Chapter 23

Lock-In Management

23.1 Switching Costs and Lock-In

Besides acquisition costs, each mode of utilizing a(n information) good leads to familiarization costs, be they a website's navigation structure, the different uses of a software application or the page and subject layout of a(n online) newspaper. Getting to grips with a new product requires an effort on the part of someone who is used to a certain product. This can be minimal, if one only switches between different types of cell phone by the same provider, but it can become more complicated when dealing with a competing product's entirely new menu structure. The economist here speaks of switching costs, i.e. material (e.g. buying durable hardware) and immaterial costs (e.g. getting acquainted with a new program) incurred by the user when switching from one product to another. In the extreme case, switching costs can get so high for a user that the actual switch is no longer rationally justifiable: he is in a Lock-In (Shapiro & Varian, 1999, 103 et seq., Varian, 2003, 20 et seq.).

Porter (1980, 10) defined switching costs, or switching barriers, very early on as

> one time costs facing the buyer [when] switching from one supplier's product to another.

The first detailed discussion of the phenomenon of switching costs is found in Klemperer (1987). Generally, in any consideration of switching costs, costs are understood to include not merely a monetary but also a temporal, psychological and/or social commitment of resources. Switching costs thus include any genre of deterrents that make it harder, or even impossible, for consumers to switch providers (Staack, 2004, 151).

The user's switching costs can be separated into two components (Rams, 2001, 38). On the one hand, switching providers generates **direct**, palpable costs. These include the costs of any necessary contract cancellation, the transaction costs for selection and acquisition as well as set-up costs for installing, integrating etc. the

new product. Also included are costs for organizational adjustments and the building up of human resources (e.g. via special training programs) in order to get used to the new product. On the other hand, **indirect** costs are incurred by foregoing any further use of the previous product. The indirect costs include all sunk costs, which are irreversible investments in hardware stocks or product-specific user training courses. Such investments cannot be reversed via decisions made in the present or future. The sole exception is investing in assets with resale value, such as used game or software licenses, or reusable hardware. Another component of indirect costs are the so-called opportunity costs. They represent–generally speaking–the value of foregoing a possible alternative. In case of a provider switch, for instance, the positive value of the previous business relationship is lost. Opportunity costs are particularly significant if the old and the new offer are only tangentially comparable. This is always the case when the previous offer has exclusive features, such as loyalty or patron discounts, which become forfeit when switching providers.

Besides the switching costs carried by the user, the new provider also faces expenses. Klemperer (1995, 518-519) distinguishes between transaction costs for administrating new customers, learning costs for working with the new customers and costs stemming from insecurity regarding their quality. Echoing Klemperer (1995, 519), Shapiro and Varian (1999, 112) thus speak of the "total cost of switching" being the costs to be carried by the customer and the new provider put together. It is thus of no import to their overall volume which of the two parties concerned must shoulder them. It is imperative to always incorporate the switching costs in their entirety, because only in this way can it be correctly analyzed whether the acquisition of new customers is worthwhile.

Apart from these **economic switching costs**, one can also identify psychological and social switching barriers (Peter, 2001, 120 et seq., Staack, 2004, 154 et seq.). **Psychological switching barriers** bind the customer through a positive emotional attitude vis-à-vis his current provider. From social psychology, it is known that people align their preferences in favor of the decisions they have made in order to reduce cognitive dissonance.

> Thus if consumers are initially indifferent between competing products, the fact of using one brand will change consumers´ relative utilities for the products so that they perceive a cost of switching brands (Klemperer, 1995, 518).

Benefit increases due to a new product are weighed by the potential buyer against benefit losses, which leads to an asymmetry: products, or product features already owned are usually rated higher than the possible benefits from switching products (Gourville, 2004, 4). The relationship of trust established between the parties concerned is the decisive factor here. Customer retention can also be the result of **social switching barriers**, which have been established via intensive social relationships (acquaintanceship, friendship etc.) between the market partners.

Switching costs, in the customer-supplier relationship, can be incurred not only by the customer but also by the supplier, in this case the provider (Messerschmitt, 2000, 239). Suppliers who have settled on a specific product design, software components and compatibilities cannot readily reverse these decisions. The switching costs are increased further if exclusive supplier relationships have been agreed upon in a single sourcing context.

Switching barriers for the customer are thus the result of investments made and needs satisfied. The focus of our further considerations will only be switching barriers with an economic aspect. In order to make this clear, we will speak of switching *costs* in the following.

23.2   Switching Costs in Information Good Economy

What kinds of switching costs typically occur in the information good economy? We have already addressed a series of (economic) switching costs above, and these also have a bearing on information goods. In the following, we will concentrate in some more detail on particular, information-good-specific switching costs. Shapiro and Varian (1999, 116 et seq.) name a few that are particularly significant for information goods.

