

Business Strategy Patterns for Technology Companies

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“According to leading management thinkers, the manufacturing, service, and information sectors will be based on knowledge in the coming age, and business organizations will evolve into knowledge creators in many ways.

According to [Peter Drucker] we are entering ‘the knowledge society,’ in which ‘the basic resource’ is no longer capital, or natural resources, or labour, but ‘is and will be knowledge’ ...” (Nonaka and Takeuchi, 1995, p.43)

1 Abstract

In the knowledge economy individuals and firms derive their competitive advantage from their knowledge and ability to act on this knowledge. Before knowledge can be traded for money it must be packaged and delivered. Knowledge may be packaged as and delivered by way of a service, e.g. a motor-mechanic or a management consultant sell their knowledge as a service; or knowledge may be packaged into products which are sold, e.g. Honda packaged knowledge of car an engine design into cars, motorbikes, lawn mowers, etc.

To best exploit knowledge a firm must know when to sell products, when to sell services, when to switch from one to the other and when, and how, to use one to complement the other. This paper presents several business strategy patterns for dealing with this decision:

- *Start-up Services for Products*
- *Continuing Services for Product*
- *Complementor, Not Competitor*
- *Services Trump Products*
- *Services Before Product*

2 Audience

These patterns are intended to codify several common business practices in a pattern language so they may be communicated and studied more clearly.

The patterns given here are intended for those interested in how corporate strategies may be applied. This group includes both students of the subject and new managers.

The author is interested in the applicability of the pattern form to business domain; whether the form works, what insights it can offer and what value it offers in codifying and communicating business practice.

3 Background

3.1 *Patterns and business strategy*

"What is strategy? There is no single, universally accepted definition. Various authors and managers use the term differently" (Mintzberg et al., 2003)

It is beyond the scope of this paper to answer this question. However most authors agree that strategy is something beyond reacting to day-to-day offence, strategy implies a conscious decision, in effect a design decision.

"The patterns cover every range of scale in our surroundings: the largest patterns cover aspects of regional structure, middle range patterns cover the shape and activity of buildings, and the smallest patterns deal with the actual physical materials and structures out of which the buildings must be made." (Alexander, 1979, p.309)

The patterns presented here document re-occurring business strategies brought about by conscious business design decisions. They take as their starting point the idea that the intellectual capital of the business is its greatest asset.

Although these patterns are to be presented at a conference primarily concerned with software patterns they differ in one important way from software patterns.

Software patterns are usually written by those who had a hand in the creation of the software, in part because only these people know the inside of the software. In contrast many of Alexander's patterns (1977, 1979) come from observation and critique of existing buildings. (Richard Gabriel discusses this in more detail in [http://c2.com/cgi/wiki?WhereDoPatternsComeFrom.](http://c2.com/cgi/wiki?WhereDoPatternsComeFrom))

The patterns presented here are closer to Alexander's patterns drawing on observation and critique of existing literature and practise. These patterns draw on publicly available sources and the observations of the author.

3.2 *Packaging expertise*

The Knowledge Economy is based on *what you know* not *what you make*. Individuals and firms with specialist knowledge are able to sell their knowledge. The more extensive and exclusive the knowledge the greater the price they can command. However, knowledge cannot be traded in the same way we trade steel, coffee beans or soap-powder, it is not possible to sell "one unit of knowledge."

In order to exploit their knowledge as a commercial product it becomes necessary for sellers to somehow package their expertise in the field. The most obvious way of doing this is to sell consultancy services. Thus, if I require expertise in a field I have no expertise in, say, logistics, I can hire an expert in logistics; knowledge is provided by way of a service.

Still, the consultant must decide how they are to sell their services. For example, the consultant may offer to do the work I require for me, they may do this for a fixed price or on a time-and-materials basis. Alternatively, they

may decide to sell training in the domain so I can do the work. So, when knowledge is sold as a service it may be packaged and delivered in a number of different forms.

Alternatively, rather than sell their knowledge as consultancy the domain experts may choose to sell it as an outsourced service. Rather than handle my own logistics I can sub-contract with TNT, Federal Express or other firms who specialise in this field.

Another way in which the knowledge holder may choose to exploit their expertise is to develop an actual product that uses the knowledge and sell that instead. This is common in the software world where companies like SAP embed knowledge in software, so, for example, I could solve my logistics problems by buying a logistics package.

The more knowledge intensive the work the greater the value of the knowledge:

“In today’s knowledge-based economy, superior knowledge is likely to be the most valuable resource of all. Knowledge is valuable precisely because it is hard to manage and hard to trade. ... Knowledge resides inside the heads of lower ranking staff, not the files of top management.”
(Whittington, 2002, p.46)

Carried to an extreme all firms are knowledge enterprises. For example, a car manufacturer has knowledge how to build a factory, knowledge of how to manage a production line, knowledge of car design, knowledge of car marketing, and so on.

The patterns in this paper look at how organizations can exploit their knowledge, either as service-products or actual products, and how they can move between these two types of product.

Sometimes this knowledge is concerned with operations (how we manage our day-to-day business), sometimes with organisation and structures (how we set up our business units) and sometimes with the market we are in (customer tastes and competitor's products).

3.3 Sources

“patterns do not come only from the work of architects and planners”
(Alexander, 1979, p.199)

The patterns documented here draw on personal experience and observation together with publicly available sources. A conscious decision has been made to use public sources so the reader can enquire further themselves.

3.4 Value chain for a complex knowledge based product

For a customer it is sometimes easy to realise the value of product, for example, we buy a new television set, we take it home and plug it in and watch television, the value is easily extracted. But for a complex product, as is often the case of knowledge-based products, it is not so easy to extract the value.

Some complex products are relatively easy to use, for example, if we buy a new laser printer. We simply plug it in and install the driver software. But other products require costly installation and configuration, and if we are to extract the full value of them the product must be maintained during its lifetime.

