Education in Information Technology Focused on CRM Systems

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Abstract: - This paper focuses on education in IT (Information Technology) education and interest is oriented on CRM (Customer Relationship Management) systems. Customers are at the center of all companies and organizations; therefore, there is a natural interest in CRM systems. There are hundreds of CRM systems available on the market, and analyses show the optimal system according to established criteria. Unfortunately, the poor implementation is causing problems and IT users have bad IT experience. There are lack knowledge and optimal skills to work with CRM systems. In this situation, education provides help with educational documents in the form of video records, animations and good practice examples. It is impossible to know all CRM systems, but it is possible to choose a CRM system for further education aimed at optimal implementation. Mentioned solution supports instant access and relies on a template where IT users set CRM requirements step by step. This template design is used to select a CRM system for further knowledge and implementation. The paper introduces the template design that is inspired by the available data science templates, where IT users can not know all of the rules in detail, and the available templates show the recommended setup method. The same approach is accepted in the design of template. The specified data is used for filtering in a database that lists the available CRM systems with their evaluated criteria (specified template data as dimensions). The advantage of this approach is to better select CRM system according to specified IT user criteria with further recommendations for future innovations and to prevent implementation problems.

Key-Words: CRM, education, implementation, information technology, software, templates, visualization.

1 Introduction

Information technology (IT) brings many applications and systems supporting the implemented activities. Designers and programmers choose from complex or easier solutions to adopt an optimal method or methodology for implementing the software. There is implicit knowledge of database deployment for data storage, index creation, triggers and transactions according to the preferences of IT users. A similar situation is in the operating systems that form the background of the implemented systems. One from such systems is CRM (Customer Relationship Management) system.

CRM systems have an important influence on many businesses and organizations. The reason is a pragmatic offer of an optimal environment for the customer. [18] Customers are very demanding. They need the optimal product, the necessary services, information, and other benefits. In this situation, lists of customer requests are important. Another reason is to concentrate on very sensitive communication with customers according to their preferences and to support of long-term relationship. [7, 13]

All these reasons make that communication with customers is not intuitive. [19] Optimal IT support is needed. The positive thing is that CRM systems are being offered by many companies and comprehensive solutions are available, as well as simple applications. A number of CRM systems is in the hundreds. Known systems include Freshsales, Hubspot CRM, Insightly, NetSuite CRM, Nimble, Pipedrive, Salesbox CRM, Salesforce CRM, SugarCRM, or Zoho.

Choosing a suitable system is a complex activity, and the chosen system must respect defined requirements on implementation. These requirements are internal, external and there are also requirements for information technology. [21] The available changes are very dynamic with the contrast in implemented CRM systems that are static with the changes that are made through upgrades.

Description of the identified requirements is very important for optimal implementation of CRM

system. Traditional information studies with the necessary lists of existing problems and ways of solving them may be used. [26] A good advantage is the description in form of a table or a matrix. This description is clearer and designers may more easily select required CRM system.

Education and training have an important place to develop and implement the software in good level. The reason is easy to get acquainted with the new trends and capabilities of selected CRM system in order to see the available activities that need to be implemented in selected CRM systems. It is difficult to choose the optimal CRM system for education, and existing barriers of IT users who prefer immediate resolution of their problems need to be curtailed.

2 Problem Formulation

There are many available CRM systems on the market that IT users may use to manage customer relationships. In the first view, there are no problems in the implementation of CRM systems, because everyone may choose. There are open-source systems, cloud-based solutions and mobile access or commercial solutions. Perhaps all CRM systems are available for study in a trial or demo version.

Better orientation is based on available videos, consultations, and surveys of customers, independent organizations, or commercial companies:

- CRM Software. [22]
- The top 10 customer relationship management services. [5]
- The Best CRM Software of 2017. [16]
- Best CRM Software 2017. [2]
- 25 Great CRM Applications You Probably Never Heard Of. [15]
- The Best CRM Software of 2017. [24]
- Top 41 Free CRM Apps. [3]
- The Top 10 Mobile CRM Applications. [20]
- 10 Hot Google CRM Apps. [14]

Unique sources of information are social networks as Twitter and Facebook. It is a place where customers and developers share knowledge and experiences with implemented CRM systems:

- Recipe for lost customers: A story about Flight cancellations. [28]
- Well-featured and beautifully designed for best User Interface & User experience. [27]
- 15 Best Growth Hacking Techniques and Ideas. [29]

- The most demanded #CRM integrations. [30]

Unfortunately IT users are not always satisfied with the implemented information technology. The same situation is in CRM field. This problem causes many effects that have a bad detrimental effect on customer relationship management. [6] Many IT users also do not use CRM systems and prefer default office packages as MS Office or LibreOffice.

