

Innovative Entertainment Services in the Portuguese Mobile Communications Sector – the Examples of MobiComp and YDreams

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Abstract:

We are presently at a turning point in mobile communications – the third generation ('3G' or UMTS) is imminent. The implications of UMTS for the Portuguese multimedia entertainment sector could be particularly relevant - mobile communications in Portugal have a penetration rate above the European average. Portugal is already a laboratory for testing new products and services in the mobile entertainment sector, because of this large penetration rate and because of the small size of the market. Several Portuguese enterprises have already been successful, locally and internationally, in mobile entertainment services for the '2.5G' GPRS generation. The paper analyses two case studies, and their innovative entertainment services and business models. The theoretical framework for the analysis is economics of innovation in services. The two enterprises, MobiComp and YDreams, are presented – they were founded in 2000 and are focused on mobile computing services; they were already responsible for several international innovations in the field of mobile entertainment services, which have attracted the attention of main international players. These innovative services are discussed. The similarities between the two enterprises are analysed - both have university links, and have similar dynamics of innovation in several areas. Their distinctions are also studied - they are from different regions in Portugal and have different business perspectives and cultures. Finally, a model for the innovation in the mobile entertainment services sector is presented, based on the two case studies.

Keywords:

Entertainment, Media; Information and Internet Services, Computer Software; Telecommunications; Technological Change; Innovation and Invention; Management of Technological Innovation and R&D.

Introduction

The third generation of mobile communications will be commercialized in Portugal on the 1st of July 2004. Meanwhile, 'generation 2.5' or GPRS technology is being adopted by an increasing number of users. This technology already allows the implementation of multimedia services, opening a new channel to interactive entertainment producers. Technology is evolving fast, but, for the mobile sector as well as for other multimedia platforms, 'it is the creation of innovative multimedia services and concepts that is the driving force behind the multimedia market'. (den Hertog & Schaffers 1996, p. 1). Within these services,

content, in particular entertainment content, could be an important factor of success – ‘interactive content is the element of the multimedia value chain with greatest value added and is expected to drive multimedia growth’ (Kinder & Molina 1999, p. 285). The theoretical framework the economics of innovation in services will, therefore, be useful to analyse innovation in the mobile entertainment sector.

In order to study innovation in Portuguese entertainment services for mobile communications, it is necessary to characterize the diffusion of mobile phones in Portugal and the diffusion of other multimedia entertainment platforms. After that contextualization, two case studies, MobiComp and YDreams are presented, based on interviews taken place between May 2003 and January 2004. These two case studies are then compared and analysed. The paper concludes with a model that represents innovation in entertainment services within the Portuguese mobile communications sector.

Multimedia entertainment platforms in Portugal

Internet

The diffusion of the use of Internet depends on a number of factors, such as the penetration rate of IT equipment; the quality and diffusion of the communications infrastructure; and the information technology culture. Portugal is situated below the 15 OECD countries with the highest rates of investment in ICT (Information and Communication Technologies), as can be observed in Figures 1 and 2. Although this rate has increased between 1990 and 2001, the comparative situation of Portugal with the remaining OECD countries has aggravated in this period. This loss of territory regarding the investment in ICT in Portugal compared to the main OECD countries helps to understand the comparison figures in terms of Internet access, currently the main platform of distribution of multimedia entertainment contents and services.

