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Handset ODM – What's the industry impact?

Traditional handset vendors outsource development and manufacturing, operators engage in design and ODMs start living their own life. What does it mean to the industry?

Introduction

Development and manufacturing of mobile phones have changed over the recent years:
For example, most owners of a Motorola T191 or a C300, or indeed a Sony Ericsson T200 or R600 think that those companies have developed, manufactured and branded these phones. However, reality is different; in the case of Motorola, Taiwanese-based BenQ has developed and produced both the T191 and the C300, and in the case of the Sony Ericsson T200 and R600, another Taiwanese ODM company – GVC – is the manufacturer.

These are just examples of the increased number of handsets that have been developed by Original Design Manufacturing (ODM) companies, a phenomena that has started to twist the mobile value chain. "Traditional" manufacturers increasingly turn to sub-suppliers to minimise risks and efforts in the process of maintaining and expanding their product portfolios. Northstream's market projections indicate that ODM products will account for more than 40% of the mobile handsets' market in 2005, and we estimate that already today 10% percent of sold handsets origin from an ODM.

Given this development, many questions arise on positions, changes and revenue streams in the mobile value chain. Also, the increased interest from operators to be more intensely involved in handset requirements, designs and branding further fuels the fire.

This paper describes the "ODM phenomena" and its potential impact on the handset industry, as we know it.

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Why ODM?

Developing mobile handsets has traditionally been a rather complex task requiring a large organisation for R&D, manufacturing, marketing and sales. In recent years, there has been change in the industry towards designing and developing handsets with the help of subcontractors and based on ready-made platforms, i.e. by using Original Design Manufacturers - ODMs. While this has allowed the traditional vendors to efficiently expand product portfolios it has also opened up the mobile handset market for new players.

The original reason to use ODMs is to reduce the fixed costs in product development, such as R&D, manufacturing and testing. Lately, ODMs have also embraced risks related to component inventory and product stock. Today, an ODM customer typically pays for a designed, manufactured, packaged and delivered product that can be directly sold in the retail channel.

The ODM approach can also be used to test new product concepts and ideas, typically because the vendor lacks a specific knowledge required in the new product concept or simply because of lack of resources.

With the expanding scope of many ODMs, suddenly it is no more only traditional handset vendors that could benefit from their offerings, but also operators wanting to engage closer in handset design and branding – something that was not feasible a few years ago.

The old school mobile handset value chain – up in smoke!

The mobile handset value chain, as we know it is disintegrating, and it is not totally clear what will come out in the end. Activities previously performed and ”owned” by the major handset vendors are now gradually shifting over to ODMs, and operators are also taking part in the process. Hence, the ‘new’ handset development value chain involves more players and more interface points between parties that are not used to work together. Not only are the roles and opportunities shifting, but also risks such as those associated with portfolio management, logistics, support and aftermarket.

Several of the major handset vendors started to outsource manufacturing many years ago, but they kept control of the major parts of the value chain. However, to some extent helped by that initial push (or rather ‘pull’), a range of new players have entered the handset business today, mainly Taiwanese and to some extent Korean, Chinese and European companies, that can compete with the established handset vendors in much more than just pure manufacturing.

Simply put - in the ‘new’ handset value chain, the ODM performs inbound logistics (e.g. management of 3rd party suppliers and subcontractors) and the handset development, while the traditional vendor still performs distribution, marketing, and sales. Or in other words, the ODMs develop handsets in-house and with partners (e.g. protocols, applications, platforms) and deliver it manufactured to the vendors, which then sell the handsets under their own brands. From this model it is pretty clear that a Mobile operator can take a direct competing role with traditional handset vendors. For instance, Vodafone becomes a direct competitor of Nokia whilst at the same time being their customer for other parts of the handset stock, which opens up for some interesting scenarios.

