

# The Pricing Strategy Guideline Framework for SaaS Vendors

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**Abstract:** Software as a Service has become a dominant IT news topic over the last few years. Especially in these current recession times, adopting SaaS solutions is increasingly becoming the more favorable alternative for customers rather than investing on brand new on-premise software or outsourcing. This fact has inevitably stimulated the birth of numerous SaaS vendors. Unfortunately, many small-to-medium vendors have emerged only to disappear again from the market. A lack of maturity in their pricing strategy often becomes part of the reason. This paper presents the 'Pricing Strategy Guideline Framework (PSGF)' that assists SaaS vendors with a guideline to ensure that all the fundamental pricing elements are included in their pricing strategy. The PSGF describes five different layers that need to be taken to price a software: value creation, price structure, price and value communication, price policy, and price level. The PSGF can be of particularly great use for the startup vendors that tend to have less experience in pricing their SaaS solutions. Up until now, there have been no SaaS pricing frameworks available in the SaaS research area, such as the PSGF developed in this research. The PSGF is evaluated in a case study at a Dutch SaaS vendor in the Finance sector.

*Keywords:* software as a service, SaaS vendor, pricing strategy, value creation.

## Introduction: The emergence of Software as a Service

The number of Software as a Service (SaaS) solutions in the market has been rapidly growing in the last few years. There have been several success pioneer SaaS vendors in many different sectors such as *Salesforce* in the CRM sector, *NetSuite* in the Finance sector, and *Workday* in the HRM sector. These big vendors have had good experiences of specializing in the kind of software they want to offer, to which markets, and how they are going to sell them. Unfortunately, this is not the case for the small and medium vendors, particularly the startup SaaS vendors. Many of them have emerged and then disappeared again in the market. This is often partly due to a lack of maturity in their pricing strategy. Of course, there is no single pricing strategy that fits best for all vendors because it is always involves other elements that need to be taken into account.

One of the most important benefits of adopting SaaS software is the availability of *having more flexible payment methods* (Geisman, 2008; Kaplan, 2008; Mahowald, 2009; Merchant & Geisman, 2006; Pring *et al.*, 2007; Rowell, 2009; Sääksjärvi *et al.*, 2005). Customers are offered the finest payment possibilities while still maximizing the vendors' profits, which is not a trivial task to accomplish. There have been various pricing issues faced by SaaS vendors in the market like low sales cycles, low win rates, chaotic pricing, and difficulties to enter new market (Jones, 2008; Geisman & Nelson, 2008). Therefore, in order to minimize these issues, the availability and integration of a good pricing strategy as part of the overall corporate strategy for SaaS vendors is essential.

However, up till now, there have not been any frameworks in the SaaS research area that provide the vendors with such pricing principles. Hence, this research presents the "*Pricing Strategy Guideline Framework*" (PSGF) as a solution that *provides SaaS vendors with a guideline to ensure that all the fundamental pricing elements are included in their pricing strategy*. The framework is intended for small-to-medium SaaS vendors, particularly the startup vendors that tend to have less experience in pricing their SaaS solutions. This paper builds upon and evaluates the exploratory research as described in Abdat *et al.* (2011).

In order to construct the framework as the main deliverable of our design research, we have performed an extensive literature study and conducted a series of semi-structured interviews with nineteen different SaaS companies, six of which are domiciled in the Netherlands and the remaining are spread out around the world. The framework has been validated by several experts in their fields. The final incarnation of the framework is depicted in figure 1.

The remainder of the paper is organized as follows. Section 2 describes several related literatures to be the foundation of the framework. In section 3 we elaborate upon the different layers of the framework

including the elements of each layer as well as their examples. Section 4 presents a case where the framework is implemented in practice. Finally, we conclude this paper and recommend several further research based on our framework in section 5.

