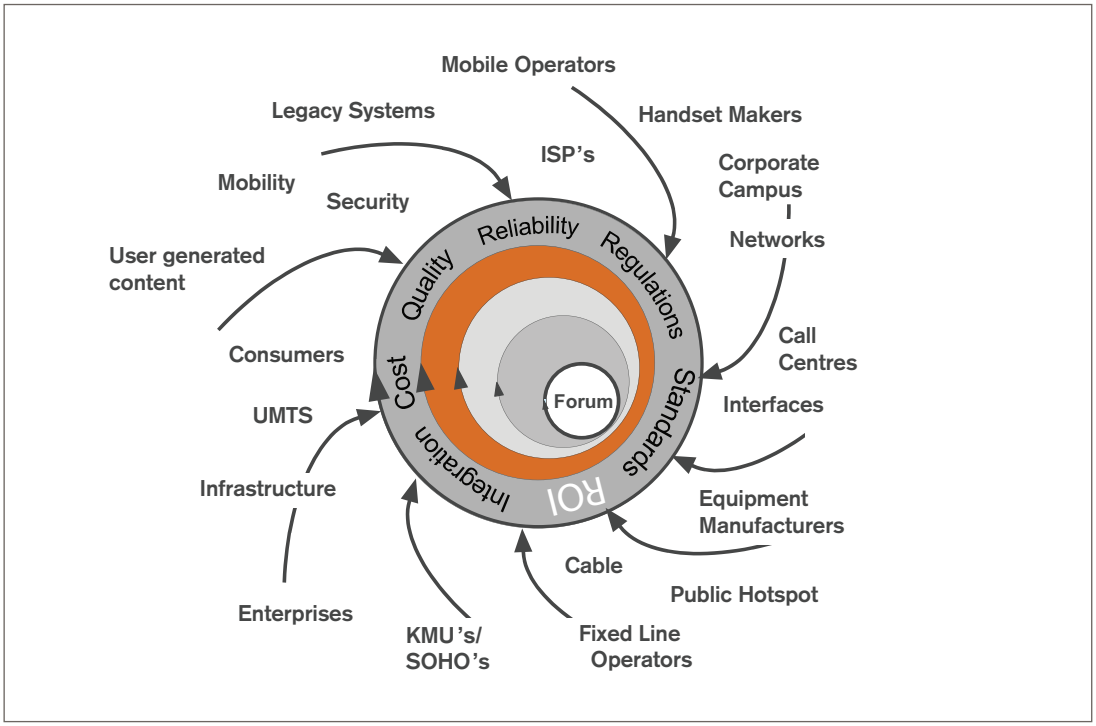
As well, I believe we've only scratched the surface in terms of mobile advertising. For example, Mobile virtual Network Operators MVNO's when they've launched often focus on providing low cost voice and text services. I think we'll start seeing some MVNO's that will launch providing completely free services to end users in exchange for them agreeing to receive certain advertisements. I'm already aware of one such MVNO that will be launching in the UK, based on that business model in 2007.

Keynote 02

The unapparent connection is more powerful than the apparent one.

So just a few concluding remarks. When I was preparing for this keynote, we were provided some information by First Tuesday Zurich and when looking at it, I was reminded of a quote by a Greek philosopher, Heraclitus. He said the unapparent connections are more powerful than the apparent ones. I take this to mean that while we should not ignore developing the apparent connections, it's our collective role to work on unleashing the power of the unapparent connections as well as managing what impact those may have. Thank you.