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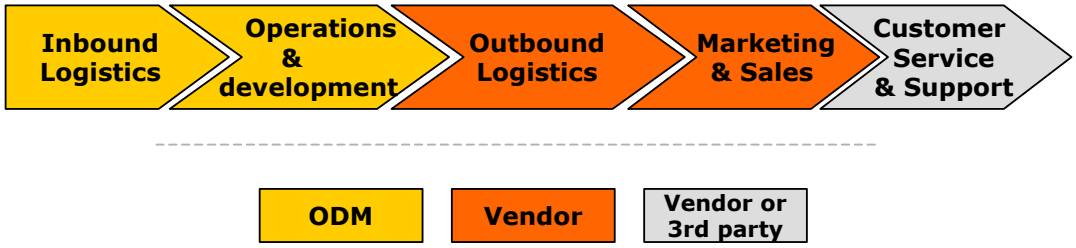

Figure 1. The ODM handset development value chain

ODM is by no means a new phenomenon – several industries have experienced similar transitions in the past and there are lessons to be learned from e.g. the PC industry and the TV/HiFi industry. For example, in the TV industry today there is still a huge number of brands, with a full blend of global and local labels, and it is very hard for a layman to distinguish a model from another. Only minor design details separate the models and the price levels are pretty much harmonised within each type and segment. However, as we all know, this was not at all the case some 15-20 years ago. Then, each manufacturer had their own development, and competed in sales by introducing new technologies like colour TV, remote controls and text-TV. However, soon most "basic" needs were fulfilled by any and all TV brands, and competition could move from innovation to cost efficient manufacturing and operations. New brands came in to the industry and reused slightly outdated technology design, maybe without the 'flattest' screen available or not having the possibility to store a zillion text-TV pages.

While inevitably opening up for competition on the commodity side, the TV industry has been successful in introducing new technologies that creates a strong replacement market and hence room for both R&D centric and manufacturing centric players. Typical examples of technology steps are the introduction of the 16/9 format, DVD players and surround sound systems, but where the underlying technology quicker than ever transforms into commodity and can be used by any of the competing brands. In analogy to the mobile phones industry, we see that the thresholds of designing a mobile phone constantly are lowered. Platforms are made available for new brands to build products on and the competition increases.

Undoubtedly this will lead to a richer variety of handsets offered to the users. If usability aspects and fragmentation risks are handled properly, this could very well be one factor that could shorten the long and inhibiting replacement cycles of today.

Typically, many ODMs started their business by designing their own mobile platforms, but with an expanded products and customer base they have begun to license mobile platforms from other vendors, e.g. Ericsson Mobile Platforms and Motorola. ODMs generally also source covers, keypads and batteries from other vendors and focus more and more on their perhaps key competence, i.e. cost efficient integration.

Taiwan rules the ODM market

During the last years, several companies have entered the mobile handset ODM market. Taiwan is largely dominating to the market, both in terms of the number of mobile handset ODM companies as well as handset shipments. Korea comes second but is still a much smaller contender compared to Taiwan. The biggest mobile handset ODM worldwide at present, measured in shipped volumes, is

BenQ with about 15 million handsets shipped in 2002. While BenQ originates from the communication and multimedia industry, the majority of the Taiwanese ODMs have a background as PC/laptop ODM. A typical example is Quanta, the world's largest laptop producer, which is now rapidly expanding into mobile handset ODM business. Another example of a prominent Taiwanese handset ODM is High Tech Computer (HTC), which produces PDAs and handheld computers for several mobile operators. For example, HTC is behind recently launched wireless PDAs, e.g. XDA from mmO2/O2and SX56 from Siemens, and smartphones, such as the SPV from Orange.

While Taiwanese handset ODMs generally are strong in GSM, Korean ODMs have a lead in CDMA. Examples of Korean ODMs are Pantech, Telson, and Sewon. They typically sell handsets under their own brands in Korea, and in some cases also in China, but a large part of their handset export is ODM shipments.

Outside Asia we find players such as US-based Danger, with the "T-Mobile Sidekick" in US, and Finnish-based Microcell, behind e.g. Sony Ericsson's T66.

