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DIGITAL AND AI TOOLS

IN MANAGEMENT, ACADEMIC AND RESEARCH WORK

METHODOLOGICAL GUIDE



Project No.: 2024-2-LV01-KA210-VET-000280127

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INTRODUCTION

Digital transformation and the development of artificial intelligence are significantly changing the working environment of companies and organizations. In management and administration, the ability not only to use individual digital tools, but also to select the most appropriate solution for a specific work task, compare alternatives and combine several tools within a single workflow is becoming increasingly important.

This methodological guide has been developed to provide practical support for learning and using digital resources and artificial intelligence (AI) tools in vocational education in the field of management and administration. The material examines 10 core tools in detail, providing a description, user instructions and a practical task for each. At the same time, alternatives to these tools are also considered so that users can evaluate different options and select the solution best suited to the specific situation. In total, 30 digital and AI tools are reviewed and compared in the material.

The material includes tools and their alternatives that can be used for organizing work and tasks, process automation, data processing and statistical analysis, business data analysis and presentation of statistical results, data visualization and presentation of management information, market research and research activities, survey creation and data collection, transcription of meetings, interviews and audio materials, creation of presentations and business visual content, as well as the use of AI tools and agents to support administrative and management processes.

The purpose of the material is not merely to provide instructions for using specific software. Its aim is to develop an understanding of the logic behind selecting a digital tool and its suitability for a specific professional situation. Therefore, each thematic chapter describes the primary tool and its applications, compares alternatives, provides instructions for using the main functions, and includes a practical task to reinforce knowledge and skills.

The material follows a consistent approach:

Professional task → Selection of the appropriate tool → Evaluation of alternatives → Galveno funkciju apguve → Practical application → Evaluation of the result

Particular attention is paid to ensuring that digital tools are not considered in isolation. In real working environments, information and data move from one stage of a process to the next, so the ability to combine multiple digital and AI tools within a single workflow is essential. For example:

Data acquisition → Data collection → Analysis → Visualization → Presentation of results → Management decision

The use of automation and AI also makes it possible to enhance individual stages of a workflow with automated actions and AI support. In this material, the use of AI is considered not only as the use of generative AI to perform individual tasks, but also as an opportunity to create specialized AI agents that operate according to a defined objective, instructions, knowledge sources and available tools.

At the same time, the use of digital and AI solutions entails responsibility. Therefore, the material addresses data security, personal data protection, the requirements of the General Data Protection Regulation (GDPR), confidentiality, critical evaluation of AI-generated information and maintaining human oversight. The availability of a digital tool does not in itself mean that any information may be entered into it or that its output may be used without verification.

The material is intended for use in the learning process, for acquiring practical skills and for independent professional development. The functionality of digital platforms, user interfaces, conditions of free plans, licences and prices may change; therefore, before using a specific tool, it is recommended to check the latest information on the developer's official website.

About the Project

The methodological guide was developed within the 2024 Erasmus+ Small-scale Partnership project No. 2024-2-LV01-KA210-VET-000280127 “Improvement of vocational education programmes in the field of management and administration by introducing and applying artificial intelligence, digital resource tools and their alternatives in the learning process”.

Funded by the European Union. Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the State Education Development Agency (VIAA). Neither the European Union nor the granting authority (VIAA) can be held responsible for them.

1. Project and Task Management Tools

1.1. Trello: Description and Applications

Trello is a visual project and task management tool developed by Atlassian for planning work, assigning tasks, controlling deadlines and monitoring progress. Work in Trello is organized using boards, lists and cards. A card usually represents a specific task to which a responsible person can be assigned, a due date can be set, and checklists, files, comments and other work-related information can be added.

Trello is based on the Kanban approach, in which work tasks are moved visually between process stages. A simple project workflow can be organized, for example, as follows:

Planned → In Progress → Review → Completed

This approach makes it possible to see at a glance what needs to be done, who is responsible, what the task status is and by what date it must be completed. In the initial project material, Trello was also described as a visual Kanban board with cards, lists and simple team collaboration features.

Trello apkopojums:

Criterion	Description
Tool type	Project and task management tool
Operating principle	Kanban boards, lists and task cards
Best suited for	Individual work and organizing team projects
Business applications	Projects, marketing activities, events, content development, client projects, administrative processes
Applications in the academic environment	Group work, study and research projects, event planning and individual work planning
Bezmaksas versija	Yes
Installation	Not required - works in a web browser
Mobile application	Yes
Team collaboration	Yes
Automation	Yes
Data storage method	Cloud service
Learning difficulty	Low
Main limitation	More functionally comprehensive solutions may be required for complex resource management, project portfolio management and the management of multiple interrelated projects

Applications in the business environment

Trello is suitable for workflows that can be divided into specific tasks and clear stages of execution. It can be used to coordinate projects and teamwork, plan marketing campaigns, organize events, manage the content development process, monitor client projects, launch new products or services, and organize recurring administrative tasks.

The practical value of the tool lies in the transparency of work and the concentration of project information in one place.

For a manager, Trello provides a visual overview of task statuses, deadlines and responsible persons, helping to identify unfinished or delayed work. For a team member, it provides a shared working environment in which assigned tasks, deadlines, work materials and task-related communication are visible.

Business example

A marketing team can create a content planning board:

Ideas → In Preparation → For Approval → For Publication → Published

A separate card is created for each social media post, advertisement or other material, with the responsible employee, deadline, files and checklist. The manager can review work progress at a glance and identify tasks that are delayed or awaiting approval.

Applications in the academic environment

In an academic environment, Trello can be used to organize student group work, research projects, conferences, course activities and individual academic work. The tool is particularly suitable for longer tasks that need to be divided into stages and in which the responsibilities and deadlines of several people must be coordinated.

Academic example

A group of students can structure the development of a research paper as follows:

Literature review → Data collection → Data analysis → Writing the paper → Preparing the presentation

Specific tasks can be created for each stage, with responsible group members and completion deadlines assigned. This makes both the distribution of responsibilities among participants and the overall progress of the project visible.

A lecturer can use Trello to coordinate course activities, the preparation of learning materials, events or joint academic projects.

Costs and availability

Trello offers both free and paid plans. This allows an individual user or a small project team to start working without initial software purchase costs.

Plan	Approximate price*	Main benefit
Free	0 USD	Core functions for organizing projects and tasks; up to 10 boards in one Workspace
Standard	USD 5 per user per month	Unlimited boards, advanced checklists, custom fields and a larger automation allowance

Plan	Approximate price*	Main benefit
Premium	USD 10 per user per month	Calendar, Timeline, Table, Dashboard and Map views for broader project monitoring
Enterprise	from USD 17.50 per user per month	Centralized administration and additional control options for large organizations

*Note. The prices shown are approximate and current as of 1 April 2026, based on annual billing. Prices are stated in USD and may not include applicable taxes. The service provider may change prices, the functionality included in plans and the terms of use. Before selecting a paid plan, it is recommended to check the latest information on Trello's official website.

Cost example. If a team of 10 people requires the Standard plan at approximately USD 5 per user per month, licence costs would be approximately USD 50 per month or USD 600 per year, excluding taxes and possible price changes.

For an individual user, student, lecturer or small project, it is recommended to evaluate the Free plan first and select a paid version only if the project requires the additional functions included in it.

Technical availability

Trello is a cloud service, so installing software is not required. The tool can be used in a web browser after creating a Trello/Atlassian account.

Applications are also available for Windows, macOS, iOS and Android devices. This makes it possible to manage tasks, deadlines and work statuses on mobile devices as well.

To get started, a user account, an internet connection and a web browser or the appropriate application are required. Detailed instructions for creating an account, the first project board and tasks are provided in the practical instructions in Section 1.3.

Integrations and automation

Trello functionality can be extended with Power-Ups and integrations, linking a project board with other digital tools used in the workflow. This is particularly important in organizations where project documents, communication and other resources are already managed in other systems.

Trello also provides workflow automation options. For recurring activities, rules can be defined that automatically perform an action when a specified condition is met, for example moving a card, changing a due date or performing another predefined action. The practical value of automation increases in processes in which the same administrative activities are repeated regularly.

Data security and organizational requirements

Because Trello is a cloud service, data security, confidentiality and user access requirements should be evaluated before using it in an organization's work.

Particular attention is required if personal data, client information, employee data, unpublished research materials or other restricted information is to be processed in project cards or attached documents. In such situations, use of the tool must be assessed in accordance with the organization's internal data governance policy and applicable personal data protection requirements.

What should be considered before choosing Trello?

Trello's simplicity is both its advantage and its limitation. Before choosing the tool, not only its functionality but also the scale of the project and the organization's needs should be assessed.

The following should be taken into account:

- some project management views and advanced functions are available only in paid plans;

- managing multiple complex projects, resources and project portfolios may require a more functionally comprehensive solution;
- Trello is not a specialized finance, human resources or enterprise resource management system;
- in a larger organization, user and access management, data security, integrations and total licence costs must be evaluated;
- on very large boards, a high number of cards and processes can reduce the clarity of the Kanban approach.

In the initial project material, ease of use, collaboration capabilities, automation and suitability for managers were identified as key criteria for evaluating project management tools.

Three questions before choosing Trello:

1. Can the workflow be clearly divided into tasks and work stages? If yes, Trello's visual Kanban approach may be suitable.

2. Is the main need task and teamwork management, or detailed management of resources, budgets and project portfolios?

In the latter case, more functionally comprehensive project management solutions should be evaluated.

3. Does the selected Trello plan meet the organization's requirements for functionality, collaboration, data security and costs?

The availability of a free plan does not in itself mean that it will be the most suitable solution for organization-wide implementation.

Selection summary

Trello is a suitable choice when a quickly deployable, visual and relatively easy-to-learn tool is needed for organizing tasks, deadlines and teamwork. Its advantages are best used in processes that can be clearly divided into work stages and specific tasks.

For an individual user, student or small project, the ability to start for free is a significant advantage. Before implementation, an organization should additionally evaluate the required functionality, number of users, total licence costs, integrations and data governance requirements.

If broader project planning, reporting, resource management or complex workflow capabilities are required, Trello should be compared with more functionally comprehensive solutions. In Section 1.2, Trello is compared with Asana and ClickUp.

1.2. Trello Alternatives and Comparison

When selecting a project management tool, it is important to assess not which tool has the most functions, but how well the tool matches the complexity of the specific project, the teamwork model, users' digital skills, required integrations and available budget.

Asana and ClickUp have been selected as the main Trello alternatives in this methodological guide. All three solutions are intended for project and task management, but their focus differs: Trello's advantage is simple and visual work organization, Asana offers more structured project and workflow management, while ClickUp provides a broad and customizable work environment in which project management is combined with other productivity functions. All three solutions were also included in the project and task management tools group in the initial project material.

