

Marketing in Wireless Context*

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Abstract

The first-generation mobile computing enabled analogue voice and no data, the second-generation enabled digital voice and some data the third-generation will enable digital voice and high-speed data, the fourth-generation should enable IP based voice and multimedia data. Then fifth-generation will involve all of the above, but the devices (as we know them) will begin to disappear and computing and communications should start making a leap to invisible or ubiquitous computing.

The core issue for market players now is determined by the evolving nature of the wireless market in terms of users, focusing in particular on the re-thinking of market segmentation, according to new parameters and to the interpretation of users' needs.

Keywords: Marketing; Internet; Wireless; Wireless Technologies; Mobile Communications; Industrial Age; Information Age; Convergence

1. Introduction

This paper aims at identifying some crucial drivers of market change that will follow the evolution beyond the third generation of wireless communications (herein after named 3G): key market players will be required not only to show technological leadership, but also the capability to interpret and influence change, build coherent market scenario and develop adequate business models. This will be fundamental for the survival of enterprises involved in such changes.

The first-generation mobile computing enabled analogue voice and no data, the second-generation enabled digital voice and some data the third-generation will enable digital voice and high-speed data, the fourth-generation should enable IP based voice and multimedia data. Then fifth-generation will involve all of the above, but the devices (as we know them) will begin to disappear and computing and communications should start making a leap to invisible or ubiquitous computing (Lessig, 2001).

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The study made use of the convergence between Internet and wireless Technologies, focusing on business and social impacts. Millions of people throughout the world will be linked together whereas growing computing power and individual communication devices will jointly produce an exponential effect on both connection and computing possibilities. The core issue for market players now is the research on the kind of services third-, fourth- and fifth-generation mobile communications revolutions will be driven by.

The paper is structured according to the three issues which appear to be most relevant for the scope of the research. The first and the core one is determined by the evolving nature of the wireless market in terms of users (demand-wise analysis), focusing in particular on the re-thinking of market segmentation, according to new parameters and to the interpretation of users' needs according to a new perspective that we named generational approach. The nature, behaviours and needs of the so-called wireless (Y-erless®¹) generation (evolution of the most popular generation X) are considered accordingly. The second one refers to the changing structure of the wireless industry (supply-side analysis), with the growth of new market players and the competitive re-positioning of existing market players along value chains and value systems that change their features radically.

The third and final part of the paper regards strategic options presented to market players in new scenarios of demand and supply. In this framework, we highlight the relevance of a strategic marketing approach coherent with the new scenario: the emerging concept of contextual marketing is the theoretical ground of such approach (Dainesi-Zucchella 2002).

Evolution from post-industrial to information society and to knowledge economy entails a radical re-definition of strategic issues, concepts, and business models: information exchange will be in the core of economic processes. Emerging technologies and communication devices beyond 3G will challenge the current structure of market players and their industry boundaries so that creating value for the new customer profiles will require the adoption of highly innovative strategic marketing tools.

2. Defining an Invasive Scenario beyond the Third Generation Mobile Communications

Digital technology is permeating our lives as never before. In recent years, the Internet has indeed catalysed the creation of an economy where everyone will be connected to everyone else: firms with firms, firms with customers, and people with people.

Wireless market users are many more than internet users and, moreover, they show different approaches to the uses of technologies. In Italy there are approximately 45 million of mobile phone users against 'only' 11 million internet users. In Europe the ratio of mobile versus internet users is about 3 to 1 (62% and 27% of the population respectively) and in Japan –where the mobile market growth started later- the ratio is 2 to 1. Considering these numbers helps us in trying to identify potential convergence paths in the global scenario (Rheingold, 2002).

In the outlined framework we can hypothesise the progressive growth of new needs strictly connected with mobility issues, where access to information will be dominated by new conceptual schemes adopted by a new kind of user.

New technologies and, in particular, ITC-based ones tend to pervade everyone's life and not only those of business organisations and consumer market niches as it happened before. This seems particularly true in the wireless market perspective, as numbers in the mobile phone market suggest. Mobility and pervasion issues will dominate the scenario, in which the major issue for wireless market players will be the research on 'which' services third-, fourth- and fifth-generation mobile communications revolutions will be driven by and, above all, 'how' it will happen.