Digital information goods are always stored in certain formats: Microsoft Word text files, for example, have the formats .rtf, .doc or .docx, music files have .wav or .mp3. When switching providers, one's **data stock** can be partly or wholly devalued if the new word processor or audio player is unable to read the files. A conversion of the data into a new format may be possible, but this always comes with a lot of work and the risk of data loss. Customers who have large data stocks in specific formats thus quickly find themselves in a Lock-In.

Each mode of utilizing digital information goods requires **compatible end devices**. The music collection from Sony's former online service Connect, in the ATRAC format, can only be played by Sony's portable players (or licensed products). Customers with a large music library are in a double Lock-In: if they switch providers, they will no longer be able to use their old stock, which requires specific devices in order to be accessed; devices which, again, cannot be used in connection with alternative products. A switch to iTunes or musicload thus becomes improbable. This great Lock-In risk was probably the decisive factor for Sony's music store Connect closing down in March 2008. Shortly prior, Sony had even opened up its playback devices for other formats so as not to endanger further sales.

In order to be used, every information good requires an end device that the user has to get accustomed to. This holds, on the one hand, for traditional information goods like a daily newspaper, with which one knows after a very short time where the weather forecast and the sports results can be found. It also holds, and far more strongly, for all sorts of software-supported output (e.g. via browsers) or software usage itself. The user is accustomed to certain navigation structures, functions or workflows, which makes it less attractive for him, over time, to switch to different

displays and systems. Going beyond personal de- as well as habituation, there are often additional expenses for manuals, schooling or technical support incurred for **product-specific introductory training**.

   Loyalty programs should be mentioned again, as these can be implemented particularly cheaply for information goods. The low variable costs make it easy for providers to make customers attractive offers (reduced purchasing costs, expanded offers etc.) in case of repeat purchases. Particularly in the online business, this practice is supported by the easily attainable and analyzable customer information, which is commonly registered (Shapiro & Varian, 1999, 127 et seq.).

   According to Shapiro and Varian (1999, 110), switching costs are of paramount importance in information good economy:

> Switching costs are the norm, not the exception, in the information economy.

23.3   From Accidental Lock-In to Planned Lock-In

High or even prohibitive switching costs lead to customers continuing to use the product once they have bought it and not switch providers. In Chapter 19, Standardization, we chose as an example for a strong Lock-In the QWERTY keyboard. This case, together with the dominance of VHS in the video cassette market, are often named as examples where better offers (DSK keyboard, BetaMax) were available but could not beat the collective Lock-In (Grant & Nippa, 2006, 442; Beck 2002, 56 et seq., very critically, on the other hand, Liebowitz & Margolis, 1995). In this context, the question arises for companies whether they can influence the occurrence of a Lock-In.

   Lock-In effects had been regarded for a long time as extraordinarily significant yet historically random events in the development of networks. Only in the 1990s did this view change fundamentally in network economics (Erber & Hagemann, 2002, 287), as it became clear that Lock-In effects could be controlled or even artificially created.

> Companies that knew of the significance of positive network externalities in markets for network effect goods were able to use this knowledge in the competition with others in order to leverage this *managed lock-in* strategy into a dominant market position (Erber & Hagemann, 2002, 288).

The costs incurred when switching network providers thus became an important strategic instrument for controlling the market. Particularly new was the realization that switching costs were no longer the result of specific technological distinctions or standards alone, but could be created artificially and deliberately, with

the sole aim of making the switch harder for users (Erber & Hagemann, 2002, 288).

   Next to the externally dictated exogenous switching costs, known and investigated for some time, we thus additionally have so-called **endogenous** switching costs, which can be controlled by the company itself. The latter have not been extensively researched so far (Haucap, 2003, 29). Nilssen (1992) regards artificial switching costs as typically endogenous. Among such artificial switching costs are, for example, discounts as well as loyalty or bonus systems (Metge, 2008, 8-9). Since goods that are ex ante relatively homogenous are made heterogeneous ex post by the existence of switching costs applying to the purchase, providers have the impetus to artificially create switching costs in order to differentiate the product (or service) on offer from its competing products (Klemperer, 1987, 375).