Comparison of Trello, Asana and ClickUp

Criterion	Trello	Asana	ClickUp
Galvenais fokuss	Visual task and workflow management	Structured project and team work management	Broad project and work management in one platform
Work organization	Boards, lists, cards	Projects, tasks and subtasks	Hierarchical environment with projects, tasks, documents, etc.
Kanban/board view	Very simple and central to the tool	Yes	Yes
Time and project planning	Basic options; additional views in paid plans	Timeline and other advanced planning options depending on the plan	Gantt, Timeline and other views depending on the plan
Reports and dashboards	Dashboard in the Premium plan	Broader project and work reporting	Highly customizable Dashboards
Automation	Yes	Yes	Yes
MI funkcijas	Yes; depends on the plan	Asana AI; depends on the plan	ClickUp AI/Brain; functions and limits depend on the plan
Documents in the platform	Not the main focus	Project information and collaboration capabilities	Integrated Docs and other work-content functions
Organizational administration and security	Broadest controls at Enterprise level	Advanced administration and security options in higher-tier plans	Advanced management, SSO and other controls in higher-tier plans
Learning difficulty	Low	Medium	Medium-high
Bezmaksas versija	Yes	Yes	Yes
Best suited for	Quick and visual project organization	Structured management of multiple projects and teams	Teams that need broad functionality in a single environment
Main limitation	May be too simple for complex project and resource management	Some important business functions are available only in paid plans	The broad range of functions increases

Criterion	Trello	Asana	ClickUp
			learning and configuration complexity

In paid plans, Asana supplements task management with more structured workflows, reporting and automation; in the 2025 plan changes, for example, Universal Reporting was included at the Starter level and the use of automation and AI was expanded. ClickUp, in turn, offers task management, documents, Kanban, calendar, dashboards and other functions within one platform, with availability varying by plan.

When should each tool be selected?

Trello

Trello is recommended when simplicity and visual work organization are the priority. It is suitable for projects whose workflow can be clearly divided into stages and where complex resource or project portfolio management is not required.

Trello is particularly suitable for:

- organizing small and moderately complex projects;
- coordinating student group and research projects;
- managing marketing, content, events and administrative processes;
- teams for which rapid learning and implementation of the tool are important.

The Trello Free version allows up to 10 boards and collaboration with up to 10 users in one Workspace, while the Standard plan provides unlimited boards, custom fields, advanced checklists and a larger automation allowance.

Asana

Asana is recommended when more structured coordination of multiple projects and teams is required. It is suitable for situations where projects contain many interrelated tasks and where workflows, reports and broader progress monitoring are needed.

Asana's advantages become more significant in an organization where several projects or cross-functional teams need to be coordinated in one system. The paid Starter plan supplements the free Personal version with features such as Timeline, Workflow Builder and reporting.

ClickUp

ClickUp is recommended when broad work management functionality needs to be combined in one platform. In addition to task and project management, the platform offers documents, dashboards, time tracking and other productivity functions.

It is suitable for teams that require detailed customization of the work environment and the concentration of multiple functions in one system. At the same time, a larger number of functions also means more configuration options, so such functionality is not always necessary for a simple project.

Cost comparison

All three tools have a free version, so they can be tested before purchasing a paid subscription. Differences become more significant when a team requires advanced project management, automation, reporting or administration functions.

Tool	Free plan	Approximate starting price of paid plan*	Entry-level paid plan	Important note
Trello	Yes	USD 5/user/month	Standard	Unlimited boards, additional automation, Custom Fields, etc.
Asana	Yes	USD 10.99/user/month	Starter	A paid subscription requires at least 2 user seats
ClickUp	Yes	USD 7/user/month	Unlimited	Broader functionality, including unlimited storage

The Trello Standard price with annual billing is USD 5 per user per month. Asana documentation lists the Starter plan starting price as USD 10.99 per user per month, and the smallest paid subscription requires two user seats. The ClickUp Unlimited price with annual billing is USD 7 per user per month.

*Note. The prices shown are approximate and current as of 1 April 2026, based on annual billing. Prices are stated in USD and may not include applicable taxes. Service providers may change prices, plan names, functionality and terms of use. Before purchasing a tool, it is recommended to check the latest information on the respective service provider's official website.

Quick selection matrix:

If the main need is...	Recommended choice
Simple and visual project management	Trello
Rapid learning and implementation of the tool	Trello
Organization of a student group or simple research project	Trello
Structured management of multiple projects and teams	Asana
Broader workflows and reports	Asana
Broad and customizable work environment in one platform	ClickUp
Combining project, document and productivity functions	ClickUp

Selection summary

Trello's advantage is simplicity and visual work organization, Asana provides more structured project and team management, while ClickUp offers broad functionality and customization in one platform.

The most suitable tool should be selected according to project complexity, the teamwork model, required functions and integrations, data governance requirements and total costs, rather than simply by the number of available functions.

1.3. Instructions for Using Trello's Main Functions

This section creates a simple project management environment in Trello step by step. A “Marketing Campaign Project” is used as the demonstration example. The described actions can also be applied analogously to organizing study, research and administrative projects.

In the practical example, the project workflow will be organized into four stages: Planned, In Process, Check, finished.

Step 1. Understand the structure of the Trello work environment

The Trello work environment is hierarchically structured:

- Workspace - the shared environment containing one or more boards;
- Board - a specific project or process;
- Lists - project work stages or categories;
- Cards - specific tasks;
- Checklist - actions required to complete a task.

This structure makes it possible to move from the project overview to a specific actionable task.

Management principle. Before using the tool, it is important to define what a board, list and card will mean within the organization or team. A consistent approach reduces inconsistent use of the tool.

Structure of the Trello work environment

Workspace → Board → Lists → Cards → Checklist

Step 2. Create an account and sign in to Trello

A Trello user needs an Atlassian account. If an account already exists, the user can sign in and open the Trello work environment. If there is no account, one must be created using an email address or one of the available authentication options.

Action:

- Open Trello vietni: **www.trello.com**.
- Select Log in if an account has already been created.
- If there is no account, select Create account / Sign up.
- Complete authentication and open the Trello work environment.

Management principle. In a business or academic environment, it is recommended to use the work email address assigned by the organization if this is required by the institution's internal rules. This facilitates user administration and access control.

Signing in to Trello:

Log in-→ Create account.

Step 3. Create a new project board

A board is the main project workspace in Trello.

Action:

- Select Create.
- Select Create Board.
- Enter a board name, for example, “Marketing Campaign Project”.
- Select the appropriate Workspace.
- Check the board's Visibility setting.
- Select Create.

Management principle. Before starting work, check who will have access to the board. If the project is expected to contain internal organizational information, personal data, unpublished research materials or other restricted data, the board should not be publicly accessible.

Creating a new Trello board:

Create → Create Board → Board title → Workspace → Visibility → Create

Step 4. Create the project work stages

Trello Lists are used to visually represent the stages of a project or process.

Action:

On the board, select Add another list.

Create four lists:

- **Planned**
- **In Progress**
- **Review**
- **Completed**

If necessary, change the order of the lists by moving them.

In a business process, list names can be adapted to the specific workflow, for example:

Ideas → In Preparation → For Approval → For Publication → Published

In a research project:

Literature → Data collection → Data analysis → Writing → Completed

Management principle. Lists should reflect the actual workflow rather than merely formal categories. The more accurately they reflect the project flow, the more informative the board will be for the manager and the team.

Project workflow in Kanban view:

PLANNED → IN PROGRESS → REVIEW → COMPLETED

Step 5. Create a task card

Each specific piece of work to be completed in Trello is created as a Card.

Action:

In the required list, select Add a card.

Enter a specific task name.

Open the card to add additional information.

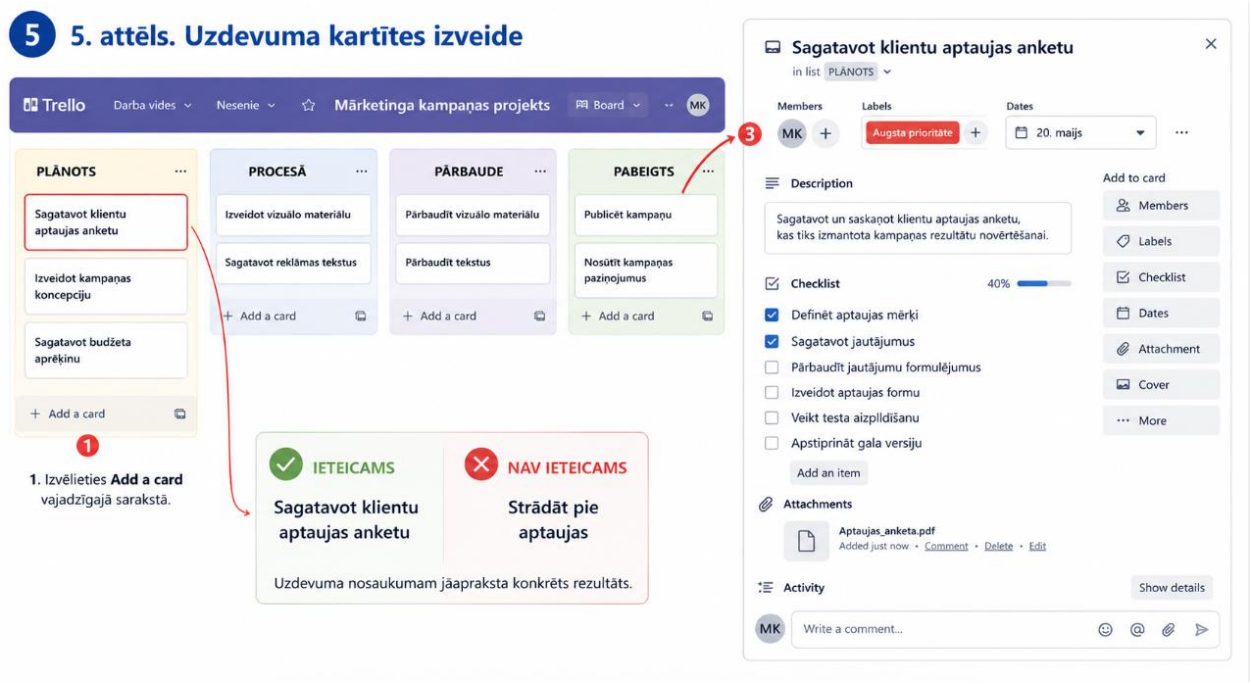
Recommended:
“Prepare a customer survey questionnaire”

Not recommended:
“Work on the survey”

Management principle. The task name should describe a specific outcome. This helps the team understand consistently what must be achieved and when the task can be considered complete.