Heraclitus, 500 BC



Keynote 03

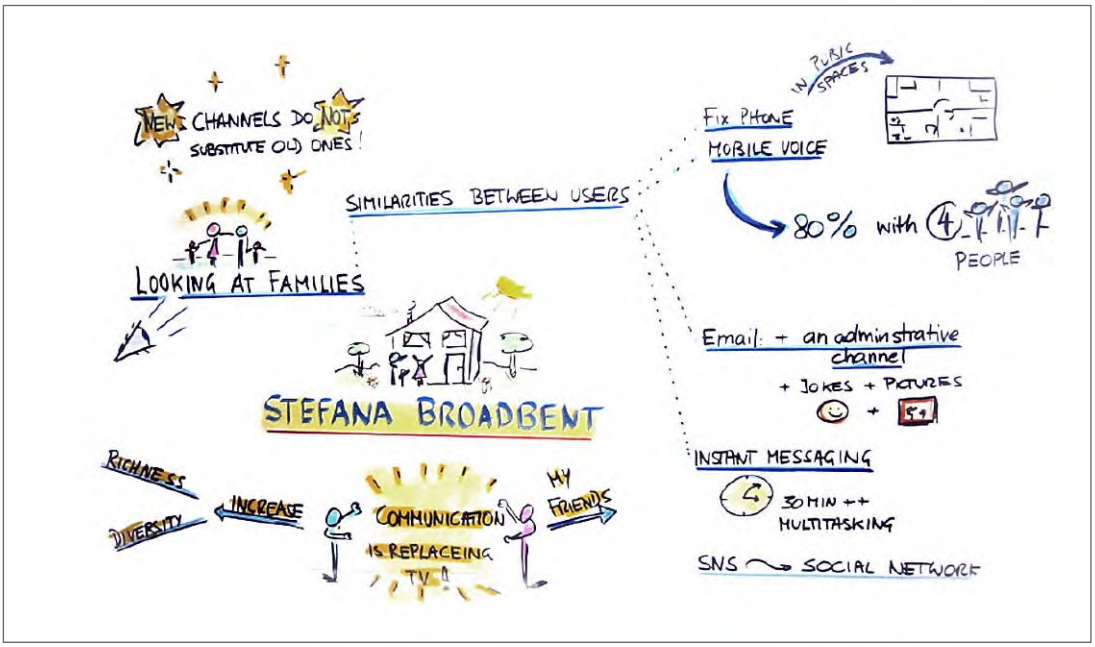
COMMUNICATION IS THE BEST CONTENT

> **Stefana Broadbent,** Head of the User Adoption Lab, Swisscom Innovations

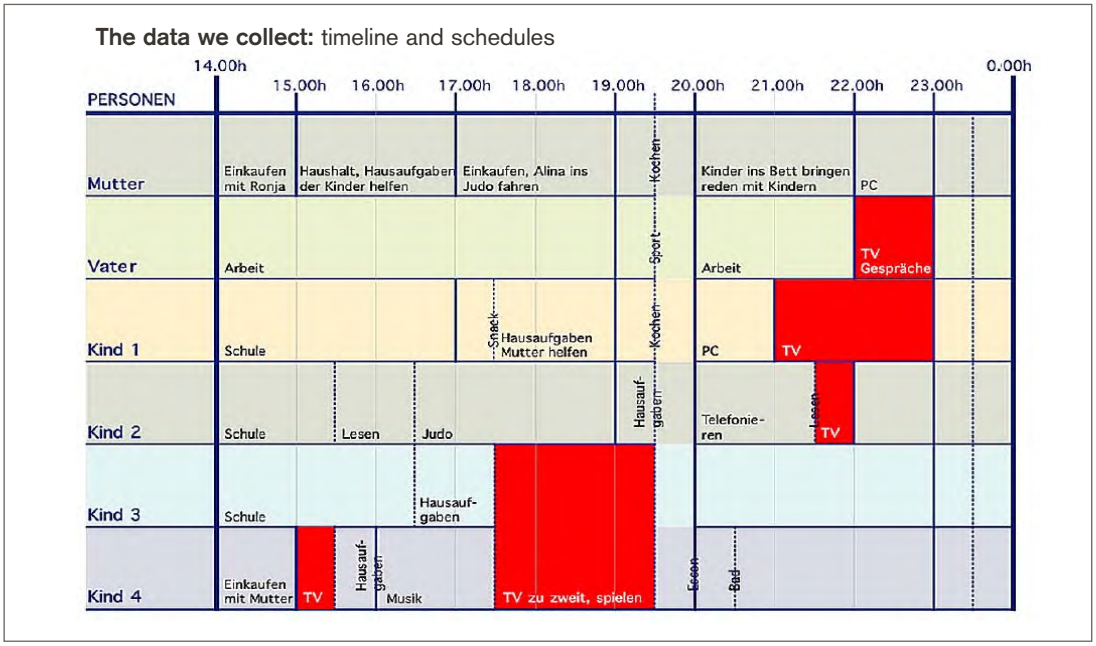
Let me give you just a very quick word about what we're doing in this observatory at Swisscom. Basically we go into people's homes, people's offices. We spend hours with them, talking with everybody in the family. We talk to the children, to the parents, etc. We collect a whole different variety of data. It's essentially qualitative data.

So over the time we've built up quite a database of interviews and quite a database of observations. So we're talking of a few hundred. Obviously it's not in the thousands. It's not in the millions. It's not statistical data. But it's very, very detailed. We look at where the technology is in the home - we have maps of their homes and where they put technology.

We look at timelines. This is not a very typical family. They have four children. But we try to construct with them exactly how they spent their time the previous day. So what they did we examine, and this was just an afternoon.



The data we collect



So actually our users help us build and construct this. And we have a view of how each member of the family has spent their time. And obviously what we're interested in is where the technologies are in the home. This was a study on TV, so we were trying to see if TV was looked at individually or not.

Another thing we do; we look at social maps. We ask people to put down all the friends they have. We want to know who is close in the inner circle and who is outside. We try to see how their social map is constructed.

Another thing we do is ask people to keep a diary. A diary for a few days of all the communication exchanges they have, mediated by some form of technology. So we ask them, for instance, to write down with whom they are communicating with and to tell us who these people are. We want to know what the content is. They can be as detailed as they want. Some people are very detailed and tell us quite a lot about themselves. And some people keep it quite superficial.