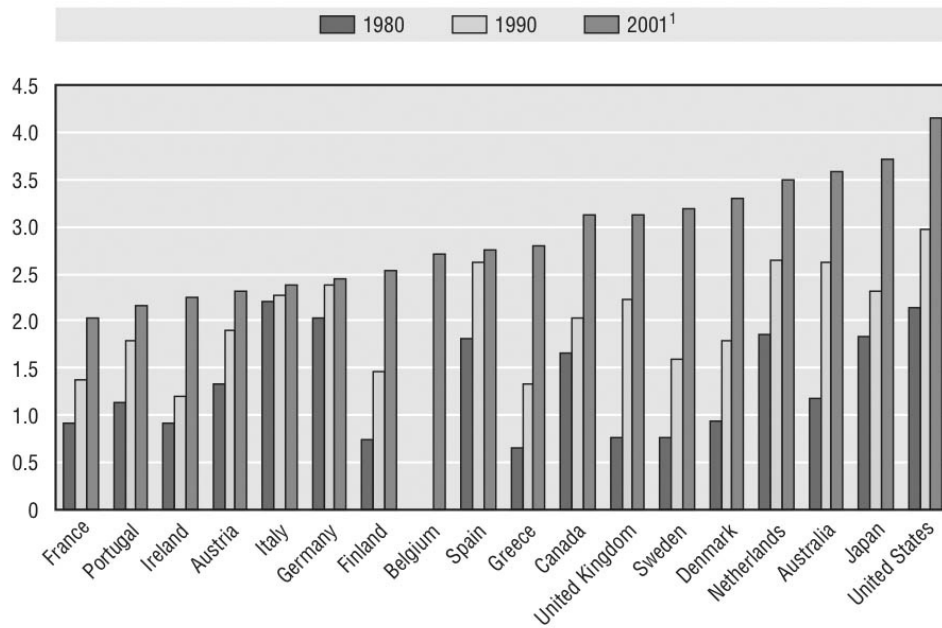


Figure 1: Percentage of investment in ITC in total GDP

(¹ or latest available year) Source: OECD 2003a, p. 37.

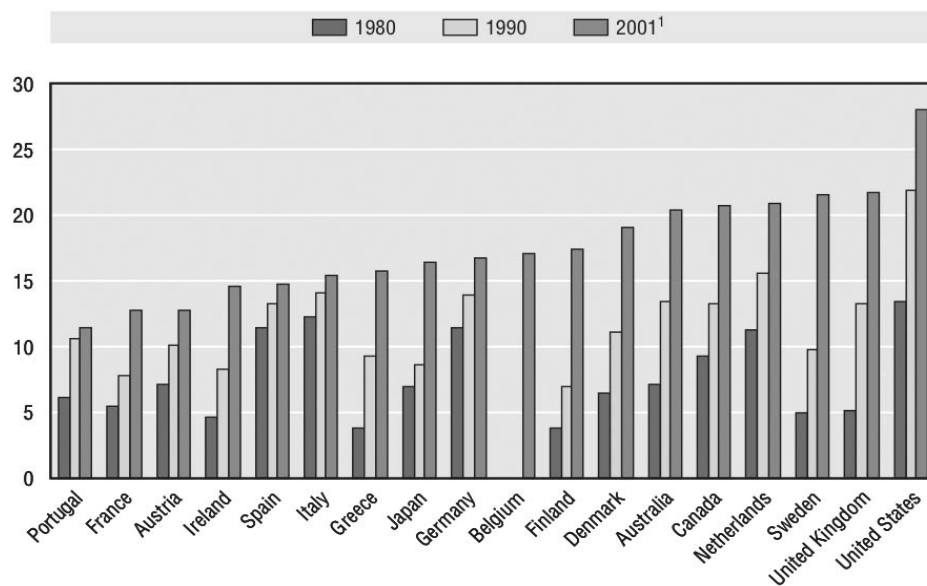


Figure 2: ITC investment in selected OECD countries

(as a percentage of non-residential gross fixed capital formation, total economy) (¹ or latest available year) Source: OECD 2003a, p. 37.

Portugal is below the OECD average in terms of Internet access in general terms (Figure 3) and in broadband (Figure 4) – less than 20% of the Portuguese population had access to the Internet in December 2001, and less than 2% had access to broadband in June 2002. More recent data, relative to the third quarter of 2003, reveal that 63% of the Portuguese population has access to Internet; broadband, however, is accessible to only 4% of the population (Anacom 2003).