Creating a task card:

Add a card and the created card “Prepare the client survey questionnaire”.



Step 6. Assign a responsible person and a deadline

To manage a task effectively, at least two elements should be specified - the responsible person and the completion deadline.

Action:

- Open the card.
- Select Members.
- Assign the responsible person.
- Select Dates.
- Specify the due date and, if necessary, the time.
- Iestatiet **Reminder**.
- Save the changes.

Management principle. If a task has a deadline but no responsible person, it is unclear who is accountable for the result. If there is a responsible person but no deadline, it is more difficult to manage the task's priority and timely completion.

Assigning the responsible person and due date:

Members → Dates → Due date → Reminder

Step 7. Create a checklist and set priority

A more complex task should be divided into smaller actions using a Checklist.

Action:

- Open the card.
- Select Checklist.
- Add the actions required to complete the task.
- For example, for the card “Prepare the client survey questionnaire”:
- define the survey objective;
- prepare the questions;
- review the wording of the questions;
- create the survey form;
- perform a test completion;
- approve the final version.

Tasks can also be classified using Labels, for example:

High priority | Medium priority | Low priority

or:

Marketing | Finance | Client | Administration

Management principle. Labels should be used according to a previously agreed principle. If each team member interprets colors or names differently, labels lose their informational value.

Step 8. Add files, links and comments

Materials related to a specific task can be attached to the card, and comments can be used for team communication.

Action:

- Open the card.
- Add a file or link using Attachment.
- Use the Comments / Activity section for team communication.

Management principle. Trello does not always need to be used as a document archive. If the official version of a document is stored, for example, in SharePoint, OneDrive or another document management system, it is often advisable to add a link to the document in the Trello card rather than create another copy of the file.

Comments are recommended for decisions, clarifications and questions related to the specific task, thereby keeping the discussion together with the work itself.

Step 9. Manage work progress

When the actual status of a task changes, the card should be moved to the corresponding project stage.

Action:

Work started:

Planned → In Progress

Work prepared for review:
In Progress → Review

Work approved:
Review → Completed

Management principle. The Trello board should reflect the actual state of the project. If card statuses are not updated regularly, the manager cannot use the board as a reliable source of information.

It is recommended that the team agree that the person to whom a task is assigned is responsible for updating the card's status.

Step 10. Create a simple automation

Recurring actions can be automated using Trello Automation.

The basic principle of automation is:

notikums (Trigger) → automatically executed action (Action)

Action:

- Open **Automation**.
- Select the option to create a new rule.
- Define the Trigger.
- Define the Action.
- Save the rule.

Example:

Trigger: the card is moved to the list **"Completed"**
↓
Automation
↓
Action: the card's due date is marked as complete.

Management principle. Automation is especially valuable in recurring processes. It reduces the number of manual actions, but only clearly defined and regularly repeated processes should be automated.

Step 11. Check the completed project board

After completing the previous steps, the project board should contain:

- clearly defined work stages;
- specific tasks;
- responsible persons;
- completion deadlines;
- checklists for more complex tasks;
- consistently used labels;
- required documents or links;
- up-to-date work status;
- at least one simple automation.

Review the board from the manager's perspective and check:

Without additional explanation, is it possible to understand what has been completed, what still needs to be done, who is responsible and what the upcoming deadlines are?

If the answer is "yes", the board fulfils its basic function as a project management tool.

Practical recommendation

In the first Trello project, it is not necessary to use all platform capabilities immediately. It is recommended to start with four basics:

work stages → uzdevumi → responsible persons → deadlines

Once this form of work organization has become routine in the team, checklists, labels, integrations and automation can be added gradually.

In business and academic environments, information accessibility should also be reviewed regularly. Before inviting external cooperation partners, clients, students or other persons, make sure that the relevant board does not contain information to which these users should not have access.

1.4. Practical Task and Self-Assessment

The purpose of the practical task is to reinforce Trello skills and demonstrate the ability to independently use the tool's core functions to structure a business project, assign tasks and monitor implementation progress.

When completing the task, use the Trello functions learned in Section 1.3, but choose the project structure and specific solutions independently.

Practical task

Situation. A company is preparing to launch a new service and is planning its marketing campaign. The project requires coordination of several interrelated activities, assignment of responsible persons and deadlines, and monitoring of project implementation progress.

Task. Create a Trello board entitled "Marketing Campaign for a New Service" that allows the project manager to organize and monitor project implementation clearly.

Task execution

Create at least four logical project work stages (Lists) that correspond to the given business situation.

Independently define at least five project tasks (Cards). Formulate the tasks as specific achievable outcomes.

Vismaz trim uzdevumiem:

- assign a responsible person (Members);
- set a completion deadline (Dates);
- add a project-appropriate label (Label).

Select one more complex task and create a Checklist for it containing at least four actions.

Demonstrate project progress by moving at least one card in accordance with a change in its work status.

Create one Automation rule that is useful for the project.

3–5 teikumos pamatojiet:

- why you selected the specific project workflow;
- how the created Trello board would help the project manager monitor work execution.

Expected result and assessment criteria

After completing the task, a functioning Trello project board should have been created that makes it possible to clearly identify the work to be done, responsibilities, deadlines and the project's current status.

Assessment criterion	Expected result
Project structure	At least 4 logical work stages appropriate to the situation have been created
Task formulation	At least 5 specific and understandable project tasks have been created
Responsibilities and deadlines	Responsible persons and completion deadlines have been specified for at least 3 tasks
Task classification	Project-appropriate labels have been used with justification
Task structuring	A Checklist with at least 4 actions has been created for one task
Progress management	A change in task status within the project workflow has been demonstrated
Automation	A useful automation rule has been created for the project
Rationale for the choice	The selected workflow and the usefulness of Trello are logically justified

Self-assessment questions

1. How do Trello Boards, Lists and Cards work together to form a project structure?

2. Why is it important to specify both a responsible person and a completion deadline for a project task?

3. In what situation is a Checklist more appropriate than creating several separate cards?

4. How can Labels be used for project management purposes?

5. How would project management be affected if the team did not regularly update card statuses?

6. Which process action did you choose to automate, and why did you choose this particular action?

Self-assessment

After completing the practical task, assess your skills:

☐ I can independently create and manage a simple Trello project.

☐ I can use Trello's core functions, but I still need instructions for some actions.

☐ I need to revisit the instructions in Section 1.3 and practise Trello's core functions.

Practical task outcome: the user demonstrates the ability not only to use Trello's core functions technically, but also to independently structure a business project, justify the selected work organization and use the tool to monitor project progress.

2. Tools for Work Productivity and Process Automation

2.1. Zapier: Description and Applications

Zapier is a workflow automation platform that makes it possible to connect different digital applications and automate recurring actions between them. Instead of manually transferring information from one system to another, sending repeated notifications or creating new records, the user can create an automated workflow, or Zap.

A Zap is based on two elements: a Trigger - an event that activates the automation - and an Action - the operation that Zapier then performs automatically. A single automation can contain one or more sequential actions.

In simplified form, Zapier's operating principle can be represented as follows:

TRIGGER (notikums) → ACTION (action)

For example, when a new client application is received in one system, Zapier can automatically create a record in another system or notify the responsible employee.

Programming skills are not required to use Zapier's core functions. The platform offers integrations with more than 9,000 applications, making it suitable both for simple individual automations and for connecting organizational workflows.

Zapier apkopojums

Criterion	Description
Tool type	Workflow automation platform
Galvenais use	Automation of recurring actions and transfer of data between applications
Operating principle	Trigger → Action
Programming skills	Not required for using the core functions
Integrations	More than 9,000 applications
Availability	Web application
Bezmaksas versija	Yes
Suitability for the business environment	High, especially for recurring digital processes
Suitability for the academic environment	Suitable for automating administrative, study and research workflows
Main benefit	Reduces the volume of repeated manual work between different systems

Why use Zapier?

In business and academic environments, part of everyday work consists of small but regularly repeated actions: moving data between systems, sending notifications, creating new records, collecting information or registering tasks.

An individual action may take only a few minutes, but when repeated regularly it adds up to a substantial amount of manual work. In addition, manual transfer of information creates a risk that an action may be forgotten, completed late or performed incorrectly.

Zapier makes it possible to delegate standardized and recurring actions to an automated workflow, allowing the user to focus on tasks that require analysis, communication, professional judgement or decision-making.

In this process, Zapier acts as the connecting link between different applications. To create a workflow, the required applications are connected to Zapier and then the event that should activate a specific action is defined.

Applications in the business environment

In the business environment, Zapier is especially suitable for situations in which a company uses several digital systems and regularly needs to transfer information or perform recurring actions between them.

Business situation	Automation opportunity
Lead management	Jauns klienta pieteikums → izveidot klienta ierakstu CRM
Marketing	New contact → add it to the follow-up communication process
Project management	New request → automatically create a project task
Customer service	New customer request → notify the responsible team
Data collection	New form response → add the information to a data table
Internal communication	Specified event in a system → send a notification to the team

From a management perspective, the benefit is not limited to time saved. A properly designed automation can help standardize process execution - the required action is initiated according to a predefined principle rather than depending solely on whether an employee remembers to perform it.

At the same time, not every process needs to be automated. The most suitable processes are regular, repetitive and clearly definable. If an action requires professional judgement, complex analysis of exceptions or a decision with significant consequences, human involvement must be retained.

Applications in the academic environment

In an academic environment, Zapier can be used to organize study processes, research and administrative work. It is especially suitable for processes in which information is regularly received in one system and then manually recorded, transferred or used to initiate an action in another system.

Academic situation	Automation opportunity
Research data collection	New survey response received → record the information in a data table
Event organization	Participant registration received → add the information to the participant register
Coordination of study projects	Submission received → create a task for further processing
Research team work	New information received → notify the project team
Administrative processes	Request received → record the information and initiate the next process action

In an academic environment, it is important to distinguish process automation from automation of academic decisions. Zapier can help register information, transfer data or initiate a notification, but the professional judgement required to assess the quality of a student's work, research results or other academic content cannot be replaced by a technical workflow.

Costs

Zapier offers both free and paid plans. When selecting a plan, it is important to consider not only the available functions but also the volume of automation executions, or the number of tasks.

The prices shown are approximate, valid as of 1 April 2026, and may change. Before selecting or purchasing the tool, it is recommended to check the latest information on the Zapier website.