An emerging problem challenging market players in the current and, most importantly, in the emerging 'beyond 3G' scenario is the approach to technology by the a large number of users. In fact, at the beginning of these processes, technological skills were in the hands of market niches who possessed them in depth. Apparently, the capacity to use new technologies extends to a wider and wider market segments range, but the challenging issue for firms offering innovative high tech products and services is the real amount of technological skills in a large population. At the moment, although the majority of users make use of technologies, they ignore most of the possibilities and potentialities they offer. (Ellul, 2002).

In a technological framework of 'beyond 3G' nature, the gap between users' understanding and exploiting technological opportunities could be even more dramatic, thus preventing firms from a full economic exploitation of products and services offered. In the near future, a new digital divide is thus potentially emerging: it will not separate users from non users, but highly intensive users from non intensive users, where the term intensity refers not only to the frequency of use, but it refers particularly to the range of uses and to the degree of consciousness and exploitation of technological opportunities.

Mobility and pervasivity issues, combined with an emerging new digital divide, are three relevant drivers of strategic change, which both challenge the capacity of market players to provide innovative answers and contemporarily disclose broader opportunities for managing customer relationships and delivering more value than competitors.

Accordingly, this scenario opens many new opportunities for customers wishing to leverage new technologies for their particular interests, not only to do different things but also to do them differently, in terms of consumption or usage.

The debate in WWRF 2002² (Dainesi-Zucchella 2002) confirmed that the development of a purely 'technical' vision, focusing for example on new network concepts or radio interfaces, will not be sufficient. Such a technical view must be put into a much wider context:

- a user centred approach, looking at new ways of users interaction with the wireless systems;
- new services and applications introduced by new technologies, and;
- new business models that could prevail in the future, overcoming the traditional hierarchy of user- service provider- network provider.

3. An Interpretative Model for the Wireless Market: the Y-erless Generation (The Demand Side)

In the last few years, new communication needs emerged and people worldwide manifest similar attitudes towards technologies. Customers have high expectations

when it comes to ubiquity of access points, transparency of information, personalization of offerings, relevance of promotions, neutrality of advice, connectivity with peers, elimination of interruptions. All these features are considered a common frameset among different technologies, just like mobility issues, user friendly customer interfaces, interaction models that do not require any particular, or tedious training processes, fast, goal-oriented actions with explicit consequences (the message has arrived to destination and people read it). They learn to interact ‘through the medium’ and ‘with the medium’, day-by-day (Hoffman and Novak, 1995). Firms learn, day-by-day, to offer to customers innovative ways of such interactions.

The flow of innovation becomes part of everyday life. Firms have over-produced interaction models and respective services, from chat to browse, from search to push.

The result is an information-overload scenario that often brings confusion and anxiety among customers. Customers search for companies able to moderate complexity and define standards for interoperability among ubiquitous technologies. They also appreciate integrated and compatible technology offerings (Dainesi and Formento, 2000).

Interaction and interoperability are conditions for discussing technology innovations among peers. The possibility to use and exploit new devices effectively is the leadership knowledge within the communities of interest³.

Interactive customers are difficult to differentiate in traditional segments. We suggest a lifestyle analysis that will take into consideration the degree of consciousness and the exploitation of technology possibilities. We have coined the ‘Y-erless Generation analysis’, using The Rheingold’s Brainstorms Community debate segmentation: MTV guys, parental and professional climbers (Rheingold, 2000). Each of these groupings has an affinity for different content types.

They have been described below, proposing an analysis from a generational point of view, rather than adopting the technological use of different services/devices. We move from the marketing idea that today people are ‘nomads’ in their approach to technological innovation (Dainesi, 2001), since we believe they go where value lies. The value is the personal satisfaction of every new desire in terms of auto-realization, self-expression, sharing of valuable opinions, simplification and amplification of life being and life style.

(A) MTV Guys⁴ They are not clearly defined by age segmentation criteria. They are predominantly teenagers –25 millions in EU main countries- but among them we can also identify people belonging to 40-60 year age group, or 5-10 year age group (a new group cluster extraordinary interesting on the demand side) and especially not only males (classical segmentation framework of tech-teenagers) but also females.