23.4　The Lock-In Cycle

How specifically does a Lock-In come about? Shapiro and Varian (1999, 131-132) regard the development of a Lock-In as a dynamic process over time, consisting of four phases. The starting point is product or **brand selection**–this can be an eBook, a Gameboy or visiting a job placement portal. The first time, this will be a decision by the consumer that is free from switching costs, as switching costs only occur as the consequence of certain decisions. In the second phase (**sampling**), the consumer decides to test the offer. He reads excerpts from the eBook, plays on the Gameboy for five minutes or browses the job portal. Pricing is an important instrument for this phase. Nothing is easier for information providers to make easy, free trial offers. The great danger inherent to this, however, is that the customer will content himself with the trial offer, ignoring the priced alternatives. Customers who assay the product beyond the trial phase enter the third phase of the Lock-In Cycle, the **entrenchment** phase. If the consumer learns to appreciate the author's writing style, likes the games as well as handling of the Gameboy or finds all the relevant information he needs on the job portal, he will get used to the new product and develop a preference, as against other alternatives. He might even make complementary investments. These could be additional games, or the personal configuration of the offers on the portal. This is where switching costs occur. The provider will try to draw this phase out for as long as possible, to prevent the customer turning to other offers; his goal is to let switching costs increase, ideally (from his perspective) until they become prohibitive and lead to a **Lock-In** in phase four. If this point is actually reached, the customer will stay loyal to his provider and, come the next purchase, merely consider other products without actually testing them. Any renewed **brand selection** in the second and all subsequent passages of the cycle will be significantly shaped by the switching costs that apply.
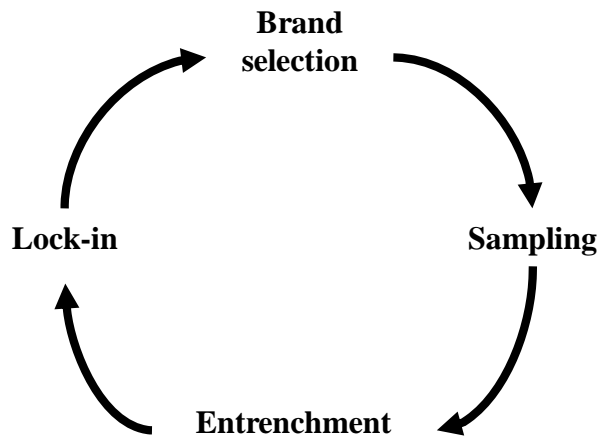
Figure 23.1: Lock-In Cycle. Source: Shapiro & Varian, 1999, 132.

For the provider, it is recommended to not merely look at the first passage of the Lock-In Cycle in order to evaluate a customer relationship, but to take into particular consideration the payment flows to come (Shapiro & Varian, 1999, 133). In this way, he can gauge how much he can invest in customer acquisition. This is particularly relevant if switching costs increase as time passes, as they do in the building of data stocks or in product-specific training. If, on the other hand, they decrease over time, as in the acquisition of hardware that will eventually be discarded, a Lock-In is increasingly less likely. The switching costs must be positive in sum for the provider in order to decrease the likelihood of customer defection.

Hence, Lock-In is a phenomenon that does not occur randomly, but can be actively triggered. In essence, companies can actively manage switching costs. As Lock-In effects are the result of a multitude of factors, however, it is important to exhaust all existing options to generate a Lock-In. Among these are the analysis of the switching costs that inevitably arise for the customer, the artificial creation of switching costs or the wholesale invention of new ones (Erber & Hagemann, 2002, 288).

Shapiro and Varian (1999, 142 et seq.) suggest three steps for strategically exploiting switching costs and Lock-Ins. Step one is the building of an installed base. Corresponding with the phases of brand selection and sampling in the Lock-In Cycle, the goal for information providers must be to build a large customer base as quickly as possible. They can then attempt to bind them by increasing switching costs (entrenchment). These switching costs will then ideally land the customers in a Lock-In. The Lock-In situation, thus the recommendation by Shapiro and Varian (1999, 142) for step three, should then be used economically.

> Maximize the value of your installed base by selling complementary products to loyal customers and by selling access to these customers to other suppliers.

In the following, we will discuss this three-step approach in more detail.

23.4.1   *Building an Installed Base*

A discussion of all approaches to building an installed base would be tantamount to a representation of all previous chapters on the competitive strategies of information providers. In light of this, previously discussed aspects will only be briefly sketched vis-à-vis new ones.

Let us begin with a demonstrative example. In 1995, Iomega developed the ZIP drive (Shapiro & Varian, 1999, 143). This is a removable disk storage system that works the same way as diskette drives and hard drives. These ZIP drives were very popular because they had large storage capacities, by the standards of the time, holding 100 MB, and were very easy to handle. Floppy Disks, still prevalent at the time, had a storage volume of 1.44 MB. ZIP drives were constructed to accept only ZIP-compatible diskettes, which in turn were exclusively manufactured by Iomega. Iomega's plan was to create an installed base of ZIP drives, in order to sell the diskettes–at a high price–to the locked-in customers. In order to implement this strategy, Iomega used extensive promotional pricing, offering large discounts on the drives, even selling below manufacturing costs. Iomega wanted to distance the competition (e.g. Syquest, Imation) quickly and hoped for positive network effects (e.g. via word of mouth) to occur and that the good diskette margins would lead to profits. Up until 2004, around 50m drives and more than 300m diskettes were sold.