Plan	Approximate cost	Key features
Free	USD 0/month	100 tasks per month, two-step Zap workflows
Professional	from USD 19.99/month*	Multi-step Zaps, Premium applications, Webhooks and additional functions
Team	from USD 69/month*	Up to 25 users, shared workflows, folders and application connections
Enterprise	Custom pricing	Broader administration, security and organization-level management options

* The stated starting price applies to the annual billing offer; the actual price depends on the selected billing period and usage volume.

The Zapier Free plan currently includes 100 tasks per month and two-step automations, while the Professional plan provides multi-step automations, Premium applications and Webhooks. For a new account, Zapier also offers a 14-day Professional trial without requiring a payment card.

The Free plan is sufficient for practical learning and testing simple automations. Before implementing Zapier in recurring organizational processes, however, the expected volume of automation usage should be assessed because it may affect actual costs.

Installation, registration and technical availability

Zapier is a web application, so software does not need to be installed on a computer for basic use. Zapier recommends using an up-to-date version of Google Chrome, Mozilla Firefox, Safari or Microsoft Edge.

Access to the tool. To get started, a Zapier user account must be created or the user must sign in to an existing account.

Open Zapier and sign in

On the sign-in page, an email address and password can be used, as well as Google, Microsoft and other available authentication options.

For Zapier to perform automated actions in other systems, the relevant application accounts must be connected. The user must have the necessary access rights, and Zapier can access only the data and actions for which permission was granted when the connection was established.

Practical recommendation. For learning purposes, it is recommended to start with a free account and a simple two-step automation. Organizational work accounts should be connected to Zapier only after the organization's IT, access and data security requirements have been checked.

Integrations and expansion options

The broad range of integrations is one of Zapier's key advantages. In 2026, Zapier reports integrations with more than 9,000 applications.

This makes it possible to connect tools serving different functions within one automation process - for example, a form, a data table, a project management system and a communication platform.

However, the existence of an integration does not mean that every action can be automated in a particular application. Each integration has a defined set of available Triggers and Actions, and some applications are classified as Premium and are available in paid plans.

Therefore, before choosing Zapier for a specific process, check:

- Is the required application available in Zapier?
- Does the integration support the exact Trigger and Action required?
- Is the specific function available in the selected Zapier plan?

Data security and privacy

When automating processes, Zapier may gain access to data in several connected systems. Therefore, when selecting the tool, not only functionality but also access rights, the type of data being processed and the organization's security requirements must be assessed.

Zapier has obtained independent SOC 2 Type II and SOC 3 attestations, and security documentation is available in the company's Trust Center.

When an application is connected to Zapier, the platform is granted permission, in accordance with the authorization, to read or write data in the relevant system. It is therefore important for the organization to control which accounts and systems are connected.

Before automating a business or academic process, it is recommended to assess:

- what data will be transferred between systems;
- whether personal data or confidential information will be processed;
- which applications Zapier will be granted access to;
- whether the user has the right to connect the specific organizational accounts;
- whether the automation complies with the organization's IT and data governance policy.

Important: security certification by itself does not mean that any organizational information may be processed in Zapier. The organization's internal data governance requirements must always be evaluated separately.

What should be considered before choosing Zapier?

Zapier is particularly suitable when there is a recurring, clearly definable digital process in which information must be moved or an action performed between two or more systems.

Before selecting the tool, it is useful to answer three questions.

1. Does the action recur regularly?
If the process is performed rarely, creating and maintaining the automation may require more resources than carrying out the work manually.

2. Is the process sufficiently standardized?
The more precisely it is possible to define what triggers the process and what must happen afterwards, the more suitable it is for automation.

3. Can the required systems be connected securely?
Both the availability of the required Zapier integrations and functions and the organization's access and data security requirements must be checked.

Conclusion

Zapier is suitable for users and organizations that want to **automate recurring digital processes without having to program integrations from scratch**. Its key advantages are the clear **Trigger → Action** principle, integrations with more than 9,000 applications and the possibility to start with a free plan.

In business and academic environments, Zapier can reduce manual transfer of information between systems, standardize recurring processes and reduce the risk that a routine action will be forgotten.

However, the choice of Zapier should begin not with the question “What can be automated?” but with an analysis of a specific workflow:

Which regularly recurring activity creates manual work → can it be standardized → can the required systems be connected securely → does the benefit of automation justify creating and maintaining it?

This approach helps ensure that automation is used purposefully - not for the sake of using technology, but to improve workflow efficiency.

2.2. Zapier Alternatives and Comparison

Zapier is not the only workflow automation tool. The choice of tool depends on process complexity, the systems used, the volume of automation executions, the user's technical skills and the organization's IT environment.

Make and Microsoft Power Automate are compared in this methodological guide as the most important alternatives to Zapier. All three solutions make it possible to automate workflows without traditional programming, but their strengths and most suitable use cases differ.

Comparison table

Criterion	Zapier	Make	Microsoft Power Automate
Galvenais fokuss	Rapid application connection and workflow automation	Visual and detailed multi-step process automation	Process automation in the Microsoft ecosystem and in enterprises
Suitability for beginners	High	Medium	Medium
Workflow creation	Sequential and easy to understand	Highly visual, with branching and data flows	Visual workflow creation with broad business-process capabilities
Range of integrations	More than 9,000 applications	More than 3,000 applications	Broad range of connectors, especially for Microsoft products
Multi-step automations	Yes, in paid plans	Yes, including complex workflows	Yes
Free plan	Yes - 100 tasks per month	Yes - up to 1,000 credits per month	Depends on the licence and Microsoft services used
Suitability for individual learning	Very high	High	Medium
Suitability for complex data flows	Medium-high	Very high	High
Microsoft 365 integration	Laba	Laba	Very high

Criterion	Zapier	Make	Microsoft Power Automate
Team/organization administration	Broader capabilities in Team and Enterprise plans	In Teams and Enterprise plans	Particularly suitable for Microsoft-based organizational environments
Main advantage	Simplicity and a very broad range of integrations	Flexible and visually clear automation creation	Integration with Microsoft 365 and Power Platform
Main limitation	Costs may increase with the number of tasks	More difficult for beginners to learn	Licensing and function availability may be more complex

Zapier currently offers a Free plan with 100 tasks per month, while Professional starts at USD 19.99 per month. Make's Free plan offers up to 1,000 credits per month and more than 3,000 applications, while the paid Core plan with 10,000 credits starts at USD 12 per month. The official list price of Power Automate Premium is USD 15 per user per month. Actual costs depend on the use case, volume, billing period and licensing terms.

The prices shown are approximate, valid as of 1 April 2026, and may change. Before choosing a tool, it is recommended to check the latest pricing and licensing information on the tool's website.

Zapier - when simplicity and rapid implementation are the priority

Zapier's key advantage is **relatively simple automation creation and a very broad range of ready-made application integrations**. The platform provides integrations with more than 9,000 applications, and simple workflows can be created according to a clear **Trigger → Action** principa.

Zapier is particularly suitable when the user:

- is creating an automation for the first time;
- wants to connect several popular business applications quickly;
- does not want to program;
- wants to start with a simple process and expand it later;
- prioritizes ease of use.

Zapier is a better choice than Make when simple learning and rapid automation creation are more important than highly detailed process visualization.

Zapier is a better choice than Power Automate when cloud services from different vendors need to be connected and the organization is not closely tied to the Microsoft ecosystem.

A significant limitation is the cost model. Zapier plans are linked to the number of executed tasks, so as the volume of automation grows, the expected usage should be assessed before implementation.

Make - when more visual and flexible process automation is required

Make is an alternative to Zapier whose significant advantage is visual scenario creation. Automations, or scenarios, are displayed as a flow of interconnected modules, making it possible to see data movement clearly and create branching processes.

Make's Free plan currently provides up to 1,000 credits per month, more than 3,000 applications, as well as routers and filters. This makes the free version suitable not only for learning the tool but also for testing relatively detailed automation principles.

Make is particularly suitable when:

- the automation requires several interrelated steps;

- different process branches and conditions need to be created;
- it is important to see the data flow visually;
- the user is prepared to invest more time in learning the tool;
- greater control over automation logic is required.

When is Make better than Zapier?
Make's advantage becomes particularly important when a simple **Trigger → Action** workflow is no longer sufficient and a more complex process with multiple steps, filters and branches needs to be structured visually.

From a methodological perspective, Make is also very suitable for understanding the logic of an automation process because the user can visually see how data moves between different process stages.

For a beginner, however, this flexibility may also mean greater initial complexity than Zapier.

Microsoft Power Automate - when the organization works in a Microsoft environment

Microsoft Power Automate is a particularly important alternative for organizations whose everyday work is already based on Microsoft 365 and Power Platform solutions.

Power Automate makes it possible to create cloud flows and also use Robotic Process Automation (RPA) for actions with desktop applications. A Power Automate Premium licence includes both API-based digital process automation and the use of desktop flows in attended mode.

Power Automate is particularly suitable when:

- the organization already uses Microsoft 365;
- processes are linked to Microsoft business systems;
- more centralized automation management is required;
- automation is being implemented at organizational rather than only individual-user level;
- desktop process automation is also required.

When is Power Automate better than Zapier?

If the organization's digital work environment is primarily built around the Microsoft ecosystem, Power Automate can provide more logical and tighter integration with Microsoft solutions already in use.

Another advantage of Power Automate is its ability to cover a broader automation spectrum - from cloud workflows to desktop process automation.

For an individual user or student who only wants to learn the basic principles of automation, however, Zapier will generally be easier to start with. Power Automate licensing is also more complex because the required licence depends on the connectors used, the type of automation and the organization's licences.

Which tool is more suitable for a specific situation?

Situation	Recommended tool	Rationale for the choice
First automation without programming experience	Zapier	Simple operating principle and quick start
Connecting different popular cloud applications	Zapier	Very broad range of ready-made integrations
Complex multi-step data flow	Make	Visually clear and flexible scenario creation
The process requires multiple conditions and branches	Make	Routers and filters make it possible to define process logic in detail
The organization mainly uses Microsoft solutions	Power Automate	Close integration with the Microsoft ecosystem
Desktop process automation is required	Power Automate	Supports desktop flows and RPA scenarios
Learning automation principles in the study process	Zapier	The Trigger → Action model is easy to understand
In-depth learning of automation logic	Make	A more complex process and data-flow structure is visually visible

Selection principle

These three tools should not be assessed according to the principle “which is the best overall?”. It is more appropriate to determine which best matches the specific process and the organization's technological environment.

Choose Zapier if the priorities are simplicity, rapid implementation and a broad range of integrations with different applications.

Choose Make if the priority is detailed, visual and flexible multi-step process automation.

Choose Microsoft Power Automate if the priorities are automation in the Microsoft ecosystem, organization-level processes or desktop automation.

