

A few more business patterns

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1 Abstract

Author expands on earlier patterns of business strategy to investigate how patterns may cover the whole business domain. Having shown earlier how patterns may be used to characterise corporate strategy the author is now seeking to drill down into implementation, from large-scale patterns down to smaller ones.

Several common business practices are presented in pattern form:

- Self-Service
- Core Product Only
- Personal Service
- Common Parts
- Simple Product Variations

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 product strategies may be applied. This group includes both students of the subject and new managers.

3 Background

The patterns given here are a continuation of the author's earlier work (Kelly, 2004). The author is seeking to explore the use of patterns in the business domain. Having shown how patterns may be used to characterise corporate strategy the author is now seeking to drill down into implementation, from large-scale patterns down to smaller ones. This parallels Alexander's description of patterns:

“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)

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>.)

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.

These patterns already exist in the minds of many business specialists - entrepreneurs and consultants who have little need of explicit pattern documentation. Yet these patterns are not shared so widely in modern society - a society increasingly governed by the business paradigm and the implicit patterns of the paradigm.

Alexander states:

“So long as the people of society are separated from the language which is being used to shape their buildings, the buildings cannot be alive.”
(Alexander, 1979, p.241)

We can draw a parallel between the construction of physical buildings and the construction of enterprises - an activity tellingly referred to as “building a business.” As with Alexander's work, turning implicit pattern knowledge into explicit pattern documents is an important step in sharing this knowledge. By sharing we close the gap between people and business thereby improving the quality of life and opportunities for all.

To continue the parallel, architectural “patterns do not come only from the work of architects and planners” (Alexander, 1979, p.199) and similarly business patterns do not need to come only from business consultants and managers.

Explicitly documenting the patterns has additional benefits. The process focuses attention on the act of design, the forces leading to the choice of a design and the consequences (both positive and negative.) The document highlights the role of implementation - “how do we build this design?” - too often business writers expound grand ideas without suggesting how these can be implemented.

Yet patterns are not a form of master planning, they are generative in nature and no two instances will be the same, each will have its own variations. Our experience and learning when implementing our first pattern will influence our choice of second pattern and lead to our own modifications.

In this way, pattern languages start to sound like business strategies:

“few, if any strategies can be purely deliberate, and few can be purely emergent. One suggests no learning, the other, no control. All real-world strategies need to mix these in some way - to attempt to control without stopping the learning process.” (Mintzberg, 1994, p.25)

The pattern form allows us to examine the underlying design while proving space for emergent variations and the generation of new patterns.