Being in most cases financially dependent, they can’t fulfil their wishes as they would in terms of intensity of consumption and negotiations with the financial source (family) are frequent. They don’t like to discuss their consumption drivers with no-peer representatives (parents) and when they start working, they quickly lose the mood of purchases experimentation they used to have. Above all, being literate in technologies and innovations, they are often personal consultants to other people in the process of consumption decisions, also outside private walls.

Their usage of wireless services, voice and data, is very intense, particularly for entertainment and communication services like SMS, downloadable games, chat, email and other infotainment environments. A particular sub-cluster –easily identifiable in terms of age, economical, cultural and social characteristics- is represented by techno-funs, heavy users of contents and information on ubiquitous gizmos⁵, especially wireless ones.

(B) Parental Mature people are the majority of the population–55 millions approximately- they love shopping, nurturing the family, privileging quality of life also to testify their status and lifestyles. They use SMS and MMS moderately but have a lot of money to spend continuously trying to simplify and upgrade their life status.

Parental are often concentrated both on job and house. They are fully concentrated on status attributes that goods and services propose, following desires that belong to Maslow’ pyramid secondary level, growth needs (Maslow 1954). Firmly entrenched in nurturing the family, they are conditioned by TV models of self-realization (divas, VIP, social winners) and/or by political and social activities.

Within this group, we can find a lot of sub-clusters, especially women based. Women are eminent representatives of this grouping, thanks to the growing importance they have reached in society, both in public and private spheres. Their major need is time management, balancing home and work life. Mature people will be leaders in upcoming innovations in domotics (intelligent houses) and automotive thanks to the purchase capability, solid and rationally allocated.

(C) Professional Climbers In the short term, Professional Climbers are the most interesting segment for the wireless market. They are –20 millions- EU busy professionals. They represent executives in firms (also hi-tech) where they work hard, every single day. Being ultra-organized and spending a lot of time out, they consume everything (high-tech gadgets like PDA, RIM, DVDs, etc.) that may be useful for their objective: reaching professional goals.

Table 1: *Lifestyles, Fruition Model and Purchase Propensity(High-Tech)*

	MTV guys	Parental	Professional climbers
Fruition model	Fun oriented: communication, entertainment	Consumption oriented: infotainment, research of status	Goal oriented: working groups, sensitive information retrieval
Purchase propensity (high-tech)	High massive	Medium	High selective

□ *Why all this care? People belonging to the Y-erless Generation are almost 47 million people in Europe (out of 390 million people), 90 million in the U.S.A. (out of 272 million people) and 50 millions in Japan (out of 126 million people), according to the American ‘Census’ and other statistics (<http://www.geographic.org>).*

It is interesting to note that, in January 2002, there were 103 million mobile phone users, aged 5 to 24. This group cluster of MTV guys will

have risen by 47% within a couple of years. The highest growth markets will be in the USA and Canada, with China following right behind. Europe and Japan offer the greatest opportunities for exploring more effective marketing campaigns based on established user bases, Parental and Business Climbers technology-aware. In some markets, where general penetration is high, namely Italy, Portugal, Germany, UK, Spain, France, Netherlands, Greece, China, Ireland, Japan, almost 90% of MTV guys and group cluster of Parental called 'older teens', own a mobile phone and some other integrated devices like DVD players, email pager/PDA.

We can argue that the three 'Y-Gen' segments are differentiated for:

- age attitudes;
- lifestyles;
- values requested in product/services/technologies;
- financial resources available for new technologies;
- purchase fulfilment models.

Furthermore members of every segment are interested in technology innovations for different purposes. We can draw some conclusions:

- the most interested in wireless technologies -and high-tech in general improvements- are people belonging to MTV guys and more over to the group cluster of 'babies' (5-10 years group) but have difficulties with fulfilling their needs;
- men are more interested than women in technological innovation;
- people who can buy freely, consider wireless marketing propositions a new way of spending money and having fun, but interoperability among ubiquitous technologies is the killer app;
- people who can travel a lot are much more interested in wireless marketing initiatives that can organize their life better;
- new gizmos have to be sold for new services to be used, but customers do not respond to new products over night. The average handsets life in Europe is two years, suggesting handsets churn of 25% a year (Shirky, 2001);
- gizmos will be much more 'stupid' (dumb technologies) because 'Y-gen' don't need to understand the technical features but the usage possibilities of different technologies.
- price elasticity will be low for high-spending segments (Professional Climbers) and very high for MTV guys.

