

## Recommended Reading

- (1) Tidd, J., Bessant, J. and Pavitt, K., *Managing Innovation: Integrating Technological, Market and Organizational Change* (Chichester, UK: Wiley, 2nd edn 2001), ISBN 0-471-49615-4. An Excellent introduction to the issues in managing innovation. Chapter 2 shows how a clear understanding of innovation is needed within an organization.
- (2) Kim, W. C. and Mauborgne, R., 'Value Innovation: The Strategic Logic of High Growth', *Harvard Business Review*, vol. 75, no. 1 (January–February 1997), pp. 103–12. Presents how product innovation needs to be complemented by service and other forms of innovation.

## Main Case Study **NTT-DoCoMo, Japan – partnerships for innovation**<sup>77</sup>

Before reading this case, consider the following generic innovation management issues:

- ▶ How can partnerships and alliances help a company in the service sector achieve its innovation strategy?
- ▶ How can service and product strategies of different companies be aligned to target specific customers segments?
- ▶ How can a service provider make it harder for competitors to copy innovations?

Today, NTT DoCoMo is the top Japanese mobile telephone service provider with an enviable 60 per cent market share. The company was formed in 1992 when the Japanese government broke up the monopoly of Nippon Telephone and Telegraph (NTT). The name comes from both an abbreviation of 'Do Communications over the Mobile Network', and is a play on 'dokomo', the Japanese word for 'anywhere'. Although now the market leader, ten years ago the company was facing a serious situation. The Japanese economic situation was poor, handsets were heavy, subscriptions and call charges exorbitantly high, transmission quality was infamously bad and, to cap it all, DoCoMo was losing money.

### Technical Quality Up, Price Down

Some managers might have decided to try and manage the crisis through cost-cutting alone, but CEO Kouji Ohboshi made heavy investments to develop both the transmission quality and DoCoMo's total coverage in Japan. Parallel to this, a pricing strategy was adopted with the aim of making mobile telephone services affordable for everyone. DoCoMo slashed prices and, although competitors followed, DoCoMo raised the number of its subscribers significantly – to the point where it has 44 million today. This growth was at the expense of what the industry refers to as ARPUs (average revenues per user) and so, from an early stage, it was clear to management that a strategy based solely on increasing call quality, market penetration, and cutting prices was not sustainable.

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One of the unusual characteristics of the Japanese mobile telephone market is that there is no direct channel by which mobile telephone ('handset') manufacturers can market their products. Every handset in Japan is provided as part of a service contract. Additionally, Japanese law prevents DoCoMo from manufacturing equipment for retail sale.<sup>78</sup> Maybe this is what caused DoCoMo to take a broader view of innovation than many of the other service providers around the world and, in particular, to develop not only new services but also to take steps to strongly influence the design of manufacturers' handsets. Fortunately, through its history as part of NTT, external links to handset manufacturers such as NEC and Fujitsu were strong and this enabled DoCoMo to push for handsets with special features for specific market segments.

**Matching Services, Segments and Products**

With aging populations worldwide, many companies are trying to target what is often called the 'silver [haired] market' or 'silver segment' but DoCoMo has been particularly successful. Millions of new senior subscribers in recent years have adopted the Raku Raku ('easy-easy') range of mobile telephones, which have a set of features aimed at the particular needs of this segment. Today, 22 per cent of Japanese owners of mobile phones are over 50 years of age. The handsets were developed for DoCoMo by Fujitsu and have:

- ▶ Larger keyboards.
- ▶ Larger text on the display and simpler user interfaces than most cell phones. In addition, a synthesized voice explanation can be enabled, for each key pressed.
- ▶ Colours available include 'traditional silver' and 'eternal pink'. The handset comes with a set of standard ring-tone options to match users' tastes including the Japanese song 'Kawa no Nagare no Yoni', 'Raindrops keep falling on my head', and 'When the Saints go marching in'.
- ▶ The latest version of the Raku Raku includes a pedometer function that measures how far the person carrying the phone walks, and sends daily e-mails to subscribers telling them how far they walked and how many calories they burned. According to the press release, this 'is particularly relevant to users wishing to regularly update their doctors with this data'.

