

# CRM software as a service and importance of the approach for SMEs

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**Abstract**— CRM is “old news” in large enterprises. On the other hand, in ever evolving economies where the strongest prevail, causing mergers and survival of the fittest (and the largest), it is increasingly difficult for small and medium enterprises (SMEs) to gain new customers and to retain old ones. Being able to timely understand customer habits, their needs and drivers is substantial for all businesses, large or small. Some of the core CRM software functionalities and reports will help SMEs to get comprehensible picture of their customers, key drivers of their businesses and the path their companies are taking. In this paper, importance of having CRM software, especially under SaaS licensing, understanding data it provides and using both to increase customer satisfaction and retention for SMEs will be discussed. Some of key performance indicators (KPI) will be explained, including how they can influence the increase revenue and enable sustainability and longevity of SMEs.

**Keywords**- CRM; SaaS; SME; Multi-tenant.

## I. INTRODUCTION

CRM is one of the very well know tools in the marketing theory and practice. It is hard to imagine any major global or regional company without either one of the most famous or own CRM tools working hard in their sale departments. Very often, this software is very expensive, difficult to use and master and require dedicated staffing to gain best of it. SMEs (including micro enterprises) rarely even consider implementation of such a tool for various reasons, missing all the benefits they can gain for their businesses.

The aim of this paper is to show that implementation of CRM software in SME environment can be simple, affordable and beneficial.

More details will be given on how SMEs can implement such software with little effort and investment, as well as some of the benefits they can get from simple tools aimed at those entities, but also giving more details on best SaaS practices. Description of the key terms, technologies used, major benefits, cost and staffing estimations will be presented.

### A. CRM

Customer Relationship Management (CRM) is a tool, based on the information technology, enabling an organization to proactively create, develop and maintain committed, interactive and profitable exchange with selected customers over time [1]. It is a technology for managing all relationships and interactions with customers and potential customers, with

simple goal: improve business relationships in order to grow own business. Benefits of implementation of such system are obvious, but some of the key drivers for its implementation are both defensive (an organization's fears of losing customers and revenues due to the successful CRM adoption among competitors) and offensive (desire to improve the profitability by reducing costs and increasing revenues through improving customer satisfaction and loyalty). The implementation of CRM is very fundamental for increasing customer loyalty [2], [3].

CRM systems gather data from a range of different communication channels and allow businesses to learn more about their target audiences and how to best cater for their needs, thus retaining customers and driving sales growth. Considering their functionalities, those systems can be divided in several categories, including strategic (focused on the development of customer-centric business culture), operational (with the primary goal of integrating and automating sales, marketing and customer support), analytical (concentrated on analyzing customer data gathered through various sources in order for managers to make more informed decisions) and collaborative (incorporating external stakeholders – vendors, suppliers, distributors) [4], [5].

Customer's satisfaction (or satisfaction) is defined as “a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectations” [6]. It has important implications for the economic performance of firms because it has the ability to increase customer loyalty and usage behavior and reduce customer complaints and the likelihood of customer defection [7].

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B. SaaS

Software as a service (SaaS) (also referred as “on-demand software”) is a software licensing and delivery model in which software is licensed on a subscription basis and is centrally hosted. SaaS applications are delivered over Internet and are typically accessed by users using a thin client (a web browser) as those applications are web based/web hosted software [8].

For this reason, the SaaS model has no physical need for indirect distribution because it is not distributed physically and is deployed almost instantaneously, thereby negating the need for traditional delivery channels. Unlike traditional software, which is conventionally sold as a perpetual license with an up-front cost (and possibly an ongoing support fee), SaaS is generally priced using a subscription fee, most commonly a monthly fee or an annual fee.

Historically, in software industry, customers have been very frustrated related to product cost. This approach to obtaining software is very interesting for companies that do not want to have big initial investment in software, or desire quick return of the investment and represents natural evolution in software technology [9].

Best practices developing and providing software through this model has its own specifics and best practices. As the model commercial sustainability is highly dependent on larger customer number, at the beginning it is much more important to develop the right product than to develop the product right – customer first approach, i.e. provided features meet customer’s needs.

