

MANAGING PRODUCTS AND SERVICES IN SOFTWARE AND OTHER BUSINESSES¹

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A common debate among entrepreneurs and managers in the software business is whether it is better to be mainly a *products* company or a *services* company. The underlying assumption is that a company cannot be both at the same time and be equally good at each side of the business. Other technology-based companies, such as office equipment, computers, consumer electronics, and industrial equipment manufacturers, often have a similar debate. At the same time, many companies already in the services industry worry about how to better structure or “product-ize” their service offerings so that they do not reinvent solutions each time they have a customer.

The common logic, especially in software and information-technology businesses, has been that it is much better to be mainly a products company. To be mainly a products company in software means that a firm has the majority of its revenues coming through new sales of “shrink-wrapped” packages, named for the plastic wrapping that is used to cover boxes containing the floppy disks or CD-ROMs. There are potentially large support and maintenance costs associated with a large user base. But, in general, if it costs you roughly the same to make one copy or one million copies of a product, a company would be foolish not to want to make and sell a million copies of every product it creates. Although non-software products cost much more to replicate per copy, it is still generally true that profit margins are potentially higher on many types of products compared to labor-intensive services or products that require extensive customization for each customer.

So software and many other companies should want to make and sell a lot of copies of whatever products they make as is – that is, without adding special changes such as one-of-a-kind features for individual

customers. The more a company gets into customizing its products for each customer, as well as selling large amounts of maintenance (special product enhancements as well as regular product upgrades) and support services, the more people it needs, the more unique projects or labor-intensive work it undertakes, and the more it leans toward becoming a services company. The problem, especially in bad economic times or in later lifecycle stages of a product, is that customers (individuals or enterprises) may decide not to buy the new products. This potential failure to buy puts the revenues of products companies at much more risk than service-oriented companies that have lots of recurring revenues from long-term contracts.

Because product sales are subject to buyers just “saying no,” one can argue that healthy technology companies need to have a balance of product and service revenues to survive in bad times and to grow rapidly and profitably in good times. Moreover, in bad times, it may turn out that the only revenues a company can really bank on are from services (such as product customization, system implementation, training, technical support, and maintenance) delivered under long-term contracts. This is why the business model of services-oriented companies resembles that of a bank. The long-term contracts they receive for services to be rendered in the future are akin to assets on deposit. In contrast, the business model of products companies that have minimal replication costs for their products, such as many software companies, is more like that of a printing press. However, it is not clear what is the optimal mix of products and services for a company that wishes to maximize profits and growth over the long term, say 5 to 10 years, and weather the ups and downs of the technology business.

The Case of Software

Software companies and companies that have large software businesses, often struggle the most with this products versus services debate. The reason is obvious. Having a hit software package is like having a best-seller book. Publishers, like software products companies, can make enormous profits from just one best-selling product. Gross margins of

¹ For further information, see “The Software Business” by M. Cusumano (Free Press/Simon & Schuster, forthcoming, 2004).

99 percent are common in the software products business, compared to about 60 percent for software-related services, which are much more labor-intensive. In practice, though, it is just as hard to write a best-seller software package as it is to write a best-seller book. It is even harder to follow that one hit product with a continuous stream of new products (the sequel or upgrade business) that sell in both bad and good economies. Every successful software company probably had to deal with the challenge of saturated markets where customers already have enough or “good enough” products. Hence the tension that inevitably emerges among enterprise software companies with a strong products business: They know they must move eventually toward selling more labor-intensive services.

Of course, the struggle is more complicated than this. Software products companies that want more revenues from services generally get those revenues from service contracts to support their new product sales. They can sell services to old customers, to be sure. But the pipeline of potential service revenues will rise or fall just as steeply as the rise or fall in new product sales, albeit with a lag of a couple of years. Therefore, software companies with a strong services business must think more about selling products, despite their more sporadic and non-recurring levels. In the enterprise software market, it is common for companies to get approximately \$1.00 in service revenues and \$0.15 to \$0.20 in maintenance revenues for every new dollar in product sales (software license fees).

Further, many successful software products companies see their new product sales decline over time and their revenue mix shift increasingly toward services, until there is a cross-over point and the products company becomes a services company! In Figure 1, we can see that the trend among many enterprise software companies is to have major increases in revenues from services (and maintenance), in contrast to product sales. Some companies, like i2 Technologies (see Figure 2), started with very high services (more than 90% of revenues) and then turned these mainly into product sales, before seeing service revenues increase later on. Other companies, like IBM (see Figure 3) have decoupled services from products and grown service revenues far faster than software product revenues. Other firms (like Siebel, Oracle, and PeopleSoft) have seen a flip in their revenue mix, as services have come to dominate product sales.