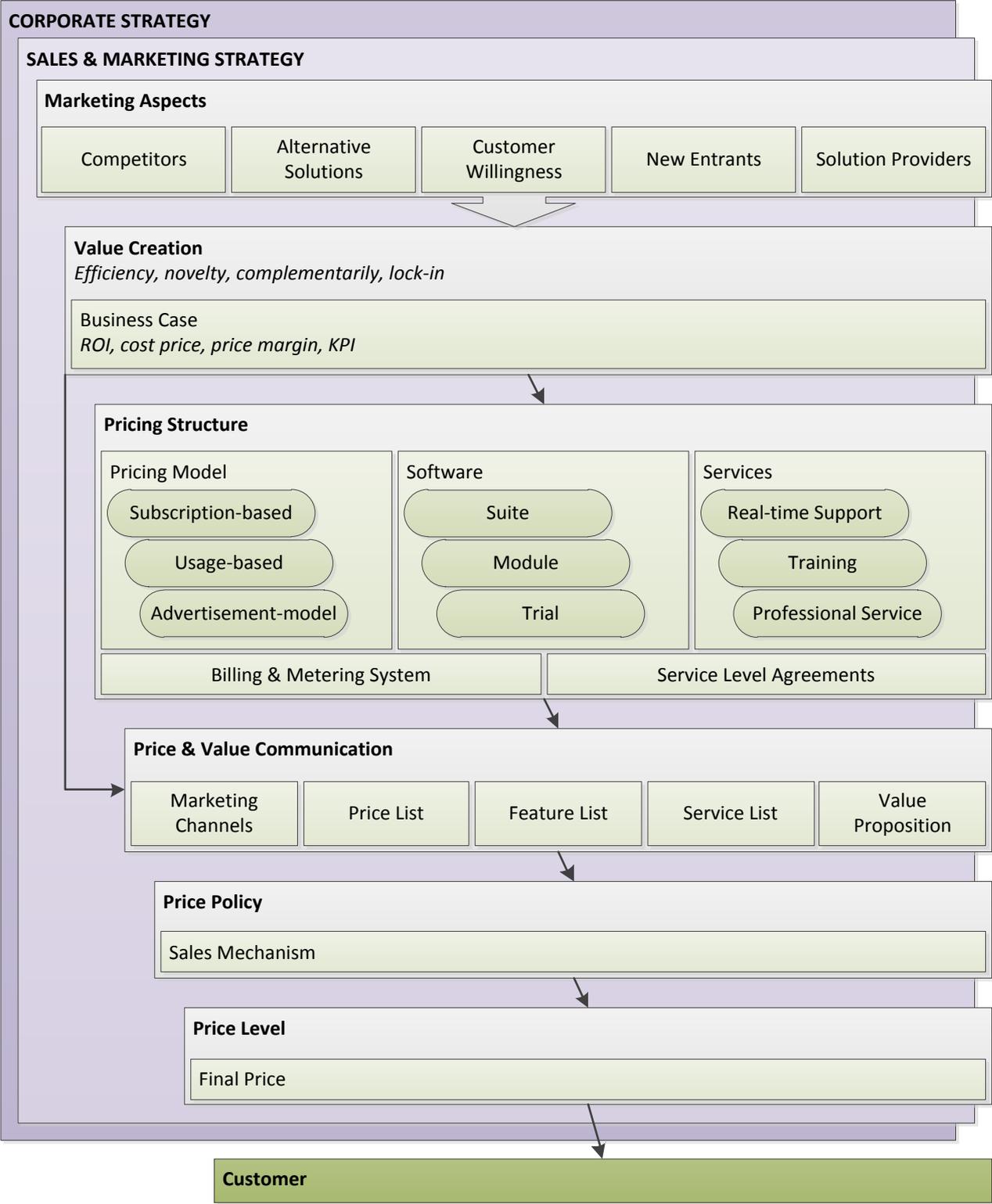


Figure 1: PSGF - The Pricing Strategy Guideline Framework for SaaS vendors.

## Related work: Software pricing strategies

SaaS vendors must establish their pricing strategy before bringing their software solution to the market. They must be able to understand all the potential revenue sources, deployment and distribution costs of their solution, its ability to sell them at prices which will allow for maximum and ensure that the strategy is sustainable over time so that the vendor can continuously achieve its objectives (Kittlaus & Cough, 2009). Hogan and Nagle (2005) also describe that a comprehensive pricing strategy is comprised of multiple layers that create a foundation for price setting to minimize erosion and maximize profits over time.

Our framework was inspired by the ‘Strategic Pricing Pyramid’ of Hogan and Nagle (2005). This is the best applicable software pricing framework so far (Kittlaus & Clough, 2009). Their framework exemplifies the five different layers (steps) that need to be taken to price a software, which are: *value creation*, *price structure*, *price and value communication*, *price policy*, and *price level*. These layers become the core of our PSGF framework.

The Strategic Pricing Pyramid uses the value-based principles where a deep understanding of the values that a product or service can create for the different customer segments becomes the key to develop the pricing structure. A lack of understanding of these values is even more prevalent for new products with unfamiliar features and functionalities. The created values can be various such as a cheaper price compared to rivals, more sophisticated features, ease of use, user friendliness, and many others. In the *pricing structure* layer, how a product or service being priced is determined and its price needs to align with the delivered value. Next, when the prices have been determined, the software company will need to communicate it to the different segments of their customers. The authors affirmed that “a poor communication of value results in higher price sensitivity and more intense price negotiations”. According to the authors, ‘pricing’ always involves the art of managing the expectations of the customers and the employees to encourage more profitable behaviors. Hence, the software company is required to create *pricing policies* to set these expectations, especially for the aggressive customers. An example, can be a policy of never giving a discount bigger than 35%. So, the employees (sales people) have recognized the maximum price cut they could offer earlier before negotiating with the customers. And last, after achieving the deal with their customers, the final price of a product or service is set in the *price level* layer.

We believe that the five forces of Porter (1985; 2001) can be the external sources that may influence the SaaS vendors to determine the value of its solution. These sources are the willingness of their customers, the existence of alternative solutions, the situation of their competitors, the new entrants and also the power of the providers. Within the SaaS market, we also notice that the bargaining power of provider becomes less relevant when the vendors operate their software on their own infrastructure or when the providers themselves do not offer additional values compared to their competitors. As an example, a SaaS provider who also acts as a reseller and integrator has more values compared to the providers that only supply and maintain the infrastructure. In practice, SaaS vendors hardly take into account all the five competitive sources; instead they are more likely to focus on several or even only on one source. For instance, there is a SaaS vendor - as one of our respondent - that pays attention only to the competitor’s price.