The application has to be frequently updated with new and/or improved features. Identifying which is developed first requires everlasting communication with customers as timeliness is significant for business profitability, thus priorities are defined by customers, not development teams.

Understanding customer needs and providing right solutions is also achieved using user behavior monitoring tools built into the application. Using them will enable the solution to change along with the technology and customer needs.

Mobile first and user experience (or simplicity and likeability of user interface and application operation) are very important as they enable users to navigate the application intuitively reducing customer churn rate.

Lastly, the security aspect of such software needs to be designed with care. Increasing number of users and use of various technologies for accessing such applications increase probability of malicious access. Creating trail of user and application activities and events needs that can be monitored by super admin users is necessary in a way that enables super admins to identify any anomalous access or activity. Security layers are necessary at every level, both from customer and provider side.

C. SME

In majority of countries in the region, Small and Medium Enterprises (SME) present over 99% of total enterprises. In countries of the EU in the 2020, SMEs accounted for 99.8% of total number of enterprises in the non-financial business sector, 65.0% of employment and 53.0% value generated [10]. In Asia, for example, SMEs make 98% of total enterprises and 66% of jobs. SMEs in some countries have large impact on

export, like in China where SMEs accounted for 41.5%, or Thailand where they made up 28.8% of total export value in 2012, or they significantly contribute to their countries GDP.

TABLE I. DEFINITION OF THE SME PER EUROPEAN COMMISSION [11]

Company category	Staff headcount	Turnover	Balance sheet total
medium	<250	≤ € 50m	≤ € 43m
Small	<50	≤ € 10m	≤ € 10m
micro	<10	≤ € 2m	≤ € 2m

Sustainability and profitability of such enterprises is fundamental for their economies, and yet, there are many challenges SME are facing. Some of most common challenges SME face are difficulties in accessing finance, lack of information infrastructure, low level of business research and development and insufficient use of information technologies [12].

Depending on market, SMEs could be facing additional challenges. This is especially the case in Southeast Europe (SEE), where SMEs are significantly influenced by cheap import from Far East Asia markets. Specificity of SEE market is that it consists of many micro markets that are not sufficient for SMEs to achieve economies of scale in local markets. Regional SMEs are also facing issues concerning complicated export/import administration and finding partners/customers in the neighboring markets, which prevents them from achieving economies of scale in the regional market. In order for SEE SMEs to be sustainable even on their local markets, it is necessary for them to achieve higher sales and production optimization, and to increase volumes and total profit despite margin reduction.

Necessity for them is to embrace new technologies that can help with most, if not all of the challenges mentioned above. Research suggests that ICT can improve overall, financial and operational performance, with impact on the improvement of external and internal communication and that ICT play major role in innovation performance of SMEs if used appropriately [13].

Some of the technologies such companies can benefit from include social networks, CRM software, loyalty software, project management software, management information systems, etc. The main goal of this paper is to analyze possibility how information technologies can improve business of SME and achieve better position on regional market.

II. TECHNOLOGIES

Appropriate CRMs for the SME niche are mostly web based solutions offered as SaaS. More often than not, those are solutions based on PHP/MySQL (open-source), a platform not requiring additional licensing than SaaS license for the software itself. They are multi (three)-tier solutions where software users are accessing the application by the means of web browser (Firefox, Chrome, Edge, etc.).

Software as a service is especially suitable for SMEs as all of the maintenance, hardware and software-wise is included in the monthly subscription and is the responsibility of the service provider. Data backup can also be included in the service plan,

making such solution real plug-n-play and very easy to implement even for micro enterprises.

Being web based, many of the solutions also offer seamless integration with various communication channels, including direct email and SMS communication (one- and two-way), integration of various instant messengers (e.g. Viber or WhatsApp) and even integration with various social media. Some of the CRM offer scheduling functionality as well, along with the possibility of integration of scheduling into SME's web portal, or mobile application scheduling service, either individually or as multi-provider scheduling channel which can be very beneficial to SMEs as additional marketing channel and access to untapped market.

