

Larisa GAVRILA
Constantin BRAN
Sorin IONESCU
Polytechnic University Bucharest

THE COST OF SOFTWARE PERSONALIZATION

Empirical Study

Keywords

*Cost of software personalization,
Software personalization,
Software customization,
Software customization importance*

JEL Classification

O32

Abstract

Software personalization services are being asked for more frequently by large enterprise customers. The main reason behind this is to gain competitive advantage or to adapt the software to existent complex process structure and also to be able to integrate the software in existent IT infrastructure. Suppliers have started to provide customized applications for their customers but these customizations come with additional costs. Revenues and costs associated with software personalization are not clearly identified in distinct accounts within the accounting system so it becomes a challenge to identify them. This article looks into the annual reports of three software companies listed on NASDAQ stock market. The main target would be to identify types of expenses associated with software customization activities and their magnitude in the total cost.

INTRODUCTION

Software personalization services are in high demand, especially when it comes to large companies. Delivering a personalized application instead of a standard application involves additional costs for suppliers.

General accounting rules do not include specific and distinct accounts where the revenues and costs associated with software personalization should be mentioned. This lack of clarity makes it difficult to measure the magnitude of costs and revenues coming up from these types of activities.

The article's purpose is to firstly identify types of expenses associated with software personalization activities and their magnitude in the total cost in order to underline their importance.

METHOD USED

For this study three software companies that are listed on NASDAQ stock market were considered. These three companies are: ServiceNow Inc., Red Hat Inc., Salesforce.Com Inc. The reason for selecting only three companies at this point is to have a starting point in sketching a range of ideas that will be further on turned into hypothesis and tested in a more extensive econometric study.

Companies were listed from NASDAQ official webpage, www.nasdaq.com and their annual reports were downloaded from the website www.annualreports.com.

An important entry criterion for the companies to be included in the study was the ability to identify that these companies are involved in software personalization activities. Moving forward, using the observation technique, the software personalization activities and their associated types of expenses were identified.

By graph usage the software personalization cost magnitude was better described in order to underline the importance and the attention a company needs to pay in reducing these costs.

RESULTS

The first company analysed is **ServiceNow Inc.** In the ServiceNow Inc. Annual Report (2015) they describe themselves as being a leading provider of enterprise cloud computing solutions that define, structure, manage and automate services across the global enterprises.

The first step is to check if ServiceNow Inc. is involved in software personalization activities. After analysing the annual report for 2015, the conclusion is that ServiceNow Inc. not only offers standard solutions but they are also engaged in building custom solutions by working together with the customers during development phase. Two of

the key benefits of engaging this company consists in extensibility plus speed and ease of implementation according to ServiceNow Inc. Annual Report (2015), which is further more described as ease of customization. Services that support the software personalization offered by ServiceNow consist in professional services, education services and customer support.

Professional services are provided to advise and support the customers with ServiceNow platform implementation. Education services consist in a customized package of trainings for different skills and levels. When it comes to customer support, their customers receive free 24/7 technical support, in addition they also provide self-support through an online platform where knowledge base and documentation is made available.

In the profit and loss statement, software personalization activities go under the category professional services and other services as described in the ServiceNow Inc. Annual Report (2015): professional services revenues consist of fees associated with the implementation and configuration of our subscription service.

When analysing the counterpart, costs of professional services and other revenues, the main conclusion was that in that category only payroll costs with consultants (internal and external) and training materials were included: cost of professional services and other revenues consists primarily of personnel related costs directly associated with our professional services and training departments, including salaries, benefits, bonuses and stock-based compensation, the costs of contracted third-party partners and allocated overhead (ServiceNow Inc. Annual Report, 2015).

The values of professional services and other revenues and costs along with the total revenues and costs for the period 2013-2015 are displayed in Table No.1 – ServiceNow Inc. revenues and costs for the period 2013-2015.

The second analysed company is **Red Hat Inc.** In the Red Hat Inc. Annual Report (2015) they describe themselves as being a leading global provider of open source software solutions, using a community-powered approach to develop and offer reliable and high-performing operating system, virtualization, middleware, storage and cloud technologies.

