

## **STUDY REGARDING THE USE OF MICROSOFT EXCEL SOFTWARE BY PEOPLE WITH HIGHER ECONOMIC STUDIES**

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**Abstract:** This paper presents a study on the extent to which people with higher economic studies use on their workplaces organizational tools, statistical processing and basic analysis of the data which spreadsheet application offers: consolidating multiple lists, filtering, running sum, pivot tables, diagrams for estimating trends and relationships, comparing alternatives for optimal decision.

### **1. INTRODUCTION**

The data, in their basic form, are to be found in different documents, records, lists from the company's activity (for example, lists of expenses, records of the individual sales, the number of items in each assortment of inventory). In order to be used effectively in the economical activity, they must be organized and processed. [1]

Microsoft Excel software offers several techniques and tools for organizing, processing, analysis and presentation of the basic data, such as: consolidation of multiple lists, filtering, subtotalization, pivot tables. There can be performed complex calculations, data lists can be efficiently processed, suggestive reports and charts can be created. Data can be retrieved quickly, due to their organization in the form of spreadsheets. Thereby, all the worksheets related to a customer, a supplier, a particular project may be suggestively called and stored in a single worksheet, necessary information is quickly located. It is also very easy to enter data into a spreadsheet and then be altered, removed or added to other data.

Microsoft Excel software offers the possibility:

- database management, and could enter, validate, edit, sort, filter, totalize different types of data;
- carrying out mathematical calculations, statistical, financial complex;
- preparation of reports, with different levels of detail, using data from multiple spreadsheets or register;
- realization of diagrams for visual representation of data and their relations with other data.

Microsoft Excel software has the status of standard in spreadsheet software. Being integrated in Microsoft Office, raw data and processing results can be transferred between all Office components, which is an important advantage.

### **2. DATA ANALYSIS AND INTERPRETATION**

Following a previous study, an approximately 350 companies and institutions in the west area of the country, we concluded that the existing spreadsheet software, the most used software is Microsoft Excel. We continued the study to see to what extent are used by people who have graduated from university economic studies, tools for organizing, processing and analyzing statistical data that provides Microsoft Excel software.

To collect the necessary information we compiled a questionnaire which was distributed to university students in master's cycle, in economics, from University of Oradea, using Microsoft Excel software. Most university students from master cycle have a job in state institutions and private companies, in the west area of the country, being involved in economic activities. They were asked to give for completing the questionnaire to other

colleagues, economic university graduates, from the company where they work and use Microsoft Excel software. So we obtained information regarding the knowledge level of using Microsoft Excel software, held by economists and the importance that managerial staff of institutions and companies grant to improve their knowledge.

Of the 550 questionnaires distributed, 447 were completed and used for analysis, resulting a response rate of 81.27%. persons who have completed the questionnaires come from 197 institutions and private and public companies.

The questions were grouped as follows:

1. Questions related with the company's size.  
The companies were structured as follows:
  - small companies – up to 20 employees;
  - medium-sized companies – between 21 and 100 employees;
  - large companies – with more than 100 employees.
2. Questions related with compartment/department in which they work, the position they hold in the company.
3. Questions related with the complexity of the situations and reports they must perform at work.
4. Questions related with the economical activity data analysis that they do at their work place.
5. Questions related with the extent to which they use in organizing, processing, presentation and analysis data of Microsoft Excel software.
6. Questions related with the complexity of processing performed by Microsoft Excel software, of the tools for organizing, processing and data analysis given by Microsoft Excel software and used in evolving the activity.
7. Questions related with other software used, besides Microsoft Excel software, in organizing, processing and data analysis activity.
8. Questions related with the importance the management staff employees attach to improving the use knowledge of Microsoft Excel software.

The first aspects taken into consideration were those related to the usability of Microsoft Excel software compared with other "working reports" software applications type purchased or made by computer programmers employed in that firm or institution.

Collected data showed that:

- In small business case 81.36% from the users of Microsoft Excel software use, as well, "working reports" type software applications purchased. In these companies case:
  - Microsoft Excel software is mainly used because of the cursory knowledge use, more to keep a record of data as electronic worksheet. There are used only simple calculation formulas and sum function. Using the situations obtained, we compare current month data with previous month data and we decide what to do next month.
  - For organizing, complex processing and analyzing data are used purchased "working reports" type applications software. In small business case, in general, there is no specialized personnel, employed for realizing software applications. Therefore, the necessary software is purchased.
- In medium – sized companies case, 84.85% from the ones that use Microsoft Excel software, use also "working reports" type software applications. Some of the medium – sized companies have computer staff employees, in their work attributions they enter and realize such applications.