From today's point of view, Iomega used its strategic options well. An innovative product with obvious added value was brought on the market. Penetration Pricing was used in order to push the basic good onto the market in order to create direct network effects. The selected pricing strategy signaled that Iomega was convinced of the quality of its offer and did not fear customers' valuation of its products. At the same time, information asymmetries were reduced via the relatively low introductory prices, which set the hurdle of buying a ZIP drive low. Profits were generated via the captive offer of complements. Cross-subsidization was implemented. The final goal for Iomega was probably to set a proprietary standard, which would have allowed it to realize above-average returns over a longer period.

The fact that this form of power play with a new, revolutionary, incompatible technology did not succeed was probably due to alternative, cheaper storage technologies such as (re)writable CDs and particularly USB flash drives being available too soon. Additionally, technical problems occurred after some time of using the ZIP products: a dirty or out-of-adjustment writing/reading head could damage or even destroy both diskette and drive. The news of the "click of death" (Festa,

1998) went around and created negative publicity. Besides, the price for the diskettes was and still is very high.

What can we learn from this case? An important factor in building an installed base is the market position. Can a provider enter the market as first mover, or is there already a competition that has tied a part of the customers to itself? The pioneer has a clear advantage with regard to acquiring new customers undisturbed by the competition. Nevertheless, there can be switching costs, namely via any existing predecessor products that are used by the customers. Many consumers, for instance, were in a Lock-In regarding LPs and acted very reticently during the transition to CD (Shapiro & Varian, 2003, 56 et seq.). Likewise, there were many employees who were very familiar with the spreadsheet application Lotus 1-2-3 and had little desire to switch (Shapiro & Varian, 2003, 57). When switching costs apply and the customers are tied–by predecessor products or the competition–the quick creation of an installed base becomes markedly more difficult. Here there are several approaches to persuading customers to switch anyway. A whole range of options is provided by signaling: product announcements, cooperations or the communication of a successful market entry are signals that can contribute to the acquisition of customers. Providing compatibility is another option. Here it may be necessary–as for example in mobile telephony, during the transition from GSM to GPRS or UMTS, respectively, or when Microsoft Office 2007 introduced new formats–to build bridges in the form of converters, or to design upward and downward compatibility in such a way that the customers will not shy away from the switch. The crucial question for customer acquisition is how compatible the desired product is, i.e. which standard one buys into when purchasing the product. Buyers with identical preferences generally have a high interest in compatibility. If there are several product alternatives, and the networks are equal in size, they will settle for the opener standard as it provides the greatest security for being able to use compatible products by different providers, even in the future.

For the provider, choosing the standard to which his products are tied (proprietary or open) is thus a very central criterion. Proprietary standards lead to high switching costs. As long as there are no alternatives, they allow the provider to pillage the market. Customers who want to own the product must shoulder the resultant switching costs. Open standards, on the other hand, are tied to low switching costs. If there is already one standard or more on the market, it is thus generally advisable for a new provider to either accept the standard and produce compatible products, or to offer a new standard as an open standard. This can be seen quite clearly on the market for server software: Microsoft profits from existing network effects for Windows and Office in selling its software. The competitors (e.g. Sun with Java or OMG with CORBA), on the other hand, all use open standards (Messerschmitt, 2000, 241).

The openness of standards cannot completely protect the consumer from a Lock-In, however. There may be competition and diversity within a(n open) standard, but when it becomes dominant, entire industries or even societies can end up in a Lock-In. This goes for open (e.g. Internet Protocol) as well as proprie-

tary standards (e.g. IBM PC, Microsoft Windows) (Messerschmitt, 2000, 240-241).

Compatibility lowers the switching costs for the consumer, but simultaneously gives the provider the option of setting a higher starting price for the basic good (Haucap, 2003, 29). This pricing latitude results from the customers' ability to draw from a more varied offer of complements.

Differentiated pricing is advisable over the course of the Lock-In Cycle (Shapiro & Varian, 1999, 163 et seq.). It is to be assumed that one's own (existing) customers have a higher valuation of the existing offer than new customers do. Existing customers, thus the conclusion, are more prepared to accept higher prices than customers who have not previously shown any interest in the offer in question. The standard prices for one's existing customers are generally too high for acquiring new customers. New customers with a lower willingness to pay must thus be won over by lower introductory prices. Attractive–but temporary– introductory offers can make valuable contributions toward acquiring new customers. Many newspapers and magazines take this path and make low-priced introductory offers, which even frequently include a complementary gift, for instance when choosing a trial subscription.