Because SaaS solutions are designed to be web-based applications, which makes it as a part of e-business, we are assured that SaaS values can also be identified from the ‘value in e-business’ theory introduced by Amit and Zott (2001). They identify four key value drivers of e-business and the linkages among of them. The four drivers are *efficiency*, *complementarities*, *lock-in*, and *novelty*. *Efficiency* might include lowering the transaction cost, reducing the distribution cost, streamlining the inventory management, simplifying and speeding up the transaction processes. *Complementarities* are present when the vendors offer a bundle of applications together, which provides more value than the total value of having each of those applications separately. The created value of an e-business application is enhanced by the extent to which customers are motivated to engage in repeat transactions and by the extent to which strategic partners have incentives to maintain and improve their relationship with the vendors. It obviates the migration of customers and strategic partners to the

vendors' competitors. These value attributes can be achieved through 'lock-in'. At last, an e-business application also innovates in the ways the vendors and the customers do their business, called 'novelty'. For example, the existence of virtual markets with the virtual communities can enable frequent interactions on a wide range of topics, and the traffic codes that are embedded to the applications allow the vendors to track their customers.

According to Choudary *et al.* (1998), through their research on the implementation of a game theoretic model, it turned out that renting is a way to price discriminate in a socially desirable way. They find that renting benefits both the vendors and the users by providing higher profits and consumer surplus. SaaS can be seen as 'rented software' because the users pay amount of money to rent the software for their usage and they do not need to keep the whole or partial application or software in house (Chou & Chou, 2008). The pricing models that are adopted by SaaS vendors to charge their customers are also mentioned similarly in several literatures. For example, Sessions (2006) sees that there are two main pricing varieties of SaaS, which are *pay-as-you-go* and *watch-as-you-go*. The first model means that the users need to pay beforehand, to be able to use SaaS software while in the second model, the users watch the advertisement that SaaS vendors display in return for using their software. Table 1 lists the pricing models that we collected from the key literature on the topic.

*Table 1: A selection of SaaS pricing models in the literature.*

Literature	Pricing model
<b>Kaplan (2009)</b>	pay by user/seat, pay by transaction, pay by service level, pay by month/year.
<b>Kittlaus and Clough (2009)</b>	fixed price per month, usage-based price per month, no cost.
<b>Sessions (2006)</b>	pay-as-you-go, watch-as-you-go.
<b>Tarzey <i>et al.</i> (2007)</b>	user subscription, pay by usage, pay by data volume, free usage paid for advertising.

From this table, we notice that they are identical to one another. Therefore, we have classified them into three categories: *subscription-based pricing*, *usage-based pricing*, and *no cost*. Most SaaS vendors have applied the combination between the subscription-based and usage-based model to boost their profit. This fact is aligned with the paper of Sundararajan (2004) that analyzes fixed fee and usage based pricing of information goods and finds that the addition of fixed fee pricing is the optimal solution to maximize the profit. A related study performed by Gurnami and Karlapalem (2001) shows that when the usage based (pay-per-use) model is applied, it will increase the profit of the software vendor, and when both pay-per-use and the subscription perpetual license are used, the optimal pricing strategies to maximize the vendors' profit will be presented.

According to the paper of Green *et al.* (2004) and the book of Blokdiik (2008), SaaS vendors must have a billing and metering system to ensure that every single account of their users will be accurately charged, either for the current services, previous transactions, or some future subscription as well. This system becomes important for the vendors to track their customers' usage and might also be useful for them to expand the potential of their customers base for their marketing strategy in the future. Therefore, a sophisticated billing system to successfully process all those processes is definitely required. Adopting SaaS model can also improve the way SaaS vendors provide their services to customers (Hoogvliet, 2008). In SaaS, these services are mostly already included in the fee paid by customers.

All the aforementioned theories are used as the foundation of our PSGF framework. More explanation about the elements contained in the framework are elaborated in section 3.

## PSGF: The Pricing Strategy Guideline Framework

The Pricing Strategy Guideline Framework consists of five main layers: *value creation, pricing structure, price and value communication, price policy* and *price level* in which each layer contains different pricing elements.

### Value creation layer

To be able to successfully run its business, every company – including SaaS vendors, in all different sectors must have a solid corporate strategy. A corporate strategy defines the market and business where the company is operating and it manages the array of their business units (Goold & Luchs, 1995). As one of the business units, Sales and Marketing becomes the company's key role to obtain more customers who are willing to buy their products or services. In other words, these are the customers that would bring them revenues. For SaaS vendors, their revenue is generated by charging the customers for using their solutions. Therefore, it is important that Sales, Marketing, and Pricing are collaborated closely.