The first step is to check if Red Hat Inc. is involved in software personalization activities. After analysing the annual report for year 2015, the conclusion is that they not only use their internal capabilities to customize the software but they made the source code open in order to gain input from the global community. This being described as they employ an open source development model, so that the open source development model allows them to use the collective input, resources and knowledge of a global community of contributors

who can collaborate to develop, maintain and enhance software because the human-readable source code for that software is publicly available and licenses allow modification, by this mean it is believed that this model offers advantages to Red Hat because they are able to develop their offerings by integrating information and knowledge from a global community (Red Hat Inc. Annual Report, 2015).

By offering open source software, Red Hat Inc. is offering their customers the possibility of customizing their software with their own resources and capabilities. Red Hat displays in the Red Hat Inc. Annual Report (2015) a range of benefits that come with this particular software type:

- enabling a customer's in-house development team to collaborate and innovate with a global community of independent developers and testers;
- providing a customer's in-house development team access to both binary and source code, and broader rights to copy, modify and redistribute the software;
- offering a customer greater flexibility through open rather than proprietary protocols and formats;
- allowing a customer ongoing access to improvements made to the software that are distributed by others; and
- allowing a customer to inspect and help diagnose problems more easily and customize the software to suit his particular needs.

In the profit and loss account activities that fall under software personalization and are incorporated under the category training and services as described in the below phrases: training and services revenue is comprised of revenue for consulting, engineering and customer training and education services; consulting services consist of time-based arrangements, and revenue is recognized as these services are performed; engineering services represent revenue earned under fixed fee arrangements with the Company's OEM partners and other customers to provide for significant modification and customization of Red Hat technologies (Red Hat Inc. Annual Report 2015).

Under costs of training and services we captured expenses with internal and third party personnel consultancy for design, development, delivery of custom engineering and training materials.

The values of training and services revenues and costs for the period 2013-2015 are displayed in the Table No. 2 – Red Hat Inc. revenues and costs for the period 2013-2015.

The third analysed company is **SalesForce.Com Inc.** In the SalesForce.com Annual Report (2015) they describe themselves as being a leading provider of enterprise cloud computing solutions,

with a focus on customer relationship management, or CRM.

The first step is to check if SalesForce.Com Inc. is involved in software personalization activities. After analysing the annual report for year 2015, the conclusion is that they are involved in software personalization activities and they can support a rapid development of applications using the Salesforce Platform. One of the main benefits offered is described as ease of integration and configuration: IT professionals are able to integrate and configure our solutions with existing applications quickly and seamlessly (SalesForce.com Annual Report, 2015). Software personalization activities are categorized under professional services and other services as it follows: professional services and other revenues consist of fees associated with consulting and implementation services and training (SalesForce.com Annual Report, 2015).

When analysing the counterpart, costs of professional services and other services, the main conclusion was that in that category only payroll costs with consultants (internal and external) and training materials were included as described: cost of professional services and other revenues consists primarily of employee-related costs associated with these services, including stock-based expenses, the cost of subcontractors and allocated overhead (SalesForce.com Annual Report, 2015).

The values of professional services and other revenues and costs along with the total revenues and costs for the period 2013-2015 are displayed in Table No.3 – SalesForce.Com Inc. revenues and costs for the period 2013-2015.

DISCUSSION

By analysing the three software companies, it was noticed that software personalization activities fall under professional services, training services and other. When observing the types of expenses derived from software personalization activities, these were roughly categorized as payroll expenses with internal employees and third parties and training costs. A more detailed split is represented in Figure No. 1 – Software personalization costs.

Based on Figure No. 1, it could potentially be stated that employees (internal or from third parties) consist a very important capability that is required for software personalization activities. An extended analysis over a broader number of companies is needed and will be performed to investigate if the idea mentioned above stands as valid.

For ServiceNow Inc. the costs with professional services and other represented 43% of the total costs in 2013, 43% of the total cost in 2014 and 44% of the total cost in 2015.

For Red Hat Inc. the costs with training and services represented 60% out of the total costs in 2013, 58% out of the total costs in 2014 and 59% out of the total costs in 2015.

For Salesforce.Com Inc. the costs with professional services and other services represented 28% out of the total costs in 2013, 26% out of the total costs in 2014 and 28% out of the total costs in 2015.

