Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Trade and Finance



Diploma Thesis

Assessment of Accounting Softwares and Selection Criteria for the Needs of an International Company

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

B.Sc. Aydin Maldan

Systems Engineering and Informatics Informatics

Thesis title

Assessment of Accounting Softwares and Selection Criteria for the Needs of an International Company

Objectives of thesis

The aim of the thesis is to assess the currently used accounting software in an international company based on a set of criteria and to compare the results with other accounting softwares based on the results of a questionnaire to determine the most significant selection criteria for a new accounting software for the company and to identify the advantages and disadvantages of the considered softwares.

Methodology

Methodology for the literature overview is based on data collection from the relevant legal framework, specialized publications and other written or online sources. The practical part of the thesis will be based on the results of the questionnaire and criteria set for the evaluation of the monitored accounting softwares for the needs of the chosen company. The methods of analysis, synthesis, comparison and deduction will be used to formulate the conclusions of the thesis.

The proposed extent of the thesis

60-80

Keywords

accounting software, accounting information systems, software selection criteria, modularity, functionality, customization, user support, implementation, data protection, data security, data backup, cloud based accounting system

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Declaration

I declare that I have worked on my diploma thesis titled "Assessment of Accounting Softwares and Selection Criteria for the Needs of an International Company" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 31.03.2021

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Assessment of Accounting Softwares and Selection Criteria for the Needs of an International Company

Abstract

The topic of the diploma thesis is "Assessment of Accounting Softwares and Selection Criteria for the Needs of an International Company". The main aim of the diploma thesis is to assess the currently used accounting software in an international company Crown Worldwide, based on three selected criteria such as content, technical and user-friendliness.

The whole work is divided into two parts, theoretical and practical. The theoretical part deals with the description of the functions, principles, and history of accounting in general. In addition, Enterprise Information System, System development of Life Cycle and Accounting Information System are determined in the theoretical part of the work. Lastly, the criteria for selection of an accounting software are explained in this part.

The practical part deals with the characterisation of three considered accounting software which are Microsoft Dynamics GP, Oracle NetSuite and SAP Business One. According to the questionnaire results, accounting software has been compared.

Keywords: accounting software, accounting information systems, software selection criteria, modularity, functionality, customization, user support, implementation, data protection, data security, data backup, cloud based accounting system

Posouzení Účetních Softwarů a Kritéria Výběru pro Potřeby Mezinárodní Společnosti

Abstrakt

Tématem diplomové práce je "Posouzení účetních softwarů a kritéria výběru pro potřeby mezinárodní společnosti". Hlavním cílem diplomové práce je posoudit aktuálně používaný účetní software v mezinárodní společnosti Crown Worldwide na základě tří vybraných kritérií, jako je obsah, technická a uživatelská přívětivost.

Celá práce je rozdělena do dvou částí, teoretické a praktické. Teoretická část se zabývá popisem funkcí, principů a historie účetnictví obecně. V teoretické části jsou dále stanoveny Enterprise Information System, System development of Life Cycle a Accounting Information System. Nakonec jsou v této části vysvětlena kritéria pro výběr účetního softwaru.

Praktická část se zabývá charakterizací tří zvažovaných účetních softwarů, kterými jsou Microsoft Dynamics GP, Oracle NetSuite a SAP Business One. Podle výsledků dotazníku byl srovnán účetní software.

Klíčová slova: účetní software, účetní informační systémy, kritéria výběru softwaru, modularita, funkčnost, přizpůsobení, uživatelská podpora, implementace, ochrana dat, bezpečnost dat, zálohování dat, cloudový účetní systém

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List of abbreviations

- AD Anno Domini
- AIS Accounting Information System
- AP Accounts Payable
- AR Accounts Receivable
- ASAP As soon as possible
- BACS Bankers' Automated Clearing System
- BC Before Christ
- CAIS Computerized Accounting Information System
- CD Compact Disc
- CRM Customer Relationship Management
- CSV Comma-separated Values
- CWG Crown Worldwide Group
- CZ Czech Republic
- DBMS Database Management System
- EFT Electronic Funds Transfer
- EIS Enterprise Information System
- EMEA Europe, Middle East, and Africa
- ERP Enterprise Information System
- Etc. Et cetera
- FASB Financial Accounting Standards Board
- GL General Ledger
- GP Great Plains
- HLD High-Level Design
- HR Human Recourses
- IS Information System
- LLD Low-Level Design
- MRP Material Requirements Planning
- NIST National Standards and Technology
- PDF Portable Document Format
- QA Quality Assurance

- $SDLC-System \ Development \ Life \ Cycle$
- $SME-Small \ and \ medium-sized \ Enterprises$
- SQL Structured Query Language
- US United States

1 Introduction

Today's rapidly evolving technology is forcing a rapid transformation of the business world and changing conditions force companies to find new pursuits to protect their competitive advantages and improve efficiency. Companies have to organize their workflows and use their resources efficiently in order to adapt to changes in this competitive market, increase their competitiveness, and work customer-oriented. At this point, information technologies stand out as an advantage to businesses. Enterprise Resource Planning (ERP) systems constitute the latest and advanced solution brought by information technologies. ERP systems are a structure that constitutes the knowledge base of a company, increases its performance and is designed to achieve its goals. There are various designed modules in this system and the accounting module is one of the most important points for the companies.

With the introduction of computers, many special computer programs appeared to meet the needs of accountants and other financial workers, the computer became the chief assistant to the manager and the CFO.

Accounting automation is now typical not only for large and medium-sized companies. The availability of computer technology makes it possible to use accounting software and small businesses. In this regard, the market of applied programs is characterized by the widest range of them, ranging from the simplest ones with a minimum set of functions to complex multifunctional systems with the widest accounting and analytical capabilities. In this regard, the demand for specialists who have mastered accounting methods in the context of automation has significantly increased. It is the use of the appropriate software that makes it possible to achieve the greatest economic effect when processing accounting information, conducting analytical work.

2 Objectives and Methodology

2.1 Objectives

The main aim of the diploma thesis is to assess the currently used accounting software in selected international company, Crown Worldwide, on the basis of criteria such as content, technical and user-friendliness. Furthermore, partial aim is comparison of all three accounting software, according to the results of the questionnaire with the assessment of two other accounting software by their users from different companies.

2.2 Methodology

Methodology for the literature overview is based on data collection from the relevant legal framework, specialized publications and other written or online sources. The practical part of the thesis will be based on the results of the questionnaire and criteria set for the evaluation of the accounting software for the needs of an international company. The methods of analysis, synthesis, comparison, and deduction will be used to formulate the conclusions of the thesis.

The online questionnaire survey took place from November 2020 to February 2021. Respondents were sent the questionnaire via email and social medias like Linkedln and Facebook. The number of sent requests to participate in the questionnaire are 245, participated respondents are 80 users of accounting software from 15 different international companies.

The questionnaire is divided into 2 parts. The first part devoted to collect personal information about respondents such as employer company, position, years employed by the company, and so on. The second part of the questionnaire is focused on the characteristics of the used accounting software and divided into 3 sections by criteria. The first two sections which are content and technical criteria contain 13 questions and the third, user-friendliness section contains 6 questions.

3 Literature Review

3.1 Functions, principles, and history of accounting

The basic function of accounting is to provide all users with reliable information about how economically viable a business corporation is. It talks not only about the property and financial situation of the corporation but also about the economic result for a certain period. It also shows how successful management is in ensuring the long-term stability of the corporation and the ability to pay debts on an ongoing basis (Brodersen, et al., 2014). The highest principle and the main goal of accounting is the principle of fair and accurate presentation of the facts and the financial situation of the corporation. Drury defines accounting as: "The process of identifying, measuring, and sharing economic information that allows users of that information to make the right conclusions and decisions (Giroux , 2017)".

3.1.1 Functions of accounting

In the management system, accounting performs a number of functions, the main of which are: control, informational, feedback, ensuring the safety of property, analytical (Accountingedu, 2019).

- Control allows you to determine the organization's achievement of its actions, is carried out by setting standards, measuring the actual results achieved, making adjustments (Brodersen, et al., 2014).
- Informational helps to record and accumulate comprehensive generalizing and detailed information about the state and movement of property, the source of its formation, the final results of financial and industrial and economic activities. Accounting information is used in operational, technical and statistical accounting for planning and forecasting, developing tactics and strategy of activities (Scott, 2012).
- Feedback allows you to monitor the implementation of targets, standards, norms and estimates, to establish various shortcomings, to identify production reserves, the degree of their mobilization and use. The feedback function is performed by information located on various media, which, as a rule, comes from primary documents (Scott, 2012).
- 4. Ensuring the safety of property allows you to uncover waste and embezzlement, to identify the activities of various corrupt groups, as well as to prevent their activities.

The tool for the implementation of this function is the inventory of property (Brodersen, et al., 2014);

 Analytical – provides for the analysis of all sections of accounting, including the analysis of the use of all types of resources, the cost of production and sale of products, the correctness of the prices applied (Accountingedu, 2019).

3.1.2 Principles of accounting

How successful an organization depends largely on the literacy of accounting, for which it is necessary to strictly adhere to all generally accepted accounting principles. Principle - the basis, the initial, basic position of accounting as a science, which predetermines all subsequent statements arising from it. The basic principles of accounting are (Piper, 2010):

- 1. **The principle of autonomy** any organization exists as an independent legal entity. Accounting reflects only property that is considered the property of that particular organization or enterprise (Weygandt , 2012).
- 2. **The principle of double-entry** all business transactions are simultaneously reflected in the debit of one account and the credit of another account of the same amount (Weygandt, 2012).
- 3. The principle of an operating organization The organization is in operation and plans to maintain its position in the economic market in the future, its obligation to repay its partners within the specified time frame and as prescribed (Weygandt , 2012).
- 4. **The principle of objectivity** (registration) is that all business transactions must be reflected in accounting, recorded at all stages of accounting, approved by supporting documents on the basis of accounting (Piper, 2010).
- 5. The principle of prudence (conservatism) implies a certain degree of caution in the process of avoiding overestimation of assets or income and underestimating liabilities or expenses in the process of establishing the judgments required for calculations made under conditions of uncertainty. Compliance with the precautionary principle prevents hidden reserves and excess stocks, intentional under-display of assets or income, or deliberate exaggeration of liabilities or expenses (Piper, 2010).
- 6. **The principle of accruals** (conditional facts of economic activity) all transactions are recorded as they occur, not at the time of payment, and refers to the reporting period in

which the transaction was carried out. This principle can be broadly divided into (Weygandt, 2012):

- The principle of recording income (income) income is reflected in the period in which it was received, not when the payment was made (Weygandt , 2012);
- Compliance principle reporting period income should be attributed to expenses based on the generation of those revenues (Weygandt , 2012).
- 7. **The principle of periodicity** is the regular preparation of the balance sheet and reporting for the following periods: year, half-year, quarter, month. This principle ensures the comparability of accounting data and allows the calculation of financial results after certain periods (Accountingedu, 2019).
- 8. The principle of confidentiality the content of internal accounting information is a business secret of the organization, there is a statutory liability for disclosure and damage of interests (Accountingedu, 2019).
- 9. The principle of monetary measurement the country's currency acts as the quantitative unit of monetary measurement of the facts of economic activity (Accountingedu, 2019).
- 10. **The principle of continuity** is a reasonable adherence to national traditions, the achievements of indigenous science and practice (Accountingedu, 2019).

The concept of general accounting, which forms the basis of accounting principles, contributes to the development of its standards. Failure to comply with or fail to comply with these principles will lead to significant deterioration in accounting information, loss of objectivity and reliability, and consequently the impossibility of its use in the managerial decision-making process aimed at improving the organization's operations (Piper, 2010).

3.1.3 History of accounting

Prerequisites for the emergence of accounting. About six thousand years BC, people began to conduct a subsistence economy - the production of products for their own needs. Here, accounting acts as a tool for measuring the results of practical activities is carried out in natural units. With the emergence of the social division of labour and the growth of productive forces, the scale of production expanded beyond its own needs, which led to their gradual exchange for other products (Brodersen, et al., 2014). The practical application of accounting is growing: the registration of trade operations appears, the quantity and movement of goods are recorded,

and its value is estimated; inventories of values are compiled. So, in 3500 BC. the first trading operations were registered in Sumer: bookkeeping was carried out on clay tablets. In 3300-2970 BC. in ancient Egypt, fait accompli is recorded in chronological order on papyri; inventories are drawn up; income and expense accounting arose. At the same time, in Ancient Greece, accounting is kept on tablets, public reporting is formed by periods; the first accounting registers appear in the journal and the book of accounts - the main one (Giroux , 2017).

The development of accounting in the Middle Ages. With the formation of private property and commodity production, an equivalent became necessary for the exchange of goods. This led to the appearance of money in the 7th-6th centuries. BC. and as a consequence of the cost measurement in accounting. The monetary dimension made it possible to group accounting objects, to generalize heterogeneous transactions (Piper, 2010).

Here there is a need to assess not only goods (property) but also the sources of their formation, which is primarily associated with the emergence of alternative sources - loans and credits. The practice of accounting for economic activities is undergoing changes - classifications by groups of property (buildings, structures, etc.) are being developed. Accounting traditions are gradually developing in different countries (Giroux, 2017).

In the nineteenth century. AD three main types of accounting were formed, which are still used today: office (budget) - registration of receipts and disposal of money, the fulfilment of estimates of income and expenses is taken into account (today - budget organizations); simple - the object of accounting is the presence and movement of values, and own funds are not included in the accounting system (small businesses on a simplified taxation system); double all facts of economic activity are reflected twice in the same amount (on the debit of one account and on the credit of another), the owner's funds are included in the accounting population (commercial organizations). The double entry was first encountered in Italian retail outlets in 1260–1340. and until the middle of the XIX century. was used primarily in trade, later - in industry and other sectors of the economy. It is believed that bringing into the accounting system, a detailed description of the concept of "double entry" was given by the Italian mathematician Luca Pacioli. In his work, for the first time, the law of such a record is encountered - a method of registering business facts on two accounts in one amount: on the debit of one account and the credit of another account. L. Pacioli proved that on such a concept it is possible to build a rational system of accounts and books in any household. He also identified two goals of accounting: obtaining information about the state of affairs and calculating the financial result (Giroux, 2017).

Accounting of modern times and at the present stage. The industrial revolution - the transition from manual labor to machine production - posed new challenges for accounting. In the eighteenth and nineteenth centuries. the accounting methodology was improved: the accounts were divided into analytical and synthetic; costing occurs; the chronological and systematic entries are combined in the general ledger; the concept of depreciation, the distribution of overhead costs, the assessment of inventories, and payroll appears. In connection with the need to provide truthful reporting to external users, the role of accounting and auditing increases (Brodersen, et al., 2014).

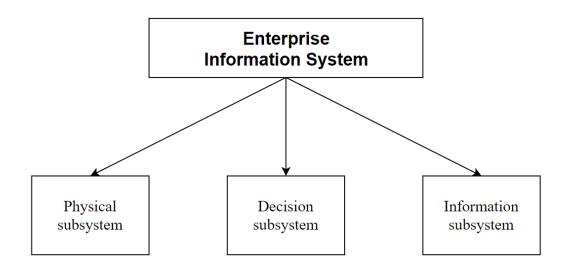
There is a formation of the conceptual apparatus, the development of various accounting theories, the generalization of accounting practice, the classification of accounting models. The result of such phenomena was the formation and application of national accounting and reporting standards. Here, the procedure for maintaining accounting and financial reporting is being harmonized and unified in order to form a single world financial information space. By the middle of the twentieth century. accounting information of an economic entity is widely used in planning its activities, and financial statements have become the main source of filling the economic information space. Later, the requirements for the reliability and openness of information in financial statements on the part of users increased. Thus, an urgent need arose to create uniform rules for doing business and the formation of financial statements - IFRS, which is reflected in the current stage of development of accounting (Leveragebusinessone, 2020).