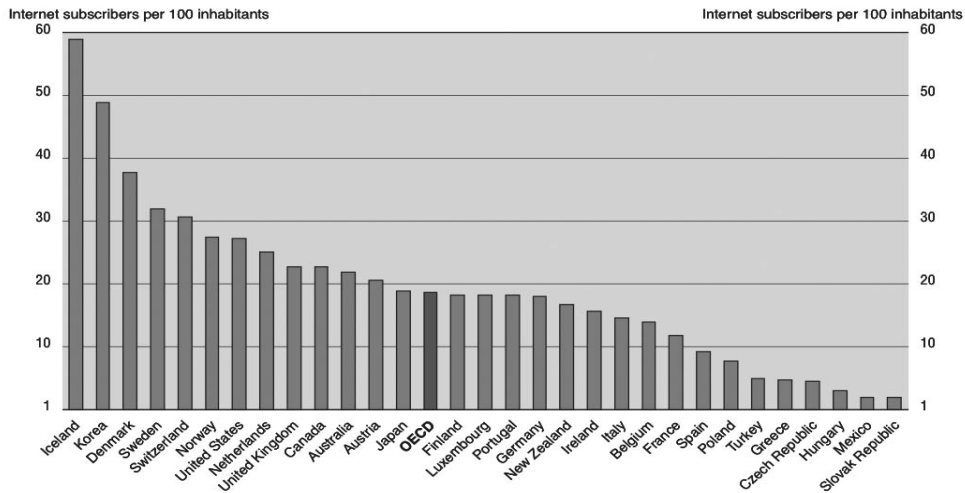


Figure 3: Internet subscribers per 100 inhabitants, December 2001 - Source: OECD 2003b, p. 121.

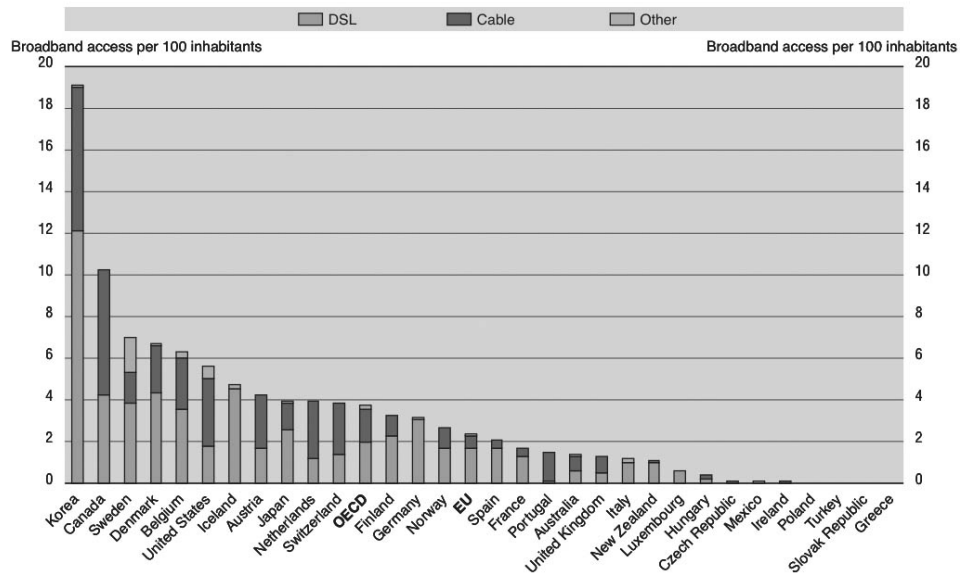


Figure 4: Broadband access per 100 inhabitants, June 2002 Source: OECD 2003b, p. 123.

If in terms of Internet access the Portuguese situation presents some frailties, the presence of Portuguese contents on the Web tells an even darker story, in comparative terms. In what concerns the production of content for the Internet, measured by the number of Web pages for each one thousand inhabitants (Figure 5), Portugal is situated among the five OECD countries with worse results (less than 5 Web pages for each one thousand inhabitants).