Practical recommendation

Before selecting an automation tool, it is recommended first to describe the process itself:

What triggers the process? → What actions need to be performed? → Which systems are involved? → How often does the process recur? → What data is processed?

Only then should the tool be evaluated.

For simple and moderately complex processes where rapid implementation and ease of use are priorities, Zapier is a reasonable starting choice. As process complexity increases, Make may provide greater control over workflow logic, while organizations with a strongly Microsoft-based technology environment should evaluate Power Automate.

Thus, the choice of tool should follow the needs of the business process rather than adapting the business process to the capabilities of the selected tool.

2.3. Instructions for Using Zapier's Main Functions

The purpose of these instructions is to learn Zapier's core functions step by step and create a simple automated workflow, or Zap. The instructions are designed so that the user learns not only the sequence of technical actions but also understands automation logic and its application to improving workflows.

Zapier automation is based on a simple principle:

Trigger → Action

A Trigger is the event that activates the automation, while an Action is the operation that Zapier automatically performs after that event.

Step 1. Identify the process to automate

Before creating an automation, determine which recurring activity needs to be automated. It is recommended to begin creating an automation not by choosing Zapier functions, but by analysing a specific workflow.

Answer three questions:

- What triggers the start of the process?
- What action must then be performed regularly?
- Which applications or systems are involved?

It is recommended to formulate the process in one sentence:

Kad notiek [notikums] → automatically perform [action].

Process diagram

Recurring workflow → Define the Trigger → Define the Action → Identify the applications involved → Automation idea

Management principle. The most suitable process for automation is one that is regular, repetitive and clearly definable. If the process itself is not well organized, automating it may increase errors or unnecessary actions.

Step 2. Sign in to Zapier and create a new Zap

Zapier operates on the web, so software does not need to be installed on the computer.

Zapier are: https://zapier.com
Log in: https://zapier.com/app/login

Action:

Open **https://zapier.com**.

Select Log in if an account already exists, or Sign up if a new account needs to be created.

After signing in, select Create.

Select the option to create a new Zap.

Open **Zap Editor**.

Give the automation a clear and meaningful name.

The name should describe the automation's function so that its purpose can later be identified without opening the workflow itself.

Action sequence

https://zapier.com → Log in / Sign up → Create → Create Zap → Zap Editor → Give the Zap a name

Management principle. If several automations are used in an organization, it is recommended to agree on a consistent naming convention. The name should make the automation's function understandable without opening its configuration.

Step 3. Select the Trigger

The first element of a Zap is the Trigger - the event that activates the automation.

Action:

In Zap Editor, select Trigger.

Find the application in which the process to be automated begins.

Select the required application.

In the Trigger event field, select the specific event that will activate the Zap.

Continue configuring the Trigger.

For example, a Trigger can be a new record, a received form response, a new email or another event supported by the specific application.

Action sequence

Trigger → Select application → Trigger event → Configure Trigger

Management principle. The Trigger should reflect the actual starting point of the workflow. An incorrectly selected Trigger may activate the automation at the wrong time or create unnecessary actions.

Step 4. Connect the application account to Zapier

For Zapier to receive information from the selected application, the relevant application account must be connected.

Action:

In the Trigger configuration, select the option to add an account.

Select Sign in if Zapier asks you to connect the relevant application.

Authenticate in the selected application.

Review the access permissions requested by Zapier.

Apstipriniet savienojumu.

Make sure the correct account has been selected.

Action sequence

Select application → Sign in → Authentication → Review access permissions → Connect account

Important. Organizational work accounts may be connected to Zapier only if this complies with the organization's IT, data protection and access requirements. For learning purposes, it is recommended to use test data rather than confidential organizational information.

Step 5. Configure and test the Trigger

After selecting the application and Trigger event, the required parameters must be specified and it must be checked whether Zapier can receive the correct data.

Action:

Open **Configure**.

Complete the required fields.

Open **Test**.

Select *Test trigger*.

Review the test data found by Zapier.

Select an appropriate test record.

Continue creating the automation.

If the required test data is not found, check the connection and whether an appropriate test record is available in the source application.

Action sequence

Configure → Test → Test trigger → Review test data → Confirm data → Continue

If the test is unsuccessful:

Test trigger → Data not found → Check source data and connection → Test trigger again

Management principle. Automation creation should not continue until it has been verified that the Trigger receives the correct data. An error at the start of the process can affect all subsequent automation steps.

Step 6. Create the Action

Once the Trigger has been configured and tested, determine what action Zapier should perform automatically after the Trigger is activated.

Action:

Add the next step.

Select Action.

Select the application in which the action should be performed.

Select the required Action event.

Connect the relevant application account if this has not already been done.

Open Configure and specify the information required to perform the action.

Action sequence

Action → Select application → Action event → Connect account → Configure → Configure Action

Basic automation structure:

Trigger → Action

Management principle. The Action should be directly related to the process need. The purpose of automation is to reduce manual work, not to create additional actions that later have to be manually checked or corrected.

Step 7. Connect data between the Trigger and Action

For information from one application to be transferred automatically to another, specify which Trigger data should be used in the Action fields. This process is called field mapping.

For example, if the Trigger receives a client's name, email address and registration date, this information can automatically be inserted into the corresponding fields in another system.

Action:

- Open Configure in the Action section.
- Select the field to be completed.
- Select the corresponding information from the Trigger data.
- Repeat the action for the other required fields.
- Check that the source and target fields are connected correctly.

Action sequence

Trigger data → Select Action field → Field mapping → Map data → Check fields

Simplified example:

Name → Name | Email → E-pasts | Datums → Datums

Management principle. Field mapping determines what information will be transferred to another system and where it will be inserted. Incorrectly mapped fields can create erroneous or low-quality data, so this stage must be checked carefully before publishing the automation.

Step 8. Test the Action

Before publishing the automation, check whether the Action performs the intended operation and whether the correct result is obtained in the target system.

Action:

- Open Test in the Action section.
- Review the data used for the test.
- Select Test step.
- Open the target application.
- Check the created or modified record.

If the result is incorrect, return to Configure, make the necessary changes and test again.

Action sequence

Test → Test step → Check result → Result correct → Continue

If the result is incorrect:

Test step → Incorrect result → Configure → Correct settings → Test step again

Important. An Action test may cause a real action in the target application, for example creating a new record. Therefore, test data should be used in the learning process.

Management principle. A technically successful test does not necessarily mean that the automation is substantively correct. It must also be checked whether the result meets the needs of the specific workflow.

Step 9. Publish the Zap

Once the Trigger and Action have been configured and successfully tested, the Zap can be activated.

Before publishing, check:

- whether the correct Trigger is selected;
- whether the correct Action is selected;
- whether the correct application accounts are used;
- whether Field mapping is correct;
- whether the test result matches the intended outcome.

Action:

Review all Zap steps.

Make the necessary corrections.

Select Publish.

Action sequence

Trigger ✓ → Action ✓ → Field mapping ✓ → Test ✓ → Publish → Zap active

Management principle. Before selecting Publish, the user should be able to clearly explain three things: what will activate the Zap, what data will be used and what action Zapier will perform automatically.

Step 10. Monitor the automation

Creating an automation does not end with publishing it. The workflow should be checked periodically because changes in connected applications, account access rights or the workflow itself can affect how the Zap operates.

Check:

- whether the Zap is activated in the intended cases;
- whether the information reaches the correct system;
- whether the data is inserted into the correct fields;
- whether unnecessary or duplicate records are being created;
- whether the connected accounts still work;
- whether the automation still corresponds to the actual workflow.

Action sequence

Publish → Monitor operation → Check results → Identify errors → Uzlabojumi → Retest

Management principle. For important business-process automations, it is recommended to designate a responsible person who monitors the automation and makes changes when necessary.

Step 11. Expand the automation if necessary

After learning a simple Trigger → Action automation, the Zap can be supplemented with additional functions and conditions.

The main options are:

- Filter - determines whether the workflow should continue when data meets specified conditions.
- Paths - allows different workflow branches to be created depending on conditions.
- Formatter - allows text, dates, numbers and other data to be transformed.
- Delay - allows the next action to be postponed for a specified period.

The availability of some functions may depend on the Zapier plan used.

Action diagrams

Basic automation:

Trigger → Action

Automation with a condition:

Trigger → Filter → Action

Automation with data transformation:

Trigger → Formatter → Action

Automation with a delayed action:

Trigger → Delay → Action

Branched automation:

Trigger → Paths → Path A / Path B → Action

Management principle. Automation should not be made more complex simply because it is technically possible. Each additional step should address a specific workflow need.

12. Summary of the Zapier automation creation process

The Zapier automation creation process begins with workflow analysis and continues through monitoring the automation after implementation.

Overall action sequence

Identify the recurring process → Define Trigger → Select application → Savieno kontu → Configure → Test trigger → Izveido Action → Field mapping → Test step → Publish → Monitor operation → Improve if necessary

The simplest Zapier workflow can be reduced to three main stages:

Trigger → Action → Result

Creating an automation is not an end in itself. Its practical value arises when automation reduces recurring manual work, ensures more consistent process execution or reduces the risk that a required action will be forgotten.

Management principle. First analyse the workflow and only then select automation functions:

Workflow → Recurring action → Automation opportunity → Testing → Implementation → Monitoring → More efficient workflow

2.4. Practical Task and Self-Assessment

Practical task

Situation

The company regularly receives applications from potential clients through an online application form. In the application, the client provides their name, company, email address and the service of interest.

Currently, after each application is received, an employee manually checks the information and registers the new application in the company's client tracking table. As the number of applications increases, this data transfer takes time and creates a risk that an application may not be registered promptly.

Task: using Zapier, create a simple automation that ensures that when a new client application is received, its data is automatically recorded in the client tracking table.

Expected outcome

After the automation is created, the process should work as follows:

Klients iesniedz pieteikumu → Zapier identifies a new application → client data is transferred automatically → a new record is created in the client tracking table

Uzdevuma izpilde

Create an automation in which:

- a Zapier-supported online form application of your choice is used to receive applications;
- a spreadsheet or another suitable data-recording application is used for client tracking;
- an appropriate Trigger is defined;
- an appropriate Action is defined;
- the necessary Field mapping is performed between the two applications;
- at least the following data is transferred automatically to client tracking: name, company, email address and service of interest;
- the automation is tested using test data;
- after the test, it is checked whether a correct new record has been created in client tracking.

Use test data, not real clients' personal data, to complete the task.

Work result

After completing the task, briefly record the logic of the automation created:

Applications used: _____

Trigger: _____

Action: _____

Data transferred automatically: _____

Result obtained: _____

Then, in 2-3 sentences, explain how the created automation can improve the company's workflow.