For the sake of acquiring new customers, it is worth differentiating customers with no previous interest in a certain information good from those who already use an equivalent product, i.e. the competition's. While the latter have a higher valuation of willingness to pay for the information good, they are tied to their current provider by the switching costs. A possible approach here is to (partly) shoulder these switching costs. Borland, the provider of Quattro Pro, a spreadsheet application, worked with such offers and gave switchers a 70% discount if they chose Quattro Pro instead of the newer version of their previous product. This discount corresponded with the switchers' relatively high switching costs (Meisner, 2004, 40). This form of subsidizing a switch is also called the Pay-to-Switch Strategy, and it is opposed by the strategy of Pay-to-Stay (Shaffer & Zhang, 2000). Shaffer and Zhang (2000) recommend, on the basis of a model, targeting those customers (one's own or others') whose price elasticity is relatively high with low prices. These can be customers of the competition, whom one can hope to win over via attractively-priced offers, but they can also be one's own customers, who must be dissuaded from turning their back on the company.

How can price discounts, in the form of introductory offers or the subsidy of switching costs, be calculated? How much can be invested in the acquisition of a new customer without losing too much money? Shapiro and Varian recommend using the cash value from a customer relationship as the yardstick (1999, 113; further approaches to calculating switching costs can be found in Metge, 2008, 41 et seq.). Starting off with the switching costs in their entirety, i.e. those of the customer and those of the new provider, the discounts, benefits or bonuses etc. plus one's own costs must under no circumstances amount to more than the cash value from the new customer relationship. This makes an approximate calculation quite simple. Let us suppose that a customer who wants to switch database providers faces 50 Euros of switching costs. Setting the customer up costs the provider a fur-

ther 25 Euros. Hence, the total switching costs in this case are 75 Euros. The cash value to be expected from the customer relationship should surpass this value, as losses would be incurred otherwise. If the cash value was 100 Euros, one might entice the customer to switch, e.g. by offering to let him use the product for free for two months, which would cost the company 25 Euros per month, for instance. This sum changes nothing in the absolute amount of the switching costs, but merely shifts it from the customer who is willing to switch to the provider. In other words, the customer's switching costs are 0 Euros, those of the provider 50 Euros (from the promised two months free of charge) plus 25 Euros for the set-up, i.e. 75 Euros in total. If we calculate the difference between the total switching costs (75 Euros) and the calculated cash value (100 Euros), we are left with 25 Euros of profit. Alternatively, the money could also be invested in advertisements enticing the customer to switch. If the expected cash value was a mere 70 Euros, however, one should hold back on measures of customer acquisition. If we further take into consideration that the cash value of a One-Euro profit made from a customer over 24 months–provided a monthly interest rate of 2% - is roughly 20 Euros per month, we can estimate fairly easily what the relation between revenue and expenditure will look like. If the company knows that it must make at least 75 Euros from a customer, the profit margin must not fall below 3.75 Euros, seen over 24 months. Assuming (discounted) costs of 1.25 Euros, the customer's monthly fee must be at least 5 Euros.

Total switching costs	€75
Cash value for €1 profit from a customer relationship over 24 months	€20
Necessary profit over 24 months to cover total switching costs	€75/€20 = €3.75
Running costs of customer relationship	€1.25
Minimum monthly fee required	€5

Table 23.1: Cash-Value-Related Approximate Calculation of a Customer Relationship.

An interesting variant to lowering the switching costs is when the provider can offer the customer services that are very cheap for him to make available but have a markedly higher market price. If the above two months free of charge, amounting to two time 25 Euros, only set the provider back 1 Euro, the switching costs are dramatically reduced from the provider's perspective. In that case, they are no longer 75 Euros but a mere 27; 25 Euros for set-up and 2 Euros for providing a service worth 50 Euros to the customer.

It generally holds, for markets with a very high level of switching costs, that for the customer, the added value of the new offer must be significantly higher, or the

price, compared to the established offers, a lot lower, in order for a provider to be successful (Heil, 1999, 176; Shapiro & Varian, 1999, 146). The different pricing alternatives were already discussed in detail in Chapter 18 above. Generally, it is still to be noted that customers who have been poached from the competition via subsidies have a relatively high price elasticity and will not stay with the new provider for a very long time. Here it is hugely important to build switching barriers, so that the investment can be recuperated–at least during the stipulated duration.

