USING THE ENTERPRISE RESOURCES PLANNING SOFTWARE AS A SAAS IN THE DIGITAL ECONOMY - A CASE STUDY ON ODOO SOFTWARE

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Abstract: *In recent times the ability of a company to minimize waste and errors is increasingly important to maintain comfortable levels of market competitiveness. The article presents some elements about erp programs, in general, erp programs in the cloud environment (Software as a service). In the second part we made and described an application in Odoo software. The Odoo modules that were used and presented were: Accounting, Manufacturing and Sales.*

Key words: ERP, Odoo, database, digital economy, software

Introduction

ERP system let possible work in a unique database even if the company is a multinational with different locations and this aspect leads also with a reduction of costs. The primary goal of ERP systems is precisely to support this challenge to optimization. In fact an ERP system allows getting better decision-making and planning skills thanks to immediate access to all information and also to the ability to easily request and process company data

In deciding to purchase the software package in the market, the company will have to consider its knowledge and skills about the package to be purchased, so it is a good idea to attend to a course and thus find all the information about the ERP before buying it. It is not recommended for a company to buy the system without first having seen or heard the vendors that have already implemented it, because it is useful to have a feedback, where possible, the operation of the software in order to be able to understand its potential or any difficulties to understand if the organization is able to deal with them.

In choosing the software to be used, the company will have to consider the knowledge and skills of the staff, as they may need a series of interventions to adapt the package purchased with the system in use in the company. Also, the company must evaluate the different offers of suppliers in order to buy the product with the appropriate skills in areas of greatest need for the company. It is possible

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to purchase the modules necessary to cover the difficulties that the organization has. For this, the company searches outside that software that will allow implementing the modules that the organization requires in order to obtain a functioning ERP and get the implementation of the project decided. The purchase of the package will involve the need to perform some interventions resulting from the adaptation of this with the system in the organization, in order to modify it to make it work through the provision of interfaces.

In the choice of the software supplier, in addition to the evaluation of the supply of packages that it has, the company must also evaluate the service that this offers as a result of the implementation resulting from adaptations, updates or the possibility of adding new modules compared to those already adopted by the organization.

As in all decisions regarding the choice of a supplier, the person from the company who has the task to buy an ERP software will have to draw up a list of features or improvements that the company need to introduce in the system, contact the various suppliers in the market and request their offers and then proceed with the comparison and evaluation of these by choosing the supplier that in the quality/price ratio offers the best offer, considering with adequate attention the service they offer.

ERP can be considerate as a Software as a Service (Saas)

ERP software's help businesses to use systems that have integrated applications to manage and organize the different departments in a business also it allows businesses to automate back office functions which are related to human resources, technology and services.

An ERP software combines many different operations into one efficient software, database with a user interface. The different operations include sales and marketing, product planning, development and manufacturing. ERP systems are highly integrated with the software(s) the business is already using.

As technology advances ERP systems are becoming very critical and important to manage thousands of business of all industries and sizes. The ERP solutions have evolved and are now web-based applications the users can use remotely. ERP is like the glue which joins many computers together in an organization which allow all the departments to share information and processes with others through the entire organization. ERP simplifies the business processes because everyone can access the data at one central location. (figure 1)

The ERP systems are very carefully designed around one, defined data structure and schema that has a common database. It is ensured the information used across the organization is normalized, based on user experience and common definitions. The constructs are interconnected with the business processes across business departments connecting the people who use them and the systems.

Figure 1. All departments connected via ERP

Rather than having several databases with disconnected spreadsheets, the ERP system brings all users from CEOS to clerks together by allowing them to create, store and use the same data which has or is going to go through common processes. With a secure and centralized data storage location everyone in the organization can be sure and confident that the data is up to date, correct and complete. (figure 2)

Figure 2. The ERP workflow processes

Software as a Service (SaaS) is the delivery model for ERP systems. The ERP software is delivered as a service to the cloud then it runs on a network of remote servers – not on the company's server. The cloud provider manages, patches and updates the software many times throughout the year, which makes it very cost efficient for the business as they do not have to get an expensive upgrade done every 5-10 years. This also reduces capital expenses (CapEx) and operational

expenses (OpEx) as it eliminates the purchase of hardware, software and extra IT staff. The employees can focus on more valuable tasks such as growth and innovation. The business can invest the savings in new business opportunities and make sure that it is up to date with the most recent ERP.