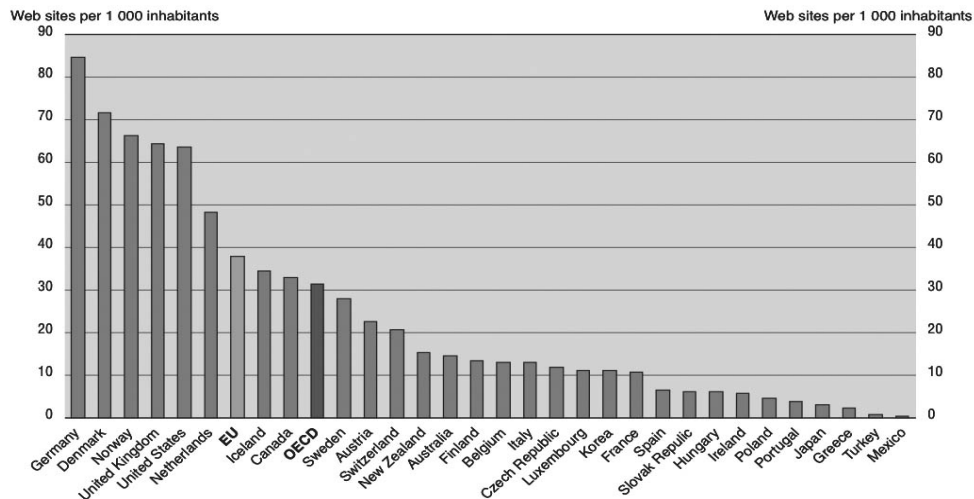


Figure 5: Web sites per 1 000 inhabitants, July 2002 - Source: OECD 2003b, p. 126.

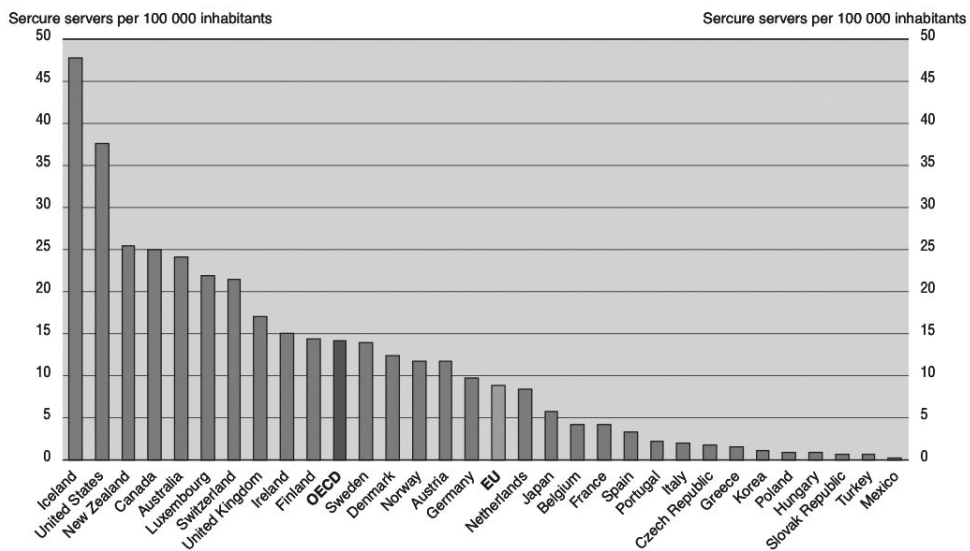


Figure 6: Secure servers per 100 000 inhabitants, July 2002 - Source: OECD 2003b, p. 127.

The use of electronic commerce is also very scarce in Portugal. The diffusion rate of electronic commerce in Portugal, measured by the number of secure servers, is one of the ten lowest in the OECD (Figure 6).

Therefore, there is in Portugal a scenery of low investment in ICT, that limits the infrastructure and the Internet access, factors that also limit the creation of Web contents and the creation of business models based on electronic payments by consumers (using secure servers).

Interactive TV

After a promising start in 2001, with an agreement between Microsoft and Portuguese cable operator TV Cabo (owned by Portugal Telecom - PT), digital interactive television suffered two severe setbacks between 2002 and 2003 – the penetration rate of interactive TV was far behind its objectives and the TDT (Terrestrial Digital Television) is in a limbo after the cancellation of the licenses attributed in 2001. These setbacks will have negative consequences in the entertainment services development sector for interactive TV.

