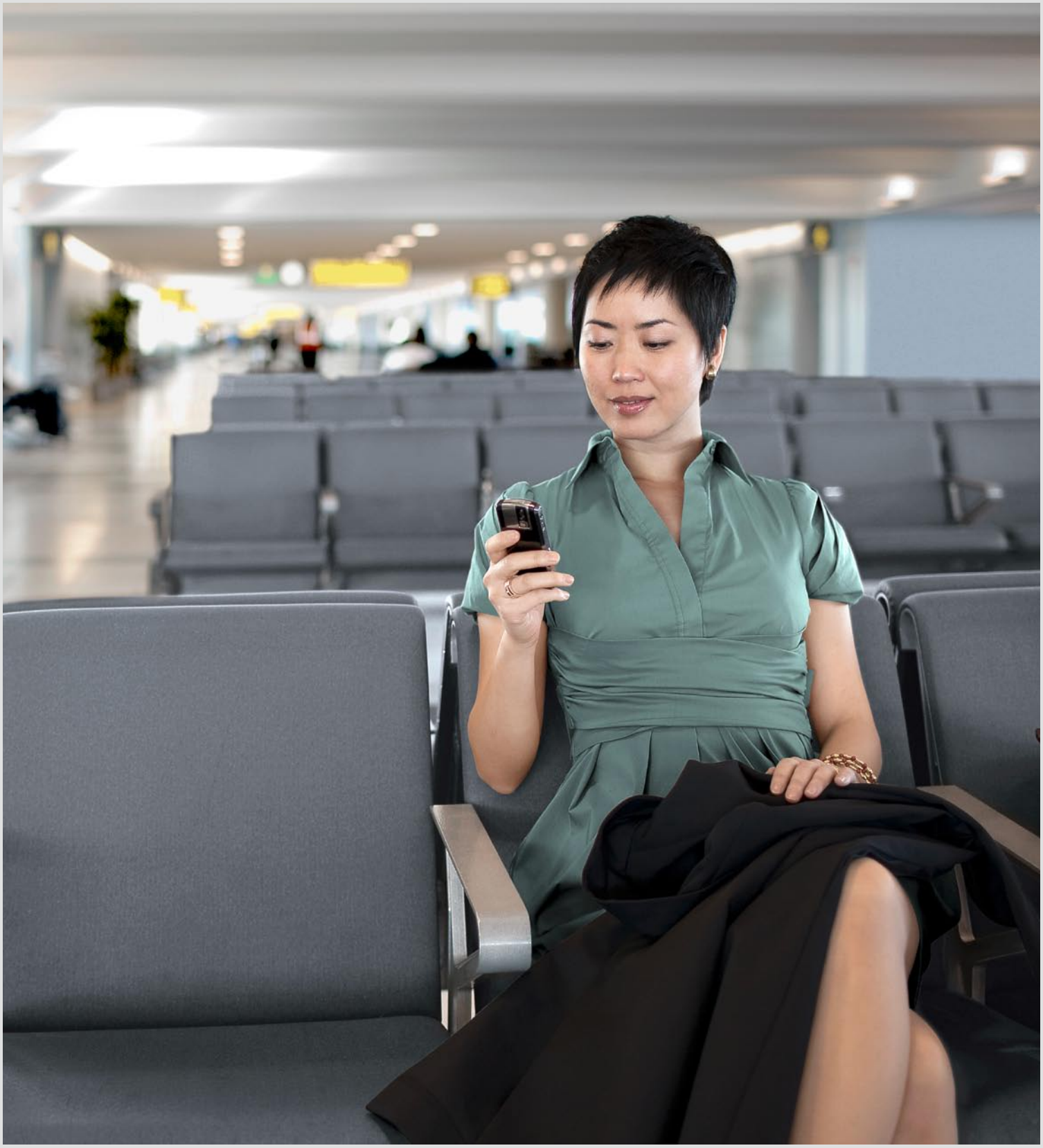
MONETIZING SERVICES IN THE NEW HYPERCONNECTED WORLD

SHIFTING BUSINESS MODELS FROM PRODUCTS TO SERVICES

THE BEST-RUN BUSINESSES RUN SAP™

With SAP® solutions, all you need to do is apply your creativity to use them to their full extent. SAP believes that the new service economy will be characterized by rapid changes in business models. The solutions for service monetization from SAP help remove friction from this economy.