Now, what we see when we go back and discuss these diaries with them is that people are extremely sophisticated in choosing what channels they use. This is the discussion I want to have today. I have a very different perspective maybe from what has been discussed up to now. The title of my talk is really about communication and how communication is the base content. What we're actually seeing now is how enthusiastic people are about communication. We're witnessing how enthusiastic they are about integrating new channels into their daily life, and seeing what implication that has with respect to the type of content we will want to propose to them.

Keynote 03

So what we see, as I said, is people are very sophisticated in choosing a channel. They have very special reasons which have nothing or only partially to do with some of our more typical marketing ideas about what the mobile phone is for outside. Or the fixed phone is for inside. So it's not just about location and pricing. It's more sophisticated than that.

So one of the questions we're asking each other is whether people are specialising their use of the different communication channels. What we see is that people are using at least four channels a day: fixed, mobile, email and SMS. And a growing number are using also instant messaging or VOIP.

Now, what we have found is that, yes, there are special uses for each channel. Actually people seem to be really quite homogenous in the way that they're specialising. And we find that there are many more similarities between the different groups of users than differences. And I'll run through them in quick order; the specialisations we're seeing.

SMS has revealed itself definitely to be the most intimate channel. That's where the more personal content is actually being transmitted.

The fixed phone seems definitely to be more of a collective channel, and I'll get to that later. The mobile voice is without doubt a micro-coordination channel. So it is used essentially to organise and to micro-coordinate.

SMS has revealed itself definitely to be the most intimate channel. That's where the more personal content is actually being transmitted. Email, definitely in the private sphere is an administrative channel. Not talking of the businesses, I'm talking in the home.

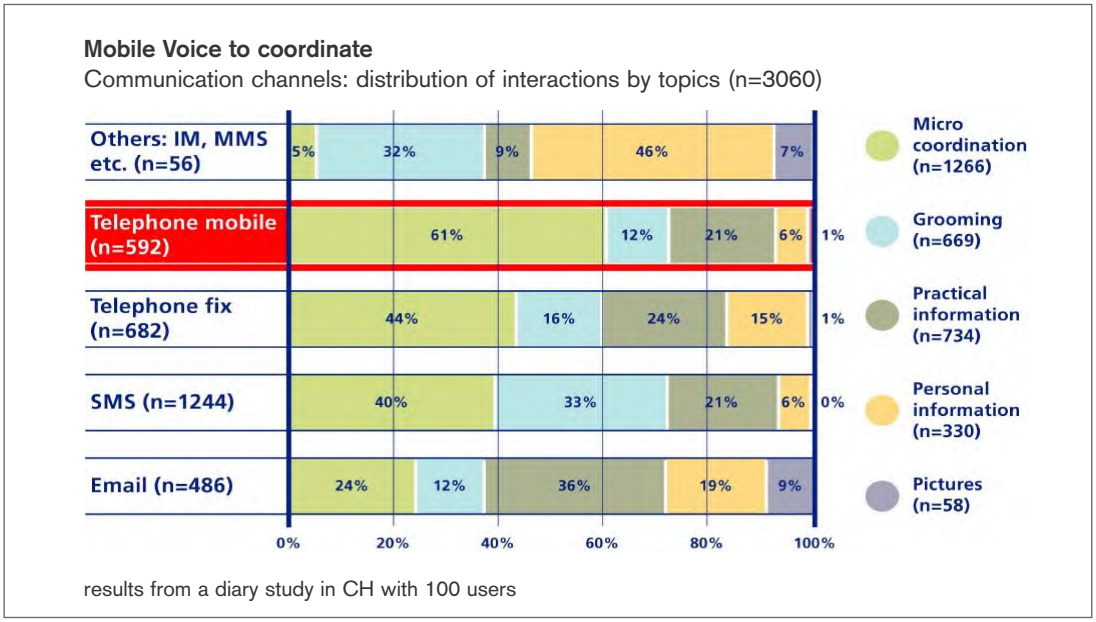
Instant messaging is the channel for continuity. It's for long sessions with a lot of multi-tasking going on in the background. This list is growing. I've definitely noticed more social networking sides in the list of communication channels. I'll show you why. That is the strong point I would like to make about content.

So why do we say that the fixed phone is a collective channel? There are a number of reasons. We see about the length of the calls, the content of the calls. And something else which is quite funny, we actually saw that most of the calls are done in public spaces in the home. Even if people have deck phones, they tend to do their calls in public spaces.

We also see that women are doing more fixed phone than anybody else, in the home. We also know they are—and it's not for the reason you think. No, no, no, because if you look at the content, it's mostly about organising and coordination, and not about chatting. So men beware.