3.2 Enterprise Information System

Enterprise Information Systems (EIS) are important components of complex systems. According to systems theory, any complex system consists of three basic subsystems (Samara, 2015):

- 1. Physical subsystem (the operating part composed of physical parts containing human and technical representatives as well as material and physical flows),
- 2. Decision subsystem (control part where organization, planning, decision and monitoring activities are carried out),
- 3. Information subsystem (the part of data processing that deals with the processing, storage and recovery activities on data, information and even information with the flow of information).

Figure 1 EIS Subsystems



(source: own processing)

On a global scale, businesses are becoming more connected both internally and with other businesses. Businesses react instantly if a customer places a large order or a shipment from a supplier is delayed. In addition, in order to know the effect of these events on every part of the business and how the business performs at any time, corporate systems can achieve this integration, especially if it is a large business (Accountingedu, 2019).

Enterprise information systems are also known as enterprise resource planning (ERP) systems. These systems solve the difficulty of obtaining data from distributed systems by collecting the information obtained from areas such as production, finance, marketing and human resources, which are the functional areas of the business, in a single database (O'Shaughnessy, 2019). Corporate information systems allow the information scattered among different systems to be shared with the systems in the entire enterprise. When the customer places an order, it automatically distributes this information to other relevant units in the business. In this order, it triggers operations in production, stock and other sciences. The accounting unit is responsible for issuing invoices, the customer unit regarding the status of the order, informing the customer at every step (Blokdyk, 2018).

3.2.1 Enterprise Resource Planning Systems

Enterprise Resource Planning (ERP) is a system that incorporates the functions of planning, coordination and control of supply, production, distribution and financial resources in different regions in the most effective and efficient manner in order to meet customer requests in the most appropriate way in line with the company's goals and objectives (Samara, 2015).

Manufacturing companies use ERP systems to coordinate all the business of the company and manage them from a common center. All units of the company are gathered under a common computer system, allowing different units to share data jointly. In the ERP approach, data enters the company and transforms into information by being processed in different departments, just as raw materials are entered into a manufacturing company and output as a product (Doig, 2017).

Although the concept of ERP was first used in production environments, it is used in much wider environments today. Firms do not matter what their field is. Manufacturing companies, sales companies, foundations, non-profit organizations or any other organization with an asset can use ERP systems (Sumner, 2004).

Key Features of ERP Systems:

- ERP systems are supported by a software package prepared for web-based or classic client / server architecture.
- ERP is integrated with almost all processes of an enterprise.
- ERP systems can immediately process all transaction processes of the enterprise.
- ERP systems use a large database.
- ERP systems allow real-time access to data.
- Thanks to its sharing-based features, ERP enables other businesses to work simultaneously.
- Thanks to various application models, ERP can be integrated into every function of the business.
- ERP systems can be used in geographically different units and departments with a structure based on server / client technology.

3.2.2 ERP Modules

One of the most important features of ERP systems is that they have a modular structure. Modules can be used both alone and together. ERP systems have the following modules (Bradford, 2015);

Figure 2 ERP Modules



(source: accuratereviews.com)

Accounting and Finance Module:

The accounting and finance component of the ERP system, one of the most important modules, lets you record many financial transactions, from customer accounts to planned payment accounts. It also facilitates cash management by offering the ability to monitor and control these accounts. It allows to perform profitability analysis as a main component (O'Shaughnessy, 2019).

Material Management Module:

This module allows you to plan materials for your company and allows you to manage many processes more easily, from purchasing to stock management. It also offers the opportunity to control your logistics operations, helping you to learn about storage areas. It reduces supply and material costs, so you can keep products in and out of record (O'Shaughnessy, 2019).

Marketing and Sales Module:

This module, which allows you to control the process from production to delivery of the order from the customer, also allows you to know about marketing campaigns. It facilitates sales activities by managing companies' business areas, geographical distributions and in-house

business plans. It also allows you to analyze sales results and interviews by allowing you to know about them (Doig, 2017).

Human Resources Module:

The human resources module, which records the personal information, payments, hires and removals of employees within the company, helps you manage many processes, from personnel development planning to shift planning. It allows you to more easily control the frequently changing company structure and allows you to share various processes related to workplaces and positions through the system (Doig, 2017).

Purchase Module:

The purchasing module sends the list of parts from various units of the company to the provider company by allowing you to enter the required part list into the ERP system. This component, which allows you to check the product according to the submitted list, helps to determine the order and price limit according to the availability of both the lower and senior management (Bradford, 2015).

Production Planning and Control Module:

One of ERP's key modules, this component gives you easier management of the manufacturing process. Addressing all aspects of resource planning, this system helps you quickly deliver products and services to the customer by coordinating them. It also allows you to make a future planning and forecast, allowing you to make cost accounts (Bradford, 2015).

Supply Chain Management Module:

Instant information flow, logistics chain, rapid transition to application, make the most of capacities and quick reaction opportunities are provided within the framework of this module among all participants in the chain with minimum on-premises, on-premises and inter-company stock (Samara, 2015).

Customer Relationship Management Module:

It allows bids and decisions for customers to be managed with great flexibility and interactive relationship with customers. It is carried out to minimize customer dissatisfaction caused by planning and organization errors by ensuring that activities related to relations with customers are planned and organized from one hand (Samara, 2015).

Project Management Module:

The project type is a management module developed for companies doing business. All activities, documents, acquisitions, costs and resources of the project are tracked with the project management component. It works integrated with the accounting and finance

component. All planned and realized costs related to the project are easily recorded under the specific project name (Softwareadvice, 2021).

Depending on the manufacturer of the ERP system, the composition of elements and modules may differ. For example, some manufacturers use quality management modules, project management modules, environmental management modules, etc. Presents. Modern ERP systems allow you to implement both the full functionality and individual modules (Softwareadvice, 2021).

3.3 System Development Life Cycle

The software development life cycle (SDLC) is a systematic process that ensures the quality and accuracy of the software created to create a software. The software development lifecycle process aims to produce high quality software that meets customer expectations. System development should be completed within a predetermined time frame and cost. SDLC consists of detailed planning that explains how to plan, build and maintain software projects. Each stage of the SDLC life cycle has its own process and outputs that enter the next stage. Because the requirements for software functions can change constantly, these stages must be treated in a continuous loop. It should be possible to go back and forward again at any point in a cycle. Basic software development stages are as follows (Blokdyk, 2020):

- Stage 1: Requirement gathering and analysis
- Stage 2: Feasibility study
- Stage 3: Design
- Stage 4: Coding
- Stage 5: Test
- Stage 6: Installation / Deployment
- Stage 7: Maintenance





(source: javatpoint.com)

Stage 1. Requirement collection and analysis:

Requirements gathering is the first step of the SDLC process. Planning of quality and assurance requirements and identifying risks are also done at this stage. This stage provides a clear picture of the scope of the whole project and the problems, opportunities and guidelines expected in the project (Magal, et al., 2011). The requirements gathering phase requires teams to get the requirements in detail and precisely. Role sharing is done in teams. While reaching the result faster, getting the highest level of efficiency and quality are essential.

Stage 2. Feasibility study:

Once the needs analysis phase has been completed, the next step is to define and document the software needs. This phase includes everything that needs to be designed and developed throughout the software lifecycle. There are basically five types of feasibility checks (Dustin, et al., 2009).

- Economical: Can we complete the project within budget or not?
- Legal: Can we treat this project as cyber law and other regulatory framework / compliance?

- Operational feasibility: Can we create operations expected by the customer?
- Technical: You need to check whether the current computer system supports the software.
- Schedule / Schedule: Decide whether the project can be completed within the given schedule.

Stage 3. Design:

In this third stage, system and software design documents are prepared according to the specification document. This also helps define the overall system architecture. This design phase does service as input for the next phase of the model. There are two types of design documents developed at this stage (Diceus, 2021):

1.High-Level Design (HLD):

- Name and short description of each module is written.
- Short drafts about the functionality of each module are created.
- Interface relationships and dependencies between modules are examined and determined.
- Database tables defined with their basic elements are created.
- Complete architectural diagrams with technological details are created.

2.Low-Level Design (LLD):

- Database tables containing type and size are created.
- All details of the interface are defined.
- All addiction / dependency issues are fixed.
- Error messages are listed.
- Inputs and outputs are defined for each module.

Stage 4. Coding:

When the system design phase is finished, the next step is the coding phase. At this stage, developers start building the entire system by writing code using the chosen programming language. In the coding phase, tasks are divided into units or modules and shared among various developers (Blokdyk, 2020). Software Development Life Cycle is the longest phase of the process. At this stage, the developer must also follow certain predefined coding guidelines. Also, programming tools such as compiler, translators, debugger should be used to generate and implement the code.

Stage 5. Testing:

When the software is complete and deployed to the test environment. The test team starts testing the functionality of the entire system. This procedure is done to verify that the

application is working according to customer requirements. At this stage the quality assurance (QA) and testing team may find some errors / defects. The development team fixes the bug and sends it back to QA for retesting. This process goes on until the software is error-free, constant, and serves according to the business needs of that system (Dustin, et al., 2009).

Stage 6. Installation / Deployment:

When the test phase of the software project is finished and there is no error in the system, the final distribution process starts. Based on the feedback given by the project manager, the final software is published (Doig, 2017).

Stage 7. Maintenance:

When the software / program is distributed and customers start using this developed system, the following 3 activities are carried out.

- Bug fixing: It is done due to some scenarios that have never been tested or as a result of the occurrence of undetectable errors.
- Upgrade: The application is upgraded to newer versions of the software.
- Enhancement: Some new features are added to the existing software.

The main purpose of this SDLC stage is to ensure that the needs continue to be met and the system continues to operate according to the specified specification in the first stage (Kneuper, 2018).

3.4 Accounting Information System (AIS)

Accounting information systems is a structure designed to collect, store, manage, process, receive and present financial data for use by accountants, consultants, business analysts, managers, finance managers, company managers. Specifically, specially trained accountants work with AIS to ensure the highest level of accuracy in financial transactions and company records, and to facilitate access to financial data for those who need legal access while maintaining the integrity and security of the data (Accountingedu, 2019).

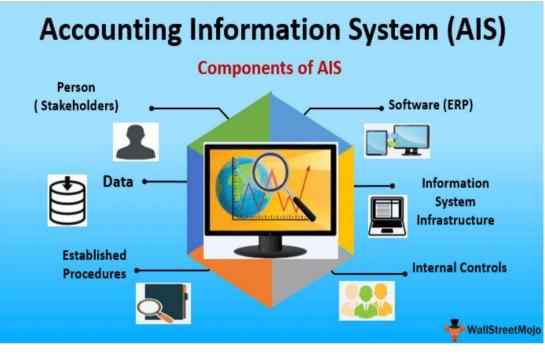


Figure 4 Components of AIS

(source: wallstreetmojo.com)

3.4.1 The components of AIS

AIS generally consists of six key elements: people, procedures and instructions, data, software, information technology infrastructure, and internal control.

 People on this IS are system users. Professionals using AIS organizations are accountants, consultants, analysts, managers, chief financial officers, and auditors (Hall, 2018).

AIS helps the various departments within the company to work together. For example, management can set sales targets where employees can then order the appropriate amount of inventory. The inventory order notifies the accounting department of the new payment. Once the sale is made, salespeople can enter customer orders, the accounting can bill customers, receive a warehouse order, dispatch a shipping department, and new receivables can be reported to accounting. Customer service can track customer shipments and the system can generate sales reports for management. Managers can also view inventory costs, shipping costs, production costs, and more (Hall, 2018).

With a well – designed AIS, every employee in an organization can access the same system and get the same information. AIS also makes it easy for people outside the organization to get information when needed. For example, consultants can use the

information in AIS to analyze the effectiveness of a company's pricing structure by examining cost, sales, and revenue data. In addition, auditors can use this data to evaluate the company's financial condition, internal control (Romney, et al., 2017).

AIS must be designed to meet the needs of the people who will use it. The system should be easy to use and should not interfere with efficiency, it should improve (Gelinas, et al., 2017).

2. **AIS procedures and instructions** are methods used to collect, store, retrieve and process data. These methods will be performed both manually and automatically, and data can come from both internal sources (e.g. employees) and external sources (e.g. online customer orders). Procedures and instructions will be coded into AIS software; they must also be "coded" by employees through documentation. Procedures and instructions must be followed consistently to be effective (Hall, 2018).

To create an AIS, it is recommended that you use client-server computer technology, set up powerful servers, or purchase a DBMS. To store information, AIS must have a database structure such as structured query language (SQL). It also requires different input forms for different system users and different types of data entry, and different output formats to meet different users' needs and different types of information (Sumner, 2004).

3. The data contained in AIS represents all financial information relevant to the organization's business practices. Any business data that affects the company's financial status must go to AIS. The data included in AIS depends on the type of business, can consist of: sales analysis reports, purchase requests, dealer invoices, control records, general ledger, inventory data, salary information, tax information (Magal, et al., 2011).

The presence of all these data in one place - AIS - facilitates accounting, reporting, analysis, auditing and decision making in the business world. To be useful, the data must be complete, accurate, and relevant.

4. The software component of AIS is computer programs used to store, retrieve, process and analyze financial data of the company. Before computers came along, AIS were manual, paper-based systems, but today most companies use computer software as the basis for AIS (Simkin, 2017).

The key components of AIS software are security, reliability, and quality. Managers rely on the information they reveal when making decisions on behalf of the company, and high-quality information is needed to make informed decisions. Accounting IS software can be customized to meet the individual needs of different business types. If the current program does not meet the company's needs, the software can also be developed in-house by company employees or developed by a third-party company specific to the organization. The system can be commissioned by a specialist company (Investopedia, 2019).

5. **Information technology infrastructure** is just a fancy name for the hardware used to manage an accounting information system. Many of these hardware items are a must-have for a company - they include personal computers, servers, printers, surge protectors, routers, storage media, and possibly backup power. In addition to cost, factors to consider when selecting hardware include speed, storage capabilities, and expandability and upgradeability (Diceus, 2021).

It is important to note that the IS hardware must be compatible with the software. One way to meet hardware and software compatibility requirements is to purchase a turnkey system that contains both the hardware and software the company needs. Purchasing a turnkey system means that the business will get the best combination of hardware and software for its AIS (Hall, 2018).

A good AIS should also include a plan for the maintenance, replacement and upgrade of hardware system components, as well as a plan to dispose of broken and old equipment so that sensitive data is completely destroyed.

6. **Internal controls AIS** is an included security measure to protect confidential data. They can be as simple as passwords or as complex as biometric identification. AIS must have internal controls to protect against unauthorized access to the computer and to restrict access to authorized users within the company. It should also prevent unauthorized access to files by people who are only allowed to access certain parts of the system (Gelinas, et al., 2017).

AIS keeps confidential information about the company as well as about its employees and clients. This data includes social security numbers, salary information, credit card numbers, etc. May contain. All data in the AIS must be encrypted and access to the system must be recorded and controlled. System activity must also be traceable.

3.5 Selection of accounting software

3.5.1 Content criteria

Modularity and Openness

It is known that sometimes it is quite difficult to determine which modules are provided by this or that software package for accounting. Based on this statement, it follows that before purchasing, companies should check the accounting models provided by a particular software package, and whether these models meet their requirements and expectations. However, it is worth noting that many of the missing accounting modules can be purchased and provided by third-party vendors (The Determinates Of Selecting Accounting Software: A Proposed Model. The Review of Business Information Systems, 2005).

The accounting models that might be provided by an accounting software package include: Financial Reports, Budgeting, Cash Management, Accounts Payable, Payroll, Treasury Management, Purchasing, Stock Administration.