It is very unpleasant because this software does not the optimal CRM offer. There are losses in a number of customers, customer loyalty, customer relation strength, and revenue. In this situation, the question is how to design optimal education and how to display important IT capabilities in short term with the highest quality. [4]

3 Problem Solution

Problem solution is not unique for optimal CRM system education. The actual situation is very complex and many design teams work with all dimensions of CRM software. There is great pressure on knowledge, communication, timing and cooperation. [1] This fact causes difficulties in the orientation in CRM systems and the optimal knowledge of the selected CRM system from IT users. Education has an obligation to seek the most effective way of learning. More space is needed to think about the current requirements and appropriate capabilities of CRM systems.

The first necessary education is to identify existing requirements and difficulties of IT users for learning solution. [8, 9] One of the available forms is to talk to IT users, but many IT users have to divide the time between day-to-day work with heavy responsibility and not enough time to talk to the teacher. These IT users need an immediate solution to identify the optimal CRM system for knowledge.

An analogous situation is visible in data science. Instant OLAP (Online Analytical Processing) and data mining analysis are available. IT users need to set input data and choose the optimal method for template-based analysis. Examples of good practice for inspiration are also available. This brings inspiration in how to design solutions in education.

An immediate solution to an existing problem is to design a template to identify the real requirements and the difficulties of IT users with CRM systems. This proposal is based on the necessary dimensions (difficulty requirements) through the web interface with the search for an optimal CRM solution for further education in the integrated database of

available CRM systems. There is also room for recommendations on future developments, innovations and existing risks

4 Template Design for Education in CRM Systems

An approved template design for identifying existing requirements and issues to be solved by CRM system is based on experience with IT users from small and medium-sized businesses. Further inspiration is based on available analyses and lists the best or the top CRM systems [5, 10, 11, 17, 23, 25] that use selected metrics and CRM system rating criteria. Finally, good inspiration brings an instant solution from data science with integrated methods from business intelligence, customer intelligence, and swarm intelligence. [12]

This template design is part of work that is focused on CRM system analyses with support for a web interface for communication with IT users (students) and a database solution for analyses performed according to defined criteria (dimensions) and available CRM systems. This idea brings benefit on several issues. First, IT users will dynamically identify CRM requirements in the step-by-step chain of questions. Second, there are default values for better topic orientation and fast processing. Thirdly, the assigned database helps with quick response to IT user settings by filtering and searching. There will also be room for advice on further innovations and trends.

Responsible identification of all CRM requirements that are recommended for further education and implementation are defined by very often mentioned dimensions in four areas (a-d):

a) *Company identification and available environment*
- User-friendly interface.
- The number of users: 1-9, 10-49, 50-99, 100-499, 500-999, 1 000+.
- The industry: Accounting, Banking, Consulting, Distribution, Education, Food, Medicine, Not-Profit, Public Sector, Software, Utilities.
- The platform: Windows, Linux, Mac OS.
- The deployment: cloud, installed, mobile, web-based.

b) *CRM system features*
- The call logging.
- The campaign management.
- The contact management.
- The customer support.
- The document management.
- The email marketing.
- The interaction tracking.
- The lead management and scoring.
- The list management.
- The marketing automation.
- The product catalog.
- The project management.
- The sales pipeline management.
- The territory management.

c) *Useful extensions*
- The knowledge analytics links to intelligences such as business.
- The automation capabilities based on wizards and menus.
- The remembering the best solution for use in others cases.
- The security features based on a request to secure own data.
- The cooperation with selected applications or third-party integration.

d) *Others details*
- Easy installation or setup.
- The free CRM system.
- The innovative.
- The popular.
- The small business.
- The startup.
- The unique feature.
- The social network integration.
- The validated by market.
- The very small business.