23.4.2   Customer Loyalty via the Creation of Switching Costs (Entrenchment)

When a company has built up an installed base, it can go about attaching its customers. Switching costs–as we could see–are closely related to customer loyalty, which consists of two components. One the one hand, there is the aspect of voluntary loyalty. The customer feels **attached** to the company if the cooperation is pleasant, if he identifies with the provider or if he feels morally obligated, e.g. because the provider puts a lot of effort in. On the other hand, customer loyalty has an aspect of involuntary attachment. Customers feel **bound** if their freedom to act is impeded, e.g. via a lack of alternative offers or contractual obligations (Staack, 2004, 71). Both aspects lead to customers staying loyal to the provider, i.e. continuing the business relationship or broadening it, perhaps even recommending the provider to others (Staack 2004, 170).

Staack (2004, 318 et seq., 353 et seq.) demonstrates empirically that the economic switching barriers (switching costs) represent the crucial influencing factors for customer loyalty in eCommerce (similarly Peter, 2001, 232 for pharmaceutical wholesalers).

They contribute directly and indirectly to the customer's attachment: on the one hand, they directly and strongly influence the customer's boundness. The indirect effect occurs via the influence on the psychological switching barriers. Additionally, the economic switching barriers have a positive influence on customer satisfaction. The competing offer's attractiveness only plays a subordinate role for customer loyalty.

Remarkably, (customer) satisfaction is, overall, negligible in its effect on customer loyalty. It merely serves as a slight intensifier for psychological switching barriers. These, in turn, are only in a positive correlation with the attachment of online customers, but not with their boundness. The boundness of a customer then has a strong positive effect on his loyalty vis-à-vis the provider.

> Besides pure, "voluntary" provider loyalty, caused by a positive attitude (e.g. trust, satisfaction) toward the online shop, it is thus also the construction of switching barriers (and hence the state of "boundness") which leads to a feeling of attachment regarding the company in question (Staack, 2004, 319).
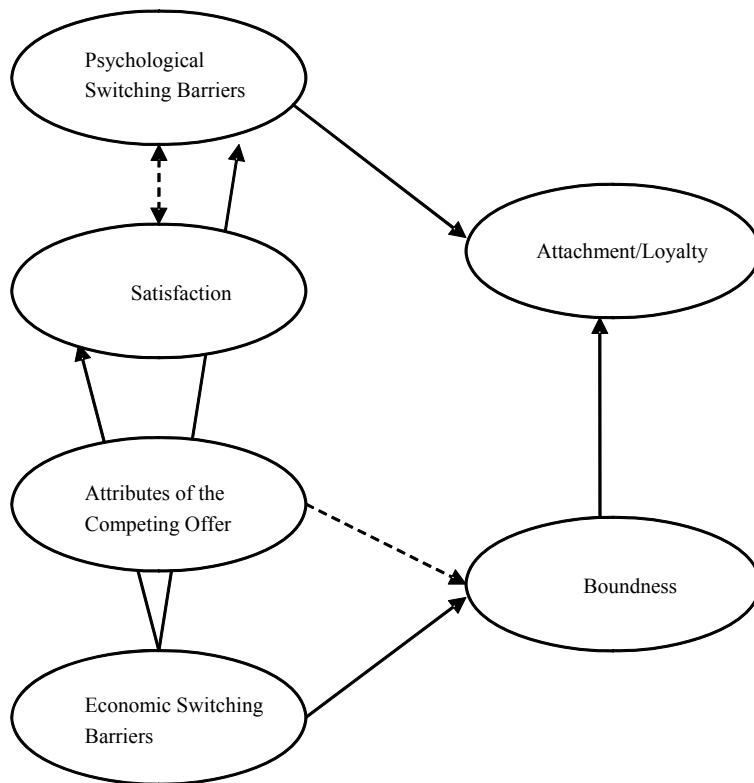
Figure 23.2: Elements of Customer Loyalty in eCommerce. Source: Following Staack, 2004, 318.

From the provider's perspective, it is thus highly advisable to concentrate on economic switching barriers, i.e. switching costs. Of the highest import in this context are those switching costs that can be influenced by the provider himself, namely artificial (endogenous) switching costs.

How can switching costs be influenced, specifically? First of all, the user's familiarity with a product plays an important role, as it generates switching costs. It is then possible for the provider to intensify these familiarization effects. Liebermann (2005, 7) gives the example of adjusting the product according to the customer's specifications (**customization**):

> One example is the loyalty of many buyers to Amazon.com: users grow
> accustomed to features of Amazon's site, which evolve to suit the indi-

> vidual user's preferences. These factors allow experienced buyers to
> search more efficiently on Amazon than on the websites of competitors.

The same furrow is being ploughed by the various "My…" offers for the **personalization** of online portals (My Yahoo!), search engines (iGoogle) or software providers (MySAP). Customers who have individually configured their sites with a provider (e.g. by entering addresses, mailing contacts, dates) face relatively high switching costs–if the data is non-exportable.