Usually, process of the implementation starts with creation of user account which enables access to administrative panel and its customization. The back-end is mostly available immediately while integration with the client's web portal might require some time. On average, setup, integration and staff training should not last more than a week. It is noteworthy that very often it is possible to easily localize the language of the application, or change menus and other titles for purpose of better application integration into user's business processes and their staffing preferences.

Depending on the solution, from SMEs side, all that is technically required is PC/laptop/tablet (or even only mobile phone) with internet access. Considering that software in SaaS model is hosted by service provider, most of them provide 30 to 90 days' trial period free of charge where potential users of the application can review its benefits with no costs involved.

From vendor's point of view, this model is attractive and its benefits comes from the economies of scale, by providing shared service to large number of customers by centrally hosted software – "multi-tenant" architecture. This enables vendors to significantly reduce maintenance costs, increase their efficiency and to offer software (as a service) with significantly lower prices. This approach is not without its downsides, especially regarding shared data architecture and security management [14]. Also, as another significant issue of such approach to software licensing is identified in need of standardizing software functions in order to achieve economies of scale, effectively reducing possibility of customizing the solution for unique needs of specific "tenant" (user) [15].

From technical point of view, there are multiple challenges while developing such solution. Creating safe and well defined database which is GDPR compliant, providing easy way for third party integration, as well as providing very high availability are just few, especially having in mind that products targeting SMEs have to be affordable.

When considering database architecture in multi-tenant application approach, one has to consider multiple criteria, including scalability, tenant isolation, per-tenant costs, development and operational complexity as well as customizability.

Strongest tenant data isolation is provided by database-per-tenant approach. This pattern in multi-tenant application has many databases, each being single-tenant (Fig. 1), having one "super-admin" catalog database. Beside strong data isolation, this patten allows certain level of customization for each tenant, but as mentioned before, each customization complicates development and application management additionally. With

higher number of tenants, this pattern can increase operational costs and/or resources load, although increasing number of cloud platform providers deliver resource (thus cost) optimization tools.

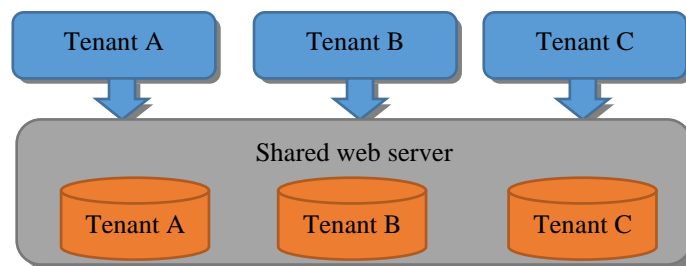


Figure 1. Multi-tenant database-per-tenant approach

Less data isolation is provided with shared multi-tenant databases. In this case all tenants can share one database (Fig. 2), which provides least data isolation but is easiest to scale provided having enough resources on the application server, or there could be multiple databases each storing data from multiple tenants. In the first case, management operations pertaining single tenant can be very complex to implement and at larger scale, operating such database can become unacceptably slow.

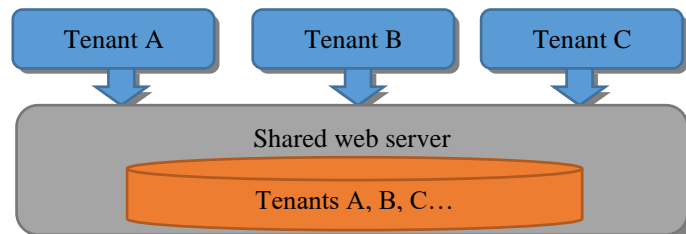


Figure 2. Multi-tenant single-database approach

Another approach with shared multitenant databases is to create smaller databases that are easier to manage, but also requires including tenant identifier in the database schema. In this case there are multiple databases, but at the same time, same database is used by multiple tenants (Fig. 3).

