Danish M-commerce Background

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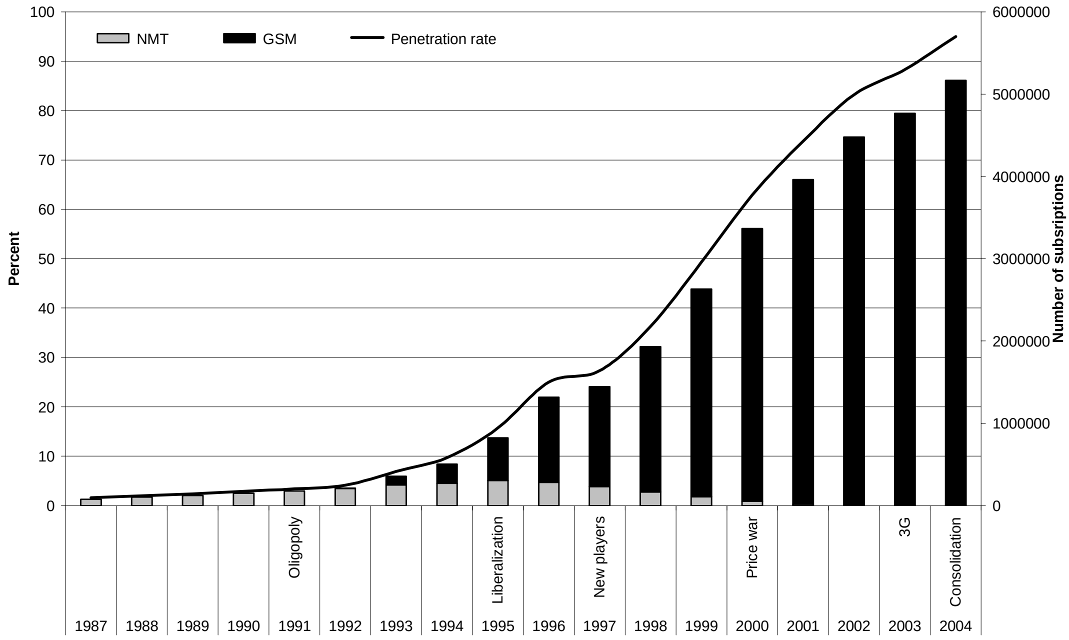
In 1981, 14700 Danes owned a mobile phone and from 1984 the analog Nordic Mobile Telephone (NMT) cellular standard had 30600 subscriptions the first year (IT- og Telestyrelsen, 1996). The Nordic firms have been among the world leaders in the mobile phone industry. As a joint effort in 1981, the Nordic telecommunication providers launched the common analogue Nordic Mobile Telephone system named NMT (Dalum, 1995). NMT penetration was at its highest in 1995 with 306001 subscriptions and this standard was dropped in 2001. The digital standard GSM entered Denmark in 1992 and grew rapidly. In 2005 approximately 95 percent of the Danes had a GSM mobile phone (National IT and Telecom Agency, 2005). Since October 2003 it has been possible to buy a 3G phone. Approximately 124000 Danes (National IT and Telecom Agency, 2005) had used the 3G standard by 2005.

Figure 1: Mobile Subscriptions in Denmark



Source : National IT and Telecom Agency (2004a; 2005)

Figure 1 illustrates the relatively steep curve of penetration rate in Denmark and underscores some of the milestones in the development of the Danish mobile sector:

- *From monopoly to oligopoly*. In 1990, the Danish Government passed the law abolishing the monopoly formerly held by the General Directorate of Posts and Telegraphs - called TDC today. In 1991, A GSM license was issued to Sonofon that in 1993 had 35000 subscribers (Sonofon, 2005).
- *Liberalization of the Danish telecommunication structure*. From 1995 to 1997 liberalization went on to secure better and cheaper telecommunication services and to improve conditions for mobile operators (Forskningsministeriet, 1995).

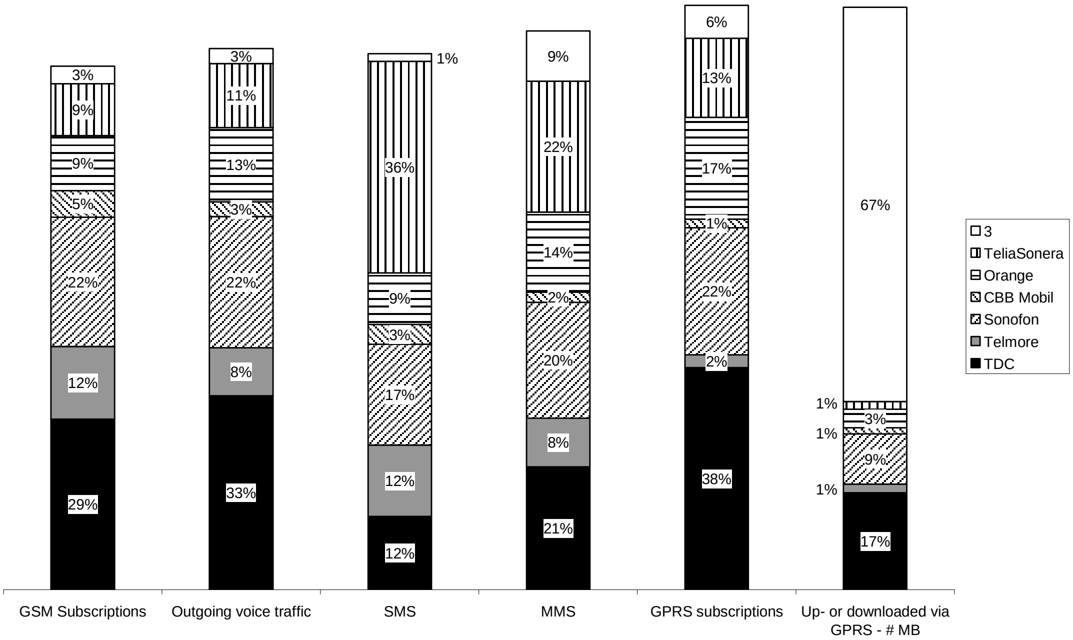
- *New players*. In 1997, two foreign wireless services providers entered the Danish market by building their own wireless telecommunication network. France Telecom established Mobilix (later renamed Orange) and Swedish Telia established Telia Mobil in Denmark. In 2000 two more mobile players,. Telmore and CBB, started operations. Telmore was a reseller of access to the TDC Mobil wireless telecommunication network and CBB used Sonofon as sub-supplier (Børsens Virksomhedsfakta, 2005). In 2005 the total number of suppliers of mobile telephony in Denmark was 15 and they together offered 85 different subscription plans (IT- og Telestyrelsen, 2005).