Switching costs are not merely the result of individual configuration of or familiarization with an offer, but also of **interactivity**. If chatrooms, message boards or other community services are available on an online portal, one must relinquish any existing contacts when switching providers.

Above, we already addressed the high effectiveness of **customer loyalty programs**. By offering discounts or other benefits, customers are rewarded for their loyalty. The design of such loyalty offers is entirely under the provider's control. The increasing availability of customer data in particular allows for the tailoring of very individual offers. Payback is a well-known German customer loyalty programs spanning across providers. Provider-specific examples are, for instance, airlines' frequent-flier programs or the bonus program of Deutsche Bahn.

Such programs create two kinds of switching costs (Shapiro & Varian, 1999, 128). If a customer has already collected bonuses, these will be forfeit in case he decides to switch. The switching costs can only be minimized if he switches immediately after redeeming them. If, on the other hand, there are benefits for cumulative usage (e.g. discounts or special services), the entire switching costs will rise. It then becomes increasingly unattractive for the customer to switch providers, and more and more complex for the competition to entice the customer to switch, due to the switching costs increasing over the duration of usage.

> The variations on these discount programs are virtually endless. You
> can offer your customers a discount for buying exclusively from you or
> for committing to a certain minimum order size. You can offer discounts for customers who buy more than they did last year. You can utilize volume discounts to encourage customers to keep buying from you
> rather than sampling other suppliers (Shapiro & Varian, 1999, 129).

Contractual agreements represent another option of influencing customer loyalty. The longer the duration of the contracts, the more time the provider has to attach his customers for a long time. Especially in case of a foreseeably long-term Lock-In, it can be in the interest of the customer to sign correspondingly long-term contracts. This serves to protect them from unwanted changes to the company's terms and conditions. For the provider, shorter contracts are preferable, as they give him leverage–in case of high switching costs–and thus a good position for negotiating contract extensions. A popular tactic used by companies is to cut the first passage of the Lock-In Cycle short of their initiative in order to make the cus-

tomers a new, longer-term contract (Shapiro & Varian, 1999, 170). This can frequently be observed in cell phone providers extending contract durations. Before the customer's switching costs are dramatically reduced as the contract nears expiry, the customers are presented with a new contract that includes a staying bonus.

(Free) offers of newer versions and **upgrades** are also effective means of extending the Lock-In Cycle by increasing the offer's usefulness right before its end.

Providers are further able to influence the **search costs**. The internet with its multitude of options has contributed to lowering search costs in general. For the individual provider, the main concern is to actually be found by potential customers. This involves not hiding from price comparisons and customer ratings online but facing them instead, by offering services with an attractive cost-benefit ratio. On the other hand, the cost of searching quality information can be lowered for the potential customer if the provider puts them into the package, i.e. juxtaposing the product itself with customer ratings, test results etc.

> … reducing the cost of searching for quality information lowers price sensivity …[and] … increases the likelihood that consumers will purchase from that seller … (Peng et al., 2009, 66).

Switching costs are automatically generated if the provider succeeds in selling his customers products that follow his own **compatibility standard**. Apple is a typical example of such a case. Whoever buys an iPod must buy and manage his music on iTunes. In order to run iTunes, it is necessary to install QuickTime, another Apple product. QuickTime changes browser settings so that music files in the .mp3 format will automatically be opened as QuickTime files. Music bought in the iTunes store is doubly protected: one the one hand via AAC, Apple's file format which is only compatible with iPod and iPhone, and by using the Fairplay DRMS, so far unlicensed to other providers (Gehring, 2007). A similar situation applies to the use of digital audiobooks (Stross, 2005). A large number of audiobooks can be bought in the iTunes store, courtesy of Audible Incorporated. These, too, are only playable on iPod and iPhone.

This interplay generates relatively high switching costs for the user in both cases: buying music or audiobooks in the iTunes store requires an iPod or iPhone in order to be played, while owners of such a device are in turn restricted to those products that are available in the iTunes store.

Driving the user's switching costs up and generating a Lock-In means walking a fine line. In case of a weak market position, high switching costs can lead to customers shying away from one's products. Providers with a strong market position, on the other hand, can use the creation of switching costs as an instrument for opening up additional pricing latitudes and attaching customers even further.

23.4.3   Exploiting Switching Costs and Lock-In

If a provider has managed to build a sufficiently large installed base and generated switching costs, he can then try to translate these into economic advantages. His goal is to make the investments he has made redeem themselves. The customers so far acquired and attached are at the center of all deliberations:

> Locked-in customers are valuable assets (Shapiro & Varian, 1999, 144).