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EXECUTIVE SUMMARY

THE CHALLENGES AND OPPORTUNITIES OF SERVICE-BASED MODELS

This paper examines the challenges of monetizing new services in today's highly competitive economy. In industries as diverse as high tech, financial services, and telecommunications, companies such as yours are rapidly changing their business models and launching new hyperconnected services – via the Internet and wireless networks.

The paper concentrates first on identifying the cross-industry drivers for changing business models – from product commoditization to better-informed customers – in this new service economy. Second, it explains the business process changes and systems challenges you need to prepare for when launching new service-based business models, such as radically different pricing strategies and larger volumes of transactions. Finally, it proposes solutions for how to achieve these goals and how SAP can assist you.

DRIVERS FOR CHANGE IN THE NEW SERVICE ECONOMY

TECHNOLOGY, REGULATIONS, CONSUMER BEHAVIOR, PRODUCT MATURITY

The global explosion of the Internet and wireless networks, the rise in broadband capacity, and the widespread deployment of machine-to-machine communications and smart devices are constantly transforming how we connect to the world. Due to product commoditization, shrinking margins, regulatory pressures, and the need to develop greater customer intimacy, many industries are capitalizing on these technologies and using them to launch innovative new services. These new services are enabling a fundamental change in business strategy. By adding dynamic, customer-centric IT-based services into their business model, companies like yours stand to find new revenue streams and to profit from closer relationships with customers.

Offering Services to Escape Product Commoditization

In today's global, digital era, many formerly product-centric industries have seen their revenues decline because of dwindling scope for innovation and commoditization, and resulting price wars. Growth through acquisition and industry consolidation can lead to efficiencies and short-term revenue growth. But it is only postponing the inevitable decline in product-based revenues.

One way out of this slump is to shift innovation from products to services: to make the product a platform for the delivery of services. This can create new streams of revenue as well as providing differentiation in the market, thus shoring up the underlying product revenues (see Figure 1).

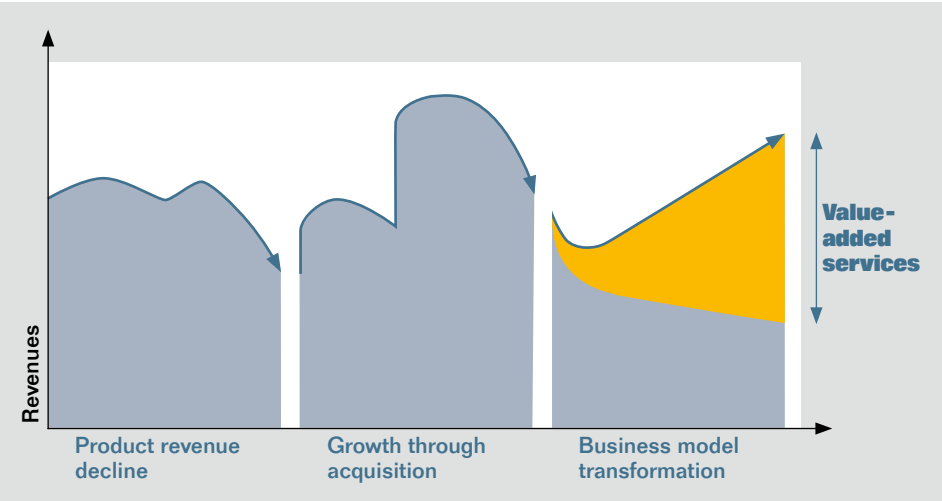

Figure 1: Creating Service Offerings to Offset Declining Product Revenues

For example, this is exactly what has been happening in the heating, ventilation, and air-conditioning (HVAC) industry. Building owners and operators typically manage the various pieces of HVAC equipment distributed throughout the building. But as many companies in the HVAC industry are facing revenue-growth problems due to competition from low-cost manufacturers, some have started to introduce advanced service packages with their equipment. Rather than sell just a piece of equipment that sits up on the roof of the building – a one-off deal – the companies are selling an entire environmental monitoring service.