4 The Patterns

4.1 Pattern map

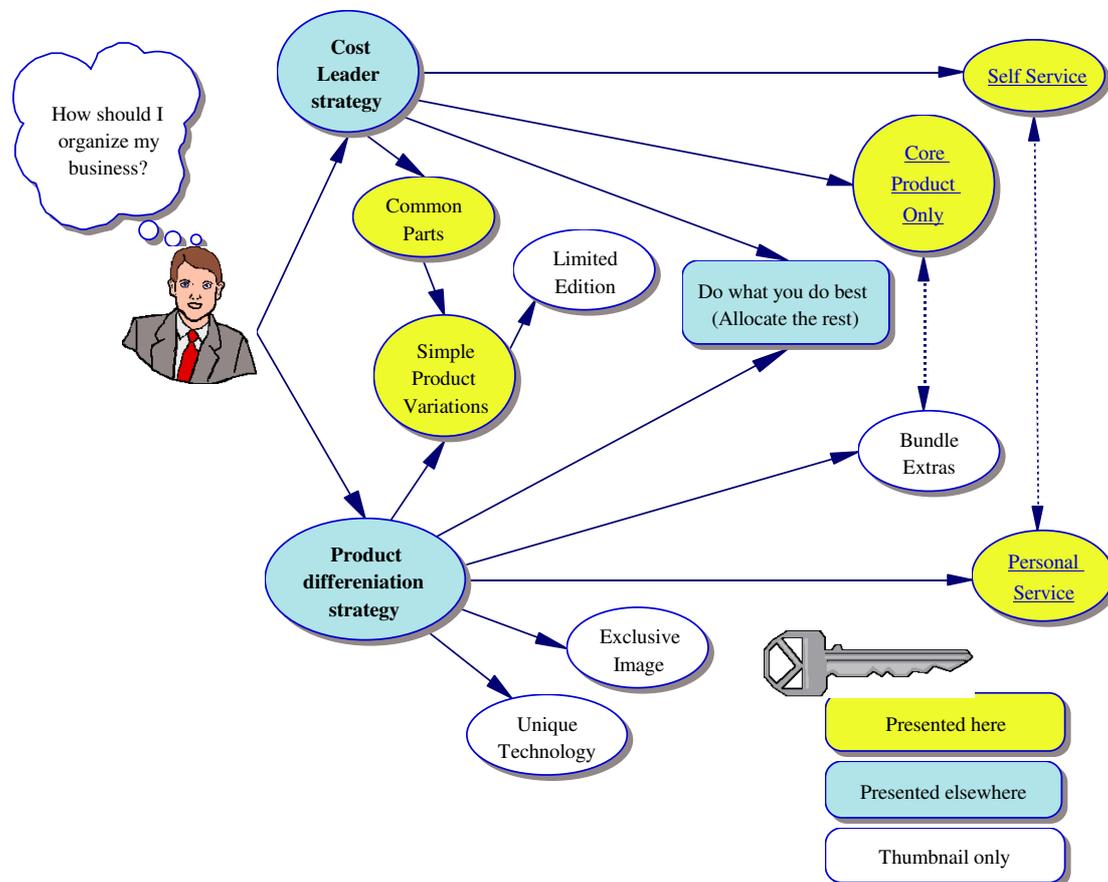


Figure 1 - Pattern map

4.2 Thumbnails

Cost Leadership (Kelly, 2004)	Build an organization that can produce your chosen product more cheaply than anyone else. You can then choose to undercut the opposition (and sell more) or sell at the same price (and make more profit per unit.)
Differentiated Product (Kelly, 2004)	Build a product that fulfils the same functions as your competitors but is clearly different, e.g. it is better quality, novel design, or carries a brand name. Customer will be prepared to pay more for your product than the competition.
Do What You Do Best (Allocate the Rest) (Kavanagh, unpublished)	Employ other staff to do routine tasks involved in running a business, or tasks that can easily be allocated to other staff.

Self Service Page 5	Reduce staff costs by having customers undertake part of the service delivery themselves. Customers often perceive quality to be higher when they take part in the delivery process.
Core Product Only Page 8	Reduce costs by only supplying the core product, anything extra should be billed separately.
Bundled Extras *	Differentiate your product by supplying extra features as standard.
Personal Service Page 10	Differentiate your service by providing enough staff to give each customer personal attention.
Unique Technology *	Differentiate your service or product by using unique technology to produce a better offering.
Exclusive Image *	Differentiate your product by creating an image of exclusiveness around the product.
Common Parts Page 12	Using a few common parts in the production process allows for savings, but this practice shouldn't be carried through to customer products.
Simple Product Variations Page 15	Product variations allow you to differentiate your product from competitors and provide your customers with a choice they value. But variations can be expensive to produce and support; therefore, offer simple variations on the product, e.g. choice of colours.
Limited Edition*	Produce a special version of your product but artificially restrict supply. By creating a sense of exclusivity around and making it well known that supply is limited you will differentiate the product and be able to charge a higher price.

*These patterns are described in thumbnail only.

4.3 Self-Service

Banks, petrol stations and supermarkets all encourage customers to self-serve. Ikea has extended this to bulky furniture purchases which customers pick themselves from the warehouse selves.

Context	<p>Your organization is following a <i>Cost Leadership</i> strategy.</p> <p>The service involved in delivering your product is not very demanding, there is little specialist knowledge involved and the steps are well known - both within your organization and by the customers.</p>
Problem	How do you reduce costs while maintaining service standards?
Forces	<p>Your organization needs to reduce costs but a large portion of your costs are your people who deliver the service or product.</p> <p>Reducing staff may reduce costs but reducing staff reduces the service experience, e.g. queues are longer. This will deter some customers and reduce revenue.</p> <p>Customers don't like to be kept waiting, they like staff who pay attention, look after them and provide personal service, but customers also like to be in control of the process themselves, they don't like being dependent on others.</p> <p>Customers are cost conscious but they expect a certain level of service, if you make them queue for too long they will choose another supplier even if that supplier is more expensive.</p>
Therefore...	
Solution	<p>Build a service process that can be operated by customers and allow customers to serve themselves. This will allow you to remove staff and reduce costs.</p> <p>Start by examining your process carefully, it may need to be simplified or split into discrete steps; offices may need to be redesigned (more front-office space for customers and less back office-space for staff) or new simple-to-use technology introduced for customers.</p> <p>There are limits on how much process can be turned over to customers. For example, security and safety concerns mean asking airline passengers to screening their own baggage would not be wise. Legal restrictions may also present barriers.</p> <p>Over time, with creative thinking, more and more processes can be given to customers. Try process modifications, try self-service options and see what happens, not all changes will work but you can learn from your experiments.</p> <p>Alternatively, only allow trusted customers to self-serve (e.g. some airlines only allow frequent flyers to perform self-service check-in) - this can help enhance the sense of privilege for these customers.</p>