Switching costs, and Lock-In in particular, give a company the option of **raising prices**. Haucap and Uhde (undated, 8) show, on the example of American libraries who (must) exhibit scientific journals, that prices have increased massively over the years without a corresponding increase in subscriptions.

Besides simple price increases, there is a whole range of other options for generating revenue streams (Zerdick et al., 2001, 193-194), which have already been discussed in detail in Chapter 18 on Pricing. Among these are sales of complementary services or of product versions that are newer ("upgrades") or more powerful ("Premium"). Here are some examples:

In the area of mobile telephony, the cell phones are often highly subsidized. Profits are made from selling the complementary service "telephony" to bound customers.

Network Associates (formerly McAfee Associates) initially offered its McAfee antivirus programs for free. After winning a market share of one third, they were able to leverage this strong position to generate sizeable profits from selling upgrades. Another advantage was drawn by Network Associates by incorporating their users in the further development of its products for free. The large installed base and strong customer loyalty helped discover a multitude of viruses, which could then be neutralized in the newer product versions.

Many customers who use the Adobe Reader will later want to edit documents themselves, and go on to buy the required full version.

Apart from direct sales to existing customers, one can also sell **access to the installed base** to third parties. This is common practice in television, cinema, broadcasting or print media, in the form of advertisements. The channels, studios or publishers sell access to the viewer, listener or reader to the advertisers. This can lead to self-reinforcing effects when high dissemination leads to increased advertising revenue, which in turn is used for further dissemination. This reciprocal reinforcement is called a "circulation spiral" in media economics (Hass, 2007, 70). Goldfarb (2003) was able to demonstrate, based on a model, that Lock-In effects lead to increased revenue in ad-financed content offers because the provider can use the existing attachment to save money by providing worse quality.

Analogously, internet companies deal with the reciprocity between users and ads. AOL, for instance, sold access to its customers to Amazon a few years ago. The online merchant Amazon paid around $19m in order to gain the attention of 8.5m AOL customers (Shapiro & Varian, 2003, 52).

The Lock-In effects described are all cheap for the provider. In recording and exploiting the customer data, however, one must always pay attention to the applicable legal barriers, such as are formulated, for instance, in the German Bundesdatenschutzgesetz (Federal Data Protection Act, BDSG) (Peter, 2001, 262 et seq.).

On the basis of an empirical analysis in eCommerce, Staack (2004, 344 et seq.) recommends paying attention first and foremost to the factors, known from stationary trade, of cost-benefit ratio and quality/diversity of the products on offer in order to increase customer attachment.

> Online shops that make their customers a diverse offer of high-quality and attractively priced products and services reduce, in so doing, the relative attractiveness of other providers and thus raise the defection barriers of the economic kind, which in turn have a positive effect on the boundness of the users (Staack, 2004, 347).

Further aspects are the website's operability, quality of delivery in the form of quick and accurate shipping, clear statements on data protection as well as information on the offer, which may be implemented, next to text and image descriptions, via customer ratings, for example. Complementary added-value offers can further intensify the attachment effect. Among such offers are events (contests, vouchers etc.), exclusive benefits (premium systems, power shopping offers, advantage clubs etc.), personalized information or advice offers, comprehensive self-service tools, free complementary offers (information services via mail or SMS, calendar, entertainment etc.) or community services (virtual customer communities).

Lock-In effects are not only observable in priced information offers, but also in those that are free of charge, e.g. in free news portals such as SPIEGEL-Online or FAZ.net, which might explain why such providers are able to generate a part of their revenue via priced offers (Heitmann et al., 2006, 10).

Switching costs and the Lock-In resulting from them in the extreme case, it has become clear, are in a strong interdependency with the other strategic variables that information providers can use in order to assert themselves on the market. Switching costs are not a given, but result from interaction with the customer. The different strategic variables can be used along the Lock-In Cycle in order to attach the customer. Besides pricing, the timing of market entry, the complement offer and compatibility, network effects also have an influence on switching costs, be it directly, when goods have a network effect value that would be lost by switching, or indirectly, when there is a large complementary offer that would be inaccessible in case of a switch. The existence of switching costs in itself, however, influences the different strategic variables as well as, massively, the stakeholders. The decision premises by customers and competitors in particular are noticeably swayed by the occurrence of switching costs. For the provider, it can be stated as a general recommendation that the first order of the day is to build an installed base and cre-

ate network effects. Switching costs rise as network effects increase in intensity. A large market share alone, however, is not a sufficient indicator for the existence of switching costs:

> High market shares don't imply high switching costs (Shapiro & Varian, 1999, 149).

Only the combination of a large market share and high switching costs can provide a certain degree of security that future profits, too, will be in line.

23.5   Conclusion

Only available in the printed version.

23.6   Bibliography

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