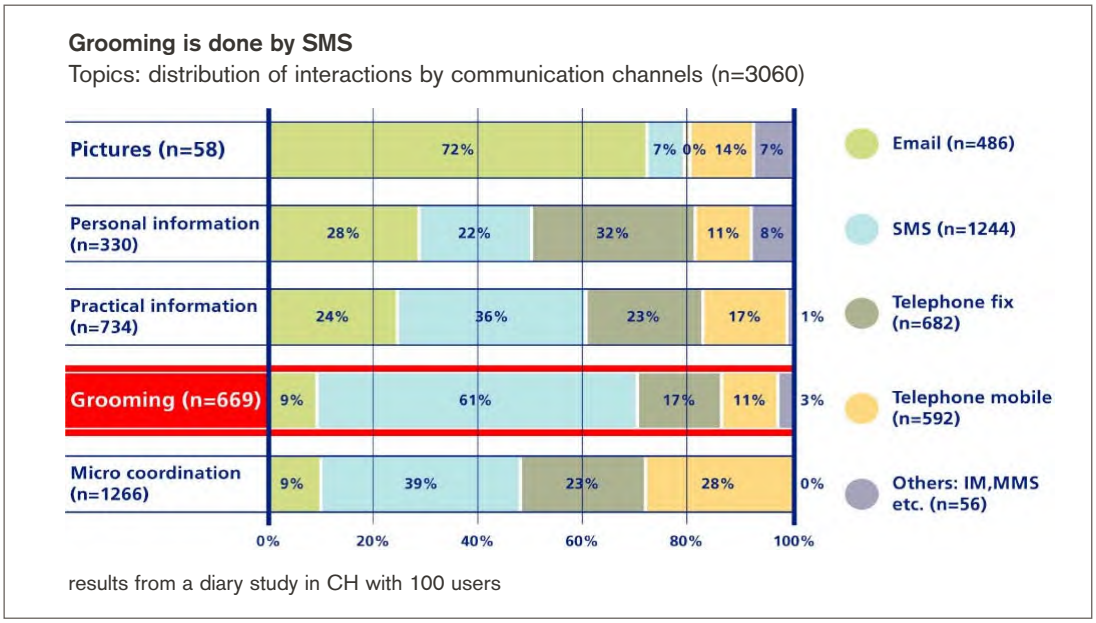
Now, the mobile phone, SMS and voice, is by no doubt the most personal of all the channels that we're finding. This data always provokes uproar. 80% of the exchanges are with four people. Now, this is a known fact in our industry; 80% of the exchanges are actually with four people. And those four people are part of the most intimate sphere of the user. So we're talking mom, dad, wife, and best friend.

Mobile Voice to coordinate



Now what are these conversations about? What do we see when we look at the content? As I said, the mobile phone is mostly about micro-coordination. The calls are short and the content is about deciding what to do tonight, where to meet, etc. In contrast, if I look at SMS, it's mostly about grooming. Grooming is a nice word from ethnology. It's what monkeys do to express love. They take out the fleas from the other monkeys.

Grooming is done by SMS



And this is more or less what is happening on the SMS. People are saying things like, "I think of you. Kiss, kiss, thanks for the dinner. Where are you?" Etc. And this accounts for more than 60% of the exchanges on SMS.

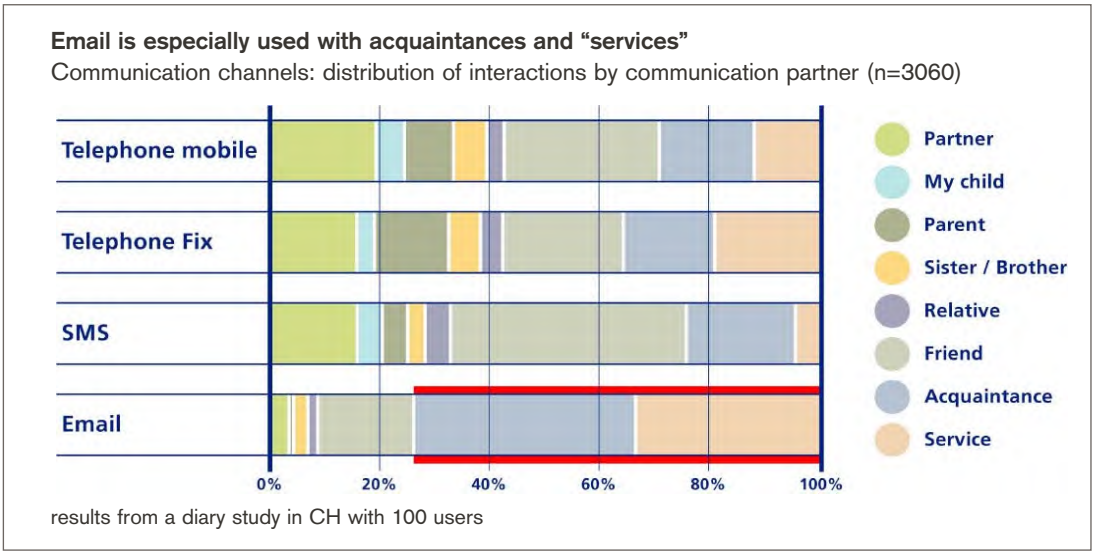
Now if you think that the communication is directed to a very few people, and you think of the type of channel it is, you realise that with 130 characters, you actually need a lot of mutual knowledge. And there's not that many people you share that much of mutual understanding. If I go out of this meeting and I send an SMS to my husband "went well" there's a good chance he'll know what I'm talking about. I had this talk, etc. If I send it to a colleague, it is very likely that they won't. So that is what I mean when people are choosing channels. They are exploiting in a sense the strength and the weaknesses to choose which is the best channel.