The main benefit of the SaaS model is the software is up to date with latest functions and features. The cloud ERP providers regularly send updates to ensure all the ERP software's work efficiently. With access to new technologies and ERP software upgrades the business can improve with the evolving ERP software's.

Odoo - A Cloud ERP used as a Saas

Odoo is a Saas erp program that successfully uses the cloud environment to respond in a professional way to the needs of an organization. The odoo platform contains several applications, the user having the possibility to choose and add for a fee the necessary applications in his business activity. All user-selected modules communicate with each other, so no additional programs are required to integrate them into a single platform, giving the user the impression that they have a single integrated program that handles their business.
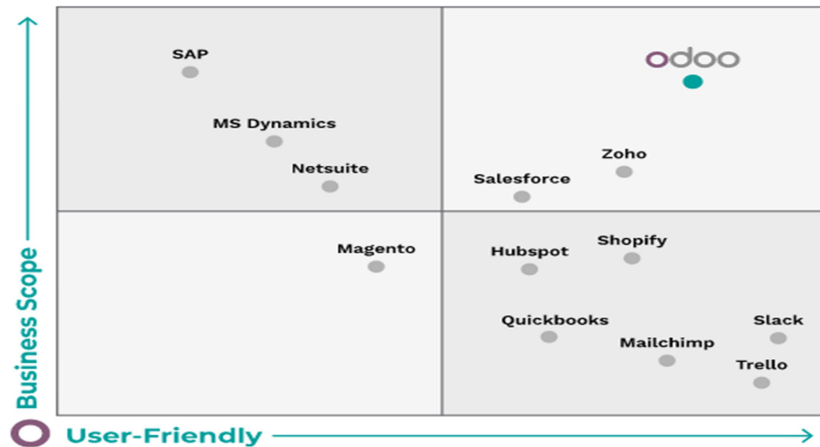

Figure 3. Odoo's place in the market

On the market of erp programs there are several applications that have different functionalities, depending on the real needs of users, as can be seen very well in Figure 3. If we look at the business purpose can be seen that SAP, MS Dynamics, Odoo and others respond best to this goal. But not all users are computer specialists. Thus, solution providers have sought to develop programs that are as intuitive as possible, so that they are as intuitive as possible and do not require prior knowledge. Such user-friendly programs are: Slack, Trello, Hubspot and others.

Not every time the user-friendly programs responded best to the real business requirements. So vendors began to develop programs that were as easy to use as possible, but to respond professionally to business flows. One such program that successfully combines business scope and user-friendliness at a high level is Odoo.
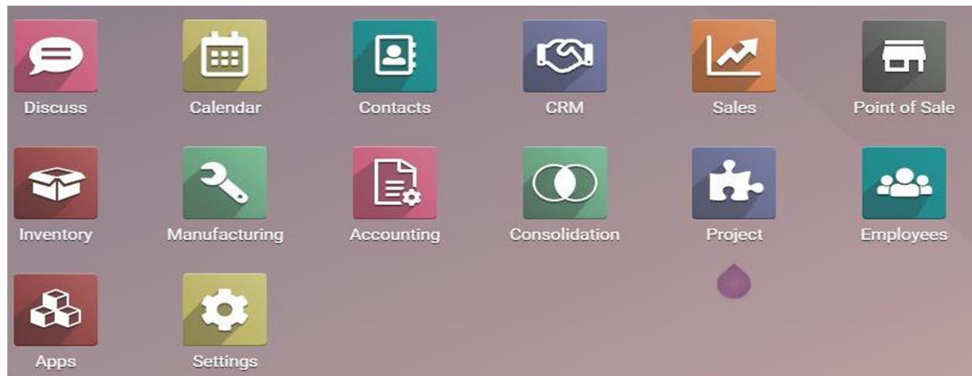