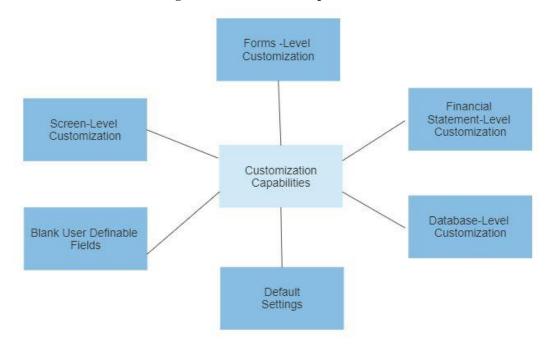
Functionality

Customization Capabilities

The ability to adapt to the specific requirements of an organization is one of the most important accounting characteristics to consider when choosing the right software package. Newer accounting software, compared to older versions, allows the end user of these products to easily modify them. The customization of accounting software is a major concern (WASSERMAN, 2021). While other vendors will work with the end user to tailor applications to their organization's needs, some off-the-shelf applications offer little or no customization capabilities to meet the needs of the organization. They were confident that the more flexible the application, the higher its cost.

The most important question, before choosing an accounting software package is whether it can be customized and, if possible, whether such customization will meet the user's requirements. The levels of these settings are divided into: setting at the financial statement level, setting at the form level, setting at the screen level, blank user-defined fields, default settings, setting at the database level, setting up third-party integration, and setting up at the help level as shown in figure number 5 below. The main options for customizing accounting software will be briefly discussed in the following sections (The Determinates Of Selecting Accounting Software: A Proposed Model. The Review of Business Information Systems, 2005).

Figure 5 Customization Capabilities



(source: own processing)

1. Financial Statement-Level Customization

The simplest and most important functions of accounting software are setting up financial statements and reports. This allows the accounting software to create new or edit existing financial statements. Changing fonts, adding lines and even graphics such as a company logo to a financial statement are features that some accounting programs also allow the user to do. These settings are widespread as many accounting programs offer this level of customization. However, some software packages may offer much easier-to-use tools than others. Therefore, one should evaluate this covenant perspective by asking the seller to demonstrate certain processes, such as inserting a new column and moving an item both in the report and in the form (Carpenter, 2017).

2. Forms -Level Customization

This feature allows the user to customize the forms of the accounting system such as checks, invoices and checklists. With this feature, the end user has the ability to edit the form formats by adding new information or changing the information on the form so that it prints correctly on pre-printed forms. For example, in the case that even if the organization has just switched to another accounting system, the user can continue to use the old pre-printed receipts or invoices. This customization feature allows the user to customize the printouts so that they resemble the old design or contain exactly the information they want (WASSERMAN, 2021).

3. Screen - Level Customization

To edit, modify, and add a data entry screen, all this allows the user to configure it at the screen level. Users can rename, reorder and even hide existing fields. This product perspective can be evaluated by asking the salesperson to show the process of changing data labels, rearranging data fields on the screen, changing the tab order of fields, adding new data fields, setting default values, and adding new tabs to tabbed dialog boxes. Some products may provide complete control over the design of the data entry screen, while others may not. Other complex features include the ability to set tab order for custom fields, add drop-down lists, and embed third-party applications with an accounting software user login screen (WASSERMAN, 2021).

4. Blank User Definable Fields

The blank user-defined field is one of the favorite features of accounting software. This feature allows the end user, instead of changing the accounting software source code, to add new data using many unused fields added throughout the accounting system. The end user only needs to name the new field and start entering the required data. However, when choosing the right accounting software, it is worth making sure that the number of blank fields satisfies the current and future requirements and needs of the organization (Investopedia, 2019).

5. Default Settings

Some accounting programs allow the user to define default settings for each field separately. A company that operates primarily in one city or state can pre-configure the customer and order entry screen so that that city or state appears automatically by default for each new record (TEC, 2019). This feature will help you save time and improve accuracy. At first it may seem that this does not save time, however, given the fact that most companies process tens or even hundreds of thousands of invoices every year without default settings, clerks must enter "Czech Republic" or "CZ" tens of thousands of times separately on every order. Many organizations have default terms such as shipping methods, categories, merchant codes, currency codes, etc. By setting the default data, not only large but also small companies can save hundreds and maybe thousands of hours for data entry each year. Some accounting programs offer additional capabilities for this function that will allow the user to customize logical lists or drop-down lists to improve speed and accuracy. There are also products that give the user the ability to set up automatic calculations that enter data by default on their own. For example, a product might use the system date and terms of payment to automatically calculate and enter a discount date or due date (Aicpa, 2017).

6. Database - Level Customization

To change, edit or add fields and tables to the accounting software database, all this allows end users - setting up the database. Database customization provides the ability, without changing the source code of the database, to make it more flexible to meet specific business and transactional requirements. With this function, the efficiency of accounting software increases, and this makes it powerful and easy to use, which increases its reputation and competitive advantages in the market (Significant Influence of Information Technology on the Use of Modern Accounting Software, 2019).

Foreign Currency

The international market has never been stronger, and the Internet is helping this huge market to be more accessible to even the smallest businesses. The presence of a website is an important and necessary tool for any company, thanks to it it is easy to find customers, order and buy products from anywhere in the world. And here organizations that have always worked with only one currency and no other have to work with different currencies like the US dollar, pounds, euros, rubles, and then they are faced with the need to have accounting software that supports operations with foreign currencies and reporting (The Determinates Of Selecting Accounting Software: A Proposed Model. The Review of Business Information Systems, 2005).

Thus, when choosing and evaluating software for an organization with multicurrency accounting, it is worth paying attention to several key features. Good multicurrency accounting software should allow the end user to create consolidated statements in any currency and translate financial statements into different currencies (Askham, 2016).

If foreign exchange functions are one of the important requirements of the organization, the following features should be considered when choosing accounting software (WASSERMAN, 2021):

- FASB 52-Compliant
- Foreign Currency Supported in General Ledger
- Foreign Currency Supported in Accounts Payable
- Foreign Currency Supported in Accounts Receivable
- Foreign Currency Supported in Inventory
- Euro-Compliant
- Supports Foreign Languages

Despite the fact that this function is important, many accounting programs still do not support "multicurrency" and, as before, remain a "single currency", which is a significant disadvantage, because such an accounting program is not considered an ideal option for foreign trade. For international companies, in particular, "multicurrency" is a very important feature, and this should be taken into account when choosing a software for accounting. The program chosen should be capable of making settlements in foreign currency in accordance with the current exchange rate, generating reports showing the impact of favorable and unfavorable exchange rate fluctuations.

Flexibility

The information exchanged between the two computer applications must be accurate and complete. Both of these systems must generate reports that document the number of records and the final cost of the information transferred in the same currency to ensure that inconsistencies are quickly identified (The Determinates Of Selecting Accounting Software: A Proposed Model. The Review of Business Information Systems, 2005). With the development of technology, changes in government regulations, the growth of the organization and increased competition, the flexibility of the existing CAIS has become not just a privilege but a necessity.

3.5.2 Technical criteria

1. Requirements for technical equipment

The existing hardware and software infrastructure of the enterprise that has switched to the accounting model must be capable of providing the necessary connection. Otherwise, it is possible for the enterprise to face the hardware replacement problem and cost due to the inability to access the accounting software used with the existing hardware. For this reason, the fact that the equipment of the user enterprise is old and not able to use up-to-date technology creates an internal technology risk (Arenas, 2016).

In the use of cloud computing-based accounting software, it is not necessary to have a harmony between the version of the operating system installed on the hardware that the user enterprises access to the cloud and the accounting software, but it may be necessary to renew the systems that do not allow access, such as operating systems and software, as well as the old hardware.

Accounting software applications can be accessed with the help of a web browser; All users of the software can use the same version software program regardless of their operating system. Therefore, in today's cloud technologies, it is not possible for newly established businesses to face a risk related to hardware. This risk is especially relevant for users with old hardware and software (Sorensen, 2020).

2. User support

User support means that personal assistance provided by the supplier to technicians and end-users in terms of hardware, operating system, and software. This term is usually related to the help services of most service providers. Therefore, the quality of the support can range from shocking to excellent. The best customer or technical support includes real-time conversations between end-users and experienced supplier representatives, as well as the availability of these representatives, without having to wait a long time. This support is sometimes free, but it is usually accurate up to now. In some cases, if both the customer's and supplier's representatives know how to clearly, accurately, and accurately state its meaning, then emails rather than telephones will suffice.

3. Implementation

Successful implementation of ERP systems to the operating processes of business organizations requires certain stages and processes. Stage processes are processes carried out with software producers and business organizations. ERP software manufacturers; They aim to realize a successful project by making repeated and long-term interviews with managers and technical responsible persons regarding the business processes in the business before changing the software infrastructures of the enterprises (Blokdyk, 2020). As a result of the interviews, it is aimed to increase the efficiency and productivity by ensuring the redefinition of the processes.

Software manufacturers: It has to manage price, quality and functionality well in products due to competition (Carpenter, 2017). The technologies to be renewed must functionally include the previous technology, and the continuity of the enterprise must be ensured by integrating the new units and business processes to be activated into the system.

System implementation and transition to ERP software is the most difficult and timeconsuming part of the project. Success of the integration and transition phases is related to how successfully the project will be managed or not. Considering the cost and country-related business processes, a local or global software license may be preferred (Kneuper, 2018). Companies who think that a global software increases the value and advantage of the company can make an international choice in their ERP selection. In the business integration of ERP software systems, for example, the ASAP methodology is applied for SAP software (Prusinski, et al., 2012). In other existing software, it is tried to be integrated into business processes with methods close to this methodology (Scott , 2012).

The implementation process consists of 5 stages in almost all systems:

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Stage 1. Project Preparation: At this stage; The activities to be carried out are determined by considering the project plan and scope (Romney, et al., 2017). Within the project organization. Determining the strategies, determining the necessary equipment and needs, planning the resources and determining and training the personnel to be involved in the project are the steps of this stage.

Stage 2. Design: Consulting firms or solution partners that are solution partners aim to get together with the process developers in the business, to understand the end users' requests for business facilitation regarding the processes to be developed and to adapt the most appropriate business design to technology (Bradford, 2015). Since the document output is too much, it is also expressed as a conceptual stage. Workflow and design schema documents, adaptation phase documents, user interface design documents, documentation of the structure and movements of the master data, user roles and the required reporting documents are the details included in the project at this stage.

Stage 3. Development: It is the stage of development and realization regarding the processes. It is the stage where the demands designed at the conceptual stage are put into practice and the development processes begin. Application-oriented development processes are based on SPEKT (Technical Specification) documents and documents prepared by technical analysts for business processes (Blokdyk, 2018). ERP developers start developing applications for business processes within the framework of the SPEKT documents prepared. When there is a problem in their integrated processes, analysts and software developers return to these prepared documents. Process and inter-unit communication, transaction tracking, advanced reporting and outputs are among the most development requests among ERP users (Kneuper, 2018).

The development is the most difficult stage. At the end of this process; Adaptation principles, work orders, desired additional modules, reports, screen interfaces, transferring existing data to the new system, preparing user and training scenarios and testing them on unit basis.

Stage 4. Testing: This stage is the stage where it is tested whether it is open or not in the studies that have been done since the beginning of the project. This stage is the test scene within the enterprise with all components of the software (Zaheer, et al., 2016). In this scene, final checks of data transfer and transition to the live system, the role training of the users, the preparation and uploading of the help menus in the documentation and finally, all integrated processes are tested and completed live, and the transition to live use is ensured.

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During the transition to the live system, all tables, menus and screens are taught to the relevant users in detail on how to make the desired reporting, process and document follow-up on the software. At the end of the process, users; learn to monitor the processes on the screen and extract the requested data and information in the form of reports and outputs from the columns of the tables. In this process called the user acceptance phase, the user accepts that the software has been prepared correctly in this form (Significant Influence of Information Technology on the Use of Modern Accounting Software, 2019).

Stage 5. Deployment and Support: Deployment and support stage, which is the last stage of the project, is the part where the program is activated live (Katre, 2019). One of the most important principles in the live phase is to support the end user and technical staff by the consultants of the software company for problems to be encountered in the short and long term. The business and customer-oriented support of the software company is the most vital point in project success.

There are three ways to complete the application process. Firstly, at the end of all the steps, the old software system is closed, and the new software system is continued. In the second part, some businesses, especially in the service sector based on hospital and customer information, work in parallel with new software systems and old systems (Magal, et al., 2011). Businesses act with double applications for a certain period of time to avoid data loss and error processes. For instant data, the patch is added to the new software using a program. In the third and last option, the necessary data is taken from the old system and transferred to the new system through programs such as Excel, and software change and integration is achieved.

4. Data protection and security

Information system security refers to the activities and measures that ensure the confidentiality, integrity and accessibility of an information system and its main asset, data (Chio, et al., 2018). Data security requires a comprehensive approach across the organization. In other words, data cannot be secure if all processes and systems, including hardware systems, software applications, network and devices, internal and external users, procedures, and the data itself, are not secured. To understand the scope of data security, let us consider each of the three security objectives in more detail (J. STEWART, 2021):

Privacy. It ensures the protection of data against unauthorized access and is used only for an authorized purpose if the data is accessed by an authorized user. In other words, confidentiality requires data protection against disclosure of any information that would violate the private rights of a person or an organization. The data should be evaluated and classified according to the level of privacy: very restricted (very few people have access), confidential

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(access only to certain groups), unlimited (accessible to all users) (Tatsat, et al., 2020). The data security officer spends a lot of time ensuring that the organization complies with the desired level of privacy. Refers to activities that meet compliance, data privacy, and security reporting guidelines. These guidelines are either part of internal procedures or are implemented by external regulatory agencies. Examples of US laws to ensure data privacy and confidentiality are the Health Insurance Portability and Accountability Act, the Gramm-Leach-Bliley Act, and the Sarbanes-Oxley Act (Lam, et al., 2015).

Integrity. Within the framework of data security, it is about keeping data consistent and free from error or anomaly. Database management systems play a very important role in ensuring the integrity of the data in the database. However, from a security perspective, organizational processes, users, and usage patterns must also maintain integrity. For example, if someone working at home accessing the cost of the product using the Internet might be considered an acceptable use, security standards may require the employee to use a secure connection and follow strict procedures to manage data in the home. Protection of data integrity is a process that starts with data collection and continues with data storage, processing, use and archiving. The rationale behind the foundation of integrity is to treat data as the most valuable asset in the organization and to ensure that rigorous data validation is performed at all levels within the organization (Arenas, 2016).

Usability. It refers to accessibility when required by authorized users and for authorized purposes. To ensure data availability, the entire system must be protected from loss of service and interruptions caused by external and internal resources. Service disruptions can be very expensive for companies and users. System availability is an important goal of security (Investopedia, 2019).

5. Data Backup

Backups are a very important part of every database platform. Whether it's a software or hardware failure, backing up is critical to restoring the system. Backups contain a copy of the database. The backup can be kept in a separate file, 32 on a tape or in a separate backup unit (Chio, et al., 2018).

Data is often stolen from backup units that are lost or leaked. The data is usually protected by encrypting the entire file as it is written to or after it is written. In this case, it is important to keep the encryption key for proper backup protection. The important thing here is to ensure that the encryption key is backed up correctly with the data and that the backup taken is restored properly. If the files cannot be restored, the backup becomes worthless and the backups that cannot be restored cause business disruption (J. STEWART, 2021).