Mobile phones

If in terms of Internet access, Portugal is below the OECD average, in terms of mobile phone use Portugal is above the OECD average and the UE average (Figure 7). In 2001, almost 80% of the Portuguese population were mobile phone users, which put Portugal in the group of 10 OECD countries with the highest penetration rate of mobile communications. Portugal is equally among the ten OECD countries with the highest weight of mobile communications revenues in global communication revenues – more than 45% in 2001. In the third quarter of 2003, Portugal was one of the ten countries above the EU average in terms of mobile communications penetration – 86% (the European average being 83%) (Anacom 2003).

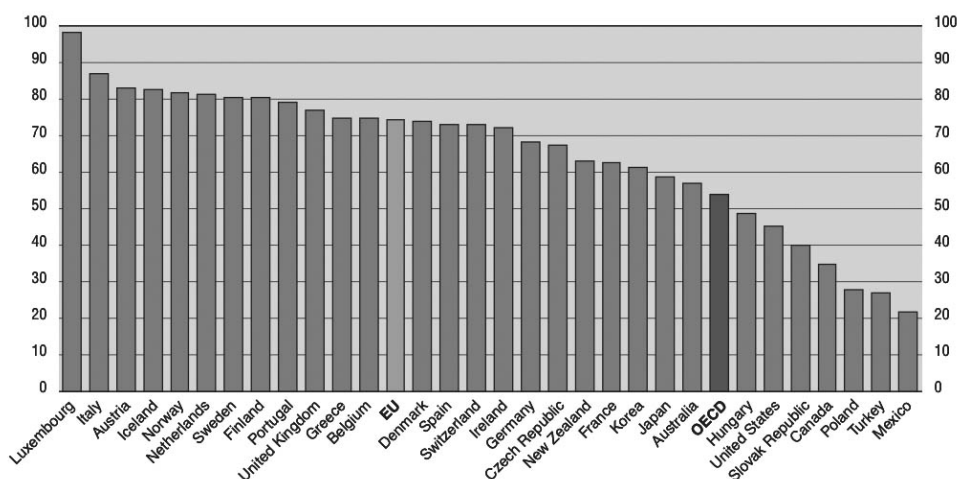


Figure 7: Cellular mobile subscribers per 100 inhabitants, 2001 - Source: OECD 2003b, p. 90.

This framework of a high penetration rate of mobile communications and high weight of mobile communication revenues in total telecommunications revenues creates a favourable environment for the diffusion of entertainment contents and services through mobile phones in Portugal. The first steps were taken in 2002, with the availability of the first GPRS ('generation 2.5') services, based on MMS (Multimedia Messaging Service). Portugal was the first country in the world to allow MMS between the networks of the different national operators, in February 2003 (Público – Computadores 2003). Afterwards, several multimedia services for mobile platforms were launched in Portugal, some developed on purpose for GPRS, others expanding the functionalities of older services, developed initially for GSM ('generation 2') WAP technology. However, Portugal's communications regulator, Anacom, has not yet published data about GPRS data traffic, which makes it impossible to quantify the volume of services or profits generated. The commercial launch of UMTS ('generation 3') in Portugal on the 1st of July 2004, can, through the increase in bandwidth, constitute a milestone in the access to multimedia entertainment by mobile phones.

The case studies: MobiComp and YDreams

MobiComp

MobiComp was created in 2000 in Braga, a city located in the region of Minho in the north of Portugal, with the purpose of creating solutions for mobile platforms. The MobiComp project started in the Summer of 1999 and the firm was formally created in June 2000, some months before executive director Carlos Oliveira finished his course (in Universidade do Minho, which has a strong tradition in IT).

Two ideas have been present since the origins of MobiComp: to create innovative solutions and internationalization. On one hand, MobiComp has the aim of introducing something new in each solution it creates, because it believes it will become a distinctive factor. On the other hand, it considers that Portugal as a market is too small for its ambitions, and that the sector where it is rooted allows for an adaptation of solutions to other markets.