Figure 4. Few modules from Odoo Application

As we said above, Odoo is made up of modules, and the user can choose which modules to use initially, and then to purchase others as needed. We assume an application with the following modules (Figure 4): Discuss (application used for discussions with various entities - customer, suppliers, employees and others; Calendar (application used for better organization of activities in the current flow of activities); Contacts (stores information about all company contacts); CRM (Customer Relationship Management); Sales (application that deals strictly with the sales part of the company); Inventory (a strict stock record is kept); Manufacturing (production module); Accounting; Consolidation and Project (project management is performed).
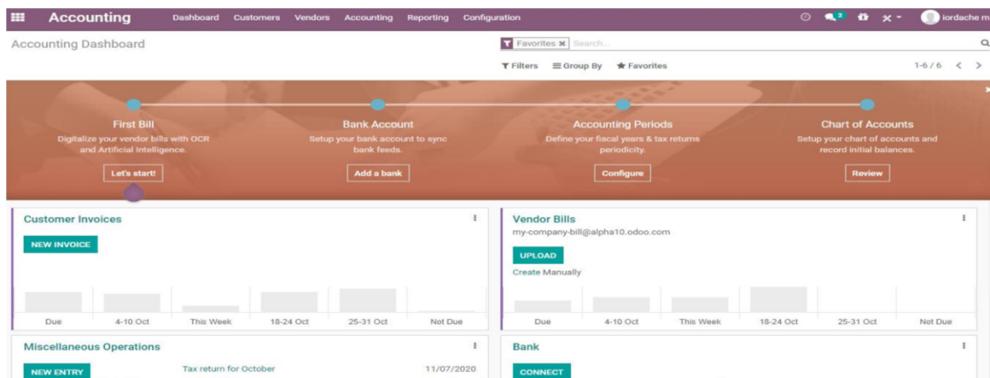

Figure 5. Accounting Module

The Accounting module keeps the accounting records of a company, making it indispensable for the activity of the economic agent that buys Odoo. When the user

enters this module he is asked for data about first bill, bank account, accounting periods, but also about chart of accounts (Figure 5). Also, data is taken from the other modules, such as: manufacturing, inventory, sales and others.

If you follow the menu in figure 5, you can enter in turn information about the invoice, bank account, accounting period or periods, but also about the chart of accounts.
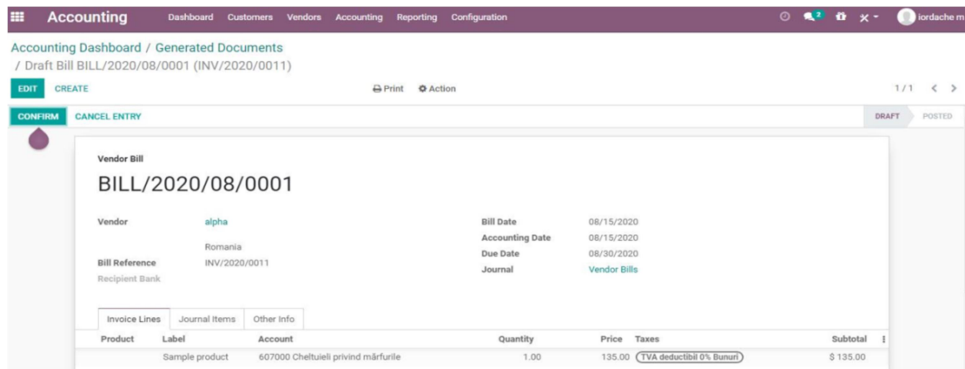

Figure 6. Generated bill from Accounting Module

After the invoice template type has been established and the document has been generated from the system, there is another button that confirms this invoice and saves it in the accounting (Figure 6). Thus, by pressing the Confirm button in figure 6, the payment of the respective invoice is further registered in the accounting.