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6. Clouding system

Definition of Cloud Computing

There is no valid definition of cloud computing, which is one of the most curious technologies of today in the information sector, the most widely used definition is made by the United States National Standards and Technology Institute (NIST, 2009). NIST defines cloud computing as a model for providing on-demand network access with easy, location and location-free access to a common configurable pool of computing resources that can be quickly released and can be provided with minimal management effort or service provider service (Kim, et al., 2016). Cloud computing is a new form of presentation and support of information technology services over the internet. It is the sharing of information technology resources such as software, hardware, and infrastructure over the internet for a fee. This model is the result of the idea of easily accessing server services and remote equipment via internet connection. Cloud in general technology makes it possible to access data and software hosted on a server via web service or web browser-like applications (Katre, 2019).

Cloud computing is the result of the idea that all the software needed by a computer can be accessed via the internet without the need for installation on the computer we use. Cloud computing is a model that enhances and expands the capabilities of computers and enables users to access more than one software and service on the (Arenas, 2016).

Concept of Cloud Accounting System

Accounting is the most important area where cloud computing is used. The most important purpose of accounting systems is to collect information and data for both internal and external users to perform management, processing, and evaluation, which are very important for the financial information used in the accounting system's decision-making process. (Carpenter, 2017). Especially organizations using accounting package programs switch to cloud computing and benefit from the facilities it provides. Thus, nowadays, web-based accounting programs based on cloud computing have replaced classical accounting programs.

The differences between traditional accounting programs and cloud-based accounting programs are compared in figure number 6 as below.

Classic accounting programs	Cloud-based accounting programs		
Enter data manually	Enter data automatically		
There is no remote access to the system	There is remote access to the system		
Installation and updating is done manually	Installation and updating is done by remote access		
There is no possibility to work independently from the workplace	There is an opportunity to work independently from the workplace		
Backup is performed at the local terminal	The backup is performed in the cloud computing system and in the local terminal		
Legislative changes are tracked individually	Legislative changes are tracked in the cloud computing system		
Declarations are hand-filled and sent.	Declarations are automatically filled in and sent		
Time losses are experienced in transactions	No time loss in transactions		
Manual filling and sending of bills and other official documents	Web-based filling and sending of invoices and other official documents		
Remote access is not available when business executives request financial data	Remote access is possible whenever business executives request financial data		
There is no continuous communication with client firms in financial advisors	There is a continuous communication with the client companies in the financial advisors		

Figure 6 The differences between traditional accounting programs and cloud-based accounting programs

(source: researchgate.net)

3.5.3 User-friendliness criteria

1. Documentation

The quality, content and form of the program documentation are assessed. From the user's point of view, it is better if the documentation makes it easier to work in the program, describes all the functions, is understandable, well-oriented and searchable. Information on installation, maintenance and data protection is also important. Such documentation can also indirectly serve to confirm the reliability of reporting, which is conducted during an audit or tax audit (Diceus, 2021).

User manuals can be in paper or electronic form. Due to constant updates, it is important to publish new versions of these documents, or at least a brief summary of changes from the previous documentation (Aicpa, 2017). They are usually only available electronically or on CD. In the case of manuals that have hundreds or thousands of pages, they are not even published in printed form.

Today, every program offers help that is available right at work. Called by the F1 key. The more accurately the program is able to identify the user's location, the more opportunities it has to offer more specific assistance and, thus, speed up the user's search for the necessary information (Hall, 2018).

2. Training

Not all accounting software works the same. Even though most accounting software maintains basic income and expense data, manual and computerized, the software used may differ depending on the type of business. Accounting information systems include the people, procedures, and technologies used to record and present this critical financial information (Jariwala, 2015). Since no two programs are identical, new accountants or accountants who have little knowledge of the program in use require training in accounting systems. Accountants acquire knowledge of accounting methods, practices, and procedures at university. However, they may not be familiar with the specific accounting software that a particular company uses. Manual methods follow basic accounting rules, but computerized accounting systems include input screens and complex interfaces that require personnel using the system to understand and know them. Employee training will help protect a company's investment in technology and people (Kneuper, 2018).

3. Ease of use

Ease of use is the degree to which the user believes that using a particular system does not require any effort, or it is the level at which a person believes that information technology, specifically in this work, is accounting software, can be easily understood and easy to use. Also, ease of use can also be illustrated by the intensity of use and the interaction between users and the accounting system (Significant Influence of Information Technology on the Use of Modern Accounting Software, 2019). The frequently used system proves that the system is well understood, easy to operate and easy to use by users. If someone finds that information technology is easy to use (accounting software in this study), they will feel that information technology is useful to them.

4. User satisfaction

Satisfaction Information systems today are becoming an indispensable criterion when choosing an accounting program for any type of organization. However, the implementation of these information systems is not cheap. Immediately after implementation, organizations should measure and see if these information systems are working as expected and efficiently (Investopedia, 2019).

The term "AIS User Satisfaction" is synonymous with end-user computer satisfaction, user satisfaction, and user satisfaction with the system. "Information System Satisfaction" indicates the degree to which users believe that the information system can provide their necessary needs (Jariwala, 2015). This means that if the information system does not give the required result, the user will remain dissatisfied. It is as an emotional attitude toward a

particular computer application on the part of someone who interacts directly with the application. This means that the interaction can be carried out with any computer systems that have a human-computer connection (Zaheer, et al., 2016).

4 Practical Part

This part of the thesis will focus on evaluating the effectiveness of accounting software. The three leading software, Microsoft GP, Oracle, and SAP were selected based on a survey, as shown in figure number 7 below, conducted among 15 companies. The largest number of respondents were from Crown Worldwide with 31 answers, which is why they were selected to evaluate the performance of their accounting software. The practical part will describe what the company does, the subject of business, the organizational structure, the established accounting software, its functions, and main modules, and two other programs will also be considered. Further, there will be a comparison of them from several points of view and a recommendation from the author, whether to leave the existing one or replace it with another, more suitable for them, or a system.

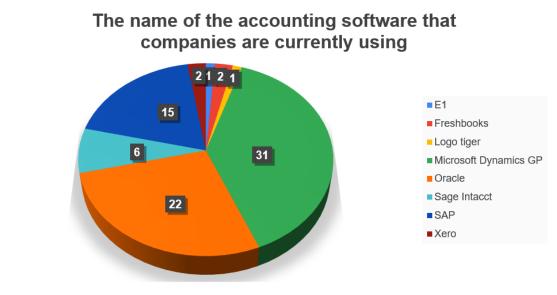
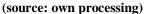


Figure 7 The name of the accounting software that companies are currently using?



4.1 Crown Worldwide Group

The multinational Crown Worldwide Group (CWG) provides a wide range of logistics and related services. The company was founded in 1965 by American Jim Thomson in Yakohoma, Japan. The headquarter is located in Hong Kong and has a lot of branches worldwide, the biggest one in the EMEA region is in Prague. It is registered in the Commercial Register as a limited liability company with its registered office at Sokolovská 685 / 136f, the registered capital is CZK 100,000. (Worldwide, 2021)

Figure 8 Interesting facts about Crown Worlwide



(source: sharepoint.crownrelo.com)

CWG services include international and local transport of goods for the home, global mobility, immigration and many others. Crown provides services worldwide through its 207 regional offices in nearly 53 countries. This structure allows to provide assistance to companies and individuals around the world, offering all the necessary services locally. The organization is divided into 6 divisions (Worldwide, 2021):

- Crown World Mobility providing services to corporate clients in organizing the relocation of their employees. Services are provided by a team of experienced professionals using unique digital technologies;
- Crown Relocations— relocating private customers' lives to new homes throughout the world;
- Crown Records Management— Corporate Records Keeping and Document Management. Through professional storage management, intelligent use of information assets is achieved;
- Crown Fine Art— The world's first logistics service to move art objects. Crown Fine Art's interest in art is comparable to the care it takes in relocation and security for global artwork;

- Crown Logistics Improving supply chain efficiency in specialized sectors such as oil and gas, hospitality, and the luxury retail sector. Services ranging from project management to specialized airport ground handling, shipping, equipment installation and third party logistics;
- Crown Wine Cellars Crown Wine Cellars member clubs in Greater China are recognized as the owners of the finest wine cellars in the world dedicated to processing, storage, distribution, long-term aging and, finally, unrivalled enjoyment of various wines.

4.1.1 Organizational structure

The entire finance department is managed by the Chief Financial Officer. Its main functions are financial services, financial planning and reporting, procurement and business office administration. The financial department includes four departments, each with its own manager. All four managers report to the Chief Financial Officer.

For a better overview, the organizational structure is shown in figure number 9 below. The finance department employs about fifty employees, at this moment, the number of employees are 44 people. In the financial services department, there are three different teams such as AP team, the credit collections team, GL team. In another department, financial planning and reporting, there are three different position groups such as financial analyst, data analyst and budget analyst. In the procurement department which is the third department, there are seniors and specialists, and the last group is office administration.

The Finance department shown in this organization chart was created for the Prague head office. This department covers the EMEA area. There are two more groups for the finance department around the world.

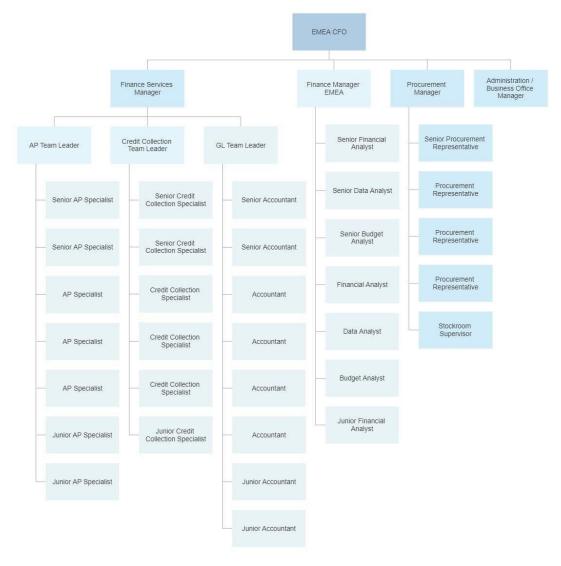


Figure 9 Organizational chart of finance department

(source: own processing)

4.2 Currently used accounting software

Crown Worldwide currently uses the Microsoft Dynamics AX ERP information system for finance, supply chain, operations, storage, and reporting. The core modules include sales, customer relationship management, logistics, warehouses, invoices, and payments. Authorized employees mainly use modular warehouses, logistics, invoices, and orders (TEC, 2019).

According to a survey conducted with the company's employees based on day-to-day user experience, they stated that Microsoft Dynamics GP, which is an accounting module connected to an ERP application, responds to all requests, but there are drawbacks. Due to the dissatisfaction of the users, the company's management decides the issue of purchasing and installing a new accounting software, Oracle NetSuite, which is offered by Oracle company. Figure number 10 shows the answers from different users from the company Crown Worldwide.

Figure 10 Is company selecting new software?



Is the company selecting new software?

(source: own processing)

4.3 Microsoft Dynamics GP

As mentioned, Crown Worldwide uses Microsoft Dynamics accounting software. Microsoft Dynamics GP formerly Great Plains Software is an enterprise resource planning solution for small and medium businesses with financial management functions. This software uses Microsoft SQL Server 2005, 2008, or 2012 to store data. This is one of four accounting packages acquired by Microsoft that now share the Microsoft Dynamics Business Solutions brand (Gurussolutions, 2020).

GP Dynamics was originally developed by Great Plains Software, an independent company based in Fargo, North Dakota, run by Doug Bergum. Version 1.0 was released in February 1993. It was one of the first accounting packages in the United States that were designed and written to be multi-user and compatible with Windows 32bit software. In late 2000, Microsoft announced a \$ 1.1 billion purchase of Great Plains software. The deal was completed in April 2001 (Top10erp, 2019).

4.3.1 Functionality packages and licenses

Microsoft Dynamics GP is sold through third-party consultants, Dynamics partners, who can help with end-to-end business solutions. Prices may vary depending on the selected feature pack, license type and number of users. GP provides two types of licenses: perpetual and subscription. Loyal customers like Crown Worldwide pay a one-time license fee and each user after the first three. Subscription users pay a monthly fee for each user. There are three types of users (Arenas, 2016):

- Complete creating and editing information
- Limited View information
- Self-service access to non-commercial tasks

The starter pack for many companies is the only license required, and the chosen company, Crown Worldwide, uses this particular service pack. This package offers basic Financials and Distribution features with three full users. It is available in 4 languages and Crown company uses English. The starter package helps the user, the company's employees, to control and understand their finances, to engage in the purchase and sale of services, goods and materials and to pay employees (Microsoft, 2021).

Figure 11 Functionality pack and license

Legend
🞁 Starter Pack
📦 Extended Pack
Extended Human Resources and Payroll

Financial Management		Better Reporting	Huma	an Resource and Payroll
General Ledger with Advanced Financial Analysis Account Level Security Cash Flow Management Fixed Asset Management Intercompany National Accounts Multicurrency Analytical Accounting Revenue/Expense Deferrals Bank Reconciliation Electronic Banking Suite Safe Pay	Cashbook Bank Management Electronic Bank Management Electronic Reconciliation Payables Management Receivables Management Customer/Vendor Consolidations Lockbox Processing Refund Checks Grant Management Encumbrance Management Field Level Security Process Server	SmartLists Inquiry Windows All In One Document Viewer Unlimited Mgmt Reporter Designer User Unlimited Mgmt Reporter Viewer User Analysis Cubes Library Advanced Analysis Cubes Library Refreshable Excel Reports SmartList Designer Office 365 Workspace PowerBI Dashboards and Reports	bocument Viewer fgmt Reporter Ser fgmt Reporter se Library nalysis Cubes Library esigner Vorkspace Payroll (US) Unlim Payroll (Canada) U Employees Payroll Direct Dep Federal Magnetic Payroll Connect Position Control Employee Pay Employee Profile Human Resources	
Supply Chain Management	Configuration and Development	Customization Pack		Extended Human Resource and Payroll
Invoicing Sales Order Processing w/ Adv Invoicing Extended Pricing Order Management Inventory Control Bill of Materials Purchase Order Processing/ Receivings Landed Cost PO Generator Procurement\Requisitions	Modifier with Visual Basic for Applications Customization Site License Integration Manager - Conversions Service Based Architecture Identify Management Workflow Customer and Vendor Combiner	Integration Manager eConnect WebServices Dexterity Software Development Kit Customization Suite		HR Advanced US Payroll Advanced PTO Manager Benefits Management and Enrollment
Supply Chain Management	Manufacturing	Project Management	Customer Relationship Management	
dvanced Distribution dvanced Picking vailable to Promise eturns Management	Manufacturing Bill of Materials Manufacturing Order Processing Master Production Scheduling Materials Requirements Planning	Project Accounting Project Time and Expense	Contract Administration Service Call Depot Management Preventive Maintenance	

(source microsoft.com)

However, as shown in the figure number 11 above, Microsoft Dynamics GP offers 2 more types of packages to its customers: The Extended and Extended Human Resources and Payroll packs.

The advanced package is purchased by companies that require more advanced features such as control over the creation of raw materials for finished products, management and billing for professional services, construction, and other unique needs.

As mentioned before, the starter package includes standard payroll and human resources for an unlimited number of employees. The Extended Human Resources and Payroll pack offers more functionality, and this provides flexibility in how companies pay and manage their employees (Polino, et al., 2020).

The subscription fee for Dynamics GP is \$214 per month per designated user, and \$239 if Dynamics GP Extended Pack is used. There is also a one-time data installation fee of \$2,495. This will affect the security, security, and maintainability of the server. Also includes SQL,

Windows, Office Professional, and all other supporting licenses. However, a subscription to ISV products requires an additional monthly fee. As with the previous option, you will get licenses for SQL, Windows, Office Professional, and all other additional licenses. However, it does not include the Microsoft Business Ready upgrade plan (Microsoft, 2021).

4.3.2 Financial modules

Microsoft Dynamics GP offers its clients an extensive list of modules, however this part will focus more on the financial management modules that are included in the starter pack used by the selected company (Microsoft, 2021).