Vendors always expect to set prices that can capture the value of their solution and that can also maximize their profits (Hogan & Nagle, 2005). Therefore, it is crucial for the vendors to have a good understanding of how much value their SaaS solution can generate for their customers. And this is indeed not a simple task. The vendor must be aware of different aspects that influence the value creation itself, both from internal and/or external aspects. The former aspect can be identified from the corporate strategy of the vendors. And for the latter aspect, the vendors must not neglect the willingness of their customers, the existence of alternative solutions, the situation of their competitors, the new entrants and also the power of the providers (Porter, 1985; 2001). We notice that the corporate strategy is interconnected with the five sources on Porter's model. Within the SaaS market, we also observe that *the bargaining power of the provider* becomes less relevant when the vendors operate their software on their own infrastructure or when the providers themselves do not offer additional values compared to their competitors. For example, a provider who also acts

as a reseller and integrator has more values compared to a provider that only provides and maintains the infrastructure. In practice, SaaS vendors hardly take into account all the five competitive sources; instead they are more likely to focus on several or even only on one source. For example, there is a SaaS vendor - as one of the interview respondents - that pays attention only to their competitor's price.

The value of SaaS solutions can also be identified from the four key drivers of e-business and the linkages among them: *efficiency, complementarities, lock-in, and novelty* (Amit & Zott, 2001). In the context of SaaS, efficiency may include lowering the transaction costs, streamlining the inventory management, and simplifying and speeding up the transaction processes. Complementarities are present when the SaaS vendors offer a bundle of solutions together. The value of lock-in can be achieved because the vendors have more control over their customers. The customers have no direct access to the physical data and are dependent on the format and the offered data export features. Finally, SaaS can also innovate the ways in which vendors and customers do their business, called novelty. We observe that *efficiency* and *lock-in* are the most valued drivers applied to SaaS.

### Business Case

Regarding the situation of SaaS, a business case could be defined as a financial estimation that compares the associated costs of deploying a SaaS solution to the quantified economic benefits or value to be derived from it within a certain period of time (Kittlaus & Clough, 2009). It might include the cost price, price margin, and Return on Investment (ROI) and some other financial measurements (KPIs) such as the number of new customers that sign up every month. We believe that having a concrete business case becomes essential for SaaS vendors before pricing their solution. However, it is true that the business case does not guarantee that the vendor will achieve exactly the same numbers as what has been estimated, but it will certainly give a better financial control for them. During the interview phase, one of our respondents said that *"99% of organizations including SaaS vendors do need a business case, even though many of them are still don't do it"*.

## Price structure layer

The next step after defining the value creation and the business case, is deciding the pricing structure of the SaaS solution. It covers how the vendors are going to charge their customers; what kind of metrics they must use - especially when they adapt the usage-based model - and how the metrics and billing processes are going to be measured and tracked; how the software is distributed to the customers; and finally what kinds of services that they want to provide their customers that also includes the creation of an SLA.

### Pricing model

Because SaaS is a relatively new hype in the market, people are still confused about the term of pricing and licensing of SaaS. Many consider these two terms to be basically the same. In the case of SaaS, the customers do not buy a license but 'rent' the software. Hence, only the term of pricing is applied. According to many different sources (Choudhary, 2007; Dym, 2009; Pring *et al.*, 2007; Geisman, 2008; Hoogvliet, 2008; Kaplan, 2008; Lassila, 2006; Mahowald, 2009; Merchant & Geisman, 2006; Rowell, 2009; Sääksjärvi *et al.*, 2005) and the result from our interviews, it is true that 'pay-as-you-go' pricing becomes one of the main reasons why many software vendors and customers – especially those in the Small Medium Enterprise (SME) market are moving or adapting the SaaS model. It gives more predictable cash flows for both the software vendors and customers, and offers payment flexibility for the customers. The pricing models that are adopted by SaaS vendors to charge their customers with, are mentioned similarly in different literatures. For example, besides the 'pay-as-you-go' model in which the users need to pay beforehand to use the SaaS solution, Sessions (2006) also introduces 'watch-as-you-go' model. Within this model the users will need to watch the advertisement that the SaaS vendors display in return for using their software. Overall, we see that the pricing of SaaS as shown in Table 1 is shaped from one or a combination of the following three pricing models or charging alternatives: (a) *subscription-based*: customers are charged for the same fixed-price for every month, quarter, or year for an independent usage (Postmus *et al.*, 2008); (b) *usage-based*: customers are charged based on their usage volume from several measurable metrics. This is the reason why SaaS is also typical with "pay-per-use" basis. 'Price metrics' are variables that drive different prices for a single SaaS solution (Kittlaus & Clough, 2009). The used metrics might diverge for different solutions, e.g. amount of data transferred, the time spent by customers in using the software, number of registered users accessing the software, number of completed transactions while using the solution (Ferrante, 2006; Kittlaus & Clough, 2009). The last two are the most common metrics used in the SaaS world. Nevertheless, there are still several other specific metrics that are also useful for the SaaS vendors, which can be found in (Dunham, 2009); (c) *advertisement model*: customers pay no costs for using the solution while the vendors earn the revenue from advertisements of third parties that are embedded on their web pages. This model has rarely been applied by SaaS vendors. The best example is the Google or Yahoo search engine and Google Apps which includes Gmail as well (Kittlaus & Clough, 2009, Sessions, 2006).