In marketing the Raku Raku, DoCoMo has trodden a careful path. The company 'highlights its technical features but in its advertising always cleverly links these to emotional benefits', says industry watcher Daniel Scuka of Wireless Watch Japan. 'For example, their adverts show grandparents operating the handsets easily and keeping in easy contact with their families . . . and, of course, "age" is never directly mentioned in their marketing'.

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It is not only for the silver segment that specific products have been deemed necessary. Japan has extensive mountains and many of its population enjoy outdoor activities, such as hill-walking and mountaineering. This is a segment that DoCoMo is also addressing with a corresponding handset, the 'Geofree II'. This has a set of features designed to appeal to those with an interest in outdoor activities:

- ▶ It is lightweight.
- ▶ It floats, is water resistant and shock-proof.
- ▶ It has a large (1.8 inch) liquid crystal display.
- ▶ It supports 'i-Area', a function that gives local information based on the unique base-station in which the handset is located.
- ▶ Matching its usage, the handset is marketed in colours such as 'active red' and 'dynamic blue'.

To understand its target segments, DoCoMo undertakes regular market research. Recent studies have looked at urban usage of mobile phones by 1,000 adults,<sup>79</sup> how adolescents use wireless services and the particular functions they most want in their handsets – 600 young people were interviewed.<sup>80</sup> John Lagerling, a manager in the DoCoMo strategy team, says that the company is careful to make sure that its approach to market research is broad. 'We regularly conduct research outside the mobile telephone market, as we are interested to see how "lifestyle" changes affect customers' needs. Take for example the Geofree. Users' ideas provided the inspiration for the handset, supplemented with by research looking at the developments in the digital watch industry, where rugged designs combined with "outdoor" features had been very successful. Combining a range of features in a handset offers outdoor sportspeople added safety – easy access to weather, local information and emergency services. You do not get these sort of insights for new products if you only research your own industry'.

Although the robust Geofree II, the handy Raku Raku, and handsets aimed at young people increase market penetration, this is not enough. 'Voice-based revenues' from these segments will not generate growth, as the Japanese market has matured and call rates remain an area of strong price competition. So non-voice services are also being developed.

#### **Non-Voice and the Portfolio of Services**

'Non-voice services have become a fundamental part of DoCoMo's strategy', says Scuka. Initially, these services were simple ones – such as downloadable, changeable ring-tones (these have become a success story worldwide for service providers, generating surprisingly high revenues). Once the downloadable ring-tone feature had been strongly marketed and the market educated, further downloadable services were added such as '30K Applications', relatively small Java games, paid for on a one-off download

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fee. DoCoMo introduced their most prominent non-voice service in February 1999. This is 'i-mode' (Internet mode), a service that is generating significant revenues.

The idea behind i-mode involved making Internet access mobile and easy and now it is the world's largest mobile Internet service with 38 million subscribers. Handsets with an 'i' button and special menus were developed to meet DoCoMo's requirements for fast and efficient Internet usage. Not only the handsets have been optimized but also the websites that are available have been coordinated – including those 'authorized by DoCoMo' – and a new business model created. Internet access is priced on the amount of information downloaded rather than the access time and this, combined with the low basic rate of 300 yen (\$2.4) a month for i-mode service, and one yen for a typical email, mean that it is good value for money.

Four categories of i-mode service are provided:

- ▶ 'Transaction' (e-commerce, banking and ticket booking through the websites of Amazon.com, Northwest Airlines and Citibank).
- ▶ 'Information' (for example CNN news, Bloomberg market updates).
- ▶ 'Entertainment' (for example Pokemon games, Hallmark e-greeting cards, and hit songs).
- ▶ 'Databases' (for example telephone directories, restaurant guides, etc.).

Each of these categories has a number of websites providing what the industry refers to as 'content'. DoCoMo has carefully selected content partners for the quality of their services, a willingness to optimise their websites for i-mode access, a willingness to accept site development risk, and an interest in forming a partnership (in which DoCoMo brings more traffic to the content provider in return for a commission on the information charges levied).