Analytical Accounting is a tool that helps users analyze, interpret, and create reports. Thanks to this module, it is possible to better evaluate the company's invoices. It is also possible to store information that cannot be calculated in monetary terms, such as labor hours. One can easily enter the detailed analysis information without resorting to segmental accounting. In particular, the user can create budgets using analytical sizes and compare real figures with the planned ones (Microsoft, 2021).

Bank reconciliation: Customizable summary and details of bank balances and all transactions: cash, check, and credit card. Tools are available to sort and mark transactions to improve reconciliation capabilities (Gurussolutions, 2020).

Cash Management: A calendar-based interface to view and manage cash inflows and outflows to improve day-to-day financial planning. Full picture and full detail options are available (Gurussolutions, 2020).

Collection Management: A customizable interface that allows the user to enter and view all collections from one central point. Allows to target and track overdue customers with automated delivery and tracking of invoices, emails, statements, and invoices.

E-Banking: Help reduce administrative costs and manual entry errors and improve productivity and money management in a more secure environment. Routine accounting tasks are brought online, and banking transactions are electronically resolved and negotiated. Transactions are applied to invoices as they happen, rather than days or weeks later, such as BACS payments or collection of payments via direct debit or credit cards. A special function checks that the sort codes and bank account numbers entered for vendors and customers make sense (Arenas, 2016).

Expense Automated Expense Management: Allows employees to create and submit expense reports over the Internet anytime, anywhere. Features of electronic processing of checks.

Encumbrance Management: A liability accounting module specifically designed for non-profit and public sector organizations to ensure that actual costs and associated liabilities do not exceed available funds.

Fixed asset management: the module allows you to create, define and manage an unlimited number of assets. Has standard fields and up to 15 custom fields with a graphical user interface. Numerous depreciation methods are available to automate depreciation procedures. Integration into the general ledger for posting depreciation journals and into Accounts Payable Management for retrieving purchasing information to fixed assets (Diceus, 2021).

Location IDs to help with inventory management: Matching the actual location with the registered location. The ability to exchange information with standard and custom reports.

General ledger: Automates basic accounting tasks to improve accuracy and streamlines budget planning and financial decision making with reports and query tools. Has up to 66 alphanumeric character codes, up to 10 segments, and user-defined fields with a description of 50 characters.

Grant Management: Tracks grants, demonstrates accountability and compliance, and helps with future funding applications.

Multicurrency Management: Designed for multinational operations to simplify the management of financial statistics and accounting transactions using multiple currencies and dealing with changes in exchange rates (Microsoft, 2021).

Accounts Payable: Control expenses, control payments (checks and BACS) with flexible selection criteria, and track vendor documents and information. Features include unlimited addresses / contacts per vendor, discounts, minimum / maximum payments, deductions, refunds, debit / credit notes, automatic allocation, performance, and history reports.

Accounts Receivable Management: Tracks documents and information related to customers, controls cash, generates simple invoices, and creates, prints and sends reports by email. It always produces sophisticated accounts receivable and performance reports including turnover, gross profit and payment days. Other features include flexible credit limits, unlimited addresses / contacts per customer, minimum / maximum payments, and the ability to handle insufficient funds, interest accrual, debit / credit notes, refunds, debits and automatic distribution (Arenas, 2016).

4.3.3 Survey outcomes with Microsoft Dynamics GP

As previously mentioned in the chapter 4 of this thesis, the largest number of respondents were from Crown Worldwide company. Of all the specialists participating in the

survey, the following prevailed: junior/senior accountant, junior/senior accounts payable specialist, credit collection specialist and team leaders. As a result, it became obvious that the company is planning to buy new accounting software.

4.3.3.1 Content criteria

Based on the figure number 12 below, it is obvious that basically the accounting program of Microsoft Dynamics GP meets all the content criteria. However, it is worth considering some of the statements in more detail.

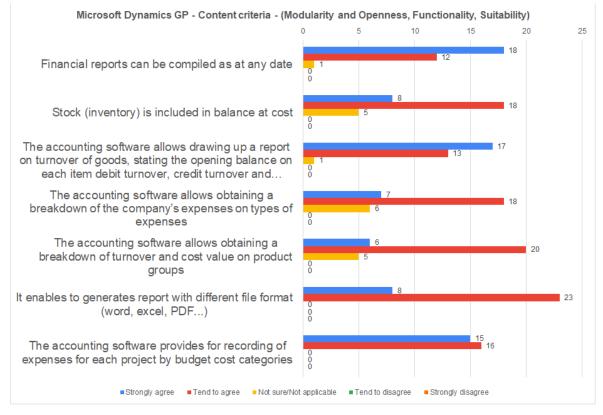


Figure 12 Content criteria results of Microsoft Dynamics GP (part 1)

(source: own processing)

Differences in answers are related mainly to the positions and accessibility of this users to the functions. According to the first part of content criteria questions in the figure number 12, the accounting software under consideration allows:

- draw up financial reports on any day;
- draw up a report on the turnover with an indication of the opening balance for each position of the debit / credit turnover and the final balance;
- get the required breakdown;
- create reports in different formats;
- keep track of costs for each project by categories of estimated cost.

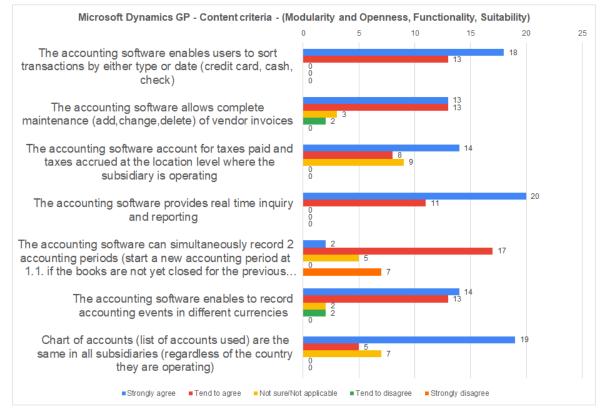


Figure 13 Content criteria results of Microsoft Dynamics GP (part 2)

(source: own processing)

Compared to the first part, the second part in figure number 13 shows inconsistencies in the opinions of the respondents. All agree and strongly agree with the statement that in this accounting software you can sort data by type (credit card, cash, check) or date. 26 out of 31 agree and absolutely agree that the software also allows you to fully maintain invoices of suppliers, 3 are not sure and only 2 could not agree. If 14 people absolutely agree and 8 people agree that the software takes into account the taxes paid and assessed at the location levels, then 9 people are not sure of the answer. The claim that accounting software provides real-time queries and reports was endorsed by all respondents. Opinions were slightly divided regarding the fact that the software can simultaneously record 2 reporting periods. 2 strongly agree, 17 agree, 5 not sure and 7 strongly disagree. This accounting software allows you to record events in different currencies, 27 people agreed and absolutely agree with this, 2 are not sure and 2 do not agree. The last statement about the identity of the charts of accounts in all subsidiaries was agreed by 24 respondents and 7 were not sure.

4.3.3.2 Technical criteria

The figure number 14 includes the first part of the answers to the questions of the technical criteria of the used accounting software, Microsoft Dynamics GP. The majority, 20 respondents, disagree with the first statement that the software interface is not intuitive and very

difficult for people with poor computer skills. However, the users agreed that the software has many bugs, and that the vendor does not respond to the problems that have arisen. As shown in the figure number 14, opinions were divided on the following two statements that the system being used did not function as promised by the supplier and that some purchased modules were not used. 24 specialists out of 31 agree that the system is difficult to maintain or update, the rest are not sure. About 70% of respondents agreed with the seventh statement that the company provides suitable hardware.

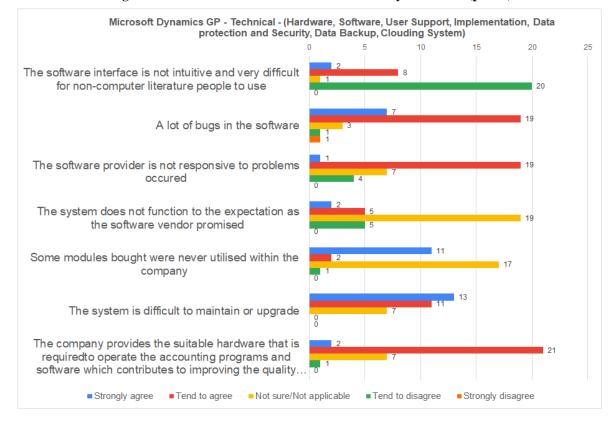


Figure 14 Technical criteria results of Microsoft Dynamics GP (part 1)

(source: own processing)

The next figure number 15 is a continuation of the first one. Responding to the eighth statement that the software provided the interface to an automated system, 10 people were unsure, while 21 people agreed with it. Almost everyone who participated in the survey agreed that Microsoft Dynamics GP allows to print and scan all the needed files. The situation is similar with the following statement about the ability to work remotely. However, in the next two paragraphs showed how the opinions are divided. In the first of these two statements, 1 strongly agree, 10 are not sure, 3 disagree and 17 strongly disagree with the fact that this software has a mobile version. In the second of them, it was about the presence of a cloud system that allows users to have online access to data and software at any time, from any location and from any device, 2 completely agree, 17 agree, 8 are not sure, and only one absolutely disagrees with

this. Most of the respondents agree with the penultimate statement, they believe that their data is safe. The situation is almost the same with the last question, 28 people agree, 1 is not sure and 2 do not agree that they can control the level of access.

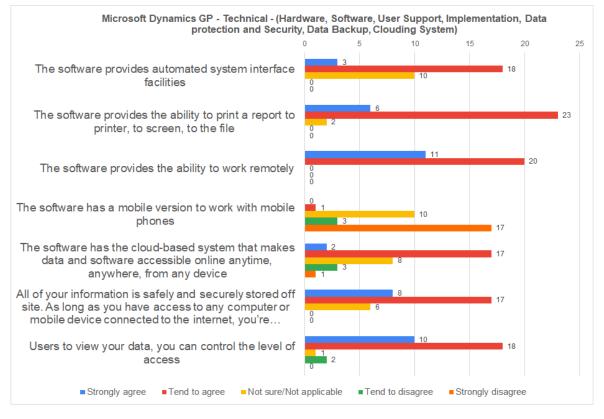
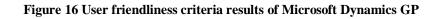


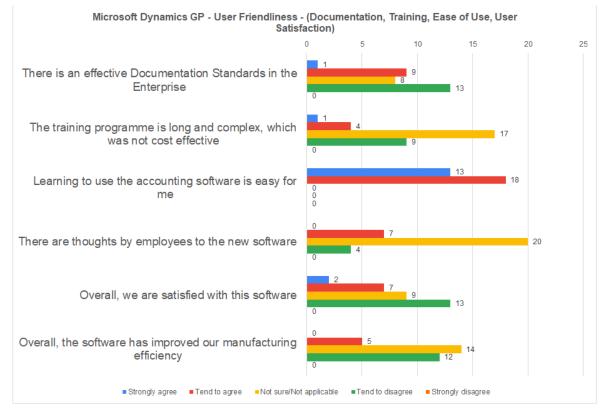
Figure 15 Technical criteria results of Microsoft Dynamics GP (part 2)

(source: own processing)

4.3.3.3 User friendliness criteria

Ease of use is one of the important criteria for choosing a good accounting software. Because of this, questions were asked on this topic. Figure number 16 shows that 13 people disagreed with the first statement that the company has effective documentation standards, 8 were not sure, 9 agreed and only 1 absolutely agreed. Only 5 people believe that training of the Microsoft Dynamics GP is long and difficult, 17 are not sure and 9 people do not agree with this statement, but at the same time everyone believes that learning accounting software is easy for them. While 7 respondents agree with the statement that employees have thoughts about new software, 20 are unsure about this and 4 disagree. Users are generally dissatisfied with this accounting software and do not believe that it has improved operational efficiency.





(source: own processing)

4.4 Oracle NetSuite

Oracle NetSuite is an integrated ERP platform designed to meet the needs of medium and large businesses, including inventory management, payments, order management, fixed assets, revenue management, money management and many more (Blokdyk, 2018). This review focuses on the accounting functions of this software, including general ledger, payment accounts, accounts receivable, account management, asset management, and tax administration. Thousands of organizations use NetSuite for billing requests as the price. Occasional visibility into management, closure, efficient operations, and better revenue management and corporate financing systems. The effectiveness of accounting measures has been expanded by integrating with other NetSuite solutions such as e-commerce, CRM, inventory, and order management. tool (Blokdyk, 2020).

4.4.1 Functionality packages and licenses

Depending on the size and maturity of the company, it is a good idea to tailor these three NetSuite products to the business. All three packages use a "detailed" model that deals with the costs and nature of business growth. NetSuite is a simple cloud-based system. So, if the

company is suitable for beginners, it is worth upgrading to the Midmarket edition or upgrading to manage multiple countries (NetSuite, 2021).

In this sense, the main differences between these three editions can be easily identified by several criteria.

- The number of employees in your company.
- User License Number
- Required Number of Editing Features

NetSuite Starter Package is being rolled out to small businesses. This is a great ERP base for companies operating in the same country, have less than 50 employees, and require a user license of 6-10 people (NetSuite, 2021).

NetSuite Mid-Market Package is sold to companies that require more than 10 user licenses or have multiple legal entities. Companies that present large amounts of integrated financial reporting with mid-market ERP are ideal for companies that are expanding their operations in multiple locations or have a complex need to keep up with current trends. Basically, it includes everything from the Starter package. However, CRM is not included with this package.

NetSuite Enterprise Package is designed for companies with many functions and 150 different users. It includes several additional modules such as NetSuite OneWorld to manage frequent purchases and capabilities. to manage multiple branches and branches (NetSuite, 2021).

The Oracle NetSuite license account costs \$999 per month and is calculated based on the number of users and the number of levels available. The fee for this service is an additional NetSuite license fee of \$99 per user per month. This means that each customer gets a unique price based on the needs of the company. NetSuite price factors include ERP consistency, the minimum equipment required by the organization, the number of users, and the duration of the contract for signing (Softwareadvice, 2021).

4.4.2 Financial modules

Regardless of the package for which it is chosen to implement ERP, the main differentiator for NetSuite subscription is the number of NetSuite users. the Mid Market and Enterprise editions include additional features to manage large amounts of money, multiple currencies, discounts, or adjustments for global markets. In addition, it always includes NetSuite Suite Success Starter Cloud Edition. The following ERP tools are intended for boxes (Sorensen, 2020):

NetSuite Financial Features:

- GL (General Ledger)
- AP (Accounts Payable)
- Purchasing
- Inventory
- Order Entry
- AR (Accounts Receivable)
- Expense Reporting

NetSuite CRM Features:

- Sales application with quote and order management
- Marketing Automation with campaigns
- Partner Relationship Management
- Customer Service/Support
- Productivity tools including contacts/calendar/events

General Ledger function of NetSuite understands how common numbers can be combined. It can get any transaction and details about each transaction. This allows to maintain a complete database. Lastly, this software guarantees real-time money and data for the large database. This is in line with the previous office system (Zaheer, et al., 2016).

Accounts Payable, the NetSuite account allows to synchronize the three acceptable account keys with each other. These three are a receipt account, a seller account, and a purchase order. It can pay taxes to the distributor through the Electronic Exchange (EFT) system. This improves business performance and eliminates the need to write and register signatures.

The benefits of accounts receivable include better interaction of the seller with effective and timely payments, support for EFT. In addition, and automatic payment and tracking functions. Better cash management. In addition, it can view all expenses, income, credit, and overtime accounts to provide detailed income information (Prusinski, et al., 2012).