Some products, the real value comes when used by expert users, a CAD (Computer Aided Design) system is of little use to the layman but in the hands of an architect or trained designer. It not only increase their productivity will allow them to create designs they otherwise could not.

Other products are valuable, because they can be used by the layman, they may enable a production line worker to magnify their productivity. Or by using advanced products the amount of training required can be reduced. For example, computer aided milling machines can work directly from CAD files, removing the need for a highly trained operator.

Source of customer value for a complex product

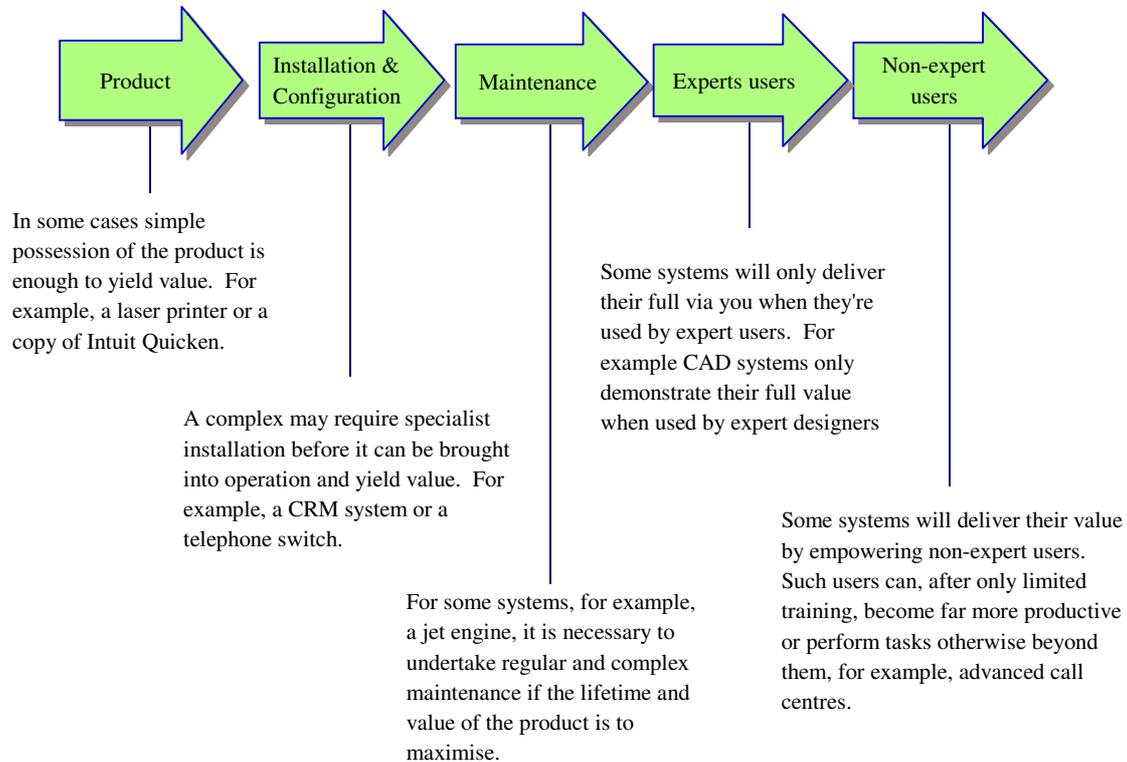


Figure 1 - Value chain for a complex product

Figure 1 shows that customer's value chain for a complex product. Not every step is required for every product. For example, most of the value from a laser printer comes from the product itself, installation and configuration on minimal, most printers require little maintenance and all users receive similar value.

Yet for another product, for example, it telephone switch, value is created, both by the product itself and by the particular installation and configuration options chosen. Indeed, without the correct installation and configuration. The telephone switch is of little use on its own.

There is knowledge embedded in these complex products themselves. And there is also knowledge, surrounding them in these follow-on activities. Configuring the telephone switch is a skilled task, performing maintenance on a jet engine is a skilled task, and the use of a CAD system is as already noted, a skilled task.

Some customers will perform these activities themselves, many others would prefer to have these activities performed by someone else. This opens the opportunity to services, from many of these advanced products and knowledge of how to work with them. To configure them maintain them all use them is as essential as the product itself. Without the product the service may not exist without the service. The value of the product cannot be realised.

The patterns contained within this paper deal with the interplay between products and services. Common to both is the role of knowledge, without knowledge product cannot be created and without knowledge we cannot recognise the value of the product. Product is not necessarily better than service and services are not necessarily better than product. Ideally, the two are complimentary, but if the relationship is not understood the two can come into conflict.

Sometimes the product and the service are provided by the same organisation, and sometimes by different organisations. This too creates the opportunity of conflict, were there should be concord.