Self-assessment

After completing the task, assess your result.

Self-assessment criterion	Yes	Partly	No
The automation is activated when a new application is received.	☐	☐	☐
I have correctly defined the Trigger and Action.	☐	☐	☐
The required client data is transferred automatically to client tracking.	☐	☐	☐
Field mapping connects the correct source and target fields.	☐	☐	☐
The test creates a correct record in client tracking.	☐	☐	☐
I can explain how the created automation works.	☐	☐	☐
I can justify the practical benefit of the automation for the company.	☐	☐	☐

The task is successfully completed if the automation works in the intended sequence, data is transferred correctly between the two applications, and the user can explain which manual action the automation replaces and what benefit it creates for the workflow.

This makes Section 2.4 more specific, while deliberately not stating, for example, “use Google Forms + Google Sheets and select exactly these buttons”. The student should be able to transfer what was learned in Section 2.3 to a specific business situation independently, which, in my view, represents a more appropriate level of academic self-assessment.

3. Tools for Statistical Data Analysis and Interpretation of Results

3.1. jamovi: Description and Applications

jamovi is a free and open-source statistical analysis program designed for quantitative data analysis without the need to program. It provides a spreadsheet-like working environment in which users can import data, select a statistical analysis and immediately obtain tables, indicators and charts. The program runs on the R statistical language, while its core functions are available through a graphical point-and-click interface.

jamovi is suitable both for management and business data analysis and for academic research and learning statistics. The tool supports, for example, descriptive statistics, t-tests, ANOVA, correlation, regression, contingency table analysis and factor analysis. Its functionality can be extended with additional modules.

The initial development of this methodological material emphasized not only functionality when evaluating digital tools, but also costs, availability, ease of use and suitability for the working environment. For data-analysis tools, the level of complexity and suitability for the business environment were highlighted additionally.

jamovi apkopojums:

Criterion	Description
Tool type	Statistical data analysis program
Galvenais use	Quantitative data analysis and interpretation of statistical results
Operating principle	Graphical point-and-click interface running on R
Programming skills	Not required for core functions
Core analyses	Descriptive statistics, t-tests, ANOVA, correlation, regression, contingency tables, factor analysis
Data formats	CSV, Excel, SPSS, SAS, Stata u. c.
Extensions	70+ additional modules from the jamovi Library
Desktop versija	Yes - Windows, macOS, Linux
Cloud versija	Yes
Bezmaksas versija	Yes
Suitability for the business environment	Analysis of client, market, HR and other quantitative data
Suitability for the academic environment	Very high for learning statistics and analysing empirical research
Main benefit	Statistical analysis can be performed without programming or licence costs

jamovi Desktop is free, and the tool is used for teaching statistics at more than 300 universities.

Why use jamovi?

jamovi's main advantage is its relatively low barrier to use. The user can focus on selecting a data-analysis method and interpreting results rather than on programming syntax.

A typical workflow is:

Data import → Variable check → Selection of statistical method → Analysis → Interpretation of results

Results in jamovi are updated automatically when analysis settings are changed, while data, analyses and results can be saved in a single .omv file.

An important methodological principle: the statistical tool performs the calculation, but the user is responsible for choosing an appropriate method and interpreting the results.

Applications in the business environment

In the business environment, jamovi can be used in situations where describing the data is not sufficient and differences, relationships or predictive factors need to be evaluated statistically.

Business situation	jamovi use
Customer satisfaction	Analysis of mean ratings and differences between customer groups
Market research	Survey data analysis and segment comparison
HR analytics	Analysis of employee satisfaction, engagement or turnover factors
Marketing analysis	Comparison of campaign or customer-group results
Management decision support	Statistical testing of hypotheses and relationships observed in the data

jamovi is not a business intelligence (BI) platform. If the main need is to create interactive KPI dashboards and regular management reports, Tableau, Power BI or similar tools are more suitable. In the initial materials, Tableau, Power BI and Looker Studio were likewise identified as a separate group of data visualization and dashboard tools.

Applications in the academic environment

In the academic environment, jamovi is suitable for:

- analysing empirical data for study and final papers;
- analysing survey and experimental data;
- learning statistical methods;
- quantitative analysis in research projects;
- preparing results for scientific publications.

From a learning perspective, a significant advantage is the ability to focus on statistical logic and interpretation of results rather than first learning programming. Result tables and charts can be copied and used in further work.

Costs and availability

jamovi Desktop is free and open-source software and may also be used for commercial work.

Versija	Approximate costs*	Suitability
jamovi Desktop	0 EUR	For studies, research and business data analysis
jamovi Cloud Guest	0 EUR	For browser-based work without installation
jamovi Cloud Priority	Depends on the region	For larger datasets and longer Cloud sessions
jamovi Cloud Teams	Custom pricing	For organizations and institutions

The Cloud Guest version is free, Priority pricing depends on the region, while Teams is offered through custom pricing.

*Note. The stated pricing and plan information is approximate and current as of 1 April 2026. The service provider may change plans, functionality and prices. Before selecting a paid service, it is recommended to check the latest information on the official jamovi website.

Installation and technical availability

jamovi can be used in two ways.

The Desktop version is available for Windows, macOS and Linux and also works without an internet connection. The Cloud version runs in a web browser without software installation.

jamovi website: jamovi.org
Desktop download: Download jamovi
Cloud version: jamovi Cloud[jamovi.orgDownload jamovijamovi Cloud

For practical learning of statistics and work with more sensitive data, the Desktop version is often suitable, while Cloud is convenient when the program cannot be installed.

Data security and work organization

When selecting a statistical tool, it is important to assess what data will be analysed and where it will be stored.

jamovi Desktop runs locally on the user's computer, making it suitable when data processing needs to remain within an environment controlled by the user or organization. When using Cloud, the organization's data governance and personal data protection requirements must be assessed.

Regardless of the selected version, the user must ensure appropriate data storage, access rights and, where necessary, anonymization or pseudonymization of respondent data.

What should be considered before choosing jamovi?

Before selecting the tool, it is recommended to answer three questions.

1. Is statistical analysis or business data visualization required?
jamovi is intended for statistical analysis, not for creating interactive KPI dashboards.

2. Are the required analyses available in jamovi?
Functionality is broad for basic and many moderately complex analyses, but for more specialized methods the availability of an appropriate module should be checked.

3. Does the data processing method comply with the organization's requirements?
The use of Desktop and Cloud should be evaluated according to data sensitivity and the organization's security requirements.

Selection summary

jamovi is a suitable choice when a free and relatively easy-to-learn tool is required for statistical analysis of quantitative data. Its graphical interface makes it possible to perform key statistical analyses without programming, while its R-based technological foundation and additional modules provide opportunities to extend functionality.

In management studies, jamovi is suitable for analysing customer, market, HR and other quantitative data, while in the academic environment it is suitable for learning statistics and conducting empirical research.

The main selection principle is:

Research or business question → Data → Appropriate statistical method → Analysis → Interpretation of results → Evidence-based conclusion.

3.2. jamovi Alternatives and Comparison

When selecting a statistical data analysis tool, it is important to assess not only the available statistical methods, but also ease of use, costs, suitability for academic and business environments, and the needs of the specific analysis.

JASP and IBM SPSS Statistics are considered in this methodological guide as the main alternatives to jamovi. Like jamovi, JASP is a free and open-source statistical tool, while IBM SPSS Statistics is a commercial solution broadly oriented toward professional and institutional statistical analysis.

JASP

JASP is a free and open-source statistical analysis program with a graphical user interface that supports both classical (frequentist) and Bayesian statistical analyses. The tool's development is supported by the University of Amsterdam.

JASP is particularly oriented toward academic use and learning statistics. Result tables and charts can be prepared in a form suitable for academic work, including in accordance with APA result-formatting principles.

Advantages:

- free and open-source tool;
- low learning difficulty;
- programming skills are not required for basic use;
- particularly well-developed Bayesian statistical capabilities;
- preparation of results suitable for the academic environment.

Limitations:

- less widely used in business than IBM SPSS Statistics;
- if highly flexible extension of functionality is required, jamovi's module system may be more suitable;
- the main focus is statistical analysis rather than business analytics and management reporting.
- When is JASP better than jamovi?
  JASP is recommended when Bayesian statistics are important in the research or when a working environment specifically oriented toward academic research and learning statistics is required.

IBM SPSS Statistics

IBM SPSS Statistics is commercial statistical analysis software intended for data preparation, statistical analysis, modelling and interpretation of results. It is used in academic research as well as in professional and institutional environments.

SPSS combines a graphical user interface with the ability to use syntax, making it possible to save and repeat sequences of analytical actions. Extension and integration options are also available, including work with Python and R.

Advantages:

- broad statistical analysis and modelling capabilities;
- suitable for professional and institutional use;
- work is possible both through the graphical interface and with syntax;
- suitable for creating standardized and repeatable analyses;
- integrations and additional professional functions are available.

Limitations:

- paid software;
- licensing may create significant costs for an individual user or organization;
- may be more difficult for a beginner to learn than jamovi or JASP;
- some functionality may be unnecessary for simple study and research analyses.

When is IBM SPSS Statistics better than jamovi?

SPSS is recommended when it is already institutionally implemented in the organization, standardized professional workflows or specific SPSS functions are required, and the organization has an appropriate licence.

Comparison of jamovi, JASP and IBM SPSS Statistics

Criterion	jamovi	JASP	IBM SPSS Statistics
Costs	Bezmaksas	Bezmaksas	Maksas
Learning difficulty	Low	Low	Medium
Programming for basic use	Not required	Not required	Not required
Statistical analysis capabilities	Broad	Broad	Very broad
Bayesian analysis	Pieejama	One of the tool's strengths	Not the main focus
Extension of functionality	Broad module system	Additional analyses available	Professional extensions and integrations

Criterion	jamovi	JASP	IBM SPSS Statistics
Suitability for the academic environment	Very high	Very high	High
Suitability for the business environment	High for statistical analysis	Medium-high	Very high
Main advantage	Simplicity, free availability and extensibility	Bayesian statistics and academic focus	Professional and institutional statistical environment
Main limitation	Additional modules may be required for specific analyses	Less focus on the professional business environment	Cost and greater learning difficulty

Note. Information on tool availability and licensing models is current as of 1 April 2026 and may change. Before selecting a tool or licence, it is recommended to check the latest information on the developer's website.

Which tool should be selected?

jamovi is the most suitable choice when a free, easy-to-learn and sufficiently powerful statistical tool is required, especially for study, research and management data analysis. A significant advantage is the ability to extend functionality with additional modules.