Table No 4 is offering us a consolidated view of the magnitude of software personalization costs among three years in these three analysed companies. All percentages indicate a high proportion of costs that are coming directly from software personalization activities.

Analysing Figure No. 2, where the variance between minimum of magnitude and maximum of magnitude is displayed, could potentially lead to the statement that the software personalization costs are highly important, they need to be closely monitored and actions to reduce the costs are needed. Since the gap between the minimum and maximum magnitude is quite significant, more companies will be added in the future studies in order to form a significant statistic sample so a solid hypothesis can be drawn.

Comparing the costs and revenues derived from software personalization activities in 2015, it can be noticed that for ServiceNow the costs are

smaller than the revenues with 7%, for Red Hat the costs are smaller than revenues with 30% and for Salesforce.Com the costs are greater than revenues with 1%.

By analysing Figure number 3, where costs are displayed versus revenues for the year 2015, it could be concluded that in most of the cases software personalization activities are profitable but in the same time the profit margin is small.

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Tables

Table No. 1
 ServiceNow Inc. revenues and costs for the period 2013-2015.

ServiceNow Inc	2015	2014	2013
Revenues (\$)			
Professional services and other	157.202	115.346	74.846
Total revenues	1.005.480	682.563	424.650
Cost of revenues (\$)			
Professional services and other	146.013	106.089	67.331
Total cost of revenues	329.413	248.776	155.259

Source of data: ServiceNow Inc. Annual report for 2015

Table No. 2
 Red Hat Inc. revenues and costs for the period 2013-2015.

Red Hat Inc	2015	2014	2013
Revenues (\$)			
Training and services	228.255	197.844	180.476
Total revenues	1.789.489	1.534.615	1.328.817
Cost of revenues (\$)			
Training and services	160.343	135.500	120.260
Total cost of revenues	273.199	232.600	200.600

Source of data: Red Hat Inc. Annual report for 2015

Table No. 3
 Salesforce.Com Inc. revenues and costs for the period 2013-2015.

SalesForce.Com Inc	2015	2014	2013
Revenues (\$)			
Professional services and other	359.822	246.461	181.387
Total revenues	5.373.586	4.071.003	3.050.195
Cost of revenues (\$)			
Professional services and other	364.632	256.548	189.392
Total cost of revenues	1.289.270	968.428	683.579

Source of data: Salesforce.Com Inc. Annual report for 2015

Table No. 4
 Software Personalization Cost Magnitude

Company Name	Years/% out of total costs		
	2015	2014	2013
Service Now Inc.	44%	43%	43%
Red Hat Inc.	59%	58%	60%
SalesForce.Com Inc.	28%	26%	28%