4 The Patterns

4.1 Pattern map

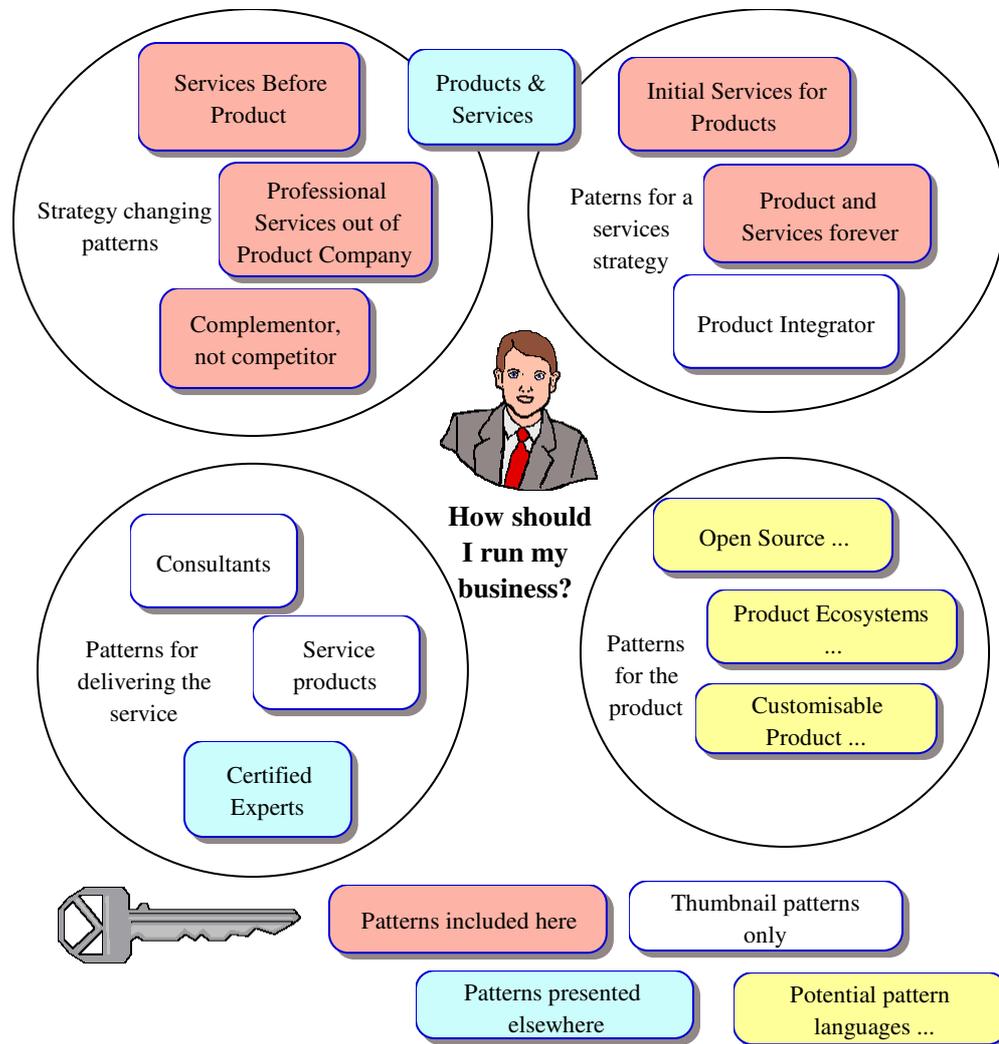


Figure 2 - Pattern relationships

4.2 *Thumbnails*

<p><i>Start-up Services for Products</i></p> <p>Page 9.</p>	<p>Your product serves a complicated market, consequently your product is complicated. Customers need help to get the most from the product. Therefore, create a professional services group within your organization and sell consultancy services to help the introduction of your product.</p>
<p><i>Services Before Product</i></p> <p>Page 24.</p>	<p>You are creating a start-up company but you are short of money and/or need a better understanding of the market. In order to get a better understanding of the market you need to get into the market. Therefore, sell consultancy services to start with, you will generate money and get a feel for the market before you start work on your product.</p>
<p><i>Product Company from Services Company*</i></p>	<p>Your established company sells professional services but you find you keep re-inventing the wheel. Therefore develop a product that embeds your knowledge, you will be able to reach more customers and grow the market.</p>
<p><i>Local Prophets*</i></p>	<p>When attempting to reposition your organization to sell a new product of service it can be difficult to know what to do. Therefore, try to find groups inside the organization who are doing this already and build on them.</p>
<p><i>Continuing Services for Product</i></p> <p>Page 12.</p>	<p>Complex products often require ongoing maintenance and support. The company that makes the product already knows a lot about the product so well positioned to do this activity too. By sharing knowledge between services and products operations both can be improved.</p>
<p><i>Services Trump Products</i></p> <p>Page 21</p>	<p>Your company has been successful selling products but you are running of growth, you may already be losing money. Therefore, use your knowledge of the products to move up the value chain and sell services instead of or in addition to products.</p>
<p><i>Complementor, Not Competitor</i></p> <p>Page 18.</p>	<p>Choosing to compete in multiple product categories against multiple competitors' means you sometimes compete against companies who could help sell your other products. Therefore, withdraw weaker and less strategic products, you can now complement your former competitors and increase sales of your leading products.</p>

<i>Product Integrator*</i>	In a market where products from several suppliers must be brought together and made to work together some customers will be willing to pay a third party to do this work. Product Integrators specialise in this type of work.
<i>Certified Expert[§]</i>	Your product is complicated and needs experts users. You don't want or can't satisfy the need for these expert from your own resources. Therefore, create a certification scheme to endorse expert users.
<i>Consultants**</i>	Your company sells knowledge by providing consultancy services. This knowledge is communicated and applied by individual practitioners. To sell more services you need more and more people. Therefore, build an organization that can find, train and manage individuals. Each individual is a consultant.
<i>Product Services[§]</i>	Your company has specialist knowledge and expertise in a particular service. Customers would like to use your service but there are many different options. Therefore, pre-define your services as products; limit the number of options to "productize" your service. Customers can now buy your service "off the self."
<i>Customisable Product***</i>	There are many ways to customise a product - tool bar settings, configuration files, scripting. Different customisations are applicable for different applications.
<i>Product Ecosystems***</i>	Products like Palm pilots and iPods become platforms for which third party companies develop products. (Cusumano and Gawer, 2002, look at this field in depth)

*Draft only (not included)

**Currently these patterns only exist in thumbnail.

*** Proposed pattern languages in this field.

[§]Presented at EuroPLoP 2006 (Kelly, 2006)

4.3 *Start-up Services for Products*

The author's employer sells software tools to mobile telephone operators. The product is very powerful and can be customised in a number of ways. Some of these customisations are simple and can be done by users. Others require a high degree of product knowledge. The company provides professional services consultants who can tailor the product to customer's requirements and embed the product in the customer's methods of working.

Context Your company makes money by selling a technically advanced product to other companies. Such products can be difficult to install, integrate and use. Customers may be put off buying your product because of these difficulties, or they never realise the full value of the products.