Email is the biggest surprise. The decline of the email in the private sphere is for me a constant surprise. It has literally been relegated to two roles. Well, getting rid of spam, communicating with online, whatever news groups or online sources you have, and then communicating with clubs and associations. The only emails that are really sent for really private one-to-one exchanges are for exchanging pictures. Pictures and jokes, and now YouTube links, which I actually put in the same categories of jokes, are also done via email. So there's a definite decline of email.

You won't get anybody under twenty sending an email. What people are saying to us is, oh yeah, I send an email to school and to old people. Meaning, over thirty. But it's definitely not a channel for the younger generation.

It's interesting because we look at who the communication partners are. And up to here, we're still in the personal sphere. So we're with partners, children, parents and relatives. Then we get into the impersonal. And you see that email is really massively used, with 80% of the emails down in the impersonal sphere . This compares to something like SMS, where you really have - well, up to here - the mirror image in the sense of more of the personal connections.

Email is especially used with acquaintances and « services »



So what are the new things that we are seeing? The two most interesting phenomena emerging are clearly instant messaging (IM), and then the social networking sides. We see that instant messaging is growing in Switzerland especially. It's practically impossible to find a teenager who's not doing some instant messaging, unless his parents are so cruel as to have still dial-up access. No, instant messaging is really an important channel, especially for the younger group.

What is interesting about instant messaging is its length. The sessions are extremely long. They're thirty times longer than any phone call. They're thirty times longer than any other form of communication. So as I said, most of our fixed and mobile calls that we see last less than five minutes. IM sessions go anything from thirty minutes to four or five hours. And the amount of messages that are generated are so rich.

Now what is interesting is that, I always joke about instant messaging actually stands for I multi-task. Because what is happening with instant messaging is that it's actually allowing people to multi-task heavily while they're doing it. This is a timeline of a mother living with a son, fourteen-year-old son. And we see him. He comes back from school. He switches on TV. Then the PC gets turned on. Immediately he's doing MSN Messenger and the Playstation. A bit of TV, Playstation, goes back to school, comes home, has the PC on, does MSN surfing and listens to music.

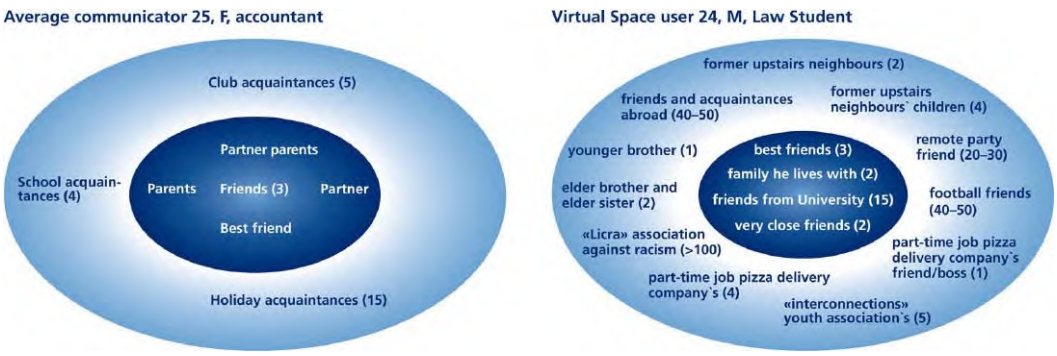
IM stands for "I Multitask"

What is nice is that if we look at the map of his house, he's actually set up his room to be able to do that type of multi-tasking. So this is his room. He's got his notebook, his TV, his Playstation. And this is very systematic. The communication actually is going on in parallel with other activities, which are more background.

What we are seeing systematically is that there's a difference between twenty contacts on average in the social network of a typical non-user of social networking, versus seventy-five on average for somebody who uses social networking.

SNS users maintain a wider social network

SNS users maintain a wider social network



Data from a study on Social Network Site users in CH done by Swisscom Innovations in 2006

Obviously the question that everybody asks is, OK, but are they using social networking sites because they have a lot of friends, or is it vice versa? Our impression is that it's vice versa. The fact that they have this possibility or this type of channel is actually allowing them to maintain the much wider social network that they are with traditional one-to-one channels.

What we're seeing, which is really interesting, is that actually none of these communication channels substitutes a previous one. But what is definitely clear in this, in our studies over these years, is that there seems to be no replacements. But people, there's a French word, [engagement], there's a sort of enthusiasm for any channel. The new channels are incorporated in a sense.