Accounts Receivable adjusts the bills that receives to reduce costs and improve the experience. Oracle NetSuite can perform all tasks from order to receipt of final accounts. Accounting applications offer many benefits, including faster business payments, lower costs, increased efficiency, reduced errors, and reduced productivity. Therefore, this information offers many features that simplify features such as payment, billing, and reporting (Zaheer, et al., 2016).

The fundraising module offers a great flexibility as it can generate reports at the time based on parameters like section, class and rating, date etc. The best part is that it can provide an invoice on the day of delivery so it can receive payment quickly. Tools can always be customized because it can organize the receipts based on certain accounting rules.

Financial Planning and Budgeting, to be competitive, companies need to plan for their success while controlling how they spend it. It has to be able to pay the price. Many or many budgets to accommodate different environments. NetSuite ERP makes it easy to create and manage your budget. Save effort and time by entering budgets for all accounts on one screen. If it has complex needs, then it can create an off-system budget that imports using the CSV file system.

Financial planning and budgeting systems offer a variety of services. It can use a budget map to plan profits and compare the budget to the actual budget, which has many advantages. It can also push and report multiple budgets for a single measurement group. Finally, it can manage budgets in many places. It allows to accurately track contacts between organizations, business units, and offices (NetSuite, 2021).

Revenue Recognition Module allows to create real-time financial reports. Follow the accounting rules. It allows to create financial details for service and product sales transactions that take place at the same time in different main stages.

4.4.3 Survey outcomes with Oracle NetSuite

The second leading answer, after Microsoft Dynamics GP, is Oracle NetSuite. It is used by 22 respondents from 5 different companies such as Cisco, Oracle, Siemens, Dell and Eset, and the company being considered for this thesis, Crown plans to migrate to software provided by Oracle. The specialists who participated in the survey hold different positions such as junior/senior accountant, financial analyst, data analyst, finance manager,

Oracle NetSuite users are very satisfied with the product and do not plan to change it to another accounting software.

4.4.3.1 Content criteria

From the first part of the content criteria shown in the figure number 17, as well as in the situation with Microsoft Dynamics GP, it is clearly seen that Oracle NetSuite meets all the requirements of these criteria:

- Financial reports can be prepared for any date.
- Inventories (inventories) are included in the balance sheet at cost.

- The accounting program allows you to compile a report on turnover with an indication of the opening balance for each item of debit turnover, credit turnover and closing balance.
- Accounting software allows you to get a breakdown of a company's expenses by type of expense.
- The accounting program allows you to get a breakdown of turnover and cost by product group.
- Allows you to create reports with different file formats (word, excel, PDF ...)
- The accounting program allows you to keep track of costs for each project by categories of budget costs.

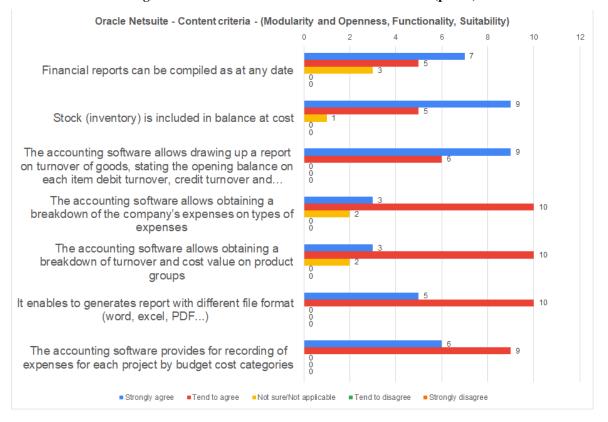


Figure 17 Content criteria results of Oracle NetSuite (part 1)

(source: own processing)

In the second part, in the figure number 18, opinions were slightly different in comparison with the first part. Without exception, everyone agrees that accounting software Oracle NetSuite allows users to sort transactions by type or date. All agree and strongly agree with the statement that the software provided by Oracle takes into account taxes paid and assessed at the location level, except for 4 people, they did not agree with this. With the statement that accounting software provides queries and reports in real time, 20 respondents agreed and only 2 were not sure with their answer. The next statement that the software

simultaneously records 2 reporting periods is almost identical with the answers to the statement about taxes, it differs only that in this case 4 people absolutely disagree with it. From the responses to the penultimate statement, it becomes clear that the accounting software provided by Oracle allows events to be recorded in different currencies. The chart of accounts is the same in all companies, 21 respondents agreed and absolutely agreed with this, and 1 is not sure about the answer.

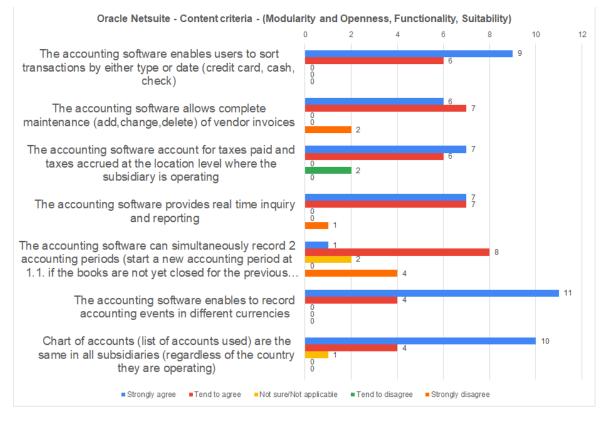


Figure 18 Content criteria results of Oracle NetSuite (part 2)

(source: own processing)

4.4.3.2 Technical criteria

The figure number 19 shows the answers from first part of the technical criterion for accounting software developed by Oracle. The graphics are dominated by green and orange colors, which correspond to the answers "disagree" and "absolutely disagree". However, it is worth examining each case separately for greater clarity. Nobody thinks that the software interface is not intuitive and difficult for people not versed in computer literature. This software does not have a large number of bugs. Opinions were slightly divided that the software provider does not respond to the problems that have arisen, 2 answered that they agree, 1 is not sure, 13 do not agree and 6 absolutely disagree with this statement. Almost the same answer was given to the following statement that the system does not work as promised by the supplier, with one difference, not a single one agreed. 15 people disagree and absolutely disagree that some of the

purchased modules have never been used in the company, and 7 are not sure about the answer. 1 person thinks that the system is difficult to maintain and update, 2 are not sure, and 18 people on the contrary consider this system easy to maintain and update. The companies in which the surveyed specialists are employed provide the appropriate equipment necessary for the operation of accounting programs and software.

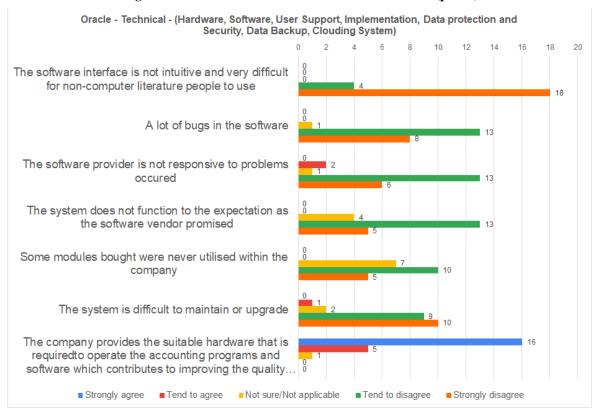
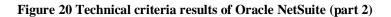
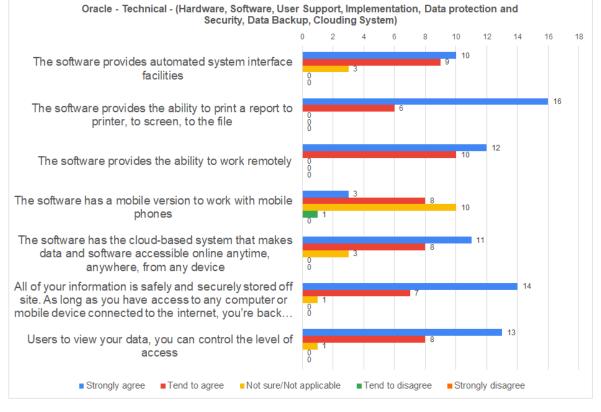


Figure 19 Technical criteria results of Oracle NetSuite (part 1)

(source: own processing)

The second part of the responses regarding the technical criteria is shown in the figure number 20 begins with a statement about the provision of the interface of the automated system by the supplier, 19 agree and absolutely agree and only 3 are not sure. From the answers to the next two statements, it is clear that the software provides the ability to print a report, scan files and work remotely. The answers to the statement about the availability of a mobile version diverged slightly, 3 absolutely agree, 8 agree, 10 are not sure and 1 disagree. While 3 people are not sure if the software has a cloud system that makes data and software available online anytime, anywhere and from any device, 8 people agreed and 11 strongly agreed. 21 people think their data is safe and only 1 is not sure. A similar ratio of agreeable and unsure experts in the latter claim that users can control the level of access for other third-party users.





(source: own processing)

4.4.3.3 User Friendliness criteria

Another important criterion for choosing accounting software for a company is user friendliness of it. As the figure number 21 shows that users of the accounting software provided by Oracle absolutely agree and tend to agree that the company has effective documentation standards, only 2 are not sure. Points of view differed on the assertion that the training program is long and complex, which in turn is not cost-effective. 1 absolutely agree, 7 are not sure, 7 disagree and 7 absolutely disagree with this statement. However, most specialists agree that it is easy for them to learn how to use accounting software. Absolutely all respondents are satisfied with Oracle NetSuite and all, but 1 respondent agree that the software has improved manufacturing efficiencies.

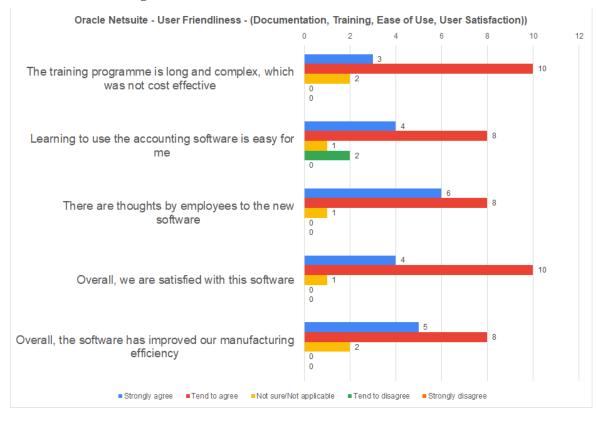


Figure 21 User friendliness criteria results of Oracle NetSuite

(source: own processing)

4.5 SAP Business One

SAP Business One is a SAP ERP system specially designed to meet the needs of small, medium and large-sized businesses. The solution provides end-to-end management of key business functions in a single integrated environment.

The SAP Business One standard solution includes: functional modules, user interface, reporting tools, SAP services and additional developments, as well as online help, specialized user documentation, online training for end users and other information materials (Lewis, et al., 2017).

4.5.1 Functionality packages and licenses

SAP does not list prices for SAP Business One ERP on its website. However, from the company's partners, third-party implementation consultants, perpetual licenses cost about \$ 3,200 for professional users and approximately \$ 1,700-1800 for limited users. Bug fixes, updates, and fix releases are billed for a separate annual maintenance fee (Leveragebusinessone, 2020).

Subscription licenses are priced at \$ 94 per professional user per month or \$ 54 per limited user per month. The subscription price includes one year maintenance and requires a one year commitment.

The starter pack costs \$ 39 per user per month with a one-time payment of \$ 1,357. This includes accounting, sales orders, item management, and purchasing, but not service or manufacturing (Leveragebusinessone, 2020).

Pricing from third-party consultants may vary.

4.5.2 Financial modules

The structure of SAP Business One is a collection of modules. The modules combine operations specific to individual business lines of the company: Purchasing, Sales Opportunities, Sales, Service, Assembly, Calculations, Finance, Business Partners, Inventory, MRP, Human Resources and Administration. Functional modules are integrated. This means that the transactions performed, for example, in the Purchasing module are reflected in the financial statements, in warehouse accounting and MRP. SAP Business One system consists of the following modules (Veeriah, 2018):

Finance and accounting. SAP Business One solution allows to manage all financial transactions. Creates financial statements for profit and loss, cash flow and debt maturity. Accounting in the context of financial reporting centers (CFD), the distribution of indirect costs by profit centers, the formation of financial reports for projects or in the context of CFD. Main functions which this module provides are (Veeriah, 2018):

- *Accounting.* Automation of basic accounting processes, such as working with transactions, as well as accounts receivable and payable.
- *Controlling.* Cash flow management, asset tracking, budget control and project cost monitoring all with the utmost precision and efficiency.
- *Fixed asset management.* Simplify asset management with a virtual function that eliminates the need for multiple manual data entry.
- **Banking and reconciliation.** Accelerated processing of all reconciliations and bank statements, as well as various payments using checks, cash and bank transfers.
- *Financial reporting and analysis.* Create standard or custom financial reports based on up-to-date data to optimize business planning and auditing processes.

CRM. Customer Relationship Management (CRM) system provides you with complete transparency of interaction with customers and the ability to fully control the transaction: from

the moment of the first call, to the signing of the contract and shipment. Recording complete information about the activities of customers and partners (for example, contact source, customer card, expected deal amount, estimated deal closing date, etc.) allows you to manage sales opportunities and generate sales forecasts and expected revenue by period. The solution allows you to evaluate the effectiveness of ongoing marketing campaigns by analyzing the dependence of the number of customers in the context of the sources of their appearance (Veeriah, 2018).

Sales. The functionality of SAP Business One allows you to rationally build the flow of documents, according to the specifics of your business processes. Organize control and access for individual managers.

Warehouse management. The solution will allow you to optimize the processes of several warehouses, manage stocks, and track movements. Picking and packing activities can be triggered from the sales process. Accounting is available in several units of measure for one item. Various options for working with products with serial numbers are supported.

Production Management. Full planning and management of assembly production: maintenance of multi-level specifications, formation and execution of production orders, control of the availability of products and materials in warehouses, calculation of the actual and planned cost of products

Purchasing. Automation of procurement activities: from placing an order to receiving goods and paying invoices; from vendor offer comparisons to sales and debt management. Control of additional costs at the time of admission and received later. Management of outgoing payments and accounts payable (Okungbowa, 2015).

Material Requirements Planning. The user can quickly receive recommendations on the formation of production orders and purchase orders, based on such system data as the required minimum level of warehouse balances, the state of warehouse stocks, the presence of current orders, etc. Built-in planning methods allow you to extract demand data, match it to supply, and calculate material requirements when forecasting sales.

Service. Complete and timely tracking of the passage of applications for warranty and post-warranty service, tracking the execution of orders for service. Service requests are supported with or without a product, for example, for technical support. Activities within the process are automatically reflected in the CRM module.

Reporting and analytics. As an analytical tool, SAP Business One uses the SAP HANA platform, the leading real-time in-memory computing platform. The SAP HANA

platform allows to process a huge amount of data in real time, while the execution of operations, reporting and analytics are parallel processes (Lewis, et al., 2017).

4.5.3 Survey outcomes with SAP Business One

Of all the respondents who participated in the survey, 15 people from 4 different companies answered that their organizations use software provided by SAP. The survey participants noted that they are quite satisfied with the software and their companies do not think about changing it to another at this time. Most of those surveyed hold positions such as junior / chief accountant, financial analyst, and finance specialist.

4.5.3.1 Content criteria

The last accounting software of the 3 most dominant in the survey is provided by SAP company SAP Business One. In terms of content criteria, this software is not inferior to the previous two, but it should be taken apart in detail, shown in the figure number 22 below.