Following the menu in figure 5, the user can create a bank account and set the accounting periods (figure 7).
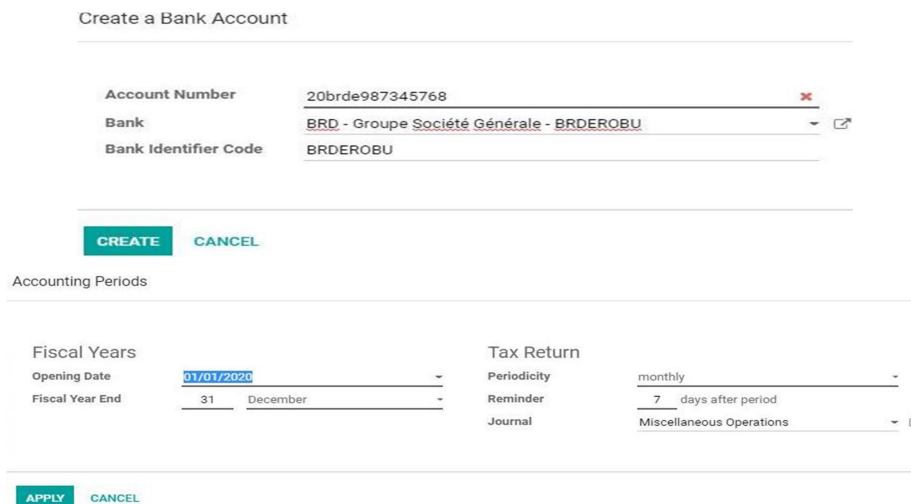

Figure 7. Create a Bank Account and Accounting Periods

Further payments from customers can be recorded in the accounting, invoices from suppliers can be uploaded and invoices can be further generated (figure 8).
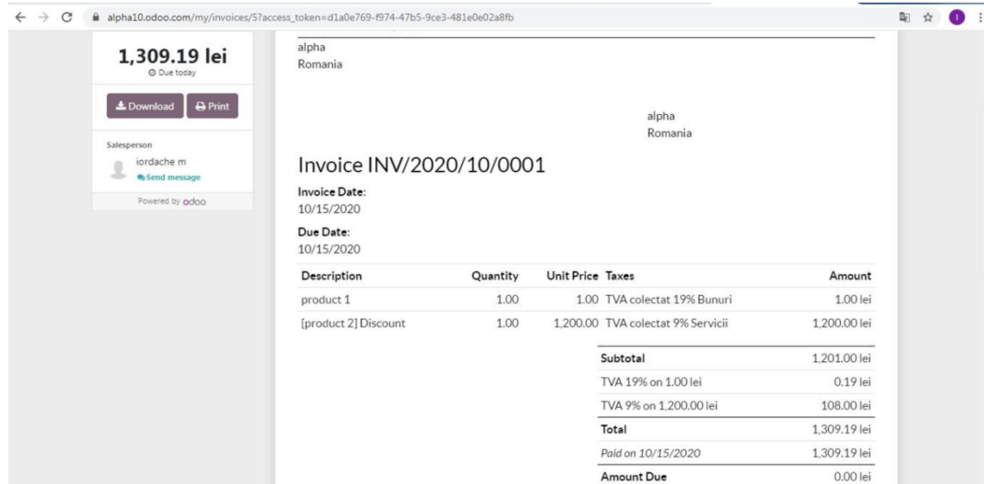

Figure 8. Example of invoice generated in Accounting Module

The invoice can also be downloaded and kept in electronic format (Download button), but there is also the facility to be sent to the printer (Print button), as shown in figure 8.

The menu of this module consists of:

    - Dashboard - keeps information about all accounting entries and exits

    - Customers - menu containing information about: customers, products, follow-up reports, batch payments, credit memos and invoices.