Such complications can lead to dissatisfied customers or deter potential customers from buying your product.

Problem **How do you help customers get past initial barriers so they can see the full value of your product?**

Your product might be difficult to install, or it might need complicated configuration, customers might need training before they can use it, or the customer organisation might need to change the way it does things as a result of the product.

Forces Your business strategy is to make money from selling products. But, customers find it hard to use your product out-of-the-box.

The product is difficult to install and requires specialist knowledge to get it working, but once installed it provides worthwhile benefits.

Some people might consider these difficulties to be the customer's problem, but if it stops the customer from using your product and potentially buying more of your product then it is your problem.

You have tried selling the customer the product and letting them install and configure it, but customers find it difficult to install and configure the product. This has deterred some potential customers from even buying the product. Other customers have not realised the full potential of the product.

Customising the product is complicated but without customisation the full value of the product cannot be realised, in fact, without customisation and integration the product may be useless.

Unless customers can realise the full potential of product it is difficult to charge a high price to the product. Consequently, you may not recognise the full potential revenue from your product.

Customers can use the product themselves but they may require specialist training. Since the product is proprietary to your company so it is difficult to find suitable trainers and costly to hire.

Therefore...

- Solution** **Provide Professional Services to help customers integrate and customise your product.** Your staff may do all of the work or just assist customers in doing it themselves.
- For a complicated and expensive product it is worth holding the customer's hand for a while. You can also provide training services to educate customers and users in how to use the product and how to get the most from it.
- In a small company the services may be provided by development staff, as your company grows you will want to create a dedicated group of consultants who work with customers to integrate and customise the product.
- Development staff may not be the best people to provide consultancy services; temperament and personal objectives often differ between back-room and customer-facing staff. Such staff may have deliberately chosen a backroom position to avoid customer contact.
- Consequences** Your consultants can get customers over the initial hurdles to using your product. They can install, customise and integrate the product.
- Once customers are over the initial blocks they can start to realise some of the benefits of the product. The specialist consultants can now move on to customising the product to achieve maximum value for the customer.
- When a product is installed, integrated and customised to a specific environment there will be a greater acceptance of the product. Customers are less likely to use a competitors product and more likely to buy from you again.
- By having your people work with the customer, and by tailoring your product to the customers knees you will create a closer relationship with the customer, this is good for both sides.
- Consultancy is not limited to installation, integration and customisation. Other services such as training can be offered to help customers - although different services may be delivered by different individuals all working for you professional services group.
- Your consultants are experts not just in your product but in customer's businesses, and integration issues. Consultants who are regularly seeing customers and dealing with their problems are a valuable source of information when it comes to deciding what to develop next.
- Providing consultants is not cheap, in addition, there are often travel and accommodation costs incurred when working with customers. These costs must be covered somehow. If the costs are included in the product price, then the overall prize will be higher, and the sale more difficult. Alternatively, these costs may be billed separately, in which case the customer must be persuaded to pay them in addition to the product costs. This too will make the sale more difficult.

Customers may be put off by the costs of customisation and training. Products such as SAP are reputed to cost a lot in terms of time and money to install, customise and train users.

You will need to hire and retain consultants. Finding people with particular mix of skills required may be difficult. Once found these consultants will need to be paid regardless of whether they work, or not.

Companies - especially small ones - that use their development engineers to provide services to customers will find that their product development is hindered.

Examples

Smith Communications (a pseudonym) had one product, an advanced e-mailing system. The company made its money from selling the product but it needed to be integrated with a customers other systems such as a database and accounts system. So the company set up a professional services group that worked with customers directly to integrate the product.

Professional services were sold near cost, sales staff would even throw in several days consultancy to sweeten a sale, consequently the professional services group never made a profit. When the company hit financial trouble and layoffs were required the group was the first to be cut.

However, the product still needed installation and configuration, so some of the staff found themselves hired back on ad hoc contracts.

Related patterns

Selling services provides for a second revenue stream but you should be clear where your competitive advantage lies. If your value added lies with the consultants not the product it might be time to consider *Continuing Services for Product* or *Services Trump Products* - you may also consider Open Source options. Some companies become overly dependent on selling services rather than product without realising it.

Customisable Product describes how a product may be made more configurable.

Certified Expert provides another route for solving this problem, it may be used in combination with or as an alternative to this pattern.

Sources & Known Uses

The author has worked in several companies that have employed this model, these cover the telecoms, office automation and financial sectors.

See also *Secrets of Software Success* (Hoch, 1999, p.36)

Presented

VikingPLoP 2005

4.4 *Continuing Services for Product*

Jack Welch (2001) tells how during the 1990's General Electric (GE) entered the service business in a big way. What had been thought of as "after sales service" became a major contributor to profits. For example, at the start of the 1990's the firm was already a leading maker of aircraft engines, by 2000 over 60% of engine revenue came from servicing such engines - both GE engines and those of competitors like Rolls-Royce.

Context

You are successful in your market and are looking for growth opportunities.

Your product has a long life span; the sale is only the beginning. Over its lifetime the product requires on-going service and maintenance. These requirements go beyond *Start-up Services for Products*.

Problem

How do you improve your product, your customer's experience of your product and grow your company at the same time?

Forces

You know a lot about the lifetime management of your products but you consider yourself a designer and manufacturer, indeed you may be one of other leading designers or manufacturers; but that is where your responsibility ends, customers are expected to arrange and pay for ongoing service themselves.

You have traditionally been concerned with the sale price of your product but customers are, perhaps increasingly, concerned with the total cost of ownership over the lifetime of the product. You can better serve your customers, if you can align your objectives with their objectives.

Customers understand that complex products need to be maintained but they don't necessarily want to do this themselves. In fact, they may view such activities as distractions from their core business.

In a competitive market you need to undercut your competitors to make a sale, but, a low price may not be profitable.