- Large companies, in general, don't purchase "working reports" type software applications. They are either made in the computer department or forming part of the systems implemented.
- As for medium - sized and large companies, since many people who use "working reports" type software applications, it can be concluded that Microsoft Excel software is used more at its basic techniques. Tools to organize and statistical data processing, presentation and assesments of trends and relationships, data analysis are known and used in a lesser extent.

Results are synthesized in the table below:

Used software / Company's size	N	A	B	C
People working in small companies	%	118 100	-	96 81.36
People working in medium-sized companies	%	231 100	80 34.63	116 50.22
People working in large companies	%	98 100	91 92.86	-

- A - Microsoft Excel
- B - "Working reports" type software applications made in the institutions or company where the questioned person works
- C - Purchased "Working reports" type software applications

The following issues were considered relating to the complexity of the processing and analysis data made using Microsoft Excel software.

Collected data showed that:

- 64,21% of the respondents use only elementary techniques of Microsoft Excel software. Thereby:
  - Use functions (especially sum function) and formulas which, introduced into a cell of a worksheet calculate vallues in other cells of the same worksheet or other worksheet. Microsoft Excel software offers hundreds of functions that used lead in working time savings.
  - Use forms for data entry, making sure that introduces correct data in the appropriate position.
  - Use templates (for example, for invoices) in which add relevant instructions and validation data which rules to prevent incorrect data entry and allow maintaining control over data consistency.
- 35,79% of the respondents use consolidation method and subtotalization method. By using those two methods, detailed information (for example, lists of expenses, individual sales records, the number of items in each range of inventory) are organized and processed so that it can be used effectively in making decisions.

By consolidating detailed data from more lists we obtain a summary list without details. Therefore, data consolidation is only suitable in certain situations, such as, for example, monthly expenses in a systematic quartely summary. In contrast, subtotalizing data integrates details.

By subtotalizing we obtain a summary of the details which includes details that can be displayed or hidden.

By filtering records from a list are quickly found and identified information that fulfill certain criteria set by the user, and by sorting the data, those are collated in a logical manner.

- Only 16,78% of the respondents use Pivot Tables and charts for estimating trendlines and relations.

Pivot Tables combine best features of consolidation and subtotalization, going well beyond the two instruments and providing greater flexibility in data presentation. Allows creating a dynamic summary data for effective analysis. Stored data can be organized in more calculation worksheets, can be displayed or hidden all details you want. Data presentation can be changed easily, by changing the pattern or level of details displayed.

A diagram creates a visual representation of data and their relations with other data, enabling rapid understanding of their significance. Trendlines confer a greater utility to graphics. The trend of data series, such as, for example, monthly sales over the year, can be calculated and used to predict future sales. In a diagram, the trend and forecast can be illustrated by a trend line. Related data series, but represented by different numerical scales, such as, for example, sales volume (in pieces), and price (in euro/piece), can be displayed in the same diagram, using a secondary axis. Thus, is possible to be put in relation sales volume with selling price in a directly and significantly manner.

- Only 1,57% of the respondents use tools to create scenarios for optimal decisions.

Results are synthesized in the table below:

<b>Used tools / Company's size</b>	<b>N</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
People working in small companies	%	118 100	11 9,32	-	-
People working in medium-sized companies	%	231 100	76 32,90	47 20,35	-
People working in large companies	%	98 100	73 74,49	28 28,57	7 7,14
Total	%	447 100	160 35,79	75 16,78	7 1,57

- A - basic techniques
- B - details tool processing: consolidation and subtotalization  
filtering techniques and grading details in logical groups
- C - tools for processing and presenting data: PivotTables;  
charts for estimating trends and relationships
- D - tools to create scenarios for optimal decision

### 3. CONCLUSIONS

Microsoft Excel software offers a range of techniques and tools for organizing, processing, analysis and presentation of basic data, such as strengthening multiple lists, filtering records in a list, sorting the details in logical groups, subtotalizing data, Pivot Tables,

charts to estimate trends and relationships, tools for creating scenarios for optimal decision. Regarding the accomplish study, Microsoft Excel software is used more because of use summary knowledges, at its basic techniques. Its tools for organizing and statistical data processing, presentation and assessment of trends and relationships, data analysis are known and used in a lesser extent.

Also, in a a large number of companies and institutions are used "working reports" type software applications purchased or made by specialized employed personnel, the use of which involves some not very low costs. Some managers have begun to consider eliminating these costs through improving the knowledge of the Microsoft Excel software of their employees. For this, they appeal to specialized companies that train employees to use the spreadsheet to an advance level. The benefits of this option will result not only in eleminating costs for "working reports" type software applications, but also in training and a more efficient data analysis in order to make the best decisions.

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