Fast and easy access has been achieved by reprogramming websites using a subset of the programming language HTML, which increases access speed. The version of HTML used also allows new websites to be quickly created and this focus on keeping it simple has allowed independent programmers to create a wealth of unofficial i-mode content. Although 'unofficial' sites do not generate content commission for DoCoMo, the availability of extra content has been well received by customers and does generate a great deal of data traffic revenue for the carrier.

#### **Stimulating and Coordinating Innovation**

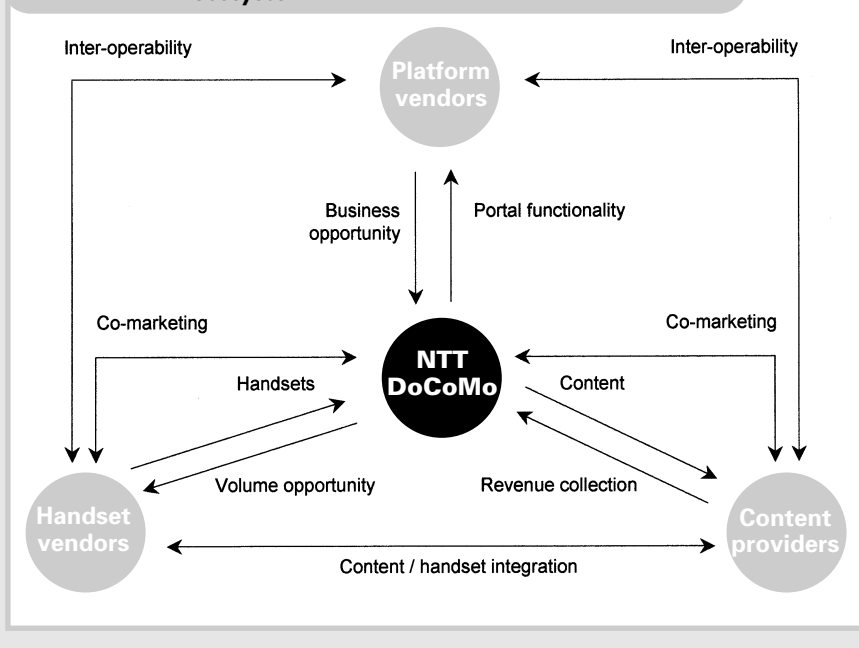
Over 1,100 engineers are employed in DoCoMo's R&D and spending on development has increased by four times since 1998. This investment pays for a very wide range of projects, from improvements to handsets to better networks to support the uninterrupted availability of services. DoCoMo R&D has adopted a central coordinating role – including stimulating innovation – between the equipment manufacturers, content providers (websites) and

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platform vendors (network providers) as shown in Figure 1.11. In his role in the i-mode strategy department, Lagerling is responsible for managing some of these international collaborations. 'Our strategy is to view the value chain as an 'ecosystem', in which all of the partners need to have a fair margin. If we as a company are too greedy, the system will not function well and relationships will suffer. Therefore, we share both risk and gain'.

Handset vendors receive information from DoCoMo on specific product requirements and the potential sales volumes. This encourages close collaboration on handset NPD and often DoCoMo makes direct investments in such work, to ensure that new handsets are developed on time and these are 'integrated to the content' available. Close links with the content providers include joint work on website operability and co-marketing. The platform vendors are the third set of partners with which DoCoMo R&D has constant contact, as networks determine the availability and reliability of services. Availability is a key concern for Japanese users, as the country suffers from earth tremors and following these there is extreme usage of mobile telephones, as people check whether their relatives are OK. Therefore, network capacity needs to be planned to match these 'spikes' in usage. Overall, Lagerling says that 'subscribers judge the value of mobile Internet services on the basis of the quality of content'.

Figure 1.11 DoCoMo's i-mode collaboration concept – the 'ecosystem'<sup>81</sup>



**Main Case Study** *continued*

Mobile telephone service providers worldwide are looking for what they term 'killer applications' – services that mobile telephone users will use extensively and that will generate significant revenue growth for providers. DoCoMo is somewhat different in that it is not searching for one solution. Instead it is looking to be the coordinator that can constantly create the best mix of innovative services, handsets, content and reliable network platforms that provides customers with services that they will find essential to everyday life. 'We aim to provide our customers with the best possible range of services. That's only possible by developing our position within a sustainable network of innovative organizations', says Lagerling.