For all dimensions, additional specifications are required. For example, a contact management is variable in various forms in different CRM systems. There are items as:

Owner, Language Preferences, Teams, Lead Source, Category, Contact Role, Custom Contact Form, Salutation, First and Last Name, First and Last Name (Local), Suffix, Image, Vendor Name (Organization), Department, Occupation (Job Title), Birth Date, Home Phone and Fax, Email and Phone, Other Phone and Mobile, Do Not Call, Unsubscribe from Campaigns (Global Subscription Status), Address Information, (Mailing, Billing and Other), Account Name, Allow Customer Portal Self-Registration, Assistant, Assistant Phone, Reports To

(Supervisor), Supervisor Phone, Tags, Skype ID, Twitter, Links, Description (Additional Information), Permission, Inactive, Private, Last Modified By, Created By, Entity ID.

Unfortunately, all items are not available on all

dimensions). An analogous situation is visible in others dimensions, such as automation capabilities, remembering the best solution for use in others cases, or social network integration. The fragment of template design is shown in Fig. 1.
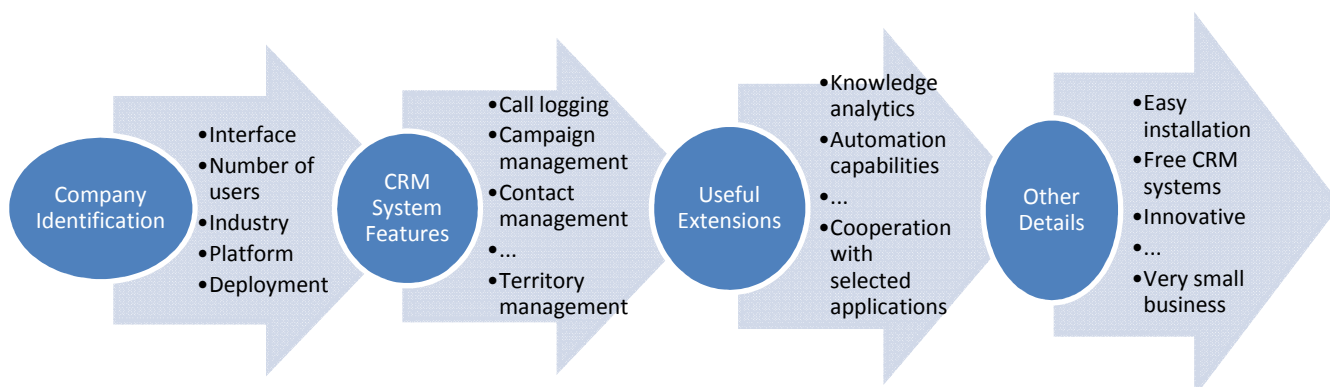
CRM systems. IT users need to choose the optimal CRM system according to preferences (defined

Fig. 1: A fragment of template design for identification of optimal CRM system for education.

Above-mentioned template design is able to identify critical CRM requirements according to the current situation. The dimensions you specify are responsible for identifying the most optimal CRM system for education and further implementation in a company or organization.

This approach seeks to better focus on customer relationship management in practice. Another objective is to promote cooperation between the university and the private sector in order to offer education according to preferences of IT users. Further work is focused on supporting the design

database for data storage from realized analyses. More than 500 CRM systems are available for evaluation based on defined criteria (dimensions). The implementation will be based on Google's G Suite.

5 Conclusion

CRM systems create important IT applications. Customer care is in the interest of many IT users. The positive reality is that they may select from hundred CRM systems, but there are also negatives. From this perspective, there is a problem creating

incorrect implementation of CRM systems and many CRM projects bugs. The inspiration for the solution is based on the templates that IT users have in data science. They cannot know all the methods in detail, but there are templates in which IT users setup the necessary data and the implemented procedures are available, but the final decision and interpretation of the results is in the hands of IT users.

The same view is taken into the template for optimal CRM system implementation. This template asks IT user about preferences according to the information that must be entered. There are also recommended values in case the IT user has no idea about preferences needed. Data setup is divided into several steps and finally searches for a stored records in the linked database to find the optimal CRM system. The advantage of this approach is visualization via a web interface, simulation support as that IT user may set different variants and recommendations for further development of current trends in order to choose the optimal implementation of the CRM system with support education.

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