On top of that, all the different lifestyles' segments have the following characteristics in common:

- nomadism in the approach to technological innovation: 'Y-gens' go where value lies;
- similar attitudes towards technologies and their consequences on lifestyles: 'Y-gens' consider interaction and interoperability as pre-conditions for their adoption;
- looking for companies able to moderate complexity and define standards for interoperability among future ubiquitous technologies;

- 'Y-gens' are modern prosumers who pretend to use technologies able to keep them at the centre of their world of values;
- as the psychologist Mannheim (1986) states, it is not age that assembles members into the same generation, but the same value drivers to approach the world, evaluating life goals, accepting social evolution. Y-erless Generation shares ideas, like the importance of personalization, 'my own utility', the ethical value of 'sharing', the importance of 'social acceptance', 'open-source', 'the reputable group of referees', etc.
- they are trend establishers, with a way of life that influences the society in general.

4. A Generational Approach

In 'Growing up digital' Don Tapscott talks about the NetGeneration, eighty-eight million offspring produced by 85 million baby boomers.

NetGeneration guys have eclipsed their parents in size and impact, the youngest of these kids are still in their early adolescence, and the eldest are just turning twenty (Tapscott 1999). What makes this generation different from the previous ones is not just its demographic trait, but it is the first one to grow up surrounded by digital media. Computers and other digital technologies, such as digital cameras, are common place to NetGeneration members. They work with them at home, in school, and they use them for entertainment. Increasingly these technologies are connected to the Internet, an expanding web of networks which is attracting a million new users monthly.

Tapscott's work on the Net-generation provides a theoretical ground for our research, because it was very important for the evolution of lifestyle's theory, although he always speaks about a group of people, principally young North-Americans with only echoes in Europe and in Japan. Furthermore, he talks mainly of Internet heavy users, indeed a considerable number of guys, but always a techno-fun segment with respect to the whole population market. Tapscott's NetGeneration is not a generation in itself, it had a social interest but not social impact. By social impact we intend actively driven changes in the society as a 'whole'. The Y-erless Generation has an impact not only on its members but on every member of the society affected by such values.

While using technologies, today people modify the way they perceive themselves in relation with others, social aggregation drivers are altered, hierarchical models are re-shaped (Axelrod, 2001). In our frameset of Y-erless Generation we move the analysis in a globalised frameset and we need to demonstrate the worldwide 'focus change' from specific segments to a solid generation.

When we think of one generation -and not only of segments- we consider a largely accepted set of values useful to evaluate life, drive consumptions and take ethical decisions. Analysing segments and clusters of Y-erless Generation we observed the phenomenon of technology social acceptance, not exclusive of some segments, but common to all three and without geographical or demographic limitations. We are unable to identify differences in the use of technologies but only differences in the means of usage. If the Tapscott's NetGeneration was climbing in different ways in different countries with asynchronous timings, the Y-erless Generation is fully living the convergence between mobile

telecommunications and the Internet everywhere in the world, at the same time, with powerful analogies. From Canada, to Japan and Sweden, people feel, with a degree of certainty, that their future will be high-tech established. The Y-erless Generation is a 'cross generation' in terms of geography and group age. Technological influence is a distributed value and not a characteristic of specific groups of people (Dainesi, 2001). Tapscott's Generation -at the opposite- was unfolded from common 'social' values, for all people outside the specific groups. High-tech values were common only among garage boys (high-tech nerds) in primitive Silicon Valley start-ups' experiences.

The Y-erless Generation evolves simultaneously everywhere in the world, streamlining the idea that the future can be only hi-tech driven. At the same time and everywhere, Internet, wireless platforms and other techs are converging with very similar rhythms among USA, Europe, Japan, and also Canada, Asia, Mexico, Muslim countries, Africa (poorest growing economies could replicate the model soon).

5. The New Wireless Market Players (The Supply Side)

At the beginning of this paper some drivers of strategic change for market players have been identified, with special emphasis on a 'beyond 3G' framework: mobility and pervasivity issues, combined with an emerging new digital divide challenge the capacity of the wireless industry firms to provide innovative answers and, at the same time, disclose broader possibilities for managing customer relationships and delivering more value than competitors.