JASP is more suitable when the main focus is Bayesian statistics and academic research.

IBM SPSS Statistics is more suitable in a professional or institutional environment where broad statistical functionality and standardized analyses are required and SPSS infrastructure is already used in the organization.

Short selection principle

Ease of use + free availability + extensibility → jamovi

Bayesian statistics + academic focus → JASP

Professional/institutional environment + broad functionality → IBM SPSS Statistics

3.3. Instructions for Using jamovi's Main Functions

The purpose of these instructions is to learn jamovi's core functions step by step, from selecting the most appropriate way to use jamovi and importing data through to interpreting and saving statistical analysis results.

The instructions focus on activities frequently needed in management studies and research: initial data exploration, descriptive statistics, group comparisons, correlation and regression analysis.

The overall workflow is:

Select jamovi environment → Import data → Check variables → Descriptive statistics → Assess data distribution → Select statistical method → Analysis → Interpret results → Save

Step 1. Select how to use jamovi and open the program

jamovi can be used in several ways, so before starting work the user can choose the solution best suited to their needs and technical capabilities. The basic principles of statistical analysis and the working environment are similar regardless of the selected access method.

jamovi usage option	Description	When to choose it?
jamovi Desktop	The program is installed on the computer	When jamovi will be used regularly, offline work is required, or data must be processed locally
jamovi Cloud	jamovi is used in a web browser	When the user does not want or is unable to install the program on a computer
Paid jamovi Cloud options	Cloud solutions with additional resources and capabilities	When greater computing resources or an organization-level solution are required

Important. The statistical analyses described in this methodological guide can be learned in both jamovi Desktop and jamovi Cloud. The availability of some functions and interface elements may differ slightly depending on the version used and the installed modules.

Selection principle:

Regular work and local data processing → jamovi Desktop

Installing the program is not possible or not necessary → jamovi Cloud

Additional cloud resources or an organizational solution are required → paid jamovi Cloud options

jamovi are:

jamovi: https://www.jamovi.org
Download: https://www.jamovi.org/download.html
jamovi Cloud: https://cloud.jamovi.org

Action:

- Select the most appropriate way to use jamovi.
- If using jamovi Desktop, download and install the version appropriate for your operating system, or open the program if it is already installed.
- If using jamovi Cloud, open it in a web browser.
- Open a new workspace or a previously saved dataset.
- Make sure the program is ready for data entry or import.

Action sequence

jamovi → Desktop / Cloud → Open workspace → Create or open dataset → Start work

Management principle. The jamovi usage option should be selected not only for convenience, but also according to the nature of the data and the organization's data security requirements. If personal, confidential or internal organizational data is processed, ensure before using Cloud that such data processing is permitted.

Step 2. Import data

Data can be entered manually in jamovi or imported from a previously prepared data file. In practical work, it is usually more convenient to use an already prepared dataset.

jamovi supports several common data formats, including CSV, Excel, SPSS, SAS and Stata.

Action:

- Open the main menu.
- Select Open.
- Specify the location of the data file.
- Select the required file.
- Check that the data has been imported correctly.
- After import, check especially whether variable names and data values have been read correctly.

Action sequence

Open → Select data file → Import → Check data table

Management principle. Statistical analysis should not begin immediately after importing data. First check the data structure, variable types, missing values and possible data-entry errors.

Step 3. Check variables and their measurement levels

jamovi assigns a data type and measurement level to each variable. This is important because the type of variable determines which statistical analyses are appropriate.

Main measurement levels:

- Nominal - categories with no defined order;
- Ordinal - categories with a defined order;
- Continuous - numerical measurements analysed as continuous variables.

Variable	Example	Measurement level
Klienta grupa	A; B; C	Nominal
Satisfaction rating	1–5	Ordinal
Vecums	35 gadi	Continuous
Sales volume	12 500 EUR	Continuous

Action:

- Select the column of the relevant variable.
- Open the variable settings.
- Check Data Type.
- Check Measure Type.
- Correct the settings if necessary.

Action sequence

Variable → Data Type → Measure Type → Check → Correct if necessary

Management principle. An incorrectly defined variable measurement level can lead to selecting an inappropriate statistical method or incorrectly interpreting the results.

Step 4. Perform an initial data check

Before testing hypotheses or conducting more complex analysis, it is necessary to become familiar with the data. Descriptives can be used for this purpose.

Action:

- Select Analyses.
- Select Exploration.
- Select Descriptives.
- Move the variables to be analysed into the Variables field.
- Select the required statistical indicators.

Commonly used indicators:

- N - number of observations;
- Missing - number of missing values;
- Mean - arithmetic mean;
- Median - median;
- **Standard deviation** — standartnovirze;
- Minimum / Maximum - lowest and highest value.

Action sequence

Analyses → Exploration → Descriptives → Variables → Statistics → Results

Management principle. Descriptive statistics help identify unusual values, missing data and other problems that may affect subsequent analysis.

Step 5. Assess the data distribution

Many statistical methods require an assessment of the data distribution and the assumptions of the specific method.

Action:

Open Analyses → Exploration → Descriptives.

Add the variable to be analysed.

Select Plots.

If necessary, select Histogram, Box plot and Q-Q plot.

Evaluate the results obtained.

Action sequence

Descriptives → Variables → Plots → Histogram / Box plot / Q-Q plot → Assess distribution

Management principle. The statistical method should be selected according to the research question, variable type, data structure and the assumptions of the specific method.

Step 6. Compare the means of two groups

If it is necessary to determine whether the means of two independent groups differ, an Independent Samples T-Test can be used under appropriate conditions.

For example, a company may want to determine whether the average customer satisfaction rating differs between two customer groups.

Action:

Select Analyses → T-Tests.

- Select Independent Samples T-Test.
- Place the numerical variable in Dependent Variables.
- Place the grouping variable in Grouping Variable.
- Select the required additional statistics and assumption checks.
- Evaluate the results.

Action sequence

Analyses → T-Tests → Independent Samples T-Test → Dependent Variables → Grouping Variable → Results

Management principle. The result should not be assessed only by the p-value. The direction of the difference, effect size and practical significance should also be considered.

Step 7. Compare more than two groups

If the means of three or more independent groups need to be compared, One-Way ANOVA can be used under appropriate conditions.

For example, it can be analysed whether the average employee satisfaction rating differs between three company departments.

Action:

Select Analyses → ANOVA.

- Select One-Way ANOVA.
- Specify the numerical variable to be analysed.
- Specify the grouping variable.
- Select the required assumption checks.
- If it is necessary to determine which groups differ, use post-hoc comparisons.
- Interpret the results.

Action sequence

Analyses → ANOVA → One-Way ANOVA → Variables → Assumption checks → Post-hoc, if necessary → Results

Management principle. A statistically significant overall ANOVA result indicates that differences exist between groups, but by itself does not determine which specific groups differ from one another.

Step 8. Analyse the relationship between variables

If it is necessary to determine whether there is a statistical relationship between two numerical variables, a Correlation Matrix can be used.

For example:

Employee satisfaction ↔ Employee engagement

or:

Customer satisfaction ↔ Customer loyalty

Action:

Select Analyses → Regression.

- Select Correlation Matrix.
- Add the variables to be analysed.
- Select the appropriate correlation coefficient.
- Evaluate the direction, strength and statistical significance of the relationship.

Action sequence

Analyses → Regression → Correlation Matrix → Variables → Correlation coefficient → Interpret result

Management principle. Correlation does not prove causation. A statistical relationship between two variables does not mean that one causes changes in the other.

Step 9. Perform linear regression analysis

If it is necessary to assess how one or more variables statistically predict a numerical outcome variable, Linear Regression can be used.

For example, it can be analysed whether customer satisfaction and service-quality ratings help predict a customer-loyalty indicator.

Action:

Select Analyses → Regression.

- Select Linear Regression.
- Place the outcome variable in Dependent Variable.
- Place continuous predictor variables in Covariates.
- If categorical predictors are used, specify them in the appropriate factor field.
- Select the required model statistics and diagnostic options.
- Interpret the results.

Action sequence

Analyses → Regression → Linear Regression → Dependent Variable → Covariates / Factors → Model → Results

Depending on the purpose of the analysis, the results should consider R^2, regression coefficients, their direction, statistical uncertainty and significance.

Management principle. A regression analysis result also does not in itself prove causation.

Step 10. Interpret statistical results

The purpose of statistical analysis is not merely to obtain a table or p-value. The result should answer the business or research question originally posed.

When interpreting the result, answer four questions:

- What did we analyse?
- Which statistical method did we use?
- What do the statistical indicators obtained show?
- What can be concluded from the result in the specific situation?

Action sequence

Question → Statistical method → Result → Statistical interpretation → Practical conclusion

It is not sufficient to state only the following in the conclusion:

$p < 0,05$

It should be explained between which indicators a difference or relationship was identified, what its direction is, and what the result means in the specific business or research situation.

Management principle. A statistically significant result and a practically significant result are not the same thing. Effect size, context and data quality should also be assessed.

Step 11. Save the analysis and results

After the analysis is completed, the results can be used to prepare a research paper, business report or other document.

jamovi allows data, analyses performed and results to be saved in a single .omv project file.

Action:

- Check that the required analyses have been completed.
- Save the jamovi project file.
- Give the file a clear and meaningful name.
- Copy the required tables or charts for use in the research paper or report.
- Store the original data in accordance with data governance requirements.

Action sequence

Complete analysis → Save .omv → Copy required results → Insert into document → Save analysis documentation

Management principle. It is recommended to save not only the final tables but also the analysis file. This makes it possible to review the settings used later, repeat the analysis or make necessary corrections.

12. Summary of the statistical analysis process

jamovi simplifies the technical execution of statistical analysis, but high-quality data analysis begins with a properly formulated question and an understanding of the data.

Overall action sequence

Select jamovi environment → Define the question → Import data → Check variables → Veic Descriptives → Assess data and assumptions → Select statistical method → Perform analysis → Interpret results → Formulate conclusion → Save analysis

Quick guide to method selection

Analysis question	Tipiska jamovi funkcija
What are the main characteristics of the data?	Descriptives
Do the means of two independent groups differ?	Independent Samples T-Test
Do the means of three or more groups differ?	One-Way ANOVA
Is there a relationship between two variables?	Correlation Matrix
How do variables statistically predict the outcome?	Linear Regression

The table is a guide, not an automatic algorithm for selecting a statistical method. Method selection must take into account the research design, variable measurement level, data structure and the assumptions of the specific statistical method.