Source of data: own calculations based on information from Tables 1-3

Figures

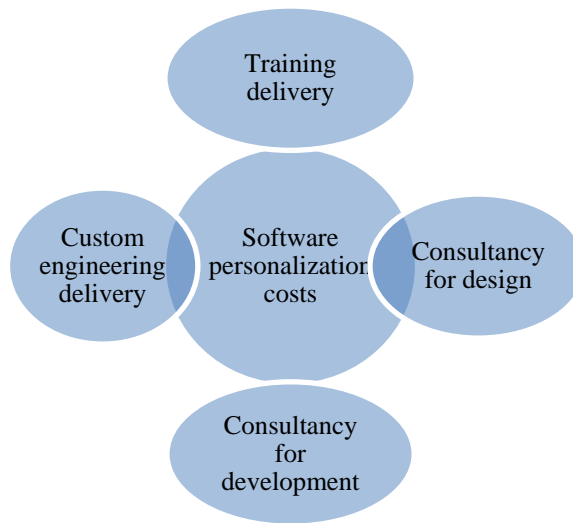


Figure No. 1
Software personalization costs

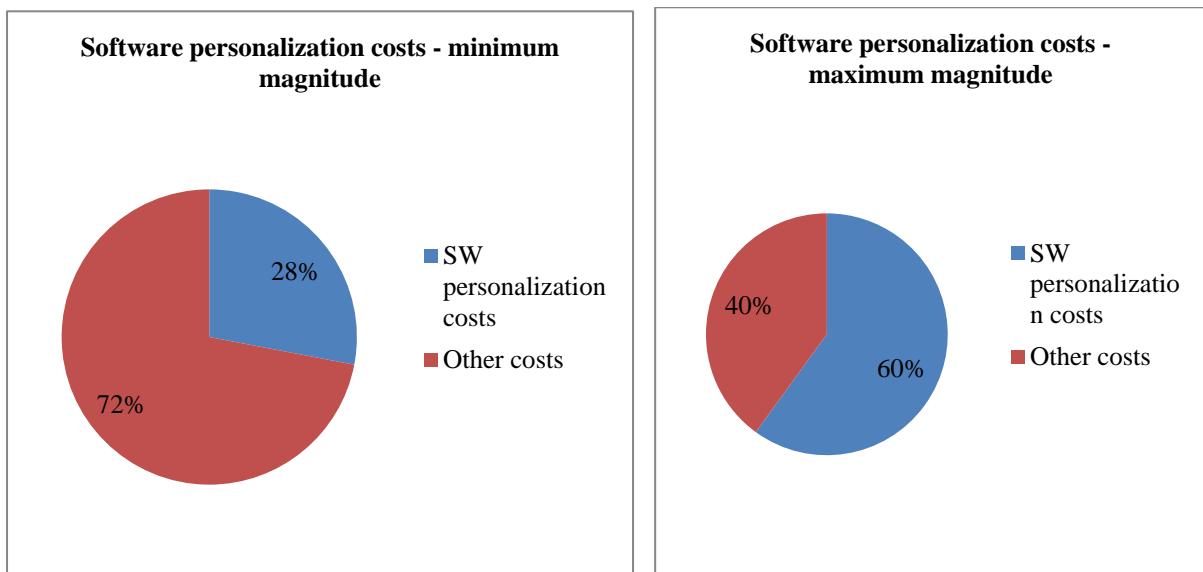


Figure No. 2
Software personalization costs variance

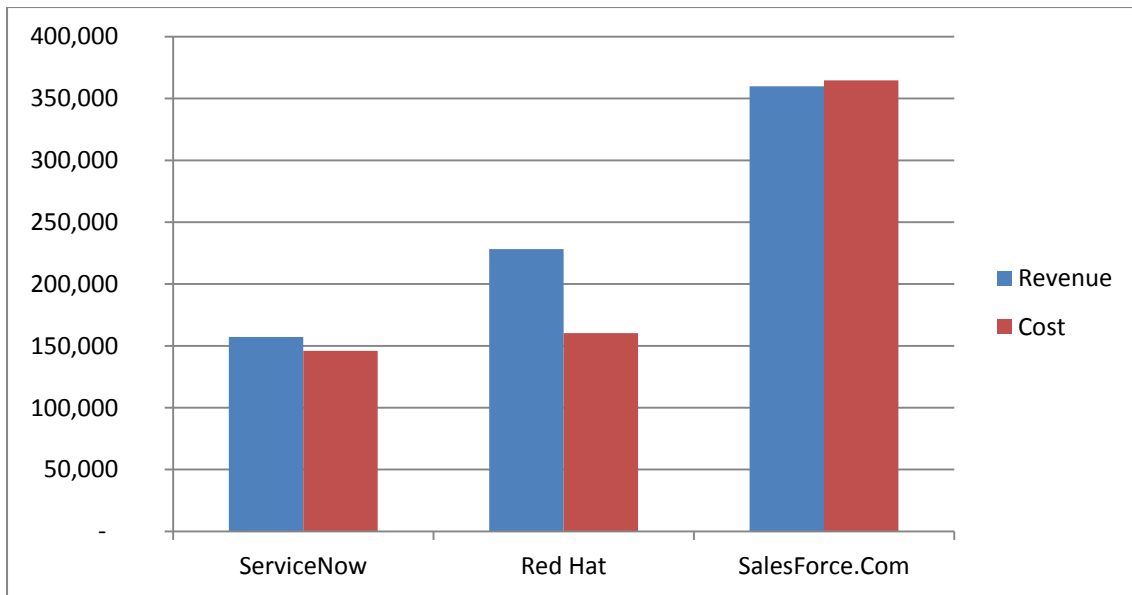


Figure No. 3
Software Personalization costs vs. revenues in 2015