For marketing managers it means thinking new ways to offer products and services (Lambin, Brondoni, 2001), leveraging on mobility and ubiquity features and setting up a radical change in their relationship with customers. The focus will be on usage, information relevance, utility of advice, personalization and matching of offers.

The strategic answer of the wireless industry players will result from the overall scenario, demand-side radical changes outlined above and of the corresponding evolving structure in the value chain/value system of the business itself. Innovative firms will seek to act as first movers in the value chain area, which provides better opportunities for value creation. At the moment, it is possible to identify three main categories of players in the business value chain: content providers, mobilemediaries and communication services providers. Mobilemediary is a new kind of market actor who provides both content and context, personalising and tailoring services for different customers' lifestyles. Mobilemediaries are in the middle of the battlefield between content producers and 'communication service providers' (mobile operators and handsets manufacturer). We aim at analysing in detail the three roles and respective synergies, proposing to consider as communication service providers not only traditional network operators (Vodafone, Orange, SFR, etc.) but also device manufacturers (Nokia, Ericsson, J-Phone etc.). Device manufacturers are relevant players together with communication service providers because they possess the customer experience, a key competitive knowledge driver. Dominating players in the actual environment are represented by those who have direct access to the customer: in fact this involves being at the heart of customer knowledge, managing customer

relationships and exploiting their inherent knowledge and economic opportunities better. This consideration is valid both for the wireless industry value system and for any other type of industry in the actual customer-oriented economy.

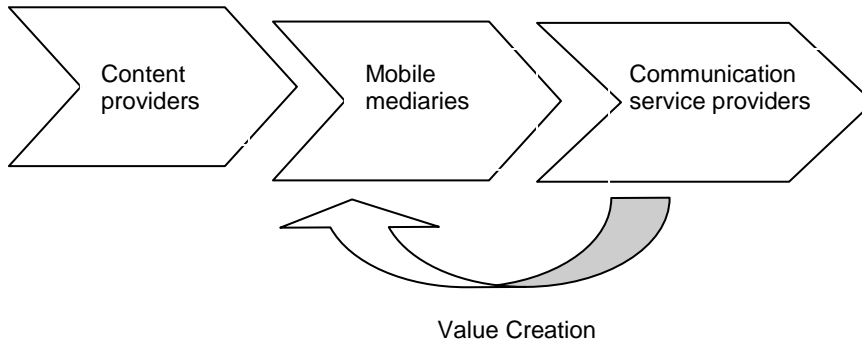
Customer-centred approaches adopted by communication services providers in a framework of multiplying services, functionalities and technologies gave rise to the 'all-in-one' strategy.

Both manufacturers and operators (communication service providers) also begin to share the cake of the best gizmo in the hands of customers, designing proprietary environments (especially for data services), betting on usability models and collecting surveys and surveys on mobile customer experiences.

Actually, communication service providers set the relationship with customers in a privileged way and on this ground they shape strategic relationships with other market players. They thus own this first wave of the mobile Internet and are fighting for the right to be the favourite player with whom customer will interact in the future. A core issue for the new scenario is to define how information on customers will be stored and managed for the next personalized offer to the Y-erless Generation.

On the contrary, in a 'beyond 3G' scenario, a knowledge economy, shaped by contents hyper-production, could place the activity of mobilemediaries, capable of filtering the needed amount of information, contents, etc. and producing personalised offers to be channeled to communication services providers, in the core of the value creation processes.

Figure 1: *Market Players and Value Creation Beyond 3G*



In the future, mobilemediaries could be the most important players on the battleground, offering to customers the real value of the business: the role of a partner in selecting and sorting customer's information.

In the wireless world, information flows follow potentially the user everywhere and at any time, thus raising the question of adequate filters to such an information flow and of priority schedules in distributing information to each single user (personalisation of info flows), both to the single user culture and personal value system, accordingly.

Market players possessing such capabilities will dominate tomorrow's competitive arena: they will be depositaries of a one-to-one marketing intelligence, pioneered by Don Peppers and Marta Rogers (Peppers and Rogers 1993).