Through new technologies such as machine-to-machine communications and analytics, all of the heating and cooling devices and sensors are now networked, and are accessible and controllable remotely. HVAC companies now sell a service that will give the building owner a certain level of energy efficiency or meet certain service-level agreements for heating or cooling in an office building or on a manufacturing floor. Thus, they have transformed their product-based business models into a value-added services network.

Regulation and Effects on Service Pricing

Service pricing and its structure can shape and move markets. Particularly in markets where there is a concentration of power and the potential for abuse of dominant monopoly positions, changes can sometimes be imposed by regulatory mandates.

An Example: Capital Markets

This can be seen, for example, in the capital markets sector of financial services. There are many actors in this area including trading banks, brokerages, exchanges, and post-trade processors that handle the transfer of securities and manage settlement of payments. The capital markets sector is under-

going huge transformation and increased regulatory scrutiny, particularly after the market meltdown in 2008. Already, long before the meltdown, the capital markets industry was dealing with dramatic change: trading volumes were growing massively year over year, led by increased automation using electronic trade execution and the creation of whole new classes of derivatives products.

In addition, the industry has been restructuring, with exchanges and post-trade clearinghouses moving from a mutual ownership model to becoming private enterprises like any other. This has led to the emergence of new players alongside the traditional exchanges – besides intense mergers and acquisitions activity. Market participants now have much more choice for where to execute a trade and how to clear and process it post-trade. One significant result is increased competition among the participants at each layer of the industry.

These recent shifts are most evident in the European Union. The European Commission has been pushing for an open cross-border infrastructure for exchanges, clearing, and settlement. Attaining an efficient single market in this space is seen as essential to supporting the common market that is at the heart of the EU enterprise.

Consequently, the market participants have been working with the European Commission to transform the rules under which they operate. There has been some important EU regulation, notably the Markets in Financial Instruments Directive, or MiFID. The market participants also jointly agreed on a code of conduct among themselves in an attempt to obviate the need for more government regulation.

At the heart of these regulations are questions of service pricing. When a trade is executed on an exchange, cleared through a post-trade processor company, and settled by a settlement company, each player charges a fee for this service. Efficient markets should drive toward reasonable and transparent fees, and this is what the EU and self-regulation initiatives seek to achieve.

So the service providers and banking institutions in the capital markets segment have to overhaul their fee management systems. They need flexibility to charge fees in different ways. To comply with transparency directives, they need to unbundle fees for different services that were previously charged only in a consolidated, global manner. At the same time they have to work in an increasingly competitive market where their customers are demanding more complex pricing schemes, including tiered pricing structures with volume discounts. As the industry reconfigures itself into new sets of actors and alliances, the value chain is changing. Oftentimes the fees charged by a bank to its clients for brokerage services, for example, have to build on the fees charged to the bank by the exchanges and post-trade processors. The brokers need to set and negotiate their fees carefully to protect their own margins (see Figure 2). All the while, trading volumes are growing, and the number of products across asset classes continues to expand, putting strain on core systems including fee negotiation and fee billing systems.