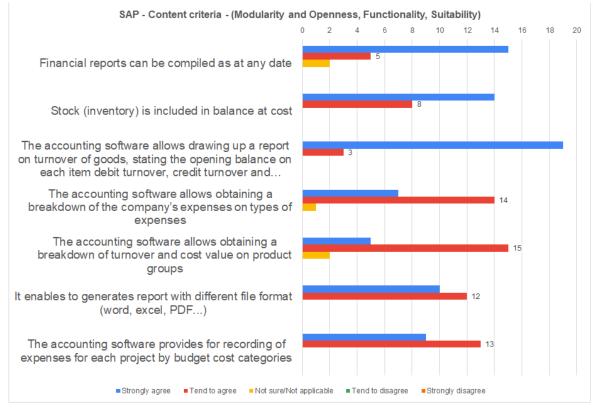


Figure 22 Content criteria results of SAP Business One (part 1)

(source: own processing)

The above figure number 22 contains data on content criteria collected from respondents using SAP Business One accounting software. The results of the responses are similar to the previous software from Oracle. SAP Business One meets all the requirements regarding this criterion:

- Financial reports can be prepared for any date
- Inventories (inventories) are included in the balance sheet at cost.
- The accounting program allows to compile a report on turnover with an indication of the opening balance for each item of debit turnover, credit turnover and closing balance.
- Accounting software allows to get a breakdown of a company's expenses by type of expense.
- The accounting program allows to get a breakdown of turnover and cost by product group.
- Allows to create reports with different file formats (word, excel, PDF ...)
- The accounting program allows to keep track of costs for each project by categories of budget costs.

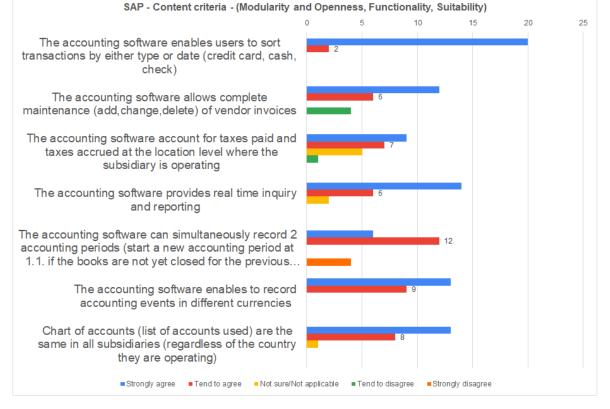


Figure 23 Content criteria results of SAP Business One (part 2)

(source: own processing)

The second part is shown in the figure number 23 above. SAP Business One allows users to sort transactions by type or date. In addition, 14 out of 16 respondents noted that the software allows to fully maintain supplier invoices. Similar answers in the next statement that the software takes into account the taxes paid and assessed taxes at the level of the location in which the subsidiary operates, however, if in the previous 2 they completely disagreed, then in this case 2 disagree. SAP Business One accounting software provides real-time queries and

reports, 1 respondent disagrees. In the statement about the possibility of simultaneous recording of 2 reporting periods, opinions were divided, 1 absolutely agree, 8 agree, 2 are not sure and 4 absolutely disagree. SAP Business One supports multi-currency entry for accounting events. All but 1 respondent agreed with the last statement that the chart of accounts is the same in all subsidiaries.

4.5.3.2 Technical criteria

The technical characteristics of the SAP Business One accounting software inspire confidence. But it is still desirable to consider the answers of specialists who participated in a specially compiled survey. On the first part of the questions which are shown in the figure number 24 below, opinions were divided. In the first statement that the software interface is not intuitive and difficult for people poorly versed in computers, there were 2 who agreed, 3 were not sure, 7 did not agree, and 3 did not agree at all. 5, and absolutely disagree 2. 5 respondents agree that the supplier is not responsible for the problems that have arisen, but 7 disagree with this and 3 are not sure about the answer. Only 2 experts believe that the system does not function as promised by the supplier, 8 are not sure and 5 do not think so. There were most of those who were not sure that some of the purchased modules were never used in the company, there are 10 of them, there are 2 who agree with this, and there are not so many disagreeing ones either, there are 3. In the last 2 statements, opinions were significantly divided. The system is difficult to maintain and update, 1 respondent absolutely agreed with this, 5 agree, 6 are not sure and 3 disagree. 2 people absolutely agree that their company provides the right hardware required for accounting software, 7 agree, 4 are not sure with the answer and 2 disagree.

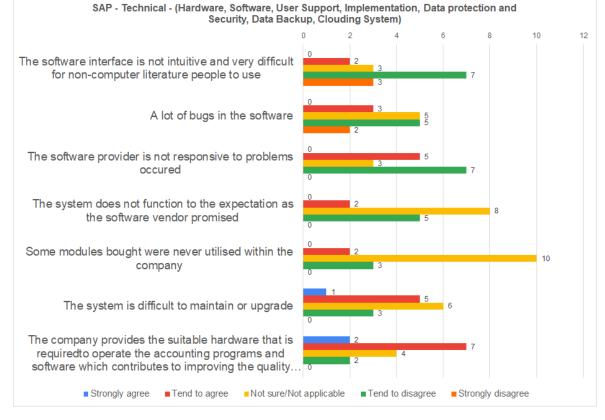


Figure 24 Technical criteria results of SAP Business One (part 1)

(source: own processing)

In the second part shown in the figure number 25, the answers are dominated by red and not at all green and orange, which means that the respondents agreed with many of the statements and there is not a single one who disagrees and does not agree at all. 12 people in total agreed and absolutely agreed with the fact that accounting software provides the means of an automated system interface but were not sure 3. 13 respondents believe that the software provides an opportunity to print and scan reports, 2 are not sure. Almost a similar situation with the following statement, the software makes it possible to work remotely, 14 agree and absolutely agree, 1 not sure. Absolutely agree and not sure that the software has a mobile version of 6 people, 3 for each answer, and agree with the already mentioned statement. While 1 respondent is not sure that his data is safely stored outside the site, 14 people agree that their data is safe. The same response ratio is found in the last statement that users can control the level of access to view the data.

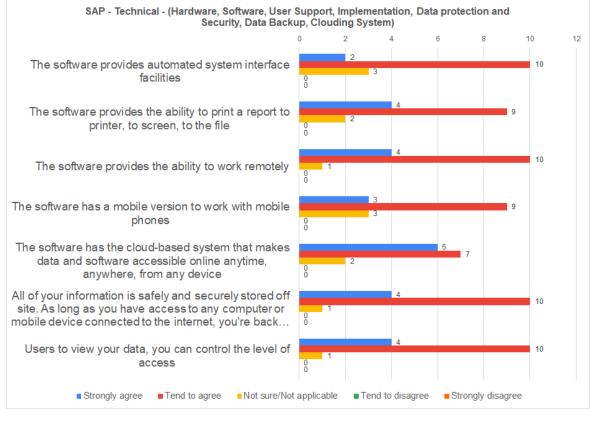


Figure 25 Technical criteria results of SAP Business One (part 2)

(source: own processing)

4.5.3.3 User friendliness criteria

There are slight differences of opinion on the "user friendliness" criterion that need to be discussed in more detail. Results in the figure number 26 shows that with the statement that the company has effective documentation standards agree and strongly agree 13 respondents and are not sure about it 2. The majority, 13 respondents agree that the training program is long and difficult, 2 are not sure about the answer. But as in the results of 2 previous accounting software, most, and this is 12 people agree that learning accounting software is easy for them, 1 not sure, 2 disagree. The users of this software basically answered that employees think about switching to a new software, 1 respondent is not sure of the answer. 14 people agreed that they were generally satisfied with SAP Business One, and 1 was not sure. 13 people agreed and absolutely agreed with the last statement that the software in general caught their manufacturing efficiency, the remaining 2 are not sure.

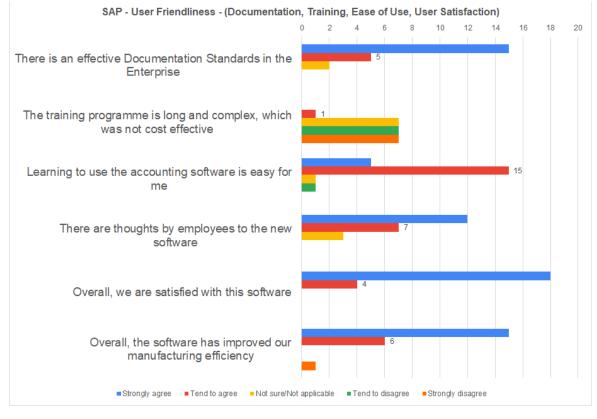


Figure 26 User friendliness criteria results of SAP Business One

(source: own processing)

5 Results and Discussion

This part of diploma thesis deals with the analysis of the results of the practical part, where the answers obtained through the survey were considered in detail. The questionnaire was designed to identify and select the best or most suitable accounting software for an international company. The questionnaire compiled was an auxiliary element to determine the compliance of the accounting software with the criteria, such as content, technical and user friendliness, which were determined by the author.

The survey was dominated by three major accounting software, Microsoft Dynamics GP, Oracle NetSuite and SAP Business One. Therefore, these were chosen for comparison and identifying one of the most suitable software, not only by the previously mentioned criteria that users answered, but also by the available modules, the prices of packages and licenses, the presence of a cloud system and the possibility of data backup.

5.1 Comparison of assessed accounting software

Based on the most important information about all three accounting software, which was provided and considered in sufficient detail in the theoretical part, and on the analysis of the answers of the respondents who participated in the survey, a comparison was made. For clarity, figure number 27 was compiled, which is located below. For better comparison, additional factors have been added such as customization, supported languages, system updates, and supported platform.

In the accounting software market for international companies, the choice is quite large. When choosing the right software, management of the company should pay attention not only to the "popularity" of the product, but also if the software is suitable for the size of the business. The reason for this is simple, some software is easy to use in large corporations, but sometimes the same software is difficult to implement in small businesses. As shown in the first row of the table shown in figure number 27, Microsoft Dynamics GP is recommended for small and medium-sized companies, in comparison, Oracle NetSuite and SAP Business One can be implemented in businesses of any size. This may be an advantage, but this criterion is not so important when choosing the right software for a company.

The availability of the requested modules is one of the important criteria when choosing the right software. Requests for modules can vary according to the needs of a particular company. If compare the modules provided by Microsoft, Oracle and SAP, all three have almost the same modules. However, there are some differences. Microsoft Dynamics GP has quite an extensive list, which cannot be said about the other two, so it may seem at first glance. The list provided by Oracle NetSuite may seem sparse, but it is not, because each of these modules includes submodules necessary for accounting operations. When comparing the modules, all of them have main ones like accounts payable, accounts receivable, general ledger and so on. It is worth noting that all three provide multi-currency management, which means that the software can work in several currencies, convert currencies, compose, and send reports in several currencies, which, according to the author, is an important aspect for an international company, for obvious reasons. If talk about the differences in the modules, then the SAP Business One accounting software does not have a payroll module. This means that if a company buys a SAP Business One, then they will have to contact an outsourcing company that will assume this responsibility, which will lead to additional costs. And so, based on all of the above, software provided by SAP company is slightly inferior to its competitors.

When the cloud-based features of all three software are examined, Microsoft Dynamics GP has a cloud option provided by a vendor-authorized by Microsoft. Remote users can access all the functions of Dynamics GP through Terminal Services or Remote Desktop Protocol. However, Oracle NetSuite is a true cloud solution. It is sold in the form of SaaS (software as a service). Another software, SAP Business One provides flexibility and can be provided locally on the user's own company server or a public cloud with shared servers. Customers can be using SAP Business One via the cloud need Citrix XenApp Edition or Windows Terminal Services to access the software from Windows-based workstations.

Considering the differences in hosting features in the three software based on this information, Microsoft Dynamics GP is more traditional and limited in terms of accessibility. On the other hand, this feature is more advanced in the other two software. SAP software can be on-site and cloud-based. This means that the company will need some hardware for this software. The last one, Oracle NetSuite has a fully cloud-based system. The company does not need any hardware or server, and no need to download anything to the desktops. This means it is just necessary to have an internet connection, a web browser and login details. However, this can be considered as an advantage or a disadvantage in line with the needs and purposes of the companies.

The price of potential accounting software is another important criterion that should not be ignored. The prices of all three software differ and consist of different add-on boards. Some suppliers or third parties, official representatives, do not indicate the price on the sites, explaining this by confidentiality. Despite this, the author managed to find a small but relevant information. It is obvious from the table that the most expensive software is SAP, where a license for a professional user is \$3200, and \$1700-1800 for limited use. But compared to Microsoft GP, the subscription price is significantly lower, at just \$94 per month for a professional user and \$54 for a limited user. Oracle has a subscription fee of \$999 for a starter license and the service fee is \$99 per user. The purchase of software depends to a large extent on the financial capabilities of the company.

In the system updates criteria, the company which has Microsoft Dynamics GP can make a decision on their own, as it is on-premise software. This situation is valid in SAP Business One, can be planned and deployed by the company. But the process can be longer than expected for the company. Since Oracle NetSuite is truly cloud-based, any changes are made automatically, meaning you may quickly run into changes.

Three software with customization criteria, all of these provide users with the ability to add custom fields and manage their interface. In SAP Business One and Microsoft Dynamics GP, direct code editing limits the user's ability to update the system and apply bug fixes. They need a separate custom tool (Microsoft Visual Studio), and even small changes often require professional services. Although these two software companies cannot allow the company to easily expand in response to changes in demand, NetSuite provides a highly flexible and customizable environment in which changes can be made quickly. NetSuite allows users to easily make adjustments using pointing and motion functions. No need to click to code editing to directly customize the form, record, and visual interface. This is a huge benefit of Oracle NetSuite with customization criteria. On the other hand, Microsoft Dynamics GP can be easily integrated with Microsoft productivity tools such as Microsoft Office, Microsoft SharePoint, and SQL Server databases. For companies using such tools, this will be an advantage.

With the ease-of-use criteria, Microsoft Dynamics GP is not as flexible as other software. Most international companies need flexibility to be able to make changes on the software. Oracle NetSuite allows doing this. With appropriate security rights, it is possible to add as many fields as it is necessary in Oracle NetSuite. All these fields must be reported and can also be called for import it, custom fields with pins can be added to demonstrate ease of use. But in Microsoft Dynamics GP, you cannot add fields on it. a third-party product or a development background is needed to do so. SAP Business One has in-depth capabilities that might be more than small and medium size business needs.

Supported languages, one of the criteria to be considered. Everyone knows that most international companies use English for communications and all the three software support it. But as visible from the table, there is one that stands out clearly and this is Oracle NetSuite. Oracle NetSuite supports 12 languages, which makes it a leader in this criterion.

The ability to run on different operating systems and devices can be considered an important criterion. Companies can use different operating systems, users on their personal devices can use a completely different one. If the software is supported on only one platform, such as Microsoft Dynamics GP, this can lead to certain inconveniences. Oracle NetSuite and SAP Business One are more functional in this matter and do not force their customers to switch to a specific operating system. From this point of view, Microsoft GP is significantly inferior to its competitors.

Training is just as important for users as it reduces operational issues and saves time. This question was asked to respondents in the survey and considered in the practical part. All reviewed accounting software provide live or online learning opportunities, but respondents find Microsoft Dynamics GP and SAP Business One learning program to be more complex and time-consuming than Oracle NetSuite.