The most favorable charging alternative in the current SaaS market is the subscription combined with the usage-based (number of users) model (Herbert *et al.*, 2007). Our interview shows that almost 70% of the respondents have applied subscription-based model with the combination of number of users as the chosen metric. The remaining respondents are still charging their customers using only fixed fee subscription model. To have a better overview of the combination between the subscription-based model and number of users, we give an example of a SaaS solution sold by vendor X. The monthly subscription cost of this solution, which already includes two users by default, is € 32.50. However, vendor X is also offer the possibility of having extra users with the cost of € 5.00 for each. So, when a customer wants to have three extra users to access that SaaS solution, then the total cost that needs to be paid by that specific customer would be € 47.50. Note that some of our respondents stated that "*it is possible that the vendors come up with new charging alternatives in the near future*".

## Billing & Metering system

When formulating the pricing strategy, SaaS vendors also need to keep in mind the billing and metering mechanism for the usage of their solutions. This is a vital element to be able to run their business properly. They must ensure that they have accurately charged the single account of the customers based on the usage amount of the solution, either for current, previous or future transactions. A poor billing and metering system may cause the vendors to lose their customers, as the customers might feel cheated by the vendors. This billing and metering system becomes important for the vendors to track their customers' usage and might also be useful for them to expand the potential of their customers base, which is useful input for their future marketing strategy. Hence, having an accurate metering and billing system that can handle the mechanism and report overall usage is crucial. This system must be integrated with the vendor's solutions to allow the unification of all financial data and system operations (Blokdijsk, 2008; Green *et al.*, 2004). The billing and metering system can be built in-house or outsourced to third parties. The in-house systems tend to provide a better alignment of customer resource usage to billing because of their ability to connect to the SaaS platform at more points and collect more information, but it is a lengthy development project in most cases. Outsourcing allows resources to be redirected to the core platform and provides a quicker time to the market, but reaches fewer points than an in-house system (Chaudhuri, 2008; Progress Software, 2008). Companies such as *LeCayla* (THINKstrategies, 2006), *Vindicia*, *Zuora*, and *eVapt* provide billing and metering services and can be used as an alternative for this outsourcing purpose (Wainwright, 2008).

## Software

The choice of how a SaaS solution is being distributed to customers is also an important element to be considered by the vendors. Generally, in the case of SaaS, it can be categorized into three types, which are delivered separately or in combination: (a) *Suite (bundled or package)*. Bundled software of several solutions provides more value than separated solutions, which makes it more preferable for the customers (Bakos & Brynjolfsson, 1999; Dewan & Freimer, 2003) and brings more chance of increased sales-revenue for the vendors. Software bundling can also be referred to the *complementarities* key driver of value creation by Amit and Zott (2001). Nowadays, bundling seems to be the most popular method for the vendors to sell their software. (b) *Module*. The separated solutions mentioned above are known as modules. The vendors need to think twice before deciding to sell their SaaS solution in separate modules. In most cases, vendors will only sell them in modules when they are assured that their solution has a high-level value and strong competitive advantage. They believe, even though the price of their SaaS solution is relatively more expensive, the customers will still be willing to use the software because they cannot find any better alternatives. (c) *Trial*. SaaS vendors also offer a no-cost fee for using their solutions. These solutions are usually limited by their features and/or limited by a certain period of time (*trial version*) such as 14 days or 30 days. The goal of offering this free solution is to encourage them to use the paid solution.

In reality, SaaS vendors can employ the combination between 'bundled' and 'module' options. For example, in figure 2, vendor X sells their SaaS solution in three different packages (A, B, and C) and in total, the solution has ten different modules (1, 2, 3...10). Package A contains module 1, 2, 3, 4 while Package B contains module 1, 2, 5, 6, and 9; and Package C contains module 1, 2, 3, ...,7 and 9. Of course, the more value delivered by the modules contained in a package, the more expensive the package would be. Figure 2 provides a better view of this package separation. Vendor X offer freedom for their customers to choose which packages or modules are best suited with their business needs. So, when customers of need only module 1 and 5 to support their business, they can decide to buy the two modules separately or only choose package B. In most cases, the accumulated cost of the choices becomes the main consideration of the customer's decision Please note that it is possible that some modules are not included in any packages. For example, in this figure, when a customer needs package A with the additional of module 8 or 10 since these two modules are not included in any packages.

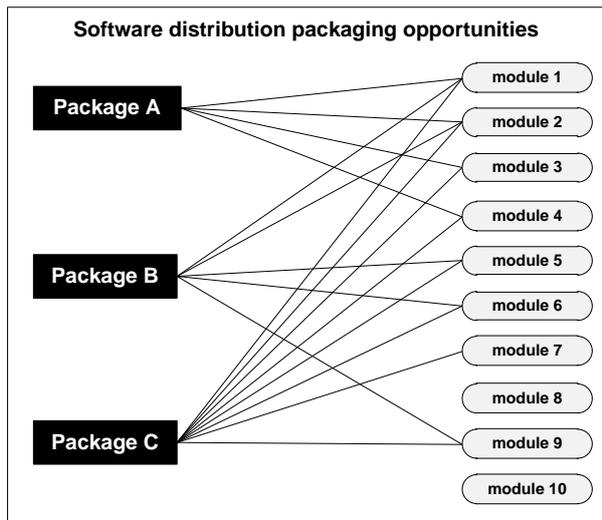


Figure 2: An example of software packaging opportunities based on module combinations.