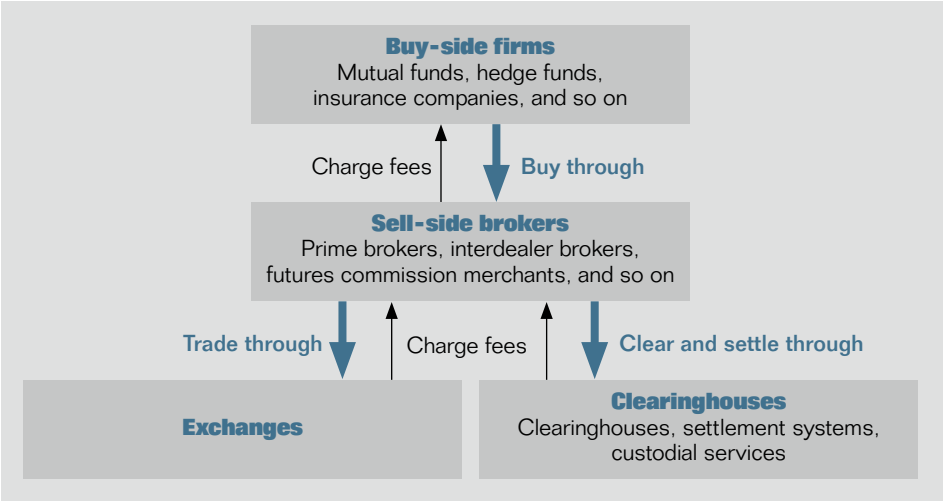

Figure 2: Subsegments in Capital Markets and Fee Flow

This is leading many players in the capital markets profession to take a fresh look at service fee pricing. Having flexibility and efficiency in their core fee management systems can be a key source of competitive strength in this rapidly evolving and increasingly regulated industry.

The Demand for Environmental Sustainability

Besides the continual pressure for a company to improve its margins and deal with regulatory change from outside forces, environmental concerns are another background market trend that cuts across industry boundaries. Led by internal or governmental initiatives, many companies are looking for ways to reduce their carbon footprint and are often finding that sustainability initiatives can contribute to competitive advantage and profitability. By using dynamic pricing, they can influence their customers to adopt more environmentally friendly service-usage patterns. Companies are able to reward and incentivize environmentally friendly behavior while increasing the cost to consumers of environmentally unfriendly usage patterns. In doing this, companies and institutions can further their own sustainability initiatives.

For example, recent years have seen a marked shift in how we pay for driving vehicles on roads. This is motivated by governmental desire to fund new transport projects, reduce congestion in cities or on highways, and respond to environmental concerns. New ways of charging for road usage are being used as a way to influence drivers' behaviors and encourage the use of public transportation as an alternative to private autos. For instance, with the goal of reducing the number of trucks crossing the Alps per year from 1.4 million to 650,000, the Swiss road-tolling system introduced in 2001 a new toll, called Heavy Vehicle Fee, on all vehicles between 3.5 and 40 tons. Vehicles over 3.5 tons, which are mostly trucks, are charged by gross weight, kilometers driven, and emissions.

Environmental concerns are another background market trend that cuts across industry boundaries. Led by internal or governmental initiatives, many companies are looking for ways to reduce their carbon footprint and are often finding that sustainability initiatives can contribute to competitive advantage and profitability.

The electronic toll-collection model has recently been extended to congestion pricing in a number of major cities, urban corridors and toll-roads. Congestion charging using advanced vehicle-identification technology has been introduced in Chile, Norway, Singapore, Sweden, and the United Kingdom.

Although road tolls generally do not have direct "competition," and therefore cannot use pricing as a competitive weapon, these tolls are at the forefront of public policy in terms of managing infrastructure and attempts to change behavior. The days of cars paying one price and trucks paying another are fading. Now multiple dynamic factors influence pricing: carbon dioxide output or whether the driver is a frequent visitor or resident, for example. There might be special arrangements for fleets or bus companies, discounts for special events, discounts if the driver takes public transport on earlier trips or for portions of trips, and surcharges when traffic is heavy.

Another example is how makers of printing and imaging devices are now offering managed print services. A selling point for these services is that they reduce a customer's environmental impact. Walk through a typical office environment, and you will often see far more desktop printers and scanners deployed than are really required, while more energy-efficient, high-volume and reliable machines sit idle down the hallway. Switching to managed print services allows companies to outsource the operation of their printing and imaging infrastructure to a third-party provider. This allows for the infrastructure to be greatly rationalized, reducing usage of electricity, paper, and supplies and allowing for remote maintenance instead of expensive technician visits.

As municipalities and high-tech companies introduce more sophisticated pricing schemes to incentivize their customers to consume more responsibly, they also need to put in place the right infrastructure. This infrastructure must be able to handle the complex value chains and rapidly changing business models that this sort of pricing and charging requires. These companies will need the ability to manage revenue sharing with the IP-based communications networks and devices that support services such as vehicle identification and remote printer management. Further, they will need to sustain the high volume of transactions coming from the millions of on-board units in vehicles and printers transmitting tiny bursts of data.