Consider running a pilot scheme before converting your whole operation to self-service. This will help you understand what can be achieved and what problems you will encounter. You will also be able to measure customer reaction.

Consequences When customers perform tasks previously undertaken by employees fewer workers are needed, companies may reduce their work force and their wage bill thereby reducing direct costs.

Process redesign may by itself improve the customer experience and accelerate delivery.

Lower costs may be passed onto customers so improved services and lower prices may both be possible.

Despite shifting some of the work from employees to customers your customer may consider the result better quality. They now have a sense of control over the process; they are no longer dependent on another person.

For a growing company the need to hire more workers can limit the speed of growth (it takes time to hire people.) Thus, companies employing a *Self-Service* model may be able to expand faster than rivals.

With most of the simpler tasks undertaken by the customer the remaining staff will find their role changed. While some of their time will be spent helping customers with the new process and machines more time will be spent with customers who's needs are more complex.

Not all customers may appreciate the move to self-service. Some customers may resist any change while others may not like the new system. Other customers will have difficulty accessing the new style service - Ikea stores are difficult for those without a car and wheelchair users need help with flat-pack furniture.

Additional costs may be incurred while you switch to the new processes, e.g. refitting office/shop space, investment in ATMs and training staff in their new role. In the long run costs will fall.

The hands-off, scripted nature of self-service deprives the organization of opportunities to get to know their customers and understand their needs. This makes it more difficult for companies to see new opportunities and cross sell products. For example, an old style behind-the-counter storekeeper can always recommend a complimentary product to a customer but a supermarket checkout operator and has little opportunity to do likewise.

Examples Examples of *Self-Service* are abundant, the internet has created many more opportunities, customers can now read product specifications online instead of asking a sales clerk.

Even more advanced transactions are candidates for self-service. For example Amazon uses self-service over the internet not only for

purchases but also for returns. Customers can print out their own return forms complete with bar codes.

Also known as Outsource to customer

Related patterns *Personal Service* is the reverse of this pattern.

4.4 Core Product Only

Budget airlines are famous for providing basic flights with none of the extras provided by full service carriers, e.g. in-flight meals and drinks, frequent flyer programmes, connection guarantees, etc. These represent savings in their own right but bring additional benefits, e.g. less food onboard an aircraft means less cleaning is needed, and turn-around times can be reduced because meals do not need to be loaded.

Context You are following a *Cost Leadership* strategy in an established market with established competitors offering well known products.

Problem **How do you reduce costs when selling a well-defined product?**

Forces By offering a low price product you can grow the market and/or increase your market share. But, low priced products have slim profit margins.

Like your competitors your products and services come with a number of “frills” e.g. loyalty discount programmes, but, these are not essential to the product. These add costs directly - the cost of supplying them - and indirectly - by reducing focus on core product.

Therefore...

Solution **Only sell the core product, don't bundle anything that is not absolutely necessary.**

Look again at what you think is the standard product. What extras do you get?

Many products come bundled with extras that are not strictly necessary, e.g. computers with software packages. For a firm following a rigorous Cost Leadership strategy these extras drive up the price of the product.

Consequences Selling a reduced product should immediately lead to lower costs, e.g. budget airlines do not need to buy in-flight meals. By passing these savings directly to the customer you can undercut rivals and differentiate your product.

Stripping extra's may bring other benefits too, for example, boxes can be smaller so saving on packaging; while forgoing loyalty programmes saves on the IT systems needed to run them. Less obvious benefits accrue too: fewer in-flight meals means faster cleaning of aircraft which can be turned around quicker, thereby improving utilisation and allowing you to sell more flights with the same number of planes.