From our interviews, it shows that 70% (13 out of 19) of the respondents offer fixed bundled packages of their SaaS solutions, but only 21% of them also provide the possibility of using separate modules. The chosen software packaging type is an important element and must be clearly determined before it can be informed to the marketing department.

### Service

By adopting the SaaS model, the way the SaaS vendors provide their services to the customers can also be improved (Hoogvliet, 2008). These services are mostly included in the fee paid by the users. The purpose of providing these services is to help the users with any problems that may occur when they use a SaaS software. From the study and the information gathered from several respondents, we classify these SaaS services into three types: (a) *Real-time support*. Besides only providing the users with a FAQ, or the general contact details of the vendors such as phone and fax number, email address, or a contact to ask their problems, the vendors can also provide real-time support such as 'live chat'. This live chat, also known as 'chat online', can be built on the vendor's web site or by taking advantage the APIs of online VoIP communication tools like Skype. Intacct, one of the leading SaaS vendors in the accounting field, presents a good example by providing different possibilities to their customers to contact its support desk, either via live chat, email, or phone, taking into account the different time zones (Intacct, 2009). (b) *Training*. In most cases, depending on the supported features of the SaaS solution, the SaaS vendors normally also offer different kinds of trainings for end users, the administrator of the users among others. The purpose of having these trainings is to inform the users about the different features of the software and how they can benefit from these features. The training for the administrator users usually covers more aspects and needs more time to complete when compared to the training for the end users. (c) *Professional services*. For customers who want to get help from the vendors such as consultancy service to optimally use the solution to meet their business requirements or technical assistance to extend the functionalities from the vendors, some SaaS vendors also offer professional services. In most cases, these services will convey additional costs to those customers or they are already included in the software package already. A good example of this service is the Customer Success Manager (CSM) provided by Salesforce.com, which is responsible for analyzing the users' behavior and provide added value to their users by helping them to be more effective and efficient in using the software according to their business needs. CSM people visit and have meetings with their customers on a regular basis.

### Service Level Agreements (SLAs)

One of the key motivators for moving to SaaS is the reduction of business risk (Tarzey *et al.*, 2007). This is identified by the service level agreement (SLA), which is a contract between a vendor and its users which specifies the level of service that is expected during its period. They can specify the response times for routine and ad hoc queries and response time for problem resolution such as

network down and machine failure (Hoch *et al.*, 2001). The aforementioned types of services are mostly covered within the SLA as well. SLAs can be very general or extremely detailed, including the steps to take in the event of a failure. For example, if the problem persists after 30 minutes, a supervisor will be notified; and when the problems stays after one hour, the account representative will be contacted.

### **Price and value communication layer**

When the pricing structure including all its elements has been determined, it becomes the responsibility of the marketing people of SaaS vendors to ensure that their prices will be acceptable to the customers whilst maximizing the profit gained. In order to make the price acceptable, it is important that the vendors are able to clearly inform their customers what the value propositions of their solution are. Basically, a 'value proposition' is a business statement that summarizes why customers should buy the vendor's SaaS solution. When the vendor cannot communicate this value proposition clearly, or when the customers do not completely understand the delivered values of the solution, then the customers tend to think that the price offered by the vendors is too high (Hogan & Nagle, 2005). Hence, price and value have a strong relationship. This is also depicted in the framework above by the arrow that points from the 'value creation' level to the 'price & value communication' level.

From the marketing research, the marketing people must already have an estimation of *how much the customers are willing to pay for such a solution*. This is a simple question, but a difficult and complex one to answer. Furthermore, they also need excellent approaches to convince their customers to buy their solution. The information related to the features of the solution, the supported services, and information regarding the vendor's background are necessary (Chau, 1995). They need to explicitly list all the included features and supported services in the different prices of their SaaS solution. This information is interrelated with some elements of the pricing structure layer as well. For example, the 'pricing model' is directly related to the listed different prices whereas the 'software' element is linked to the features list and the 'services' element is associated to the services list of this third layer. Examples of the software feature, both from the technical and/or non-technical issues are: the software functionalities, the availability of being integrated with existing legacy software, the compatibility and performance issues in different web browsers, the user friendliness, and the popularity of the software itself. Furthermore, the services like the availability of technical support (24/7 or only during working hours), and end user training (direct or via online demos) should be clearly mentioned as well. The different listed prices, features, and services could also be part of the value proposition of the vendors.

In case of SaaS, choosing the right marketing channels become another important element to consider. Of course, the old marketing channels such as brochures, advertisements on conferences or in magazines are still used by several vendors. But, we do not see them to be the best solution anymore. New marketing channels like online advertisements via Google Ads and new real-time promotion are becoming more effective approaches to market the vendors' software. The real-time promotion provides up-to-date information to the users such as the new prices or features of a SaaS software. A good example is the one from Salesforce.com, (2009b). In certain time, Salesforce offers certain discount for one of its SaaS packages. But this discount might change one week later.

For the vendors, it is always important to be honest to their customers about the limitations of their SaaS solution and also for other services that are excluded from the listed prices because this will most definitely affect their reputation (Hoxmeier, 2000). Other additional sources that are necessary for their customers are the references and the past experiences of using that software from other customers. This information is commonly found in a case study provided by SaaS vendors.