The Need to Develop Greater Customer Intimacy

In most product-centric industries, the manufacturers have little direct ongoing interaction with their end customers. But we are now in an era where companies must know their customers, rapidly adapt to their changing needs, and involve them in product co-creation. Developing services sold directly to customers is one way of gaining that greater customer intimacy.

For example, high-tech companies making consumer electronics and domestic appliances typically have a multitiered distribution business model where it is their distributors and retailers that interact directly with customers. This gives the high-tech companies great scale and reach, and simplifies their distribution network; but what they do not have is direct contact with the customers.

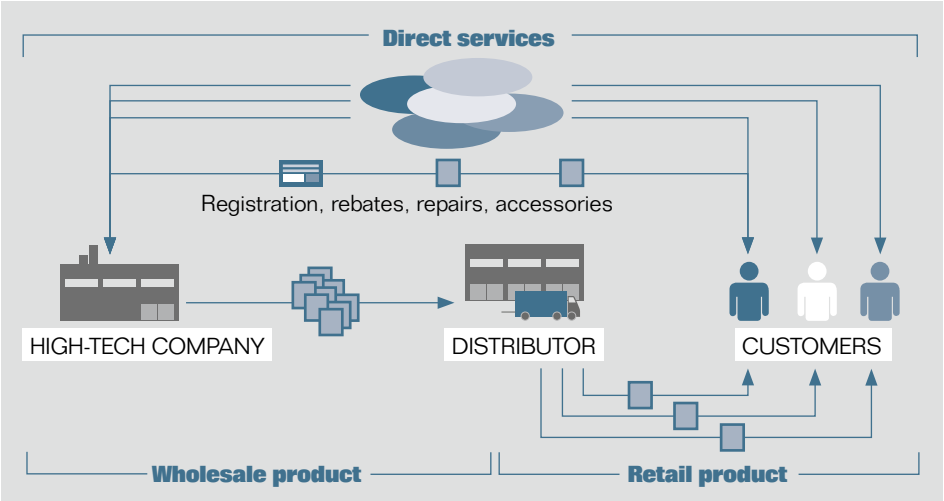

Figure 3: Informed, Demanding Customers as Agents of Change

They may occasionally interact with customers through product registration forms, rebates, and promotional programs, or to sell repairs and accessories. But these tend to be one-off and occasional. In addition, product replacement lifecycles in high-tech industries are lengthening. This phenomenon is due to a long-term trend toward improved product quality and software upgradability, and a short-term trend during declining phases of the economic cycle where customers put off unnecessary purchases. The result: both a depression in revenue-growth potential and reduced frequency of customer interactions at the time of purchase.

By turning their base products into a platform for services, high-tech companies can establish an infrastructure where they now have a direct relationship with those customers. They can continue to deliver their products through traditional channels, and then, on top of those products, they add a layer of services (see Figure 3). This approach allows them to figure out exactly how customers are using the products and what value they are getting from them over time.

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From this information, they can find new streams of revenue by up-selling and cross-selling products or other services from their catalog.

For example, the current generation of TVs includes an Internet connectivity option where the manufacturer can

help you get more out of your film- and TV-viewing experience by providing downloadable widgets. These widgets can tell you the weather, give you more information on the actors in a movie, or provide stats on an ongoing sports match. The TV manufacturers are also moving to become direct sellers of video-on-demand services, downloading or streaming them over your existing home Internet connection. All of this provides great insight to the manufacturer on how you use your TV, and there is of course incremental revenue to be gained as well.