Communication service providers (both network operators and handsets manufacturers) will try to manage these transitions by maintaining their central role in the value creation processes. The question is whether their actual business

models, organisational routines and cognitive systems will enable them to re-invent themselves, radically.

Mobilemediaries will try to lead the way by offering their capabilities to standardize differences among devices and usability features and to simplify approaches to high-tech computing and communication systems. Here follows an innovative approach, presenting how mobilemediaries could filter information for customers contextually, playing a much more sophisticated and strategic role, amidst the game of content providers and communication service providers.

On the Internet, customers can be reached only when they are sitting at their PCs browsing the web. In the ubiquitous communication network, help is provided 24 hours a day, seven days a week, anywhere on the planet, in their car, at the mall, on the airplane, at the sport arena. Consumers will be constantly enveloped in a digital environment, a personal digital bubble. Furthermore, the phenomenon extends well beyond personal devices. Car makers, shopping mall operators, plane manufacturers, retailers, hotspots airport officials, all have plans on the drawing board, or under way, to provide internet access to their customers. On the Internet, firms focus on price conscious comparison shoppers, in the ubiquitous communication network the target is anyone who will spend money to save time.

And so on. Mobilemediaries are called to be information traders for customer expectations (Kollock, 1999).

Their role will be very important due to the content providers approach, Internet like a browsing based and mobile operators approach (also manufacturer one), WAP like and once more 'browsing based'. On the other side, they will be customer driven based, in the sense that there will be no transposition of browsing flow experience on wireless, but rather on all computing platforms (domotics, automotive, etc.). They allow the setting of different framesets, depending on where the customer is, what he is doing, when, how he lives at the time - in a word, depending on the circumstances.

6. Contextual Marketing, an Innovative Potential Managerial Tool for the Wireless World (The Strategic Marketing Side)

The communications and IT industry have been recently subject to a general downturn. Many dot.com companies have gone out of business and the process has not come to an end yet. As sales and profits have been lower than expected, even the largest telecommunication companies have had to re-structure their operations. We are experiencing market turbulence, making profits is much more difficult because both traditional marketing mix variables and management theories (especially financial theories) are facing huge losses in performances and appealing. Market leaders understand that marketing principles are more and more affected by new dimensions -not only product, price, place, promotion- but also context, socialization, information symmetry, self perception of the individual.

The model we propose aims at the long term profitability of firms grounded on a deep understanding of the generational evolution of customers' purchase and choice models.

'From content to context' could be the claim of 'Y-erless generation new firms' who are willing to satisfy different fruition models (depending on technologies used) of different customers. To do so, personalization and collection of personal

data from customers -and information flows personalisation- will be of critical importance. Moreover, knowledge management techniques for managing such data accurately, will lead the way.

Contextual marketing (Kenny and Marshall, 2000) is the process marketers can engage with customers during the buying and consumption experience by presenting customers with information and offers that are relevant to their needs and situation, and are seamlessly interwoven with the customers' activity sequence.

Contextual marketing suggests us to drive the customer relationship from interruption to facilitation, shifting from context-insensitive to context-aware offers, from just-in-case to just-in-time promotional messages. Customers will only admit the most relevant messages into their lives.

Traditionally, firms have thought of their markets in terms of products and services. This is a seller-centric view of markets. It involves finding customers for products. To discover elements of leverage, firms need to think of their customers in terms of their activities and workflow. This is a customer-centric view of markets, as it involves finding products for customers.

In the high-tech economy marketing, tools are based on relevance of information, context of usage, personal utility, personalization of content, facilitation and matching of lifestyles with commercial offers. Customers need to interact with innovative firms, in continuous occasions of simplification and amplification of life being and life styles. Firms that use these new drivers will be considered 'partners' by the customers.

According to our model, firms are 'transitory partners' –the right service in the right context- for 'high value customers' and the strategy scenario is win-win. To do so, firms have to respond to who the customer is, where he is, what he is doing, what is around him, what he is trying to do, where he is coming from, where he wants to go. This involves a contextual approach to the relationship.

Potential advantages are in deeper relations, efficient targeting, value focus and timeliness, 'premium price'.

In an age of information abundance, market players redefine the matrix of interaction and substitute old drivers with new ones (Table 1).