    - Vendors - menu containing information about: vendors, products of vendors, batch payments, payments, refunds and bills.

    - Accounting - menu that provides information about: journal entries, other journals (sales, purchases, bank and cash, miscellaneous), ledgers (general ledger and partner ledger), management (automatic transfers, assets, deferred revenues, deferred expenses) and other actions like reconciliations and lock dates.

    - Reporting menu contains some documents which are useful in company current activity, like: profit and loss, balance sheet, executive summary, cash flow statement, general ledger, trial balance, consolidated journals, tax report, journals audit, invoice analysis and depreciation schedule.

The Manufacturing module contains the menu:

    - Operations which contains: manufacturing orders, unbuild orders and scrap

    - Planning with run scheduler.

    - Products which contain products and bill of materials

    - Reporting where the user can see the manufacturing orders

    - Settings where the user can choose another features for the software, like: work orders (Process operations at specific work centers), quality (Add quality checks to the work orders), the possibility to produce the residual products, subcontracting

(Subcontract the production of some products), lock the quantities to consume (Prevent manufacturing users to modify quantities to consume, unless a manager has unlocked the document), master production schedule (Plan manufacturing or purchase orders based on forecasts) and security lead time (Schedule manufacturing orders earlier to avoid delays).
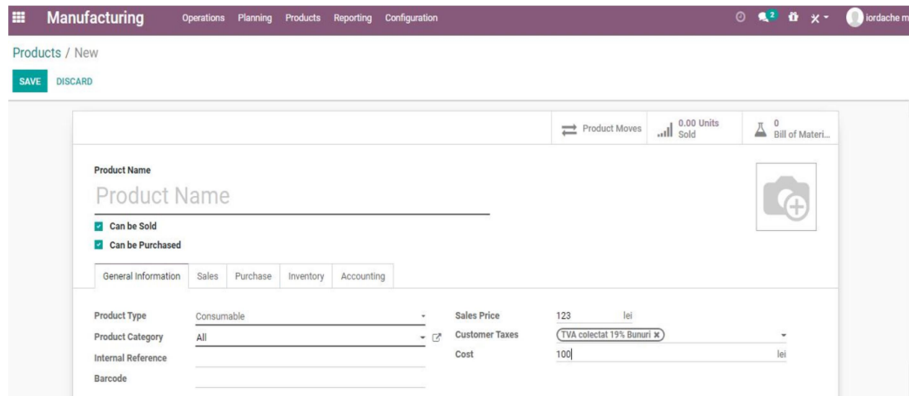

Figure 9. Create a product in Manufacturing module

In the Manufacturing Module, the company can create the products (figure 9) from its portfolio. For any product, the user should give information like:

  - general information as: product type, product category, barcode, sale price, customer taxes, unit cost and some internal references if it exists.

  - information about sales: invoicing policy (if the product is ordered or delivered quantities) and other sales description.

  - information about purchase, where the vendor taxes are established

  - information about inventory like the route of the certain product and logistics information (responsible, weight, volume and others). If the product has the manufacture route, the Odoo program presents a diagram with a report of all routes the product went.

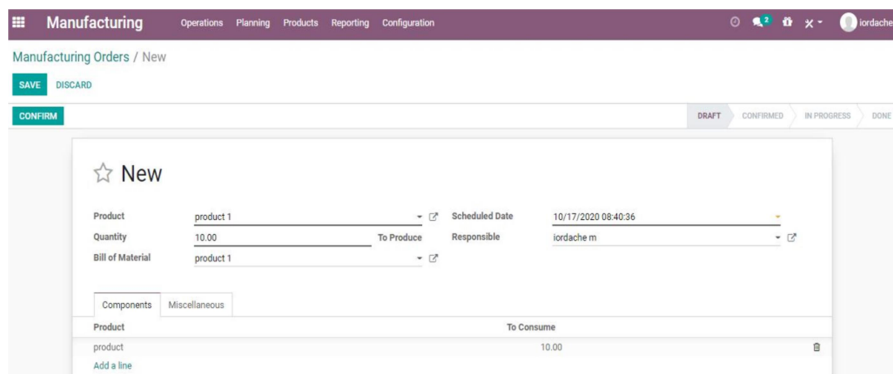 - information about the income and the expense accounts.