You are ready, one of the leading companies in the market, but this means that growth opportunities are limited. Being number one in the market is great, but shareholders still expect growth.

Therefore...

Solution

Use your product, industry and market knowledge to compete at additional points in the value chain (Figure 2) and use what you learn to improve the product. Taking a wider perspective on the consumer experience will provide new opportunities for innovation, revenue growth and improved customer satisfaction.

Customers continue to consume your product long after the sale is closed. As the developer and manufacturer of a complex product you have specialist knowledge of the product. This knowledge can be

used throughout the product life cycle.

Knowledge gained in design and production may be applicable - later in the product's life, particularly in maintenance . Similarly, knowledge gained later in the product life may be fed back to design and production phase. This allows you to create a virtuous circle of learning.

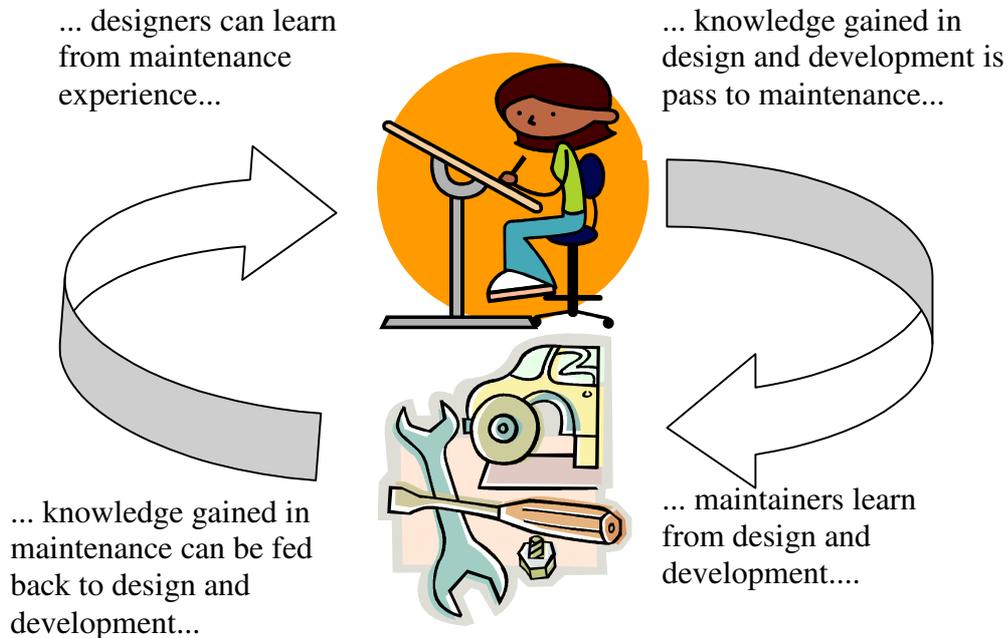


Figure 3 - Create a virtuous learning circle between development and maintenance teams

Having people on site with a customer provides good opportunities to understand what the customer wants from the product, how they use it and what features they need and value. This can be of benefit to both supplier and customer.

Obviously you know your own products best yet competing products will not be too dissimilar and these will need servicing to. You may choose to offer service work with these products to this will increase the size of your market, provide a fuller service to customers and help you understand the competition better.

Customers who buy your product for its innovative features may be willing to pay for ongoing support and maintenance charges and tolerate glitches.

Remember to balance your product development operations against your service operations. Product development generates little revenue by itself and costs are incurred long before revenue is generated. When revenue does arrive there is a simple moment with product is exchanged for cash.

In service operations the cash will arrive shortly after the service is

performed. However services continue to be delivered so cash continues to arrive the business. Managers must seek to smooth the flow of work in cash to ensure a steady flow of work and high utilisation of resources.

Yours service operations should add value to the customer; it is no use shipping a low quality product in the hope of charging them for service. Customers may feel stung if they receive a poor product and hefty service bill. Table 1 illustrates this. It is important to understand the incentives created on both sides by your sales model.

Physical product	Service product	
Sell at profit	Sell at profit	Good position for seller - be careful not to over charge the customers or they may find an alternative supplier. (<i>Continuing Services for Product</i> is being used.)
Sell at profit	Sell at loss, or Sell at cost	Only sustainable in the short run; incentive to create a product that does not need service so this is good for the buyer. Free service may be seen as a type of quality guarantee.
Sell at cost	Sell at loss, or Sell at cost	Not sustainable. If you can't make money for either product or service sales you should quit the market.
Sell at cost, or Sell at loss	Sell at profit	Sustainable if both sides understand the model and incentives are aligned. (<i>Continuing Services for Product</i> is being used.) If <i>Software Ltd</i> agrees to write a special software application for <i>Mega Corp</i> at a fixed price but charge for each bug-fix then it will be in <i>Software's</i> interest to delivery a low-quality product and make profits on bug fixes. If on the other hand <i>Software Ltd</i> agrees to a fixed price contract with a fixed annual service fee it will be in their interest to delivery a high quality product to start with, this ensures ongoing service costs are minimised. Of course <i>Software</i> may still deliver a low quality product, and in the short term this may save them money, but in a long-term this isn't not in their interest.

Table 1 - Source of profits determines incentives when using *Continuing Services for Product*

Consequences Using this pattern the sale and installation are only the start of a commercial relationship between buyer and seller, the initial revenues are only a small part of the overall revenue stream. For such a product the ongoing service revenue, over a number of years, may be far greater than the initial sale price.

As long as your service offering is priced to make a enough profit you can afford to reduce your initial selling price in the hope that you will make a profit on future services. You may even sell your product at a loss provided you are sure can be recover the money on services.

Buying your product solves one problem for the customer but creates another. As the seller you know this first and best, you can solve the customers problem, make your product more attractive and generate a revenue stream for yourself.

Gaining an ongoing revenue stream may allow you to reduce your sales price to gain a sale. It also means the company's future income is in place and is less dependent on *the next sale*.