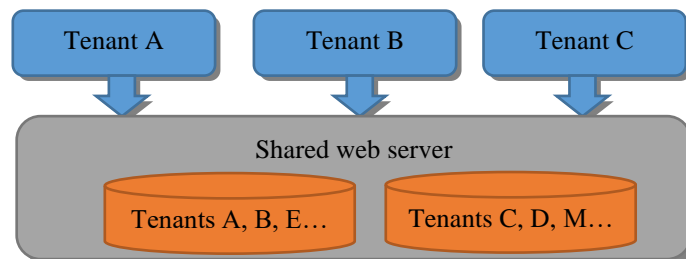


Figure 3. Multi-tenant multi-database approach

While database-per-tenant approach is clearly safer and easier to develop or customize to tenant specific needs, it has scaling limitation and can be costlier to host. Second approach is easier to scale and can be more affordable, but requires more development and operational resources, provides less data isolation, maintenance operations targeted at single tenant are more difficult and customization for single tenant is very difficult.

As an alternative, there is another, single tenant, approach. In this case, there is a copy of the application with its own

database for each tenant. This approach enables highest level of customization for each client, but also significantly increases resources needed for the maintenance of the services. It is used mostly for large applications serving performance critical customers and is rarely applied in SME environment.

III. PRICING MODELS

In SaaS world, there are numerous pricing models. While many are very interesting and innovative, the paper will focus on pricing models most popular, but interesting for SME niche.

Tiered pricing – solution provider offers multiple packages with different mix of features and different pricing. Benefits are that various packages fit various clients; customers can move to next package if they need additional services. On the down side, too many options confuse clients and once their usage surpasses top package, there is no way to collect additional income.

Per-user pricing, one of the most popular pricing models in SaaS, is model where fixed monthly fee is charged for each user. This is one of most straightforward pricing models where, both customer and provider, can easily calculate monthly cost/revenue. Down side is that it can limit penetration as single login can be used among different team members.

Ad-supported model is when solution provider charges no or low fee, where his/her income is supplemented with advertising revenue. There are various companies providing tools for such advertising, with Google’s AdSense being most popular. In this case, provider can offer really affordable price, but users might find ads annoying.

Free, with transactional revenue is model where customer can use application for free, but provider earns revenue from certain transactions (credit card payments, SMS sent, percentage of goods sold, etc.).

Usage-based (or pay as you go) model is when cost is related to customer’s use of the solution. If customer uses the solution more, monthly invoice will increase, if uses less, the invoice will decrease. This is especially suitable for SMEs as their revenue is usually correlated to the usage of software, so if they have less income, the invoice will be lower. The down side is that as the invoice changes from month to month, it is harder for provider to plan and predict income.

Free trial model is model when client can use full (or limited) set of features for certain period of time without charge, after which monthly subscription (possibly dependent of selected package) is charged.

IV. BENEFITS

While operational benefits of tools where scheduling is implemented are obvious, most important benefits are derived from reporting such tool can provide. Only some of them will be discussed here, including their implications on company business.

Although not directly CRM related, there are series of reports (Fig. 4) that can help monitor business by improving efficiency and monitoring performance of organizational units and individual staffing, share of each service per location, or review revenue generated per service, location and individual staff. Monitoring of services share trend is also possible,

enabling quantifying promotional activities influence or trend of penetration of newly introduced service.

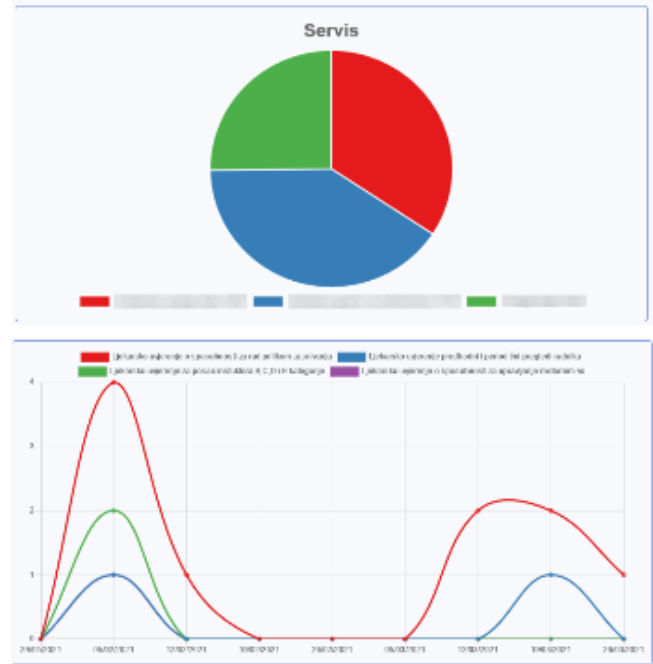


Figure 4. Examples of operational reports

Such reports can help optimize time and workforce resources, make educated decisions on investing in promotional activities, profitability of new services and their distribution per organizational units, etc. Beside graphical reports, usually raw data can be dumped into Excel for further analysis, using pivot chars, trends, etc.