Figure 10. Define a new manufacturing order

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From the Operations menu, it can be defined the manufacturing order (figure 10). In this document must complete the product name, quantity, the components of the product and in the miscellaneous tab the operation type for the company. After defining, the order must be confirmed and also validated. In this way the user proceed to introduce all the orders.

From the Reporting menu the user can construct and see the needed report. There are a lot of criteria, as: backorder sequence, company (if there are more than one companies), components location, consumption, the number of created manufacturing orders for every person, deadline, end date, let/serial number, order point, priority, product location, responsible, start date, state of the order and others.

The Sales Module has the menu:
- Orders: Quotations, Orders, Sales Teams, Customers
- To Invoice: Orders to Invoice, Orders to Upsell
- Products where are stored all the information about the products.
- Reporting about sales
- Configuration about sales teams and sales orders.

Before making any effective sale, a quotation is necessary to be made to the customers. The process of defining a quote in Odoo implies: setting the company`s data for documents header/footer, customizing the look of the quotations, choosing between electronic signature or online payments and, finally, sending the quotations (figure 11).
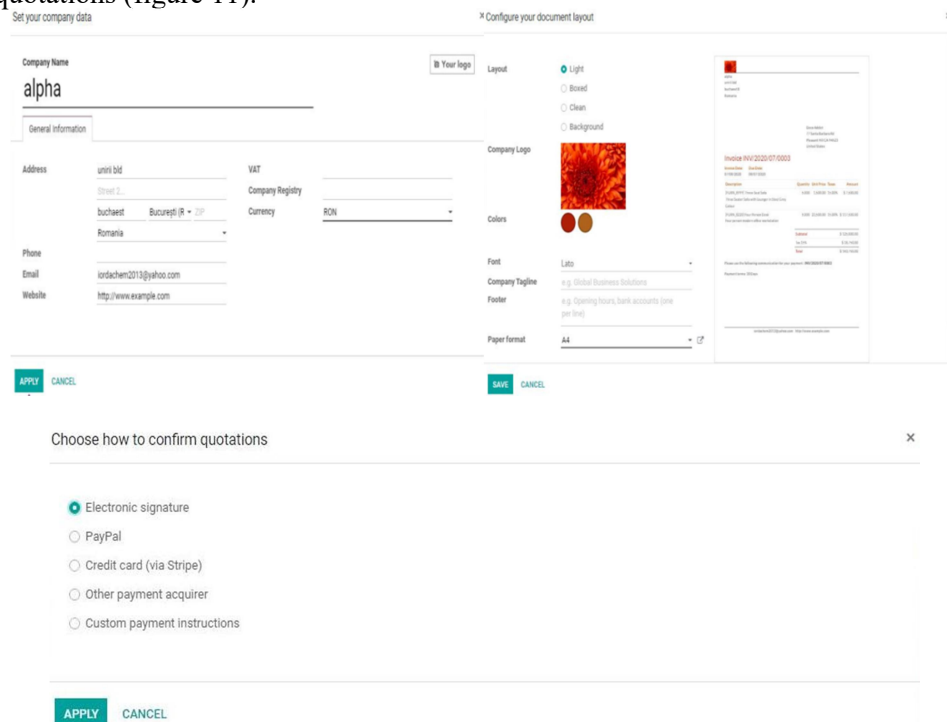