Customers can choose complimentary products themselves to add to your product - thus creating their own packages, e.g. rather than purchase a package holiday a family may buy flights from EasyJet

and accommodation from Ibis. As with *Self Service* greater customer control translates to greater customer satisfaction.

Value-added resellers may incorporate your product is part of their offering, or they may create additional distribution channels for your product.

Other companies may offer additional services and products to complementor yours, e.g. PayPal complemented eBay by offering a useful service not provided by eBay.

Fewer extras in the basic package provide for more opportunities to actively sell extras thus providing the chance to increase revenue. However, be careful not to overreach yourself and sell products beyond your competencies, apply *Do What You Do Best (Allocate the Rest)*.

Be careful how far you go with unbundling, customers may bite back by giving your product a poor name; competitors may bundle extras to promote their product.

There are also legal limits to how far you can pursue this strategy. The budget airline RyanAir charged a wheelchair user an extra £18 but was taken to court and found guilty of discrimination (Adams-Spink, 2004, BBC News). Apart from the £1,336 fine (and costs) the airline received much adverse publicity.

Sometimes the extras are actually essential, e.g. batteries for remote controls, local taxes on hotel rooms. Customers who have been bitten by extra *hidden costs* may not trust your company again.

Examples

Car companies and sales staff regularly reconfigure deals, one month they may be removing extras to provide a low *sticker price* and the next month adding extras to attack competitors.

Also known as

Unbundle the product, Charge for extras, No frills, Stripped down product

Related patterns

4.5 *Personal Service*

In the USA drivers are often able to choose between self-service gas pumps and full-service pumps where they pay extra to have their gas pumped; frequently both options are available at the same station..

Context	The company is following a <i>Differentiation</i> strategy and has identified a market segment that will pay more for the same basic product. Many or all of your rivals follow a <i>Self-Service</i> strategy.
Problem	How do you differentiate your company when the basic product is the equivalent to your competitors?
Forces	You want to realise extra revenue from the segment you have identified, in order to do this you need to differentiate your product. But, economies of scale mean you must stick close to the basic product or service. Using a self-service model keeps prices down but there is a quantifiable difference in the quality of delivery. Some customers would prefer not to self-serve and can afford pay more. Using more staff would allow you to differentiate the product, but these staff are expensive to employ and you would be forced to raise prices to cover the costs. Raising prices will reduce sales. More staff in uniforms may look better, but if these staff are not given authority the customers experience will suffer - staff will spend much of their time referring to managers with authority
Therefore...	
Solution	Employ more staff than is absolutely necessary so each customer can be given personal service. Your product will be differentiated from the competition thereby allowing you to increase prices by more than is needed to cover increased staff costs. Even if you lose some customers your profit margin should improve. Staff should be trained so they can provide a high level of service and empowered to resolve problems. Allow staff to make decisions, and even spend money, which will immediately improve the customer's experience.
Consequences	Providing <i>Personal Service</i> when most of your competitors are using <i>Self-Service</i> is a clear differentiation of your product. Staff who are knowledgeable about the product, helpful and have authority to act and make decisions will further increase your differentiation from competitors employing "MacWorkers." The personal attention given by the staff makes the customers feel valued and privileged. This helps justify the extra price your company charges for what is essentially the same basic service. Customers will be prepared to pay higher prices for improved

services. Customers who experience good service are more likely to return and purchase your product again.

Staffing requirements based on peak load ensure customers can be served in a timely fashion. Consequently, at other times staff may appear idle and unproductive, this is a natural result of staffing for peak load rather than optimal throughput.

Employees are able to better understand a customer's needs and demands. This places them in a good position to cross-sell additional products and thus recoups some of the additional expense.

Examples

The British bank First Direct (a division of HSBC) is a telephone and internet only bank, yet the bank shuns automated answer systems and staff members always answer customer calls no matter how small the query.

American supermarkets often employ grocery packers to help customers at the check-out. One British supermarket copied this idea but instead of employing extra staff expected the checkout operator to pack and scan thus making for longer queues. Since customers were already accustomed to packing their own groceries the longer queues made for unhappy customers.

Also known as

Personal Service is the opposite of *Self-Service*, most companies will operate somewhere between the two extremes, consciously or unconsciously. Both patterns are only applicable while they differentiate your product from the competition - either by providing better service or lower prices.