What is also interesting is that the new channels come to redefine the old channels. So they're not substitutional. But they do have an effect of redefinition. But what is also fascinating is that what we're seeing is that people are incredibly capable of distinguishing what are the strengths and specificity of each of the channels, and how they can actually exploit them to best advantage.

Keynote 03

Now I come to the content. I think the previous speaker mentioned the fact that there's a decrease in TV viewing by the younger generation. And typically, what is said, people are spending less time on the TV and more time on the Internet. I would like to specify that claim.

What we are seeing is that people are spending time communicating on their PC, and going away from the Internet. So what we see with our younger, more active, users is that they can spend up to four hours a day on MSN. And they can also go repeatedly to their social networking sites. Music and TV actually become background activities, which somehow support the communication, because they are sending each other links, talking about things they are seeing. But those are in the background. In the foreground, there's communication.

We did this very interesting study on social network sites users in Switzerland. In Switzerland, there's not so much MySpace. What is clear is that the social network users tend to spend much more time on their PC communicating. They have longer sessions. And usually, given that they go out just as much as the others, they're not living a virtual life. It's time taken away from TV.

Now, another thing that we find extremely interesting is how addictive these channels are. We are really talking of stickiness here. We're talking of people who love to go back to their profiles, seeing what is happening, and so on. When they switch on their PC, they've got instant messaging there. The first thing they do is they check if somebody has talked to them and left them a message, or check if something has happened on their own profile site.

One of the things that seems pretty clear is how addictive communication is. And how addictive it is for people to be able to get feedback on what they're doing, what they're saying, etc. The point of us as user researchers, and our challenge, is really to increase the diversity and richness of the communication. We want to improve the mobile experience and see how it can really be integrated.

And finally I had a little joke saying it's not so much about accessing films of dogs on skateboards, but more about showing my own friends about my dog. So when we talk of user-generated content, I'd also like to make the distinction about looking at videos made by third party amateurs, or looking at content made by me or by my friends within my circle.

Interview 02 – Thought Leader

> James Woudhuysen,
Professor of Forecasting and Innovation at De Montfort University, Leicester, UK

Surely, just to start with, this whole mobile TV thing was always predictable for someone like you?

Well it was and it wasn't. When I was at the Henley Centre for Forecasting, part of the WPP Group, in the early 1990s, we knew little of the Internet.

But I did propose to a top US telco to organise delivery of the Internet over TV. What's more, we already knew enough about portable video cameras and mobile phones to say that the development of the IT would put everyone in a kind of mobile publishing business. What we didn't know was that the Internet would allow mobile TV. And now we learn that Viacom has established a central unit to supply mobile carriers with MTV, Nickelodeon and Comedy Central content – as well as with content generated from Internet users and by customers voting with their phones.

Before we get to technologies, who do you think will be the winners and losers in the mobile content and services value chain? Is it content that's king, or the consumer

It's content. All that stuff about consumers being 'empowered' by the new media or Web 2.0 is just Clinton-style blather. No individual consumer can compare in power to the power of Rupert Murdoch.

What the early years of the 21st Century have confirmed is that everyone wants content and is only mildly interested in form. I myself can't get excited about ring tones but even that kind of content has kept millions busy for some years now. The same with peer-to-peer communications like SMS. Human communication to get round human alienation is a big factor nowadays and explains part of the salience of content. In business, early signals of risk and danger also put a premium on content.

IT hardware and software players will make a margin, like retailers. But the big margins will remain in content.

Isn't it rather important to draw sharp distinctions between different kinds of mobile content?

It is indeed. One of the things even today's mobile screens can't do too well, unless you're talking about tablet-sized devices, is handling the sophisticated blueprints that are part of Computer Aided Design, a key component of wealth generation nowadays. On the other hand we've learned that a small screen is no impediment to mobile soccer spectatorship or mobile pornography.

People go on about the decline of the printed word, but HELLO magazine has shown that faces sell printed materials by the million. Animate those faces and bring CD-quality verisimilitude to their diction, and you have a winning formula in mobile content.

Games, Gambling and Girls will remain central to mobile content. So will Dating. But it's likely that, in time, locational mash-ups and payment systems will also jostle with these things.

Interview 02 – Thought Leader

The big development is likely to be higher quality voice and more face-based messaging and real-time base-based communications. The voice and the face are still enormously underrated in terms of their expressiveness and speed of information delivery.

People go on about the decline of the printed word, but HELLO magazine has shown that faces sell printed materials by the million. Animate those faces and bring CD-quality verisimilitude to their diction, and you have a winning formula in mobile content.

But, James, which parts of the content value chain will do best - content aggregators, content developers or digital rights owners?
Hell is populated by lawyers.

We are not headed to hell, surely?
No, of course not. I was poking fun at lawyers who always seem to do well no matter what happens.