Figure 11. Collecting general data for the quotations

After collecting all the information needed for the future quotations, Odoo offers the possibility to define some specific quotation (figure 12). In the quotation, the user has the possibility to complete with the information three tabs: order lines, optional products and other information. In the order lines tab the user will choose from the existing products of the company the product (or the products) for which the quotation is made. In optional products tab the user choose another products demanded by the client. Finally, in the other info, it is necessary to be specified information about sales, like: salesperson, sales team (if it exists), order signature, online payments (if the company allows such type of payment), delivery date and others.
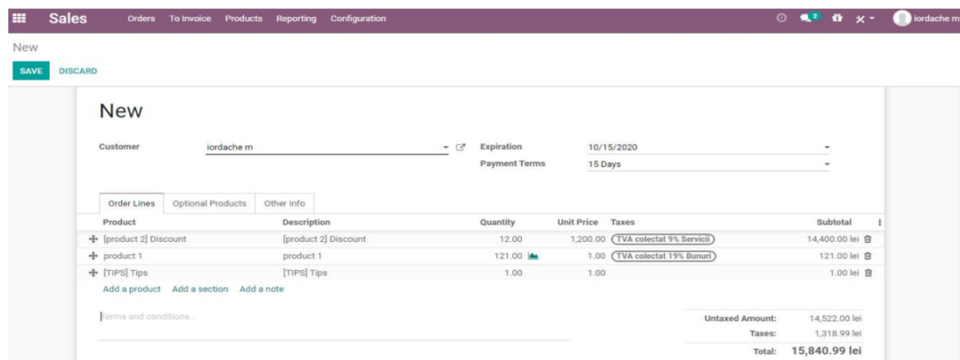

Figure 12. Define a quotation

After entering all the information needed for the quotations, the user click on save button and the quotation is done.

Further in the analysis, the Odoo program offers the possibility to create an invoice for the offer made (figure 13). If you click on the create invoice button, information regarding the invoice type is requested. There are three types of invoice predefined in Odoo: regular invoice, down payment (percentage) and down payment (fixed amount).
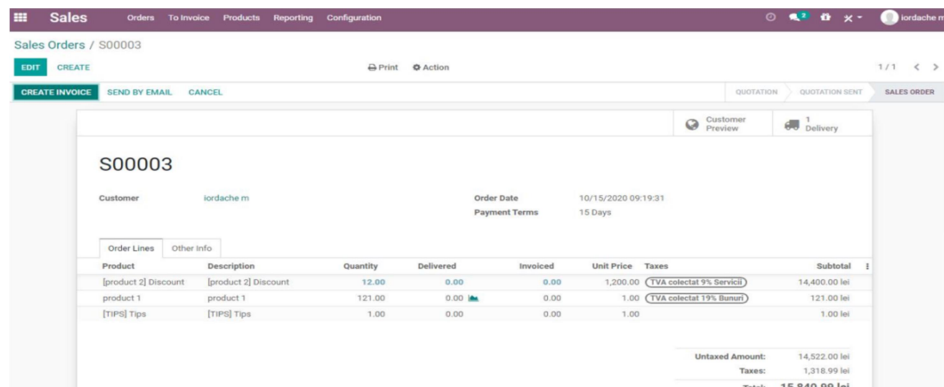

Figure 13. Creating an invoice for a quotation

After all the steps have been taken to create a quotation and to create an invoice, after pressing the create invoice button in figure 13, the user is given the possibility to see a draft of the invoice made. After verifying the correctness of the information sent, we will proceed to the actual registration of the invoice in the accounting (figure 14).
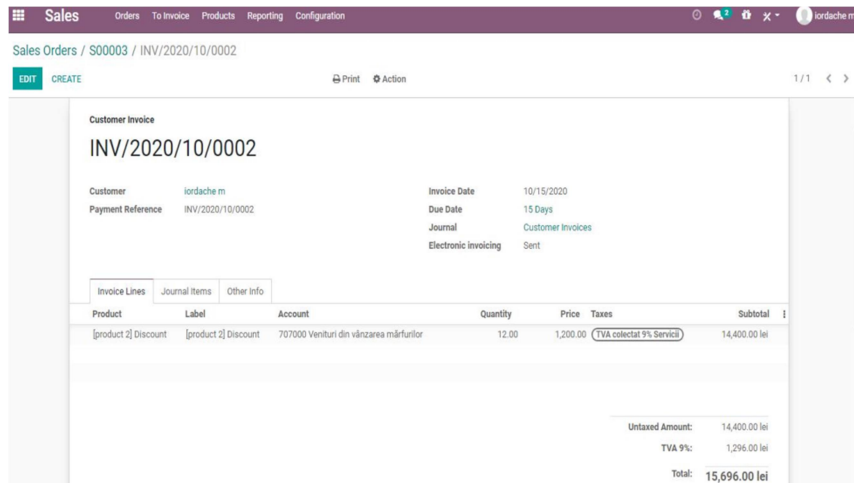