In order for either pattern to be truly useful you must apply it beyond the current standard in an industry. If all supermarkets normally pack bags then offering this service does not bring benefits, *Personal Service* must go beyond bag packing, perhaps providing a personal shopper, or dedicated check-out represents improved service.

Likewise, for a supermarket to get advantage from *Self-Service* it must take it to a new level, for example, by having customers scan items themselves rather than the checkout operator.

4.6 Common Parts

Southwest Airlines only uses Boeing 737 aircraft. Maintenance and flight crews only need to learn one aircraft, ground-handling operations can be common for all routes, spare parts and backup-aircraft are simpler to manage and require less inventory.

Context	<p>Your organization is applying the Cost Leadership pattern so you want to optimise your organization and infrastructure to delivery your product at the lowest possible cost.</p> <p>The market is mature and you have competitors.</p>
Problem	<p>How do you produce your product for a lower cost than your rivals?</p>
Forces	<p>Economies of scale mean that spreading costs over the largest possible number of units will reduce average costs. But, always providing for the highest number of units may lead to unsold product, perishable products will be lost and long-life products must be stored or destroyed.</p> <p>In order to exploit economies of scale while avoiding surplus products a firm may attempt to closely match supply with demand. But, doing this involves extra costs - demand must be carefully monitored and an infrastructure provided to match demand.</p> <p>Infrastructure can be expensive to provide. The more variability in the infrastructure the more complex the operation - complexity breeds complexity.</p> <p>Economies of scope encourage organizations to expand into adjacent markets where they can maximise the use of their resources and infrastructure. But, this adds more complexity to operations and makes it difficult to see the core business. Non-core markets can distract managers and profit figures may be distorted as it becomes difficult to disentangle markets.</p>
Therefore...	
Solution	<p>Seek to exploit economies of commonality rather than scale or scope by providing your product/service by using common components.</p> <p>Offering fewer product variations can also reduce supply costs. By reducing the variety of parts needed you can remove complexity, simplify training and improve management focus.</p> <p>Some revenue may be lost because you do not provide a special variation, or because you have deliberately limited you capacity but this will be more than made up for in cost savings.</p> <p>Further savings accrue from the simplification of your systems and infrastructure. Since the focus is now on selling against competitors, rather than closely matching demand, price can be used to maximise</p>

revenues. Staff can focus on buying and/or selling a smaller range of parts.

By voluntarily forgoing some opportunities for economies of scale and scope you create others based on the components in use. Staff and managers can get to know the parts and products in more detail. This in depth knowledge will help identify additional costs savings and improve the customer experience.

When demand exceeds your supply you raise price rather than increase supply. If you are competing in a new market with none, or only a few, competitors such action would invite competitors to enter, however in a mature market (the context of this pattern) you are seeking to steal customers from existing competitors.

Consequences Using more common parts allows greater economies of scale. These may appear in a number of forms, most obviously: greater purchasing power with suppliers, longer production runs, smaller inventories and reduced set-up time (no need to switch between different parts).

Enhanced inter-changeability within the infrastructure (consumables, raw materials, machines, spare parts, etc.) allows inventory and unsold goods to be reduced. Similarly staff training costs can be reduced as staff need only be familiar with a few common pieces of equipment.

Some economies of scope are forgone in order to maintain commonality. Firms only offer additional products where there is a high degree of commonality, e.g. Southwest Airlines offer multiple travel products (flights within the USA) which it can reliably service with its infrastructure, it does not offer trans-Atlantic flights which would provide economies of scope but would require different infrastructure.

In some cases you may be able to expand capacity by repeating the existing product rather than expanding capacity, e.g. a theatre can add a second performance rather than move to a bigger venue.

Customers typically like variations and choices in their purchasing options so providing them with a *one size fits all* product can prove unpopular or provide opportunities for competitors. Famously Henry Ford only supplied one car, the Model T, in one colour, Blank; Alfred Sloan at General Motors used a range of models and colours to out compete Ford.

Producers need to balance the economies of scale offered by *Common Parts* with the need for variety and choice, sometimes *Simple Product Variation* can be applied simultaneously.

Alternatively, provide variation in *Core Product Only*, use standard parts to deliver different services, e.g. Southwest Airlines only uses 737's but customers are more interested in the route than the airplane.

Standardisation also brings dependency; if a part is found to be faulty the disruption is greater. Southwest would cease operations if a design fault were found in the 737.