(Competitors may still win the business if they can show that the total cost of ownership of your product is higher than the total cost of ownership of theirs. However such figures are difficult to calculate and some customers may be prepared to pay a higher price overall if they can reduce their initial capital outlay.)

Using this model to expand your business you must be able to sell more consultants and service technicians, thus you need to hire more people. It takes time to recruit and train new people in technically complex so your growth rate may be constrained. Retaining current staff can also be a problem, especially when they are highly trained and experienced.

Apportioning costs and benefits becomes very difficult - as we see with quality. In the short run it may be more profitable to hold back on new features and quality improvements to reduce costs and boost fees. However, in the longer term this risks the product becoming dated and uncompetitive.

There are opportunities created by having design, production and maintenance with in one organisation. For example, GE has designed software into its aero engines to provide additional information from maintenance services. Increased development costs will be offset by reduced maintenance costs.

If you choose to service competitor products in addition to your own products you must respect your competitor's intellectual property rights. You may become aware of innovations in rival products that you could incorporate into your own products. However, in doing so, you may break, intellectual property law.

Examples	This pattern is itself a variation on the classic razor sales technique - sell the razor cheap and make the money on the blades. Other examples include games console manufacturers (e.g. Sony, Nintendo) who make their money on the games, and printer manufactures (e.g. HP, Lexmark) that make money on ink cartridges. However, in this case, it is a knowledge-based service that is being sold rather than consumables.
Related patterns	<p><i>Its a Relationship, Not a Sale</i> (Rising, 2002) advises us to look the beyond the current transaction and consider the long-term relationship during which time there may be multiple sales.</p> <p><i>Start-up Services for Products</i> discussed the need to provide services to get a product installed and working correctly. <i>Continuing Services for Product</i> goes beyond this model and shows how ongoing services can be sold in addition to the initial product.</p> <p>Services for competing products may include support for Open Source products.</p>
Sources and Known examples	<p>The author has seen this pattern applied in both its functional and dysfunctional versions.</p> <p>Welch (2001) describes GE's entry into the jet engine services market.</p>
Presented	VikingPLoP 2005

An aside: Dysfunctional Product with Continuing Services

There is a dysfunctional version of *Continuing Services for Product*. It occurs when the incentives for seller are misaligned. This is illustrated by the story of Ball Group (a pseudonym).

Ball Group sold software to manage banks' treasury operations. The company had little capital and found the revenue from selling consultancy services useful.

After a while the company had more consultants than developers and made more revenue from selling services than product so the product was sold cheaply. The incentive for Ball Group was to cut corners, spending less on quality and documentation made customers more dependent on consultancy services. This might appear as a win-win: lower costs and higher revenues but it was not a win-win for customers.

For a while Ball Group flourished and grew, staff numbers increased and new product development began. However the model was unsustainable and after several rounds of redundancies the company was acquired.

While Ball Group's product added value to the customers operations the subsequent services did not, work was merely displaced from pre-sale to post-sale. The need to buy services detracted from value of the product.

Customers were paying twice, once for the product, and again for consultants and fixes, this might look good on the balance sheet of Ball Group -who made the customers pay for work which should have been done before the product ships,

thereby reducing their costs and increasing the revenue. Eventually customers would realise the true cost of the product and the low initial quality.

Neither was about being developed for long-term, the only work that occurred was to address the immediate problems or to implement customer requested features.

Meanwhile competitors were developing products with a longer-term view.

Moral: Continuing Services for Products can be Win-Win or Lose-Lose

If implemented well *Continuing Services for Product* can be win-win for supplier and customer. The supplier wins, because they get to increase their revenues and learn more about the full product lifecycle, which in turn allows them to improve the product.

The customer wins, because they get better value for money from their supplier and service organisation, and overtime they get an improved product because the supplier is able to use what they have learned in servicing the product to improve the original product.

However, if implemented badly *Continuing Services for Product* can be lose-lose: the supplier can ship, inadequate product knowing they can hide the defects behind their service contracts, over time these contracts and the product will become more expensive.

The customer loses, because they get an inferior product and an increased total cost. Eventually, they will change supplier.

4.5 Complementor, Not Competitor

“Three years, a lot of activity, and a few billion dollars later, we still weren’t [application software] leaders...

However, one thing we were doing exceptionally well was irritating the heck out of the leading application providers - companies like SAP, PeopleSoft and JD Edwards. These companies were in a great position to generate a lot of business for us ...

What we said to them was ‘We are going to leave this market to you; we are going to be your partners rather than your competitor’.”
(Gerstner, 2003, p. 156-157)

Context	Within your product portfolio you sell two products that are complementary and usually sold together, say Widgets and Foobars. It doesn’t make sense to buy one without the other. You are not the only company selling such products but most of your competitors sell just Widgets or Foobars. Indeed, some people buy your Widgets and use them with other people’s Foobars. (The reverse seldom happens even if it possible.)
Problem	How do you arrange your product and services portfolio so you maximise your profits and don’t loose money on products?
Forces	<p>Customers look to buy a total solution of Widgets and Foobars, and this is what you have traditionally sold. But, while your Widgets are very good there are better Foobars on the market. Customers may choose to buy Foobars elsewhere and your competitors are unlikely to recommend your Widgets to go with their products.</p> <p>Developing both Widgets and Foobars has allowed you to innovate in the past but your competitors are focused on innovation in Widgets or in Foobars, having both does not offer a lot more opportunities for innovation.</p> <p>By selling these products together you make a bigger sale so the revenue is greater but when you look at it in detail you are making most of your profit from the Widgets.</p> <p>Both Widgets and Foobars are expensive to develop, Widgets make money but Foobars are less profitable and may be losing money.</p> <p>Traditionally both Widgets and Foobars have fitted with your <i>core competencies</i> (Hamel and Prahalad, 1991) - the production of both was important in your business. But your business strategy and core competencies have changed, Widgets, but Foobars are no longer core to your business. Even if you still make money on the sale of Foobars they may not fit to be a long-term goals.</p>
Therefore...	
Solution	Concentrate your activities on the most profitable part of the solution, discontinue the less profitable parts and replace the missing pieces with ones from other producers. Rather than

competing with everyone seek to complement those who can help you sell more of your most profitable products.