With just few clicks of a mouse, managers of companies will be able to track what drives their businesses up and what drags them down, where they need to add more staff and where they should consider reducing, which services need more promoting and which are good on their own so far.

To better understand importance of CRM reporting, it is important to understand definitions and significance of terms such as “customer value”, “customer frequency” and “customer retention”, just to name a few.

Customer value (also known as customer lifetime value - CLV) is the total benefit earned from end-customer of product or service [16].

Customer or purchase frequency is the number of times that a customer makes a purchase in a given period of time [4]. This metric is important as new customers are expensive (marketing and other-wise) while it is easier to sell to existing customers and they tend to spend more than new customers.

Customer retention is synonym of customer loyalty and refers to a company’s ability to turn customers into repeat buyers and prevent them from switching to a competitor [17]. It indicates whether your product and the quality of your service please your existing customers.

Above are defined just a few metrics whose knowledge can significantly improve company’s business. Research shows that it is up to 5 times more expensive to attract new customer,

than to retain existing one, so the reduction of customer loss for 5% can increase profit for 25% to 85% [4]. It is very hard to attract satisfied customer from competition.

Considering this, it is very important to understand your customer's habits, expectations and needs. CRM software major reporting tools are enabling this through various reports, such as:

- Which locations your customer is using? Is the customer visiting only one location or s/he visits more of your locations (more locations that are visited by single customer, the customer is more loyal);
- Which services your customer is using? This report helps better understanding customer's habits and needs and tailoring a specific offer to the customer with compatible services. More customer's needs are satisfied at a business; the customer will be more loyal.
- Customer frequency report, which shows not only how often a customer is visiting a business, but also when that customer should be expected again. Using this report, sale staff can easily identify customer pass those dates and attract the customer using various sale techniques.

Review individual customer history (Fig. 5) for tailoring unique and individualized offer, etc.

Registered client

Client details

First name, Last name, Phone, Municipality, e-mail

History for the period

Location	Date	Time	Service	Status	Value
	01/07/2021	14:30			5.00€
	01/07/2021	13:30			70.00€
	02/07/2021	09:00			170.00€
	02/07/2021	12:00			170.00€
	04/07/2021	10:30			7.00€

Showing 1 to 5 of 56 entries

Excel export PDF export Print table

Figure 5. Example of customer's history report

With all of the reports mentioned above, business has all the tools needed to increase customer value, customer frequency, customer retention and overall customer satisfaction, reducing cost and increasing revenue.

Even more interesting are software solutions with integrated email/SMS communication that are enabling direct and easy communication with customers.

## V. CONCLUSION

Costs of implementing such solution in SaaS model is variable and depends on the size of the business. There are various options, including monthly subscription, pay per appointment, percent of revenue, etc. Regardless of payment model, SMEs should go for complete service by service

provider (including things as data backup, maintenance, etc.), reducing need for own staffing.

Advantages of SaaS model for micro and small enterprises are obvious, including no high initial investment, very low computer hardware requirements, no additional maintenance fees, no need for additional IT staffing, free trial period to figure out if the solution suits the business's needs. Also, if integrated SMS communication is included, it is necessary to understand that this is additional cost (usually paid per SMS sent).

Web based application tend to be simple to use, with familiar user graphical interface, requiring short training period for staff of the client. Service providers tend to provide user manuals and online training for their clients, and if local is selected, they also provide service of analyzing business processes and adjusting the application to their needs.

Goal of the paper to explain why and how even micro enterprises (in services business) should trouble themselves with implementing CRM is achieved. Simple and affordable solutions provide strong advantage in current concurrent market for those who decided to invest in them.

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