You may hide the *Common Parts* from customers, e.g. Ford shares parts “under the skin” between the mid-market Mondeos and up-market Jaguars. As long as the main product is not compromised the pieces can be common.

Variations

Heterogeneous parts can be bundled together into homogenous packages. This principle changed the face of the freight shipping industry in 1956 when Malcolm McLean introduced containerised shipment aboard the *Ideal X*. Containers can be treated as *Common Parts* while in transport and split open on arrival.

In contrast to most other budget airlines EasyJet now operates a mixed Boeing 737 Airbus A319 aircraft. The company claims that for a larger firm a limited number of small variations will not affect the economies of scale.

Examples

Many software firms only produce their products for just one platform. The costs of supporting other operating systems or CPUs are too great.

Also known as**Related patterns**

Budget airlines such as EasyJet combine the patterns, *Self-Service*, *Common Parts* and *Core Product Only* to reduce costs and prices in the airline market. By so doing new growth opportunities were created in a relatively mature market.

4.7 Simple Product Variations

After the success of the iMac Apple launched a range of iMacs that differed only in colour. Economies of scale extended across all machines so the production costs were the same for each machine, but the company had created several new products and differentiated themselves from competitors.

Context	<p>You are following a <i>Differentiated Product</i> strategy but your customers are price sensitive.</p> <p>You are not in a position to offer <i>mass customization</i> (Pine, 1993) to customers.</p>
Problem	How do you make your products different without increasing costs?
Forces	<p>Economies of scale are attractive, they allow prices to be kept low but the resulting mass production limits the scope for variations.</p> <p>Customers like to be offered a choice, an opportunity to show individuality, but they cannot afford - or are not willing to - pay higher prices.</p> <p>The economies of commonality offered by <i>Common Parts</i> are attractive but your customers want some variations and choices. (You remember Henry Ford's experience.)</p> <p>Segmenting customers into different groups allows firms to charge different prices to different customers - thus increasing revenue. But if each segment is offered a different product costs will escalate.</p>
Therefore...	
Solution	<p>Offer a basic product with several simple variations, keeping the variations simple will keep them cheap - Apple's variations were only cosmetic differences. Such variations allow you to keep economies of scale so production costs remain low yet you can offer customers a choice.</p> <p>Before implementing this pattern make sure your cosmetic differences really are cheap to offer - switching a factory paint shop between colours is time consuming and expensive for car manufacturers.</p> <p>By adding a simple variation you may even be able to sell the same product again. For example, DVD producers may initially release a film on DVD and later release the same film with extra features, or missing scenes or a "directors cut."</p>
Consequences	<p>Economies of scale can be maximised because the same basic product is being produced with the same parts. The variations offered to customers are cheap and add little to the production costs.</p> <p>Cosmetic differences offer customers choice and individuality but have limited power to segment the market. Buyers are not stupid</p>

and while they value the choice and variation they are unlikely to spend a lot of extra money when differences are obviously cosmetic - Apple offered all iMacs at the same price.

Production costs are not the only cost in supplying customers. While different colours may cost the same to produce products must still be stocked, shipped and sold. Producing too much of the wrong variation may be costly - you may need to discount such products.

Storage costs will increase too, retailers' need to stock each variation to ensure they have the one a customer want. However, online retailers and build-to-order manufacturers turn this to their advantage.

Examples

Car companies regularly use this pattern to a greater or lesser degree. During the 1990's Ford America's Escort was the same car as the Mercury Tracer but badged differently. Both cars derived from the Mazda 323. Ford was able to leverage economies of scale over 3 different products.

Paradoxically, simple variations are not always as simple and cheap as they look. Changing the colour of a car is expensive whether done at production or later. Daimler-Chrysler's SMART division use coloured plastic panels rather than paint, this reduces the price of variation at production time and allows owners to change car colour relatively cheaply - another point of differentiation.

Also known as

Cosmetic differences

Related patterns

Limited Edition: a variation may be priced higher if availability is (artificially) limited.

5 Acknowledgements

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History

Date	Event
December 2004	First draft
February 2005	Submitted to EuroPLoP 2005 conference
March 2005	Shepherding starts with Alan O'Callaghan
June 2005	Final revisions before EuroPLoP
July 2005	Revised to include EuroPLoP comments
November 2005	Minor revisions, prior to conference proceedings

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