MobiComp started by developing business solutions for PDAs. One of its first products won a main innovation prize in the Portuguese IT industry (ANETIE) in its first year – 2000. By the end of 2000, Lusomundo, Portugal's largest cinema distributor (and one of its main media groups, later bought by PT) launches its WAP ticket service, which allows the user not only to buy tickets but also to choose the seat in movie theatres. This service uses MobiComp's AMI (Adaptive Mobile Interface) technology, which allows the adaptation of the format, presentation and navigation of the contents to any mobile device that is used – the contents are optimised for the identified device. The inclusion of the seat choosing functionality was a initiative of MobiComp, and the client was pleasantly surprised. This was the first Portuguese m-commerce service.

In 2001, TMN (a subsidiary of PT for mobile communications) launched the Internet and WAP portal MyTMN, developed by MobiComp. In 2002, MobiComp develops for TMN MMS-based services, namely a goal information service related to the World Football Championship. MobiComp was one of the first companies in the world to conceive a MMS-based service.

In 2003, TMN launched its GPRS portal, called 'i9' (read 'innovate' in Portuguese), an evolution of MyTMN. MobiComp again develops several services included with this portal. For example, all MMS-based content services; pre-written MMS easy messaging; a service that allows sending a traditional postcard with an MMS; and all premium contents billing. The Lusomundo mobile ticket service was integrated by MobiComp in the i9 portal, and now also provides movie trailers. MobiComp developed content management and billing software for i9 that allows content providers to create MMS services.

MobiComp is also working with Portugal's biggest private bank, Millenium BCP, on its mobile banking solutions. It is also developing services for mobile operators, namely 'Mobile Keeper', which allows the user to store its data in the operator, avoiding the loss of information. MobiComp is preparing its internationalization, based on local partnerships. An office in Spain was the first step in this direction.

YDreams

YDreams was created in June 2000. YDreams' CEO is António Câmara, who had his PhD from Virginia Tec, USA. After his PhD, he returned to Portugal, to teach in Lisbon's Universidade Nova, and worked in several environment and geographical information systems projects. António Câmara and four other Universidade Nova researchers wanted to create an IT laboratory similar to the MIT MediaLab (where some of them had worked), but concluded that this kind of structure would be difficult to set up in Portugal, due to the lack of corporate/university ties. YDreams was created in Universidade Nova's Technology Park, not as a university laboratory, but as a private firm. The location allows the creation of synergies between Universidade Nova and YDreams, in terms of investigation and work force (both University students and teachers work at YDreams).

YDreams' mission is to give life to the mobile lifestyle, developing innovative interactive applications, services and entertainment. In the beginning of its activity, YDreams was contacted by Portuguese mobile operator Telecel (now Vodafone) to create a map channel to its Web/WAP/PDA portal. This map channel was a success, and was given by Motorola its highest rating – Motorola considered it 'superb'. The company has two main business areas – Mobile Location-Based Applications and Entertainment/Image Processing. In terms of mobile services, YDreams has the advantage of employing experts who have studied applications for wireless communications at least since 1993. Additionally, YDreams has state-of-the art technology for real time image processing in mobile phones.

In 2001, YDreams developed a WAP portal for the Seville trade show 'Feria de Sevilla', enabling visitors to find stands and people, which proved to be a success. Since 2001, YDreams has been working with the Portuguese National Water Institute to provide a mobile information service about the water quality in Portuguese beaches, first in GSM WAP and recently in GPRS. Users can also access the information online or through SMS. Regarding location based services, YDreams has developed several applications for the Dutch Agricultural Ministry and Lisbon City Hall.

In 2002, YDreams started commercializing games for mobile phones. The company has a distribution deal with Vodafone Portugal, which can be extended to other Vodafone branches; a deal with Portuguese operator Optimus; a distribution deal with a network that is present in 60 countries; a deal with Germany's biggest games portal; and a deal with one of China's biggest mobile operators, China Unicom. The business model for mobile phones gaming is based on a 50/50 split between operator and game producer. YDreams implemented a new business model, with a innovative billing system based on SMS, issued by each time the game is played. These SMS are billed to the customer, who is not aware that SMS are being sent.