Table 1: *Strategic Drivers from Industrial to Information Age*

Industrial Age	Information Age
<ul style="list-style-type: none"> • Information was scarce • Customers were ill-informed • Exchanges were monologues • Marketers were used to be in control • Marketing as 'interruption' • Market as jungle • Customers as targets • Marketers as hunters • Segmentation as rifle or shotgun • Products as mousetraps • Promotions as campaigns • Relationships as conquests and 	<ul style="list-style-type: none"> • Information is ubiquitous • Customers are full informed • Exchanges are dialogues • Customers manage the relationship • Marketing as 'facilitation' • Market is the garden to take care of • Customers as gardeners like us • Marketers as gardeners like them • Lifestyle as temperature to live in • Products are fruits • Profits are acknowledgments • Relationships as sympathy

acquisitions	
• Customer visits as eyeballs and traffic	• Customer visits as training

This argument is very important in the wireless competitive arena. If WAP was considered a poor version of browsing information and registration processes on wireless were tricky, the next 3G environment must be considered contextual for the customer base.

□ *In Japan (80 million handsets market with 57% of penetration) Wireless carrier NTT DoCoMo (58% market share, 42 million customers) has signed up a staggering 10 million customers for its i-mode service over the 1999 kick-off of the service. Most of the Japanese customers are post-paid users and they don't use SIM cards like in Italy. I-mode offers subscribers wireless access to restaurant locators, ski-condition reports, hotel reservation systems, online auctions and thousands of other services. Some of this information is already available on the World Wide Web, but with i-mode, consumers can tee up the information they want when they want it, not just when they are sitting at their PCs. Japanese consumer marketers are taking advantage of this situation –there are more than 10.000 i-mode sites.*

Contextual marketing enables advertisers to target consumers with customized messages. Consumers can request targeted and timely information by simply pointing their wireless device to a designated terminal or sending a message to the operator. Information is transmitted by a small infrared broadcasting device –or on the air- beamed to all compatible devices within a given range. This can just be done for wireless application protocol [WAP]-enabled cell phones, pocket PCs, personal digital assistants [PDAs], and other Palm OS-based devices (Rheingold, 1993). Other popular ideas include receiving retail promotions, catalogues, and coupons. Find the nearest stores, check out flight schedules or real estate listings, find out movie times, get pricing and product information about advertisements on billboards and kiosk displays at trade shows.

Contextual marketing offers to advertising policies unique advantages. First and foremost, the wireless service is free to consumers, although payment might be occasionally required in the future for rich content. The technology leverages the existing infrared ports found on most PDAs –or SMS and MMS explosive phenomenon- and users do not have to invest in new hardware or software or even incur subscription fees.

□ *North America is projected to be a strong market for all types of hand-held wireless devices in the next few years. U.S. sales of PDAs reached 6.1 million units in 2000 according to the Consumer Electronics Association. Sales for 2001 are expected to grow another 57% to a total of 9.6 million units and some analysts (The Yankee Group, Durlacher) projects even higher numbers; 26.6 millions in 2003.*

In Italy there are interesting market growth opportunities. In 2005 we expect 1billion Euros spending on the advertising market for wireless applications (7% of total adv spending) with a CAGR (compounded

annual growth rate) of +249%. Investments switch from other advertising markets (TV, newspapers, billboards, ecc.) will be for 40%, new investments for push coupons and taglines on 2.5G networks for 60%. Opt-in user base incremental ARPU (Average Revenues per User) will be 0.9 Euros in 2003-04. In the same period market revenues will be 18bn Euros for operators and 10bn Euros for advertisers. Domotics and automotive markets are not taken into account.

Mobile operators need some pre-requisites for the business 'take off':

- opt-in and profiled customer base;
- data collection of new 'sensitive' information;
- mobilemediaries platforms for advertising investors;
- matching engine between customers data and commercial offerings;
- location based services availability;
- immediate reward for customers;
- lead time for m-commerce reduced for investors;
- user privacy rewarded (premium services);
- value chain second reconfiguration after the Internet first wave.

That means possible new roles among network operators, mobilemediaries, advertising companies (marketers), content providers, etc.