What we will see is a battle that lawyers will front over who owns what rights on the Web – so it will be digital rights owners who will really clean up, along with the lawyers, as ever.

What do you think about the massive takeoff of blogs and the success of so-called bottom-up communication on the Web? How do you see this trend developing over the next three years or more?
It's overrated. What did bottom-up Web campaigning do for Howard Dean's electoral prospects in the US? WIRED magazine loves this kind of hip Democratic Party stuff; but most blogs are unreadable.

People will calm down about the influence of blogs over the next three years, thank goodness.

So what, finally, does your humanistic perspective on mobile IT mean in terms of technology?
It's good that you put the logic that way round! You're right – it's human needs that tend to determine the direction of technology, not the other way round.

Myself, I've long advocated 3G against short-term stock-pickers and 'WAP is crap' pessimists. I've made the point that much of what we do with mobile is now based on WAP. The mickey taken out of 3G has always been a cipher for reducing our technological ambitions.

I say: forward to HSDPA, which is often known as 3.5G. And forward, too, to 4G and beyond – forward to thought-operated mobile devices, so that devices become all screen and no physical interface!

Certainly we need faster processing speeds to deliver, over mobile, the voices and faces that we all want to see. Think of Lawrence Olivier doing Henry V's 'Once more into the breach' speech, even in black and white, becoming instantly available from your pocket! That's worth fighting for.

Interview 03 – Thought Leader

> Keith Teare
CEO of edgeio, founder of RealNames Corporation

How do you see the value chain in the mobile content business developing in the future as convergence and mobile content really take off in the marketplace?

I have some views that are fairly controversial. My personal opinion is that the carriers who control the pipeline over cellular networks today will not continue to have the power to do that. The locked handset with proprietary content is not going to be the future. The future is more likely Apple's new iPhone where the phone has a real browser and where everything that is on the Internet is available to the phone, including free wallpapers and ring tones. The carrier will simply play the role of the network operator rather than the content owner and distributor.

If I am right, then Vodafone, Hutchison and Orange have business models which are doomed to fail. Many of the investments they are making in content and data services will not produce the kind of revenues they think.

Over what timescale do you think this will happen?

Certainly no more than ten years. That is prefigured in the Apple iPhone announcement. In the deal that Cingular did with Apple it is only playing the role of network operator, and no other role. It is just like the Telco that gives you an ADSL line that has no control over the content that goes over the line. The same will happen in cellular where there are network operators, handset manufacturers, and then there is content.

Another way to think about it is Nokia's deals with Skype. Nokia is building Skype into their handsets. Obviously, the carriers will not want people to use Skype, but Nokia does.

So, once you have a world built around the IP protocol, applications at the edge of the network use that protocol to create peer-to-peer relationships, and that cuts out the carrier other than as the provider of the protocol. With bandwidth costs declining that is not a very attractive business to a carrier.

Can we expect to see bandwidth costs rise once again when demand for spectrum exceeds supply as the mobile market really develops over the next few years?

I do not think bandwidth costs will increase. I don't think spectrum is that scarce, actually. Look at WiMax. The kind of bandwidth we will be able to get to a single handset is about 100 megabits or even gigabits. I think that spectrum is scarce only relative to science and science seems able to discover new ways to squeeze more from spectrum.

So I think that anyone who is banking on bandwidth becoming more expense at some point in the future is going to lose. Anyone who is banking on locking consumers to proprietary content that they have paid for is also going to lose.

The winners are going to be those who deliver the most easy to use and productive applications to users via handsets.

Interview 03 – Thought Leader

The likes of Orange and Vodafone have massive customer bases and they can use this to bundle services. Do you think this offers them a business-model lifeline?
It depends on how savvy the consumer is. What Vodafone is assuming is that people are dumb and that they will pay a premium for a worse service because it is bundled. If people are dumb, then Vodafone is right. It looks to me, however, that as companies like Apple and Nokia start to offer free bundles of software with the handset, the consumers are going to become educated and there will be less and less dumb customers. Therefore bundling is not going to be able to offset a more expensive service that is more restrictive.

The biggest thing for the operators to consider is what they can learn from the experience of Skype and what Skype has done to telephony. We, for instance, are holding this interview using Skype with you in Switzerland and me in Cape Town and we are not paying for the call.

That is true, however, Skype is not yet a primary means of communication; it is an add-on. Are you saying Skype is about to become more than that very soon?
I'm not trying to be too literal. I am more saying that IP-based software is providing good quality free service over IP networks and that is going to impact the revenue of people who are trying to charge for this stuff.

It seems as if the handset manufacturers like Nokia, and now Apple, have decided not to fight that but to join in with it. So the carriers have a new enemy in the handset manufacturers. The handset manufacturers are going to become friends of consumers against the carriers.