- *Tough price war*. During 2000-2004 the focus was on price rather than on development and sales of new value-added mobile services. Many operators and analysts describe Denmark as a “nightmare” scenario of the mobile sector - and even called the discount wave as the “Danish Illness” (Strand Consult, 2005).

- *Heading towards 3G*. Since October 2003, 3G has been possible in Denmark. It is too early to conclude on the 3G development in Denmark. Hutchison’s “3” had experienced a drop in their customer database from 124.642 subscribers in January 2005 to approximately 116.803 subscribers in June 2005. However, the other Danish actors had recognized that “3” and TDC Mobil announced that their 3G solution will be launched in October 2005 as an evolution – not a revolution. Where Hutchison’s “3” primary have had a focus on consumers that are heavy users in downloading music and news and sports, TDC Mobil will start we a focus on the business usage of email and other types business related communication and information with mobile broadband PC cards to get access to the network. Next step will focus on all TDC Mobile customers. With their existing SIM-card and a new 3G phone, they will have access to all 2G related voice, SMS, MMS and content as well as to new 3G applications. The m-portal FLY will also be the customers portal when sing 3G. Together with the launch of 3G, TDC Mobile is also reducing the prices of data transmission by half for all TDC Mobile's customers. This price reduction applies to all data transmission both in the 3G and the GSM network. The price of voice and SMS in the 3G network is the same as in the existing network (Dyrskjøt, 2005; TDC Mobil, 2005).

- *Consolidation of the industry*. The former Norwegian telecom monopoly Telenor acquired a majority stake in Sonofon in 2000 and, together with BellSouth, full control by 2004 (Sonofon, 2005). TDC Mobile bought Telmore in January 2004 (Telmore, 2004), Sonofon acquired CBB in April 2004 (CBB Mobil, 2004) and Telia Mobil took over Orange in Denmark in October 2004 (Orange, 2004). All firms continued with their previous brands and products.

Figure 2: Distribution of Market shares at the Danish Market



Source: Danish Telecom statistics - second half of 2004 (National IT and Telecom Agency, 2005)

Figure 2 illustrates that the original monopoly TDC Mobil and its acquired wireless service provider Telmore dominate the 1G voice market, followed by the original challenger Sonofon together with its acquired wireless service provider CBB. In the 2½G GPRS market, the newcomer "3" had in spite of a very low market share on GPRS subscription taken two third of the market of the actual upload and download through GPRS. It took "3" only a year to takeover that market where TDC Mobil/Telmore and Sonofon/CBB Mobil are reduced to followers. The only market where the two (now merged) foreign wireless services providers have room is in the messaging market where they dominate, especially SMS but also the MMS messaging market.

In the near future, competition in Denmark will be about the attractive massaging and GRPS data market that benefited from impressive growth rates in 2003-2004 (Table 1).

Table 1: Distribution of Growth and Penetration of the m-commerce Infrastructure in Denmark

		1G (Voice)	2G (Messaging)		2½G (Data)	
	GSM subscrip-tions	Outgoing traffic (# minutes)	SMS	MMS	GPRS subscrip-tions	Up- or downloaded via GPRS - # MB
Net Increase from 2003 to 2004	7%	20%	30%	73%	87%	87%
Pr. 100 inhabitants in December 2004	95	507	654	1,5	41	1,1

Sources: Danish Telecom statistics - second half of 2003 (National IT and Telecom Agency, 2004b) and second half of 2004 (National IT and Telecom Agency, 2005)

By 2004, intense price competition led to a 95% penetration of the Danish market and a 20% jump in airtime over the previous year. SMS increased by 30%. In 2004, the average Dane sent 654 SMS messages, more than talk time measured in minutes. MMS had an impressive 73% growth rate but it also came from very limited number of messages in total. The GPRS market had also impressive growth rates. In December 2004, approximately four out of ten Danes had a GRPS subscription and the number was rising.

In summary, competition in Denmark is no longer about selling voice plans. This market is mature does not have growth rates comparable to messaging and data. The SMS market is still promising because of the fine growth rates and will be subject to high competition, with challengers fighting to improve market positions. The GPRS market exhibits impressive growth rates and extensive usage in which the older players have been challenged with the newcomer “3”. Established players gained substantial market shares in the 1G voice market that they would try to protect and expand their market shares in the GRPS market so they do not loose market shares as it happened in the messaging market.

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