The free flow of information on the Internet and the ease of e-commerce and electronic trading for consumers and enterprises mean that businesses must continue to increase their customer focus. Well-informed consumers spend time researching products and services online and comparing prices before making a buying decision. The word-of-mouth effect from what may be a small minority of unhappy customers is magnified by consumer review sites. News of poor customer service at major brands tends to spread like wildfire through blogs and collaborative social filtering systems like Digg and Twitter. For instance, one blogger's online rant in 2009 against a major appliance company instantly reached a million followers on Twitter and attracted more than 2,500 comments via the blog. To top it off, one of the company's competitors took advantage of the situation, providing the blogger with one of its own products – and of course publicizing that fact to the entire audience. In another example, grassroots single-issue non-governmental organizations, through the Internet, can quickly reach a wider audience than ever before and lobby effectively for change.

All of these factors mean that tolerance for product and service failures has dropped accordingly, forcing businesses to increase their drive to deliver a superior customer experience consistently.

Companies must find new ways of engaging with their customers, embracing both technological change and the structural change in the market that comes with it.

P2P: Power to the People

The impact of peer-to-peer (P2P) file sharing on the music recording industry is a great example of how to flout your customers. The industry in the late 1990s failed to adapt to digital distribution fast enough, launching only experimental and fragmented services with limited content, hampered with overly restrictive digital-rights management packaging. Customers took matters into their own hands by building an alternative P2P distribution system where the music was free – quite a radical business model. This allowed for huge growth in the market for personal music players that led to a legal music download service, thus sending revenue back to the recording industry – but not necessarily on its own terms.

The distribution model and business model change that consumers wanted to see did happen, but with little active involvement or co-creation from some of the major stakeholders: the artists and recording studios. Ironically, this somehow seems to be a repeating pattern in the music industry. The introductions of the gramophone and the Pianola at the end of the 1800s were feared as innovations that would threaten an industry built around live concert productions. Instead these technologies allowed the birth of the recording industry. When radio broadcasting got going in the 1920s and 1930s, it was opposed by the recording industry on the grounds that it would kill the record business. Instead, radio quickly became a mass media and allowed for promotion of artists as never before. The ability to record and copy music on high-fidelity cassette tape in the 1970s was also seen as something that would again steal revenue from the record labels. Instead cassette tape allowed for music to be consumed on-the-go in cars and portable tape players, and shared easily with friends, thus growing the market.

In each case technological change ended up modifying how consumers chose to discover, share, and pay for music. Industry structure, business models, and royalty schemes were upended each time. Ultimately each wave of change caused chaos and a short-term slump in revenues, but ended up growing the market, allowing for more artists to find their public.

IMPACTS AND IMPLICATIONS

GETTING PREPARED FOR SERVICE-BASED BUSINESS MODELS

But before launching new service-based business models, you need to be prepared for the inherent challenges:

- Migrating a business to a services-based approach – moving it from producing physical products to offering virtual services – often requires that you transform and expand the value chain with new upstream and downstream business partners. You might need to evolve your offerings continuously so that customers become co-innovators in service design.
- Pricing for services cannot be approached as you would pricing for products: services must be priced based not just on what they are, but on how they are used over time and the emotional value they hold for customers.
- Whereas products may be sold through multitier distribution, service delivery usually implies an ongoing, direct relationship with customers. This requires managing mass volumes of subscriptions, metered or usage-based pricing, and promotions that encourage consumers to try additional services and spend more money.
- Owning the entire customer relationship is often paramount. This means effectively capturing customer spend history and leveraging knowledge about them for targeted advertising, creative and innovative branding, and pricing and packaging that are finely tuned to the specific requirements of individual customer segments.
- Once you have a direct customer relationship and a way of monetizing those interactions, other third parties will be anxious to leverage it. Third parties will see you as a potential distribution channel for their own service offerings. And if you can take care of the monetization of the bundle of services, all the better.

New Pricing Models

Services are priced very differently than products; this is particularly true for services that are dynamic and customized for each individual customer. Products have a unitary or bulk price, generally invoiced upon delivery. Product pricing is a relatively simple thing in terms of the actual finished pricing model. Getting to the right price points in the model can be complex, and require sophisticated modeling and optimization. But once you've figured it out and determined your price, the actual pricing model is straightforward. In contrast, selling services means entering into an ongoing contract with a customer. While a product usually has a set price, a service generally has sliding value. And the customer lifetime value can be spread out over months or years rather than all being recognized up front, as is common for product sales.