Customers will want to buy Widgets and Foobars, now you no longer compete with the Foobar makers they can be a source of customers. Work closely with Foobar sellers, get to know their products and form strategic partnerships to ensure their products work well with your Widgets.

Discontinuing a loss making product should immediately help your balance sheet. By partnering with others you can increase sales revenue for your profitable products - a classic *win-win* situation.

You need to prove to your new partners that you are committed to this strategy. Move fast and decisively to show that you are now a friend not an enemy. Foobar manufacturers could still recommend one of the other Widget manufacturers so work together to be the best Widget for their Foobars.

Consequences You no longer supply a total solution with your own products, you sell your most profitable product and complement it with third party products to offer a total solution.

Opportunities for innovation between Widgets and Foobars are more difficult to find and exploit, however, you can be more focused on innovation in Widgets.

Sales of Widgets only may be smaller but they will be more profitable, plus you are hoping to sell more Widgets by working together with the Foobar manufacturers. You may look to make up revenue from consultancy services too (see other patterns in this paper).

You have saved the cost of developing an expensive product. Product development costs are lower, the cash may be used elsewhere, say, in new products or services.

However, if you will need to ensure that your Widgets are compatible with the various Foobars available elsewhere. Ensuring compatibility can in itself be a timely and costly endeavour.

Customers are no longer locked into your products; they now choose your products because you have the best solution to their needs, not because they have no choice.

New partners may seek to lock you into their product; if you become dependent on one Foobar maker you will be in a weak position if they ask for special consideration and price cuts. Work with several Foobar partners so you have the choice to walk away from a deal if a partner asks too much.

Examples Games console manufactures usually lose money on each console sold while making large profits on the games for the consoles. After selling over 6 million Dreamcast consoles and losing \$500 million, Sega left the market in 2001 and chose to focus on producing software for Sony, Microsoft and Nintendo consoles. In 2004 Sega

merged with Sammy and made healthy profits in 2005.

Related patterns

Contrast with *Continuing Services for Product* where the sale of one product - possibly at a loss - allows you to make money from a second.

You still know a lot about Widgets and Foobars so you may also be in a position to sell integration services – see *Product Integrator*.

Sources & Known Examples

The Economist (Anonymous, 2001) details the Sega story, while Louis Gerstner (2003) tells the IBM story at length.

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Aside: Competitor not Complementor

There is a mirror image to this pattern. Sometimes a company which could be a complementor in a market decides to enter the market as a competitor. For example, at around the time, Sega decided to leave the games console market Microsoft entered the market with their Xbox console.

The firm spent millions of dollars researching and developing the new console to enter the same highly competitive market Sega was leaving. Microsoft could have chosen to play the role of complementor and develop games for Sony and Nintendo consoles but instead chose become a player in the market themselves.

Microsoft reasoned that despite the cost of entering the games console market. It was a market they had to be in as part of their overall strategy. To enter the market the company leveraged their existing core competency of software development but had to develop new competencies in hardware development and console marketing.

4.6 *Services Trump Products*

By the early 1990's IBM was in trouble, companies where buying PC's not mainframes. The company realised that customers wanted services and results rather than products. As the IT industry became more complicated customers would rather pay someone else to provide IT. So, IBM re-invented itself as an IT services company.

Context	<p>You have high brand awareness with customers and your products have a good reputation. Yet sales growth is slowing or declining.</p> <p>Your market may be nearing saturation, or, maybe competitors are producing better (or cheaper) products, maybe your market has changed - new products don't have the margins of old products.</p>
Problem	<p>How do you grow your business when selling more products doesn't work any more?</p>
Forces	<p>Customers want your product not for its innate qualities but for the capabilities it provides, e.g. they aren't interested in buying a computer for its technical specification, they are interested in running a stock-control system.</p> <p>The products you sell are increasingly commodities; customers can buy similar products from competitors. Consequently, you're forced to compete on price, but you do not have a price advantage, your company is not designed to be a low cost producer, neither do you believe you can become a low-cost producer, any time soon.</p> <p>Your business is centred on the first stage of the value chain (the product part of Figure 2), growth and profits are increasingly difficult to get in this stage, but the later stages of the value chain still offer opportunities. Even as the products become increasingly commoditized, the opportunities to add value, and later in the chain increase.</p> <p>Your product is just one part of a bigger solution. There are a host of activities that occur around your product. But, it is these activities that add value to the customers not your product itself.</p> <p>Since these activities add more value there is more profit to be had from supplying these services than there is from supplying the product.</p>
<i>Therefore...</i>	
Solution	<p>Use your experience from selling products to sell services in the same industry. This allows you to move to a more profitable part of the value chain.</p> <p>Selling services may help you to sell even more products (see <i>Start-up Services for Products</i> for examples) or it may mean you have to drop products so you can work with different suppliers - see <i>Complementor, Not Competitor</i>.</p> <p>Unlike a one off product sale, a service contract represents an</p>

ongoing commitment by both buyer and seller so the revenue stream will continue. You may earn less from a sale on day one but overtime, your total income will be greater

Providing a service is different from selling products, sales are based on relationships not short transactions. It is important to ensure compensation schemes are aligned to support the new goal not the old one..

To justify customer trust and costs you must show customers that the end result is noticeably better, this involves a number of intangible factors. Although these intangibles are difficult to get right and quantify they are the important in beating competitors.

Scaling up a services business can be more difficult than expanding a product company. Service delivery is inherently dependent on the people delivering the service, finding the right people, motivating and retaining them rather. Growth is no longer simply about manufacturing and selling more products, it is about hiring the right people and helping them work in the most effective manner possible.