Figure 1: Services and Maintenance Revenues

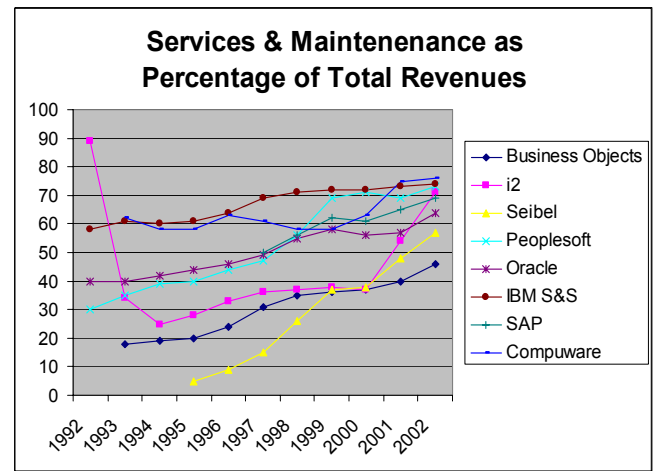


Figure 2: i2 Technologies

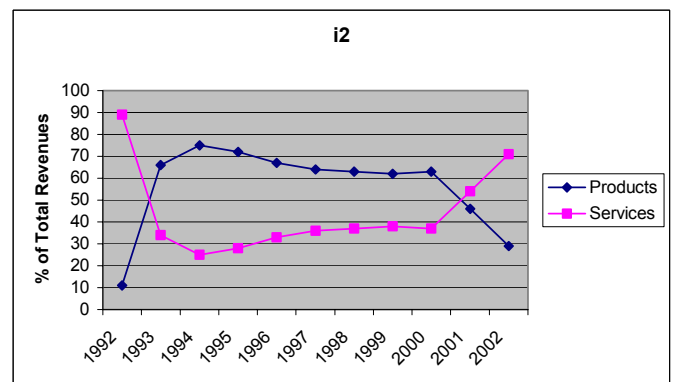
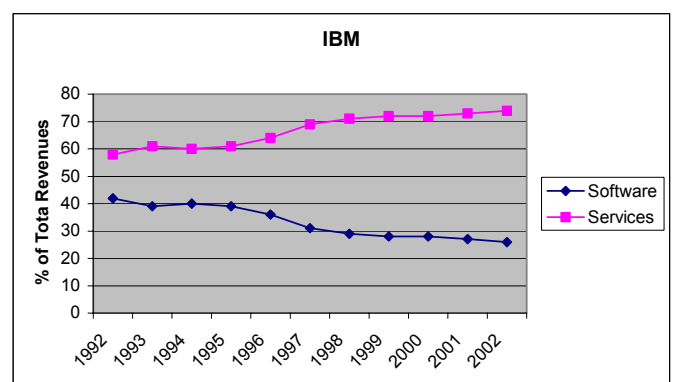


Figure 3: IBM



It is not clear from these few examples, however, how dominant the pattern is of a transition from products to services, how long this normally takes,

or whether it is possible or desirable for firms to try to avoid this transition to services by having much more aggressive product-development initiatives. It is also not clear how common it is for firms to create product business based on knowledge and practices accumulated from a services business, and then grow rapidly through product sales as a result. A major objective of this ongoing research is to create a very large database of all public software companies (which number between 400 and 500) to study how common these trends are in the shift from products to services or vice-versa, as well as examine the affects of a changing revenue mix on growth rates and profits

Different Strategies and Capabilities

Managers also need to understand what their primary business is *and* how their business might be changing because selling products requires very different organizational and technical capabilities compared to selling software services.

For example, in enterprise software, the products business is mainly about volume sales – selling or licensing the most copies you can of a standardized product. The basic growth strategies here are scaling or duplicating what you have done in similar markets. Microsoft has set the model for firms of this type: become the market leader through volume sales and set de facto technical standards that “lock in” customers because their software applications and databases only work on a particular operating system or hardware platform. The development organization needs to focus on creating a stream of new products and upgrades that appear at regular intervals with standardized features “good enough” for the largest possible set of users (like Windows 95, 98 and 2000; or Office 95, 97, and 2000). Mass marketing and distribution skills are critical. Part of the strategy for a products company might also include trying to become a platform leader², though most software companies create complements – products that work with and add value to a particular platform, like a Windows PC or Unix workstation, or a handheld device powered by the Palm operating system.

The services business for information technology and e-business is mainly about people and building specific (not general) customer relationships –

getting enough profitable accounts to keep your consultants and developers busy close to 100 percent of the time. Companies like IBM, PriceWaterhouseCoopers, Accenture (formerly Andersen Consulting), and Cap Gemini Ernst & Young have set the standards here. A number of Indian companies (Tata, Wipro, Infosys, Satym) have also come on strong as global competitors bidding for custom IT jobs. Hitachi, Fujitsu, and IBM Japan are leaders in this field in the Japanese market. These types of services are not scale businesses, not software licensing a la Microsoft. But services companies can be strategic as well as efficient. It is usually important to mix senior with junior people to maximize profits for any given client project, although the danger here is for a services firm to do this without damaging the relationship by having inadequately skilled people on the job.

For software products companies, again, the lure is potentially enormous scale economies that come from selling multiple copies of the same piece of software. For software service companies, scope economies are the Holy Grail to strive for, and these are more illusive. They can come from structuring knowledge such as how to do requirements, manage projects, customize applications, conduct user acceptance testing, or reuse design frameworks and even pieces of code across different projects and customers. Scope economies can also come from clever account management – forming relationships with particular customers where they buy a lot of your software and services over time. The other objective of this ongoing study is to analyze, through case studies and a survey, how services firms can structure or product-ize their offerings to improve efficiency through scale and scope economies.

² See “Platform Leadership”, Gawer, Annabelle and Michael A. Cusumano, 2002

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