	Microsoft Dynamics GP	Oracle NetSuite	SAP Business One		
Business size	Small and medium-sized	Small, medium, large-sized	Small, medium, large-sized		
Busiliess size	organizations.	companies.	enterprises.		
	\checkmark Analytical Accounting	✓ General Ledger	✓ Accounts receivable		
	✓ Bank reconciliation	✓ Accounts Payable	✓ Accounts payable		
	✓ Cash Management	✓ Accounts Receivable	✓ Cash flow management		
Modules	✓ Collection Management	 ✓ Financial Planning and Budgeting 	✓ Asset tracking		
	✓ E-Banking	 ✓ Revenue Recognition Module 	✓ Budget control		
	✓ Fixed asset management		✓ Fixed asset management		
	✓ General ledger		✓ Banking and reconciliation		
	✓ Grant Management		 ✓ Financial reporting and analysis 		
	✓ Multicurrency		-		
	Management				
	✓ Accounts Payable				
	✓ Accounts Receivable				
Hosting	On-premise or terminal services	Cloud-based	Cloud-based and on-premise		
Pricing	<u>Data installation fee:</u> \$2495	<i>Subscription fee:</i> from \$999 for a base license.	Perpetual licenses cost: ~ \$ 3,200 for professional users and ~ \$ 1,700-1800 for limited users.		
	<u>Subscription fee:</u> \$214/month per designated user, and \$239/month for Dynamics GP Extended Pack users	<u>Service fee:</u> \$99 per user	<u>Subscription fee:</u> \$ 94/professional user/month \$ 54/limited user/month		
	GP 2019 October release and later — free service pack				
System updates	updates. Earlier GP versions — manual upgrades.	Phased releases automatically installed in the Cloud.	Planned and deployed by your business.		
Customization	Tailor fields, forms, views and workflows. Synchronize and integrate with other Microsoft business applications.	Choose and add relevant fields in the database and tailor forms, records, and performance indicators.	Choose and add relevant fields in the database and amend code.		
Ease of use	Uses built-in tools and integrates with other MS business applications.	NetSuite dashboard allows users to choose and view key information, based on roles.	In-depth capabilities might be more than smaller businesses need.		
Languages Supported	English	English, Chinese, German, Japanese, Spanish, French, Russian, Italian, Dutch, Portuguese, Turkish and Swedish	English		
Available Devices	Windows	Windows, Android, Iphone/IPad, Mac, Web-based	Windows, Linux, Android, Iphone/IPad, Mac, Web- based		
End-User Training	Live and/or online training by third-party providers	Live and/or online training available by NetSuite training department and by partners	Live and/or online training by third-party providers		

Figure 27 Comparison of assessed accounting software

(source: own processing)

5.2 Advantages and disadvantages of the assessed accounting software

All the basic necessary information on all three selected accounting software has already been provided in the practical part of the thesis. Also, in the previous Chapter 5.1 Comparison of assessed accounting software, the software was compared according to the selected parameters using a special table in figure number 27 which was built for clarity. Based on all the above facts, this part discusses the pros and cons of each software.

Microsoft GP

The main advantages of Microsoft Dynamics GP are comprehensive reporting and analysis, general ledger, performance and integration, and scalability.

<u>Reporting and Analysis</u>. MS Dynamics GP utilizes powerful reporting features, including tables and graphs inside and outside the system. Users can easily track and trace information using attachments such as pictures, contracts and invoice copies as evidenced by the results of the questionnaire in the figure number 12. Microsoft Dynamics GP can also be used to effectively optimize the reporting process, project plans and expense reports at the end of the year.

<u>General Accounting</u>. Microsoft Dynamics GP uses a double book that can support 999 periods to record general journal entries. The system simplifies accounting tasks by using realtime statistical history records to automate routine and complex accounting tasks. Controlling, arranging payments and printing receipts is simple and accurate. The other important function of the system is to fully control the accounts receivable by automatically simplifying invoices, receipts, financing costs and reports. Create invoices, create return checks, use vendor records to instantly export information between accounts receivable and accounts payable, and use multiple currencies to track multiple budgets in multiple fiscal years and general ledger accounts.

<u>Performance and integration.</u> The software can be easily integrated into MS Office and other popular Microsoft business tools, such as Microsoft SharePoint and SQL Server. The system can be accessed from a variety of devices and locations, allowing greater flexibility. The server is processed to avoid computer delays and shutdowns, which greatly improves performance. In addition, Microsoft Dynamics GP makes it easier for employees to collaborate, especially task assignment and management.

<u>Scalability.</u> Microsoft Dynamics GP can be used via desktop (client-server) or cloud services, depending on the IT infrastructure and budget range. Its appearance and function can

be customized through coding. With Visual Basic, you can add new fields, modify global resources to affect the entire application, and add code for less complex business logic.

Software interface. When discussing the shortcomings of GP, many companies still do not understand the needs for ERP software. Microsoft Dynamics GP is complex and reliable software, and some small businesses are not ready to use them. The life cycle of Microsoft Dynamics GP seems to be overwhelmed, especially when using all the different tools it provides. For example, the report function is very powerful, but because all options are available, it is difficult to find the report you need. Users think the software interface is not intuitive enough as it is evidenced in the figure number 14. Therefore, in most cases, software training is necessary. In most cases, it is complex software that requires training.

Another disadvantage is that some companies are still not utilizing the cloud computing opportunities. In this case, Microsoft Dynamics GP may not be suitable for company.

Oracle NetSuite

The main advantages of Oracle NetSuite are easy-to-use of tax management solutions, comprehensive payment and account management functions. As financial and accounting software, Oracle NetSuite tools support daily business and provide information on how to maximize profits.

Tax management. NetSuite supports global tax calculations and takes into account global exchange rates and multiple currencies. As a customizable tax mechanism, the platform provides detailed reports that can analyse transactions through to tax item information, and effectively simplify global tax compliance, thereby saving time and resources. In addition to tax automation, also market access to SuiteApps can be gained and its innovative third-party solutions so that allows users seamlessly integrate with third-party tax solutions.

<u>Comprehensive payment management.</u> Through the opportunities of integration, Oracle NetSuite's SuitePayment centralizes, simplifies, and optimizes all payment needs. Whether user accepts payments or pays unpaid bills, the precise integration of this accounting software allows user to access payment-related information in real time. Other benefits include multiple payment methods, from credit cards to debit cards to cross-border transactions with multi-currency capabilities.

<u>Complete account management</u>. Oracle NetSuite simplifies the collection, processing and payment of invoices from accounts receivable to accounts payable. The NetSuite invoice solution can automate payment processing and control to improve reconciliation and billing. Additional accounts receivable solutions ensure user's financial discipline and provide convenient self-service for customers to obtain real-time information about orders, inventory, and payments.

<u>Maintenance and upgrade</u>. According to the results of the questionnaire, only one minor disadvantage was mentioned by 3 users in the Figure number 19, and it is related to the upgrades and maintaining. The support setup process is very complicated. This requires proper service and support from the Oracle NetSuite service provider. Oracle NetSuite partners ensure that this will not burden the company. They immediately provide an additional source of support. Normal settings are not involved here. This is only the case when the company is looking for more and more complex customizations.

<u>Subscription pricing</u>. Since the system is located on the cloud platform, Oracle NetSuite develops an annual subscription plan based on the number of users and accounts. As the number of users and accounts increases, this also leads to higher ERP maintenance costs. However, compared with the future results and costs of traditional methods of data storing, it is worth investing in this cost.

Extra payments for additional modules and Oracle SuiteApps. Oracle NetSuite provides two functional improvements each year. When companies are looking for advanced features, they can choose SuiteApp. This can provide more opportunities for business activities. Since these are add-on components, additional purchases of some modules require additional investments. Despite the mentioned shortcomings of Oracle NetSuite, it continues to be a reliable source in providing companies with complete ERP solutions and has always helped to elevate the business to a new level.

SAP Business One

The main advantage of SAP Business One lies in its wide range of functions, versatility, and custom functions. The details are as follows:

<u>Optimize user's operations.</u> SAP Business One centralizes all user's key data and processes to make finance, management, and operation management smoother. As a single system for accounting, CRM, purchasing, inventory management, and reporting and analysis. Almost no internal resources are needed. Any authorized person can quickly access the required data or share information with other computers in the system.

<u>Transparency in process.</u> With SAP Business One user can track all processes in one place. The data is updated in real time and synchronized with each other. equipment. This option can increase transparency. Key personnel know that they can quickly access and evaluate the accuracy of report.

<u>Manual error avoidance</u>. Automation and integration ensure that data integrity is maintained, and manual error is avoided. The result is more accurate forecasts and information, thereby improving business efficiency.

However, SAP Business One has several disadvantages which are listed below.

<u>Perception is too complicated.</u> Since SAP as an ERP solution has always been associated with large or Fortune 500 companies, it is generally believed that the system may be too complicated and meaningless for small companies.

Lack of flexibility in choice. Small and medium enterprises are very picky about spending money. In SAP Business One, the company cannot choose only the needed modules or functions. They must accept it as it is. The only option provided by SAP is to remove the CRM function at the company's request.

Lack of payroll module. Payroll is not part of the SAP Business One solution, so it must be purchased from a third party. Worst of all, companies must always maintain business process integration between the two products.

5.3 Specific selection criteria for an international company

The usual accounting software selection criteria still apply, but for an international company there are some specific criteria which has to be considered.

The usual criteria for selecting accounting software still apply, but for an international company, some specific criteria need to be considered.

<u>Using a multicurrency system.</u> This is an important criterion because it automates many of the time-consuming and error-prone procedures required to run an international company. With the help of a multicurrency system, organizations are able to minimize errors and confusion for themselves and their partners through automatic rate conversion. Also, built-in exchange rate calculators eliminate the need to calculate and manually enter values from transactions, purchase orders, calculations, and reporting period end dates, which means time savings. According to the questionnaire results provided in practical part, all three considered accounting software meet this criterion.

<u>Multilingualism</u> is another important aspect that should be taken into account by accounting software developers and international companies buying the product, given the diversity of the workforce. Most often, international companies are multilingual. Despite the fact that in such an environment English is the official language for communication, according to the CSA research, it is still easier for people to perceive information and use software in their

own language. From examined accounting software only one meets multilingualism criteria, and it is Oracle NetSuite.

<u>Clouding system</u> is the third most important criterion when choosing the accounting software for the international companies. Cloud-based accounting software means that it does no longer need to worry about maintaining spreadsheets or installing software on the local computer. The cloud allows users to log in to company account wherever there is an Internet connection. After login, users can start working immediately. According to the results and discussion part of this diploma thesis, Oracle NetSuite has the most effective cloud system for the companies.

The next and last important criterion is the *localization of the tax system*. Sales tax billing is the basic information that needs to be included on every invoice. The details of sales taxes like rates and even names can vary by country. To obtain the correct name and sales tax rate, companies of all sizes need to use accounting software adapted for different countries. Also, different countries have different deductions, and companies will only be able to apply these deductions if they use localized accounting software. Of all three accounting software, only Oracle NetSuite has a localized tax system.

6 Conclusion

The main aim of the diploma thesis was to assess the currently used accounting software in selected international company, Crown Worldwide, on the basis of three selected criteria such as content, technical and user-friendliness. Furthermore, partial aim was to compare all three accounting software, according to the results of the questionnaire with the assessment of two other accounting software by their users from different companies.

Automation of accounting in an enterprise and preparation of financial statements for tax authorities is one of the most important tasks.

At the present stage, there is a large selection of different software for accounting. All of them are effective and a competent management leader should take into account the field of activity, size, resources, tasks of the organization, must choose the most suitable one for the given enterprise. This process is important and necessary, since the solution of the problems of improving management is associated with the development of automated information technologies and the creation of automated information systems at enterprises, organizations, firms, covering the entire range of management functions.

There are many different criteria that depend on the needs of the company, but there are 3 main ones that must be taken into account at all times and for a business of any size. The first criterion is content, which includes modularity and openness, functionality, and flexibility. There are two capabilities of functionality such as customization and existence of multicurrency system. The second is technical criterion, which includes requirements for technical equipment, user support, implementation, data protection and security, data backup, and cloud system. The third criterion is user-friendliness, includes documentation, training, ease of use, and user satisfaction.

All three accounting software, Microsoft Dynamics GP, Oracle NetSuite and SAP Business One, which were selected for comparison, are quite effective and have their pros and cons. Based on the results of the questionnaire, all of the listed software are good enough, but Oracle NetSuite leads on all three criteria. Based on the author's own comparison in part number 4 "Results and Discussion", where the software were compared on several additional criteria such as price, supported languages and devices, it became apparent that Oracle NetSuite accounting software has more advantages than its other competitors. The advantage of this software is that it meets more basic and additional criteria.

When automating accounting, it is important to not just transfer all paperwork to a computer. It is important that this increase the efficiency of the accounting department and

improve control over the financial and economic activities of the enterprise, which in turn will increase the efficiency of enterprise management, and, as a result, the efficiency of its work.

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Appendix

I. About your company

- 1. Your Company Name:
- 2. Business Activity:
- 3. What's your Position and Department?
- 4. How many employees are there in your company?
 - a) 1 500
 - b) 501 1000
 - c) 1001 2500
 - d) 2501 5000
 - e) 5000+
- 5. How long you have been working for your company?
 - a) 0 1 year
 - b) 2 years
 - c) 3 years
 - d) 4 years
 - e) 5+ years
- 6. Is your company currently using/selecting an accounting software?
 - a) Yes, we are using one, don't want to change it
 - b) Yes, we are using one, thinking about buying a new one

c) Yes, we are using one, but we're buying a new one and now at the software selection stage

- d) No, we don't have one but we are at the software selection stage
- e) No, we don't have one but might have one in the future
- 7. What's the name of the accounting software that your company currently using?
- 8. In case if you are buying a new one please write it here the name of the selected software
- 9. How many users/persons are there in your department?
 - a) 1 25
 - b) 26 50
 - c) 51-100
 - d) 101 250
 - e) 250 +

II. Your Experience With The Accounting Software

(1=Strongly agree, 2=Tend to agree, 3=Not sure/Not applicable, 4=Tend to disagree, 5=Strongly disagree)

0		1	2	3	4	5
Content criteria - (Modularity and Openness, Functionality, Suitability)	Financial reports can be compiled as at any date					
	Stock (inventory) is included in balance at cost					
	The accounting software allows drawing up a report on turnover of goods, stating the opening balance on each item debit turnover, credit turnover and closing balance					
	The accounting software allows obtaining a breakdown of the company's expenses on types of expenses					
	The accounting software allows obtaining a breakdown of turnover and cost value on product groups					
	It enables to generates report with different file format (word, excel, PDF)					
	The accounting software provides for recording of expenses for each project by budget cost categories					
	The accounting software enables users to sort transactions by either type or date (credit card, cash, check)					
	The accounting software allows complete maintenance (add,change,delete) of vendor invoices					
	The accounting software account for taxes paid and taxes accrued at the location level where the subsidiary is operating					
	The accounting software provides real time inquiry and reporting					
	The accounting software can simultaneously record 2 accounting periods (start a new accounting period at 1.1. if the books are not yet closed for the previous year)					
	The accounting software enables to record accounting events in different currencies					

-		1		<u> </u>
Technical - (Hardware, Software, User Support, Implementation, Data Protection and Security, Data Backup, Clouding System)	The software interface is not intuitive and very difficult for non-computer literature people to use			
	A lot of bugs in the software			
	The software provider is not responsive to problems occurred			
	The system does not function to the expectation as the software vendor promised			
	Some modules bought were never utilised within the company			
	The system is difficult to maintain or upgrade			
	The company provides the suitable hardware that is required to operate the accounting programs and software which contributes to improving the quality of accounting information and reports			
	The software provides automated system interface facilities			
	The software provides the ability to print a report to printer, to screen, to the file			
	The software provides the ability to work remotely			
	The software has a mobile version to work with mobile phones			
	The software has the cloud-based system that makes data and software accessible online anytime, anywhere, from any device			
	All of your information is safely and securely stored off site. As long as you have access to any computer or mobile device connected to the internet, you're back up and running			
User Friendliness - (Documentation, Training, Ease of Use, User Satisfaction)	There is an effective Documentation Standards in the Enterprise.			
	The training program is long and complex, which was not cost effective			
	Learning to use the accounting software is easy for me.			
	There was great resistance by employees to the new software			
	Overall, we are satisfied with this software			
	Overall, the software has improved our manufacturing efficiency			