Try to find some *Local Prophets* and use these people and groups to help create your new organization, e.g. IBM built on the experience of the ISSC group (*IBM, 2002, Gerstner, 2003*).

Even if the company is retreating from product activities and laying off staff you may need to hire staff in your services business. Similarly, you may find the need to buy in more services expertise to provide more skills and experience in your new strategy.

This pattern is not just about retreating from one sector and expanding in another more profitable sector. It is about building on what you already know and serving your customers better.

Consequences You no longer sell a commodity product; you sell capabilities as a value adding service. Rather than sell the computer you sell the results of the computer. This is reflected in a improved profit and growth.

The sale focuses on the final product rather than the individual pieces and activities that go to make up the results. You address the customers needs directly rather than showing how your product allows others to address their needs.

If your analysis is right the services you supply will carry a higher profit margin than products. This is especially true where products are becoming a commodity - and products become a commodity faster when common standards are in place.

Examples IBM is one of the best known examples of a product company that has converted itself into a services company. There are many other examples in different industries, e.g. Home Depot (Buckley and Liu, 2004) in the US home improvement market and Rolls-Royce (Anonymous, 2005) aero-engines.

Another, less successful, example is the UK based *Boots the*

Chemist. In the late 1990's supermarkets started to undercut Boots prices, its brand name offered little protection.

Boots responded with "Wellness" centres. The company had long offered optician services through Boots the Opticians, now it added dental, aromatherapy and other "medical" services. However, the company found it difficult to produce profit from these operations and in autumn 2004 the company sold the dental and laser eye treatment operations.

Related patterns

Complementor, Not Competitor can be used word you wish to offer services for products produced by (former) competitors.

Compensate Success (Coplien and Harrison, 2004) discusses the need to ensure that your employees are rewarded in line the company's goals.

This pattern has similarities to *Continuing Services for Product*, both are about product companies that move into services. However, in *Continuing Services for Product* the company expands into the sector while in *Services Trump Products* the company retreats from product.

Sources

Home Depot is described in the Financial Times of 9 May 2004 (Buckley and Liu, 2004).

Lou Gerstner describes IBM's change of strategy in *Who says Elephants can't dance?* (Gerstner, 2003)

Boots strategy is described in *The Economist* (Economist, 2001) and the companies own press releases (Boots, 2004) on its website.

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4.7 *Services Before Product*

The author once worked for a British company that pioneered handheld PC's. The founders had left a previous company and undertaken consultancy projects before raising enough capital to develop a 8088 based pocket PC.

Context You have an idea for a product; you have some expertise and a little money but not enough of either.

Problem **How do you leverage your existing expertise and money to get closer to your goal of creating a product ?**

Forces You need money to develop products but those with money (e.g. business angels and venture capitalists) expect to see some business plans. Worse still, there may not be anybody willing to risk money in your field.

In order to develop business plans you need get into the market, but you can't get into the market without something to sell.

Founding a company requires good timing. Founders need to be ready to quit their jobs and join the new company, business plans should be laid out, funding should be in place, the sales pipeline should be ready to go. But, getting all factors to coincide can be difficult and delay the endeavours. Delays may lose customers (who find other suppliers) or founders may be offered attractive positions elsewhere.

Therefore...

Solution **Fund your new company by providing professional consultancy services in the same field as your envisioned product.** Increase your expertise and knowledge of the field and, improve your cash position.

Selling expertise through consultancy services requires less preparation than developing and manufacturing a product. Cash can be produced relatively quickly thus allowing you and other founders to eat while you develop products and business plans.

(This is not to say, consultancy provides for a free lunch, creating a consultancy will require expenditure. However, cash can be generated more quickly via consultancy than through product development.)

Being in the market allows you to identify potential customers, their needs and where existing products fail. You will also be able to meet potential competitors and complementors.

When your knowledge and cash reserves are good you can start to develop products for sale.

There are risks in changing your business model. Changing from a services based to a product based company is not simply a case of "flipping the switch." Culture, people and financing are all

different.

Consultants and product developers are different. People hired to work as consultants may not want to work on product development when the time comes to switch, similarly, product developers might not like the idea of spending time with customers and in hotels until the cash is available for product development.

Consequences Being in the market increases your credibility when you go looking for funding. You can refine your product ideas, your marketing, your strategy and expand contacts. Even if you have not been able to start developing product you will be able to make a better case for the product.

You have entered the market by selling yourself. As a short-term move this gets you exposure to the market and cash, you can enhance your technical knowledge and understanding of the market.

This move also buys time to get organised - the founders don't have to all join on day one. As you develop the sales pipeline you can bring more people onboard. However, while you are organizing and improving your knowledge the market is moving forward, you have also provided time for potential rivals to enter the market too.

Consultancy work can provide a steady, lucrative, cash flow. This can be addictive. Using your staff for product development will cut cash flow until the product is ready. Product launch can be expensive and risky; the promise of cash today may be more appealing than cash tomorrow.

Indeed, provided you are successful at offering services you should consider the need to change your business plan altogether. Just because you originally envisaged producing products does not mean you have to produce products someday. If there is good money made in services than there is no reason to stop.

Examples John is CEO of a small software company in central England. The company makes money by developing software for other businesses. Profits are used to help develop the company's own products. The time has been used to focus the company on markets where its technology is useful.

Also known as Bootstrap

Related patterns Contrast this pattern with *Services Trump Products*. In both patterns the company provides services, however, in one the company is moving from products to services and in the other the company is moving from services to products.

Early versions of the product may provide an opportunity to follow *Continuing Services for Product*, later, when the product is better developed consider *Complementor, Not Competitor*, other firms may supply the services and allow you to concentrate on the product.

It is important that you whole know which pattern you are

following. Problems can occur when people are pursuing different objectives.

Sources & Known Examples

Authors observations

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History

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