In 2003, YDreams created YLabs, in charge of the R&D side of the company, and of making the connection with Universidade Nova. YLabs projects are funded by different entities, like the European Union and Portugal's Agência de Inovação (Innovation Agency). YLabs created several installations, demos and participated in a theatre play. YDreams is collaborating with several hardware manufacturers (Alcatel and Nokia, for instance) to prepare demos and services for UMTS.

YDreams also created Web-based services (for example, the reality show 'Big Brother' Web forum for Portuguese Channel TVI and Endemol) and Interactive TV services (namely, a game room for TV Cabo Portugal). YDreams also participates in less traditional projects, like a project for European Space Agency that involves creating suits for civil protection and firemen with an integrated communications system.

YDreams is expanding its international network, and plans to create a branch in the US – because of the connections its management has there, and also because of the potential of the North American market. Brazil is another strategic market for YDreams, and a branch is being opened there, with several projects in the pipeline (for instance, contents for Brazil's largest mobile operators).

Comparison

Both MobiComp and YDreams were founded in 2000 and both have university ties; the former to Universidade do Minho and the latter to Universidade Nova. MobiComp's university links are weaker and function essentially as a source for qualified labour. On the other hand, YDreams' management have teaching

positions at University Nova and the company conducts R&D in conjunction with Universidade Nova – its premises are situated inside the university campus.

Although MobiComp has a mobile focus in its activity, entertainment and media is only one of its areas; the others involve banks; retail; mobile operators and professional services (its final clients are in the corporate and consumer sectors). YDreams' activity is centred on mobile entertainment services (its final clients are mostly consumers).

MobiComp is situated in Braga, in the north of Portugal – the quality of living of Braga and Universidade do Minho had an influence on the localization of the enterprise, since most of the clients of mobile-based services are located in Lisbon and Porto, Portugal's biggest cities. YDreams is located in Almada, to the south of Lisbon.

MobiComp has 14 employees; YDreams has 32. All of MobiComp's employees have a technological background. YDreams employees have a more diversified background (for example: environment, design, management); 72% have a technological background. One of MobiComp's employees has a post-graduate course. One third of YDreams employees are post-graduates.

Both enterprises grew, in number of employees, sales and profits, during a period of crises in IT and in the economy as a whole.

Innovative behaviour, innovation sources and innovation obstacles

MobiComp and YDreams consider themselves to be among the most innovative companies of their sector internationally. The innovations they introduce are mainly international innovations. The types of innovation introduced by both enterprises are diversified: new technological options, new concepts of service; new forms of interacting with costumers; use of new distribution channels; new business models. Organizational innovation is scarcer, although YDreams considers that it innovates through the use of a multi-functional custom-built Intranet.

The most important innovation source for both companies is internal and external R&D, followed by qualified labour. Contact with technological partners and information feeds are also important. YDreams puts an emphasis on the relationship with costumers. Key competences are open-mindedness, creativity and technical know-how.

The main obstacle to innovation, for both companies, is the small size of the market – even though this small size of the market is also cited as responsible for Portugal being an excellent test market. YDreams also cites the reduced dynamism of demand, the inadequate policies for the sector and the peripheric Portuguese localization as obstacles for innovation.

Innovation and knowledge management and innovation protection

Innovation and knowledge management, in a formal manner, is rare. Both companies have R&D departments (Y Labs, in the case of YDreams). Due to the small dimension of the enterprises, knowledge management is informal and often based on meetings and e-mail. YDreams makes use of its Intranet for innovation and knowledge management uses.

Neither MobiComp nor YDreams consider the registration of intellectual property important to protect innovation. The following innovation protection methods are considered very important: confidentiality; maintaining human resources; being ahead of competitors; market reputation.

Innovation and competitiveness

Both companies consider innovation to be fundamental for its competitiveness, and base their mission and strategies on innovative behaviour. Both enterprises estimate that more than two thirds of their sales result from innovative products and services.