Figure 14. Example of invoice

It should be emphasized that in the business process not all quotations are transformed immediately or at a predetermined period of time into firm orders. Moreover, orders can be made without the need for a prior quotation, this being successfully implemented by the studied software.
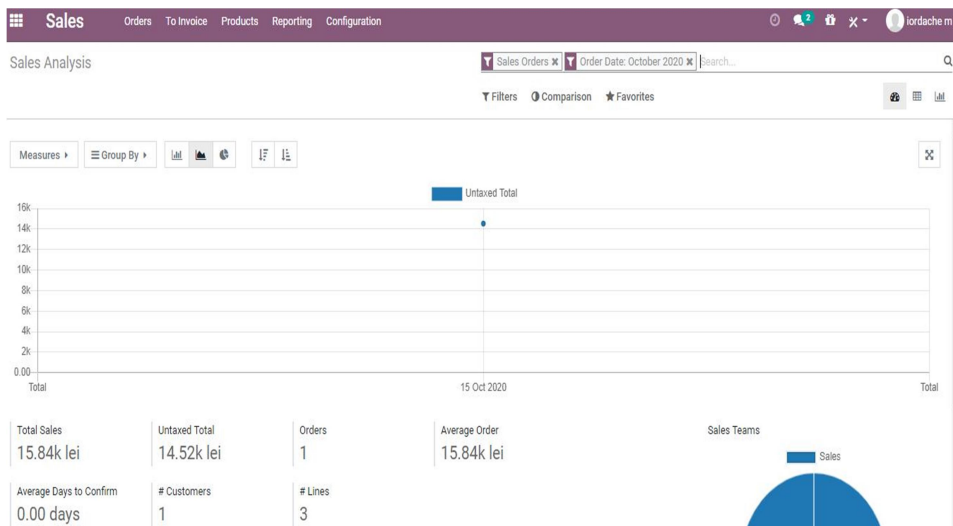

Figure 15. Sales Analysis

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After quotations have been registered, respectively firm product orders, or at certain periods of time, the user can perform certain sales analyzes (Figure 15). From the Reporting menu, the Sales Analysis option provides an overview of the sales situation. Thus, information is provided about total sales, untaxed total, number of orders, average days to confirm the created quotation, number of customers, the total number of the lines (products), the average order, sales teams and other information very useful in the process of sell.

Conclusion

Today the implementation of an ERP system is fundamental for any large, medium or small company that wants to be competitive and develop its business in the best way.

The flexibility of the modular structure, the web based interfaces and the Cloud have made possible reducing the costs of the implementation of these systems. In this way even small and medium enterprises are enabled to approach to the world of ERP and increase the benefits from the advantages that these powerful implements offer even to smaller businesses.

The major contribution of business improvement systems is to changing the business culture and work habits. Having a single information system enhances employee engagement with and between businesses, because with ERP systems the focus is on tracking and finalizing processes.

Implementing a business management system is a serious investment that takes time and effort. The process is not easy, because it requires the company's work model to be optimized and consolidated - it takes time, and most of all, a desire and willingness to work. Every process reflected in the system needs to be refined; to consolidate good practices, to create a habit of work. These changes are inevitable in order to achieve effective implementation and return on investment.

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