Looking at some recent ODM products from the above players it has become obvious that traditional manufacturers have by no means a monopoly any longer in advanced high-end and high quality products. This will yield a larger impact on traditional handset vendors than the first phase of ODM did; the high-end segment is traditionally the high-margin segment as well. Any successful brake in from the ODMs here could well bring earnings per handset down for the big vendors.

Models and volumes

Among the major handset vendors, Motorola and Sony Ericsson have so far been the most active ODM customers for GSM and GPRS phones. For example, Sony Ericsson currently uses three ODMs; Arima for low-end handsets, GVC (Lite-On Technology) for low-end/upper low-end handsets and Microcell, for mid-range handsets. Motorola uses at least two Taiwanese ODMs – BenQ and Compal.

ODM company	Customer	Model(s)
Arima	Sony Ericsson	T100 and A3618
	Toshiba	T535i
BenQ	Motorola	T190, T191, and C300
Compal	Motorola	E360 and E365 (available in Q2)
	Panasonic	G60 (available in Q2)
Dbtel (Ares)	Siemens	N/A
GVC (Lite-On Tech.)	Sony Ericsson	R600 and T200
HTC	Siemens	SX56
	Orange	Orange SPV
	mmO2	XDA
Quanta	Panasonic	GD55 and G50 (available in Q2)
	Siemens	CL50

Figure 2. Examples of some Taiwanese ODM deals

When it comes to forecasting how handset ODM volumes will develop in the coming years, the estimations vary tremendously from source to source, which depends on the large uncertainty surrounding this development. Northstream's volume estimations are based on discussions with selected vendors and

operators, information from the ODMs, and on Northstream's analysis of the major handset vendors' product roadmaps.

Northstream estimates that ~30 million ODM handsets were shipped in 2002; representing 7-8% of the total volumes sold handsets globally. Since the development of low-end GSM and GPRS handsets has become more commoditized, we believe that there will be a growing number of ODM handsets reaching the market during the years to come. However, many of these handsets are low volume, typically below 500,000 units shipped during their total lifecycles. ODMs can elaborate with one 'base' model, reused in different final shapes to multiple customers and thereby still gain from economies of scale. Nevertheless, we believe that ODM handsets will account for more than 40% of total mobile handset sales in 2005. The volume estimations are highly dependent on how the major handset manufactures will use ODM.

Conclusions

Many mobile handset vendors, notably Motorola and Sony Ericsson, have started to use ODMs to complete their product portfolio, to cut down internal R&D costs and to try new concepts with a minimal financial risk. Expectedly, Microsoft has started to use ODMs to counter the major handset vendors' reluctance to use its software in the handsets. Furthermore, mobile operators have started to utilize ODMs to sell mobile devices under their own brands and/or to be able to customise the handsets in alignment with specific service requirements (e.g. i-mode or Vodafone live!).

ODMs aim to develop mobile handsets faster and with less cost than the major handset vendors. By using standard components, having low production costs, and not performing extensive internal research, ODMs can reduce the development and production costs as well as time to market. Therefore, ODM products typically do not include cutting-edge technology and they are generally targeted at the low-end market (although there are exceptions, such as some of HTC's products). Furthermore, the major handset vendors, which currently are the main customers of ODMs, prefer to control the development of high-end phones in order to maximise revenues from that segment and to stay on top of the development in general. Still, as knowledge and economies of scale spreads to new players, we might see players that are today referred to as "ODM" becoming competitive suppliers in their own right.

Handset ODMs clearly offer an attractive opportunity for many actors, including the major traditional handset vendors as well as operators. Northstream believes however that a minority of operators will be in a position (or even in desire) to control much more than branding and parts of the user interface.

Northstream follows the mobile handset market development constantly to help our clients to better position their products and companies in the ever-changing value web. Through working with all the players in the wireless handset industry Northstream has a unique position to assist both the clients of ODMs as well as the ODMs themselves.

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