Model for innovation in entertainment services in the Portuguese mobile communications sector

Figure 8 shows a model for innovation in mobile-based entertainment services, based on dimensions of innovation, sources of innovation and innovation environment (obstacles and incentives). The dimensions of innovation were adapted from the four dimensions of the den Hertog and Bilderbeek innovation model (cited in Mamede 2002, p. 18): new concept of service; new interface with client; new system of service (new business model) and new technological options.

The fact that the companies deal with emerging technology and platforms determines that they innovate in terms of new technological options. These new technological options, associated to the creativity of the companies, generate new business concepts – concepts that, by the interactive nature of the services, explore new forms of interface with clients. The exploration of new technologies and new concepts of service, associated to the need of profitability, can generate new business models (generally, variations of mobile commerce, or m-commerce). The key competences of both companies (open-mindedness, creativity and technical know-how – University ties having an important role in this regard) help them through the innovation process.

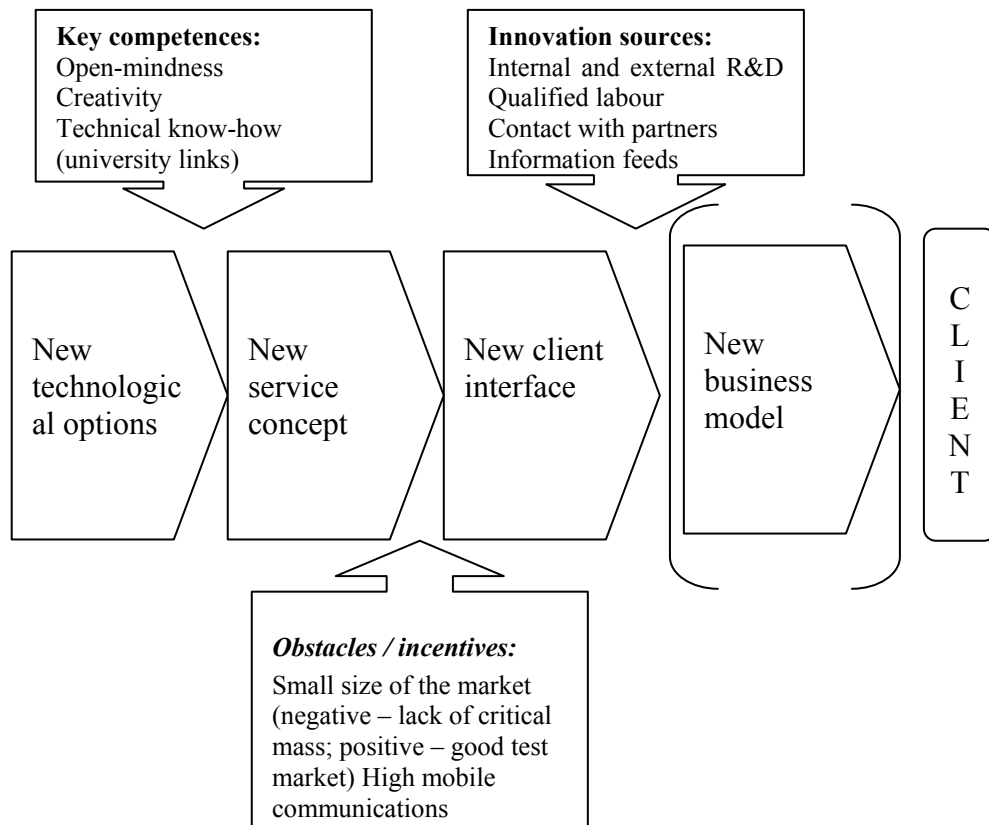


Figure 8: Model for innovation in entertainment services in the Portuguese mobile communications sector

This innovation process in mobile communications has another important incentive: the high penetration rate of mobile communications, coupled with the small size of the market, turn Portugal into a good test market. International players can establish partnerships with innovative Portuguese companies to test a service, and then leverage that experience internationally. MobiComp and YDreams are, apparently, trying to ‘ride the wave’ of internationalization, since the small size of the Portuguese market is often an obstacle to accomplish a critical mass of profitability through innovation.

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