### **Price policy layer**

Up until this level, the value propositions, the charging mechanism including the chosen metrics and billing system, and the alignment between prices and value; have been defined. It is at the next level when SaaS vendors need to sell and to close the best deal with their customers. In fact, even though the SaaS vendors have published their price list on their websites, the prices can still be altered - especially for customers with a large number of users (for example, 400 users or more). These

customers may expect and demand additional benefits from the vendor such as free set-up costs and purchasing discount (cheaper price).

In order to close the sales and get a signed agreement appropriately including those additional benefits, the expertise of sales people of SaaS vendors is required. These are the people who have good knowledge and understanding of what they are selling, to whom they are selling to, and how they will sell it (Aston, 2009). To accomplish their task, they require information from the marketing department as well. This is the reason why a solid relationship between sales and marketing people in an organization is vital. This relationship can also be seen in the framework from the position where the pricing and value communication level is above and directly connected with the pricing policy.

To sell the SaaS solution, the sales people must use their best approach or *sales mechanism* to reach the customers. There could be different approaches for different customers. However, there must be pricing regulation, also known as *pricing policy* from the vendors to control what may and may not be done by their sales people – e.g. a policy of never giving discounts bigger than 30%. This is important since the sales people always have the tendency to give more and more discounts to the customers in order to boost their sales numbers (Hogan & Nagle, 2005). In reality, the vendors may also create price discrimination for different types of customers, depending on the level of their usage (Postmus *et al.*, 2008) and also duration of the contract.

### **Price level layer**

When sales people have reached an agreement with a customer, then the price margin of the SaaS solution of that specific customer can be set and followed by calculating its final unit price. A unit price is basically the sales price of a SaaS solution for a specific customer. For the SaaS vendors who do not give additional benefits at all to their customers, because it is part of their pricing policy for example, the listed prices on their websites are the final unit price and apply to all customers.

Before granting the customer access to their SaaS solution, it is significant for the vendors to clearly outline all information on the contract regarding the prices and any possible additional benefits, the minimum period of the contract and the Service Level Agreements.

## **Case study: Pricing strategy in practice**

In this section, we present a case where the PSGF framework can be applied to a SaaS vendor. The information is collected from an interview with the CEO of this vendor. The current situation of the vendor will be given first before further elaborating the different pricing elements that are applied to.

A company called FINCORP is one of Dutch SaaS vendors who offers solution in the accounting field. The mission of the company is *'to provide a system that fulfills their customer needs for long term period'*. In order to realize its mission, the vendor built a SaaS solution with an initial budget of 200,000 euros and launched its first version in the Dutch market on October 1, 2003. At present, the vendor FINCORP has approximately 1,000 paid customers and more than 1,500 active users in which each paid customer receives two users by default. Some of their customers might have only one active user, and others might have ten active users. The target market of this vendor is accountants and small business people (mostly are the entrepreneurs that do administration themselves). From the beginning when the vendor built its SaaS solution from scratch, they have been working together with a service provider who manages and maintains the infrastructure including the security and other technical issues, in order to support and run their SaaS solution properly. The vendor currently does not have any accountancy certificates yet, like the Dutch SRA (*Samenwerken, Registratie, and Administratiekantoren*), but they are planning to pursue these in the foreseeable future.

The vendor offers three different packages of its SaaS solution: *Basic*, *Plus*, and *Pro*. Overall, the SaaS solution comprises of 22 modules. The Basic package (14.50 euro) offers eight modules, whereas the Plus package (24.50 euro) offers additional seven modules, which are excluded in the Basic version. And last, the Pro version (34.50 euro) covers all the modules. In other words, the Basic version can be seen as the subset of Plus version and the Plus version is a subset of Pro version ( $Plus = Basic + extra$

*modules; Pro = Plus + extra modules*). Customers can simply start and terminate using SaaS solution in monthly based via the website (self-service). The payment is performed through the ‘automatic collection’ (*automatische incasso* in Dutch) from the registered bank account or credit cards of the customers on the vendor’s database. For all customers who want to pay a year fee at once, they will get two months discounts. New customers can also make use of the first 30-days trial with no charges. For support or other questions, they can contact the vendor only via email or telephone during the working hours (Dutch time).

The PSGF framework is created to assist small-to-medium SaaS vendors like FINCORP by providing them with a guideline to ensure whether the fundamental pricing elements have already been well thought out in their pricing strategy or not. By making use of the framework, the vendor FINCORP can find out what are the elements that need to be improved in proportion to their sales price. A more detailed about the different pricing elements that are currently applied to this vendor can be summarized in Table 2. From the table, it is obvious that besides the added value of its solution, FINCORP has also considered several other factors such as the competitors’ price, the customer willingness, and the available alternative solutions (accounting on-premise software, the services of an accountant) in order to price its SaaS solution. The vendor has also prepared a business case before entering the market in 2002. In response to its pricing structure, FINCORP uses the combination between subscription based with the ‘number of users’ as the only applied pricing metric. The vendor has also integrated the billing and metering system with their solution using the help from the provider at the time they built it. FINCORP currently does not offer their solution in separate modules, but only in three packages. They do not offer real-time support like ‘live chat’ and their telephone support is also limited to the Dutch working hours. At present, there is no available trainings such as online video, or even the real training sessions given by the vendor. However, the vendor offers one time 30-minutes free consulting for each customer, but none of their customers have used it so far. Here, it is clear that there is still no clear information sent to their customers (*i.e.* a communication issue). There is also a demo version on the vendor’s web site, but it is just to give a better feel of their solution’s interfaces. It does not give much information for the customers. There is also an available FAQ or called *kenniscentrum* that only provides general instructions of using the solution. There is no example of particular cases, tips, and a forum where customers can share their experience is not even exist.