Contextual marketing will enable bricks-and-mortar firms to convert physical customers traffic into digital relationships and incremental revenues, enabling to use their physical access to customers to deliver precisely targeted messages.

□ *In Sweden, parking garages accept payments from digital wallets of Sonera cell phones. In Italy the same occurs with Omnipay service from Vodafone-Omnitel for vending machines payments, public travel services and Parkings. Embedded in the digital wallets, there are significant information about garage customers, including their names, mobile phone numbers, email addresses and how often they park. Garage owners can use the data to turn frequent visitors into opt-in monthly customers and to engage in dynamic pricing, charging more when the garage is nearly full and less when business is low.*

The automobile market may represent another business opportunity for contextual marketing. Automotive business world is the first to experiment the idea that cabinets could become high-tech dash-boards for information trading towards customers. Needs and willingness can be reached on time, in a contextual environment (no best situation than the driving one) and with the idea that a two way interaction can be achieved through the medium, which is the future concept car (Dainesi, 2002).

Today, a lot of managers of innovative corporations are gadgets enthusiastic, using gizmos that make driving safer, more interesting and convenient.

□ *Visteon is an American sw provider for car kodens (high-tech gadgets), which recently spun off from the Ford Motor Co. Its product, namely 'The Portable NavMate', is a mobile navigational system that drivers can move from vehicle to vehicle, as opposed to systems built*

into the car. The NavMate comes in a small carrying case that houses everything that is needed for ease of transfer.

Installation takes just minutes and the system, complete with a dash, mounted display unit that offers turn by turn navigation assistance, works equally well in a Lexus as it will in a 1970 VW Beetle. The Portable NavMate will be available in 2003 and will sell in the \$1,800 range. Other two Visteon's entertainment systems are for sport utility vehicles, fixed on the inside roof of the car, between and behind the driver and passenger seats. The other one is mounted on the floor between the driver and passenger seat. Each shows videos or Nintendo games on a 6 1/2 inch screen. To keep things quiet, the kids can tune into the movie or video games by wearing wireless headphones that mute the sound. The roof unit retail price is about \$1,849, while the floor one goes for \$1,499.

Finally, consider companies like Shell, Esso and Agip. They would pay a million euros to know sensible data related to travellers; how much gas is left in a car's tank, for example. Retailers and refueling would pay to know when a vehicle is passing nearby. Mechanics would pay for access to Fiat vehicle's service history. By re-conceiving the car as an informative device, all these firms dramatically increase the amount of value to capture from each vehicle, while providing services that tie car owners closer to the company.

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Notes

¹ The acronym 'Y-erless Generation' was coined in Novembre 2001 by Lele Dainesi on the magazine Web Marketing Tools.

² The 'Wireless World Research Forum' has the objective to formulate visions on strategic future research directions in the wireless field, among industry and academia, and to generate, identify, and promote research areas and technical trends for mobile and wireless system technologies. It is intended to constructively contribute to the work done within the UMTS Forum, ETSI, 3GPP, IETF, ITU, and other relevant bodies regarding commercial and standardisation issues derived from the research work.

³ Everyday someone is considered a new 'guru' in the community and that's why people pretend to use technologies able to keep them at the centre of their world of values. Gurus are modern Alvin Toffler's 'prosumers', (Toffler 1980), consumers and producers of products and information at the same time. In Toffler's view -10 years before the Web was invented- the future would combine production with consumption. He described a world where interconnected users would collaboratively share opinions and tricks on products. The idea of a co-discussion with consumers on technologies innovations will be the big challenge for high-tech firms future.

⁴ The term MTV guys was coined by Howard Rheingold in 2000, during a conversation within the virtual community The Brainstorms Community: <http://www.rheingold.com/community.html>. The term has been used in his last work, Smart Mobs.

⁵ In these years we are facing a sort of 'swiss knife strategy', where innovative corporations try to integrate different digital functionalities 'all-in-one'. What is becoming clear is that in the same way as the PC was the focus for development of Web based services, communications devices (complete with audio player, camera, and communications chipset), will provide the focus for the next generation of services, personal entertainment and communication, in areas of corporate productivity and personal digital entertainment. Different applications could converge into a single 'gizmo' which could change our approach to information usage (Frauenfelder, 2002).