Fees can be charged up front, on a recurring basis, and metered based on usage, depending on how and when the customer consumes the service over time. Customers may pay for service in advance, receive a bill and pay in arrears, or combine the two.

With the ability to deliver services over the Internet, companies can now easily track exactly what customers are consuming. The ability to track usage opens the door to many new pricing and packaging options. Instead of being forced to apply undifferentiated flat fees for service, companies can now charge based on actual usage by each individual customer, thereby maximizing their revenue potential and apportioning cost to the true cost drivers. Digital media, financial services, software-as-a-service, and utility computing are some examples. Companies in these industries are deploying new pay-as-you-go pricing models at an ever-increasing rate. They may offer discounts to loyal customers based on length of subscription or charge more for peak-time usage.

Furthermore, while most products are sold individually, services are almost always bundled together. Customers typically receive multiple services from their provider at a discount. It is in the service provider's interest to sell bundles, since the customer will have higher switching costs when changing to another supplier and therefore is more likely to remain loyal.

These interlinked factors and the changing nature of customer usage patterns means that it can be fiendishly difficult

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to correctly project service revenues. A given service-pricing scheme will always be in a state of dynamic tension. Why? Because it is designed to deliver maximum profitability for a certain type of customer, with a pattern of service usage that can vary only within certain defined bounds. And that service-pricing scheme – due to customer acquisition costs – may only start delivering profit after a certain duration.

Consequently, pricing tends to evolve quickly in service industries. There are many more dimensions to the pricing model than in product industries, and smart companies learn how to continuously tweak the various parameters to attract, engage, and retain different types of customers.

Managing Credit-Risk Exposure When Prices Are Variable

When you're running a service business with variable charging, the customer's bill will reflect an amount that changes from one period to the next. You have to carefully manage your credit exposure risk to ensure collecting all earned revenue in a timely manner and minimizing bad debt. Sometimes service needs to be sold to credit-challenged customers or those whose creditworthiness is not known. Prepaid models allow for this; customers pay up front, and as they use the service, amounts due are deducted from their credit balance. When the balance gets low, they must either replenish the prepaid account or service is cut off.

The variability in service charging also requires that you give customers insight into and control over their spending. An informed consumer who can set spending thresholds, alerts, and limits on spending will then consume services with more confidence and is more likely to pay bills on time.

All of this indicates that it's not good enough for you to charge for services after they are delivered. Instead prices must be calculated and charged as they are being used. Customer accounts must be monitored in real time for adherence to credit limits and self-assigned thresholds.

Services are priced very differently than products; this is particularly true for services that are dynamic and customized for each individual customer.

Managing Volume and Scale

When introducing services, you must manage volumes of customers and transactions that grow by multiple orders of magnitude. In contrast, when selling into multitier distribution, you generally need to manage pricing for transactions pertaining only to bulk delivery of goods; the distributors to be managed and invoiced number in the hundreds or thousands at most. Selling services directly to customers can mean managing many tens of thousands or even tens of millions of customers. And monetizing service interactions means pricing every service transaction that happens.

Smart phones and the application store phenomenon are a great illustration. There are currently about seven smart phones sold every second worldwide across the dozen or so vendors in this space. Most of these vendors have content and application stores associated with their devices, and on those online stores, customers download around 400 songs, videos, or applications every second. If we assume that smart-phone users on average make 10 calls, texts, or Web site visits per day, and given that there are roughly 600 million active customers with smart phones, these devices are creating 70,000 transactions per second on telecom operator networks. You can see from this example that by introducing a services business model, a product category can rapidly go from creating seven monetized transactions per second to 70,000.

Product-centric businesses need to adapt their business processes and systems to support these new service-pricing models and to handle the massive volumes entailed. Business processes and systems that were engineered for low volumes, and that include high-touch manual activities, will quickly break in the effort to scale them up by multiple orders of magnitude. Often a radical reengineering of both processes and systems is required.