So if we are going to an IP-based world do you think 3G will be by-passed by 4G?
No. I would not say that. Cingular just launched an HPSDA network in America that can deliver consistently 3 megabits to a handset and soon that will rise to 10 megabits. This shows how a cellular operator can become a broadband supplier and deliver IP-based services to a handset. Also 3G is more ubiquitous than WiFi and it has is enough bandwidth to do a pretty good job and to deliver Skype, for example.

The problem is, of course, how much we will pay for that. In America I have a Cingular HPSDA service and I pay $50 dollars a month for unlimited data and voice calls anywhere in the US. That really is an example of Cingular becoming more of a network operator than a traditional Telco that bills me on a per minute basis.

I think all the different generations of bandwidth will play a role. Some people will use 1G, 2G or 3G depending on which handset they buy. But the bottom-up early adopter market will always adopt the best bandwidth at the lowest price on the most open platform. That is where the growth will come.

As people like Apple and Microsoft get into the game, who are fundamentally software and services companies, they will give away for free products and services that the Telcos are used to charging for. So in that sense Yahoo, AOL, Microsoft, Apple and Skype are all next generation communication providers, using what ever pipe the consumer has bought access to. In the future, people will only pay for the bandwidth and the cost will depend on which handset they purchase.

Interview 03 – Thought Leader

That is all fine. However you are describing a commoditised business. Where's the margin in that?
The Telcos can still make money. The wireless companies can still make money. The pie will get bigger. Instead of selling one billion handsets every year you can sell, say, three billion. The pie will get bigger but the margins will shrink. But they will still be very good growth businesses.

So if you were a smart wireless carrier you would not be investing in delivering value-added products across your network but concentrate on reducing the costs of your platform and lowering prices to gain market share to become the main player. Just like Freeserve did in the UK by introducing dial up Internet through which they became somewhat significant.

Which types of content do you think will be a success and which will fail in the converged mobile market over the next few years?
One thing for certain is that cellular content is not the same as desktop PC content. So all of those companies who are trying to move desktop applications on to cellular are probably missing the point.

So what is the point?
Well, cellular devices are communication devices between you, your family, friends and your colleagues. So it is really all about your life. It is not about reading a newspaper or sports scores or watching iTV. It isn't about any of those things. It is about communicating.

So the most successful application is messaging, and alerts. That is not very surprising. On the other hand, messaging and alerts are not important large applications on PCs. Cellular applications are not going to be about reading content; they are going to about communicating. Cellular content is going to be about interaction, messaging and communicating; not about surfing, browsing and reading. That could have a content element, like let's say a message that tells you how to drive from Geneva to Paris with maps and so on.

I think most of the software companies that are coming from more of a content world do not yet fully understand that. Delivering a Disney movie to my cell phone does not really achieve much for me.

Content is a subset of application on wireless. If you separate content from applications you make a big mistake. And applications are all about messaging and communicating, mainly. There are of course exceptions to that, such as personal experiences that are appropriate to being mobile and travelling, for example music and iTunes. But if you had music without the iTunes music store you would not have very much, so even there it is the combination of the application and the content that is key.

Who really benefits from this?
People in the handset business are going to be in a very good position in the future. That is not widely understood. Everybody thought that handsets would become commoditised. Content owners that understand how applications work on cellular will do very well. And I have to say social networking is one of those.

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Facilitator

Susan Kish, CEO First Tuesday Zurich
CEO, First Tuesday Zurich

Susan Kish has more than two decades of executive experience in finance and starting businesses. As CEO for First Tuesday Zurich, she has led its growth into a recognised innovative think tank and knowledge network focused on new technologies and industries undergoing radical change, producing thought leadership and leading publications.

Prior to FTZ, Susan was with UBS for more than 14 years, most recently as Global Head of Structured Finance, based in Zurich. Before moving to Europe in 1995 with UBS, she held a variety of executive positions at UBS in New York, where she was responsible for their successful entry into several new financial markets and products.

Susan is an experienced public speaker and moderator at institutes and corporate events on topics including financial services, venture capital and entrepreneurship, risk and innovation. Susan graduated from Harvard University, and lives with her family in Zurich, Switzerland.

https://www.xing.com/profile/Susan_Kish/

Producer

Chris Gopsill
Executive Producer, *First Tuesday Zurich*

As Executive Producer at First Tuesday Zurich, Chris Gopsill is responsible for establishing and growing their Network and Community Practice, which consults leading organisations on best practice in blended networking. He is also responsible for producing executive Think Tanks and enabling strategic dialogue.

Chris has more than 20 years experience in the global chemical, pharmaceutical, IT and consulting industries. He has held management potions at Novo Nordisk, Stanford Research Institute, Cap Gemini and Dow Chemical, as well as in start-up organisations. He specialises in new product development methodology, technology management and transfer, innovation and emerging market exploration. Chris has broad experience in organisation development, change management, and assessment of commercial viability and implementation of new technology across a broad range of industries.

Chris holds a Masters Degree in Engineering from Cambridge University, England and an MBA from Indiana University, USA. He has lived and worked in the UK, USA, Germany and Switzerland and is married with 2 daughters.

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