The marketing channels employed by the vendor are quite old, limited to the online banners and direct marketing through conversation. There are no case studies available on its web site. In response to its pricing policy, since its market is relatively small, no special policies have been made for ‘special’ customers. The prices are always fixed. The only available policy of FINCORP is to give their customers two-months off when they pay the fee for a one year period.

At this moment, the market of vendor FINCORP is slowly growing to Belgium, the UK, and Spain. They are inevitably going to face bigger competitions than before. In order to survive in the market, FINCORP must keep improving the value propositions of their SaaS solution in terms of the available prices, features, and also services. We believe that FINCORP must provide better support for their customers such as real-time support and more trainings. They also need to invest and push more on their marketing activities. Perhaps FINCORP can also offer possibility for people who only want to use certain modules without having to pay the complete package. This could be another way to attract more customers. This information is certainly helpful for FINCORP since they have never performed any surveys toward their customers until now.

Even though FINCORP has a relatively cheaper price compared to its rivals, it does not guarantee that they can still survive in the next few years if they do not make significant improvements to their pricing elements such as the services, marketing, and better pricing policies. For FINCORP, they could expect having a higher price margin of the sales price when they have increased the value proposition of its SaaS solution. But, of course, they must have considered their external aspects beforehand.

It is important to remember that the problem of determining a good pricing strategy for a company is more often incented not by the high price of the offered solution, but because of the other elements of

the pricing strategy itself (Hogan & Nagle, 2005; 2006). Therefore, the PSGF framework that covers these different pricing elements should certainly be helpful for many SaaS vendors.

Table 2: Case study findings regarding the pricing elements considered by SaaS Vendor FINCORP.

<b>PSGF ELEMENTS</b>	<i>Is applied</i>	<i>Somewhat applied</i>	<i>Barely applied</i>	<i>Not applied</i>
<b>VALUE CREATION</b>				
Marketing aspects				
Competitors' price	X			
Customer willingness	X			
Substitute solution	X			
Business case	X			
<b>PRICING STRUCTURE</b>				
Pricing model				
Subscription based	X			
Usage based	X			
Advertisement model				X
Billing and metering system	X			
Software				
Bundled	X			
Module				X
Trial	X			
Services				
Real-time support		X		
Training				X
Professional service		X		
Service Level Agreement	X			
<b>PRICE AND VALUE COMMUNICATION</b>				
Marketing channels			X	
Price list	X			
Feature list	X			
Service list			X	
<b>PRICE POLICY</b>				
Sales mechanism		X		
<b>PRICE LEVEL</b>				
Final price	X			

## Conclusions and future work

The 'Pricing Strategy Guideline Framework' (PSGF) is presented to be a guideline for small-to-medium SaaS vendors – particularly the startup vendors that tend to have less experience in pricing their SaaS solutions. The framework consists of five main layers in which each layer contains several essential pricing elements. These layers are *value creation*, *price structure*, *price and value communication*, *price policy*, and *price level*. It starts with determining the value proposition of the SaaS solution by investigating the corporate strategy and marketing aspects of the vendors. Next, the SaaS vendors need to create a business case to have a better financial overview of the costs and the profits, which are generated with their current targeted sales price for the upcoming few years. Afterwards, SaaS vendors need to consider whether they are going to sell their solution on bundled packages or not; how they want to charge their customers and in what metrics are charged; how they will incorporate the billing and metering system with their SaaS solution; and also what kind of services they would like to offer to their customers. Then, it becomes the task of marketing people to ensure that the value proposition of their solution is well communicated with their prices in order to prevent the possible unnoticed values from the eyes of their customers. In order to reach their targeted profit, the SaaS vendors must have a pricing policy. When an agreement between sales people and the customer has been achieved, the price margin and final unit price are set. Later on, this final unit price, together with any extra benefits, and SLA should be clearly written on the contract before granting the customer access to their SaaS solution.

Since the PSGF framework contains several fundamental pricing elements, it opens the door for other studies of each of those elements. For example: a research of how to choose the best billing and metering system, a research about the methodology of selecting the most profitable metrics of SaaS or the methodology of performing a good SaaS business case, and a research about the available marketing channels from different SaaS vendors including the new innovative *Customer Success Manager* from Salesforce.com (Salesforce, 2009), and many others.

Because the PSGF framework elements are of a primary nature, we believe that this framework might apply not only for SaaS, but also for other Cloud-based services such as Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). Consequently, the tendency to apply the usage-based model for the PaaS or IaaS vendors become bigger, which of course implies more complex metrics and a required billing-metering system to support it.

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