When Third Parties Want to Join In

Having direct customer relationships and a way of monetizing those interactions is a key asset for any company and one which third parties will be eager to leverage. Once customers flock to a service provider, third parties see great value in those established customer relationships and recognize the service platform owner as a potential distribution channel for their own service offerings. And if the platform owner can take care of the monetization of a bundle of services from multiple parties, then these partners do not have to figure that out themselves.

For the platform owner, the benefits are twofold. First, there are the potential commissions or revenue share to be gained by charging the third parties for access to the customer base and for running the monetization system. Second, and often more important, is the additional creation of value for the platform as a whole each time a new third party is brought on board. Bringing in third parties increases the value of the combined offering for customers, which increases customer loyalty, broadens the customer base, and consequently attracts even more third parties. It is the virtuous cycle inherent in all multisided platform opportunities.

Cultivating and fostering the business partner community is consequently critical, and platform owners need to take into account the needs of this new set of upstream "customers," particularly as follows:

- Ease and speed of commercial partnering – In the mature consumer products industry, for example, the multitier retailing and distribution models are highly optimized. When offering services, your partner onboarding and contract management processes must be equally efficient, requiring a highly automated and scalable service platform.
- Rapid and flexible service modeling and launch – Reducing time to market for upstream business partners relies on rapid submission and approval processes, as well as packaged access to secure development and testing environments. Suppliers must also have structured flexibility to choose between charging a set fixed price for their services or a services pricing model with recurring fees, bundles, discounts, promotions, and so forth.
- Visibility into performance of individual services – As upstream business partners become increasingly sophisticated in the way they utilize service platforms, they will expect considerably more insight into the performance of those services. The service platform owner should provide this value directly because otherwise, third parties will step in to fill that gap with analytics and discovery applications of their own, stealing value away from the platform owner.
- Revenue and service assurance – Business partners will want assurance that their platform of choice provides accurate and timely settlement for services consumed according to commercial agreements. The platform provider sits in the middle of the money flow between all the different customers and partners and can potentially take the valuable position of managing the credit risk for all parties. At the same time, the platform provider can carry out a form of multilateral netting – that is, offsetting the receivables and payables among the different players, with corresponding periodic payments to or from the platform provider.

REMOVING BARRIERS TO SERVICE MONETIZATION

SUPPORTING "CONSUME-TO-CASH" PROCESSES

As companies shift their business models from products to services, the payoff for successful ventures promises to be huge. But the complexities and fast-changing nature of the services environment can create pitfalls along the way. There will certainly be technical challenges, but the business challenges are equally immense.

When introducing services, you must manage volumes of customers and transactions that grow by multiple orders of magnitude.

In most industries, back-end business software typically includes a customer relationship management solution for centralizing customer information and enterprise resource planning software for managing operational service processing and financial processes. Often these software solutions are built for selling products through multiple channels but are not designed to answer the challenges of monetizing new services. What companies need is a solution that takes care of the business processes for service monetization. SAP refers to these processes as "consume to cash."

The SAP® Convergent Charging application, the SAP Convergent Invoicing package, and the SAP Customer Financial Management package comprise the modular SAP software solution for the consume-to-cash business process. This "best-of-breed" software can help companies streamline complex service pricing, charging, and billing processes; efficiently manage accounting, payments, and collections; and optimize financial customer care for high volumes of customers and transactions. In addition, the SAP solutions not only help companies manage billing and payments from customers; they also manage sophisticated revenue sharing with upstream and downstream partners.

With these solutions, all you need to do is apply your creativity to use them to their full extent. SAP believes that the new service economy will be characterized by rapid changes in business models. The solutions for service monetization from SAP help remove friction from this economy. This approach will allow the rapid evolution of more efficient trading between companies and support a greater pace of innovation for the benefit of customers. And it will allow true environmental costs to be properly reflected in goods and services, making business more sustainable.

What makes this new IT-service-driven economy interesting is that we cannot predict what the business model will be in the future – we must instead invent it ourselves. So, happy inventing!

Find Out More

To learn more about SAP and solutions supporting the consume-to-cash process, please contact your SAP representative or visit us on the Web at www.sap.com/software/consume-to-cash.epx.

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