Galvenais princips

Question → Data → Appropriate method → Analysis → Interpretation → Evidence-based conclusion

jamovi simplifies calculations and obtaining results, but selection of the statistical method and interpretation of the results remain the user's responsibility.

3.4. Practical Task and Self-Assessment

The purpose of the practical task is to reinforce the skills learned in Section 3.3 using a specific management situation and a structured dataset. The task requires importing data into jamovi, checking variables, performing descriptive statistics, selecting an appropriate statistical analysis and interpreting the results obtained.

Practical task

Situation

Company management wants to evaluate employee satisfaction and its relationship with employee engagement.

An anonymous employee survey has been conducted in the company. Management is interested in two questions:

Does the average level of employee satisfaction differ between employees in the Sales and Administration departments?

Is there a relationship between employee satisfaction and engagement?

Your task is to prepare a dataset, analyse it in jamovi and formulate conclusions for company management based on the statistical results obtained.

Source data

Create a dataset with 40 respondents. Each respondent must correspond to one data row.

The dataset must contain the following four variables:

Variable	Saturs	Data format	jamovi Measure Type
ID	Respondent sequence number	1–40	ID
Nodala	Employee department	Sales / Administration	Nominal
Apmierinatiba	Job satisfaction	Vesels skaitlis 1–10	Continuous
Iesaiste	Employee engagement rating	Vesels skaitlis 1–10	Continuous

The sample must include:

20 Sales department employees + 20 Administration department employees = 40 respondents

On the satisfaction and engagement scale:

1 = very low rating → 10 = very high rating

Prepare the data file in Excel (.xlsx) or CSV (.csv) format. Enter the variable names in the first row and one respondent's data in each subsequent row.

The data structure should be as follows:

ID	Nodala	Apmierinatiba	Iesaiste
1	Sales	...	...
2	Sales	...	...
...	...	...	...
20	Sales	...	...
21	Administration	...	...
...	...	...	...
40	Administration	...	...

Important. Fill the “Apmierinatiba” and “Iesaiste” columns independently with numbers from 1 to 10. Do not use real employee data in the dataset.

Task 1. Import and check the data

Open the prepared data file in jamovi and check that all 40 observations and four variables have been imported correctly.

Also check the variables' measurement levels and correct them, if necessary, according to the specified data structure.

Action sequence:

Data file → Open → Import into jamovi → Check 40 rows → Check 4 variables → Check Measure Type

Task 2. Describe the data

Perform descriptive statistics for the variables Apmierinatiba and Iesaiste.

Pic at least one:

- **N**;
- **Mean**;
- **Median**;
- **Standard deviation**;
- **Minimum**;
- **Maximum**.

Also create at least one chart characterizing the data distribution.

Action sequence

Analyses → Exploration → Descriptives → Apmierinatiba + Iesaiste → Statistics → Plots → Results

After the analysis, briefly describe the overall level of employee satisfaction and engagement in the sample.

Task 3. Compare the two employee groups

Determine whether the average satisfaction level of employees in the Sales and Administration departments differs statistically significantly.

Select the statistical method learned in Section 3.3 that is suitable for comparing the means of two independent groups.

In the analysis, use:

Dependent Variable → Apmierinatiba

Grouping Variable → Nodala

Action sequence

Analyses → T-Tests → Independent Samples T-Test → Apmierinatiba → Nodala → Results

In the results, determine:

the average satisfaction level of each department;

whether a statistically significant difference was identified between the groups;

the direction of the difference;

the effect size.

Then formulate a 2-3 sentence conclusion for company management.

Task 4. Analyse the relationship between satisfaction and engagement

Determine whether there is a relationship between employee satisfaction and engagement.

In the analysis, use:

Apmierinatiba ↔ Iesaiste

Action sequence

Analyses → Regression → Correlation Matrix → Apmierinatiba + Iesaiste → Correlation coefficient → Results

Detect:

- the direction of the correlation;
- the strength of the correlation;
- statistical significance.
- Then interpret the result obtained in 2-3 sentences.

Important. In the interpretation, follow the principle:

Correlation → statistical association ≠ proven causation

Task 5. Prepare conclusions for management

Based only on the results of the analysis performed, prepare a brief summary for company management.

In the summary, answer three questions:

What is the level of employee satisfaction and engagement in the analysed sample?

Does the level of satisfaction differ between the two departments?

Is satisfaction statistically related to employee engagement?

Finally, formulate one data-based recommendation for company management.

Total length of conclusions: no more than 150 words.

Final work structure

Dataset → Descriptive statistics → Group comparison → Correlation analysis → Interpretation of results → Conclusion for management

Self-assessment

After completing the practical task, assess your work.

Self-assessment criterion	Yes	Partly	No
I have correctly imported 40 observations and checked the variable types.	☐	☐	☐
I can obtain and interpret descriptive-statistics indicators.	☐	☐	☐
I can select a method for comparing two independent groups.	☐	☐	☐

Self-assessment criterion	Yes	Partly	No
I can interpret the group-comparison result and effect size.	☐	☐	☐
I can perform and interpret correlation analysis.	☐	☐	☐
I distinguish statistical association from causation.	☐	☐	☐
I can turn statistical results into a clear conclusion for management.	☐	☐	☐

The task is successfully completed if the user can not only technically perform the required analyses in jamovi, but also select an appropriate statistical method, correctly interpret the results and formulate a data-based conclusion to support management decisions.

4. TOOLS FOR BUSINESS DATA ANALYSIS AND PRESENTATION OF STATISTICAL RESULTS

In a business environment, data is obtained from different sources - sales systems, financial records, customer databases, surveys and other information sources. To use this data in management decision-making, it must be structured, checked, aggregated, analysed and the results presented in an understandable form.

In this chapter, Microsoft Power BI is used as the primary tool, while Microsoft Excel and Google Sheets are considered as alternative tools. Power BI makes it possible to combine data acquisition, transformation, data modelling, calculations and presentation of results in a single working environment.

Unlike jamovi, discussed in Chapter 3, where the main focus is on the use of statistical methods, this chapter emphasizes preparation and aggregation of business data, calculation of management indicators and analysis of results.

Overall workflow logic:

Data source → Data acquisition → Data check → Data transformation → Data model → Calculations → KPI → Presentation of results → Management conclusion

4.1. Description and Applications of the Tools

Microsoft Power BI

Microsoft Power BI is a business analytics platform designed to connect different data sources, transform and model data, analyse it and present results.

In Power BI Desktop, Power Query Editor can be used to connect, transform and prepare data, while the data model can be used to create calculations and link multiple data tables. Power BI Desktop provides Report, Table and Model views for different stages of work.

A significant advantage of Power BI is the ability to move from a single data table to a structured business-analytics process:

Source data → Power Query → Data model → Measures → KPI → Report → Interpretation

Microsoft Power BI apkopojums

Criterion	Description
Tool type	Business intelligence (BI) platform
Galvenais use	Business data analysis and presentation of results
Data acquisition	Excel, CSV, databases and other sources
Data transformation	Power Query

Criterion	Description
Data modelling	Yes
Calculations	Measures, calculated columns u. c.
Calculation language	DAX
KPI calculation	Yes
Interactive filters	Yes
Visualization of results	Yes
Programming skills	Not required for core functions
Suitability for the business environment	Very high
Suitability for the academic environment	High for business and applied-research data analysis
Main benefit	Combining data preparation, modelling, analysis and presentation in one workflow

Why use Microsoft Power BI?

Power BI makes it possible to analyse data not only as an individual table, but also to build a repeatable analytical process.

For example, company sales data can be used to calculate:

- Total Sales - total revenue;
- Total Cost - total costs;
- Total Profit - total profit;
- Profit Margin - profit as a proportion of revenue;
- Average Order Value - average transaction value.

These indicators can change depending on the period, region, product or other filter selected by the user. Power BI measures are calculated as needed and respond to the filter context used in the report.

The role of Power Query and DAX

In Power BI work, it is important to distinguish between two elements. Power Query is mainly used before analysis to acquire, check, clean and transform data.

DAX (Data Analysis Expressions) is used to create calculations in the data model, including measures and calculated columns. DAX functions allow both simple summation and average calculations and more complex calculations involving filters and time context.

Thus:

Power Query → sagatavo datus

DAX → calculates the required indicators

Report → presents the results

Applications in the business environment

Business situation	Power BI use
Sales analysis	Analysis of revenue, costs, profit and sales volume
Financial analysis	Comparison of actual results, budget and variances
Marketing analysis	Analysis of campaign, customer-segment and channel results
HR analytics	Aggregation of headcount, turnover and other HR indicators
Product analysis	Comparison of revenue, costs and profitability by product group
Regional analysis	Comparison of results across territories
KPI monitoring	Calculation and monitoring of key management indicators

Power BI is particularly useful when analysis needs to be repeated regularly. If the data structure remains unchanged, previously created transformation and calculation logic can also be used after refreshing the data.

Applications in the academic environment

Power BI can also be used for:

- data analysis in applied research;
- analysis of company and industry data;
- study projects;
- learning data structuring and modelling;
- presentation of statistical and business indicators;
- case analysis;
- visual presentation of research results.

In academic work, Power BI does not replace the selection and justification of statistical methods. If hypothesis testing or advanced statistical analysis is required, jamovi, discussed in Chapter 3, may be more suitable.

Power BI availability

Power BI is available on the Microsoft website:

Microsoft Power BI:
https://www.microsoft.com/power-platform/products/power-bi

Power BI Desktop:
https://www.microsoft.com/download/details.aspx?id=58494

Power BI Desktop is suitable for individual creation of data models and reports. Microsoft paid solutions are available for organization-level sharing and collaboration.

Note. Licensing terms and prices may change over time, so current Microsoft information should be checked before organization-level implementation.

Data security

When using Power BI, evaluate:

Data source → Data content → Storage location → Access rights → Sharing method

If customer, employee, financial or other confidential data is used, the organization's data-protection and access-management requirements must be followed before publishing it in the cloud.

Power BI is not merely a visualization tool - its value comes from combining data preparation, modelling, calculations and result analysis in a single business-analytics process.

4.2. Alternative Tools, Their Advantages and Disadvantages

Power BI is not necessary for every data-analysis task. Microsoft Excel or Google Sheets may be more suitable for simpler or collaborative analyses.

Microsoft Excel

Microsoft Excel is a spreadsheet application with broad capabilities for data processing, calculations, statistics and presentation of results.

Advantages

- widely used in business;
- familiar working environment;
- formulas and functions;
- PivotTable and PivotChart;
- statistical analysis capabilities;
- Power Query capabilities;
- suitable for individual calculations and analysis;
- already available through Microsoft 365 in many organizations.

Disadvantages

- complex workbooks can become difficult to manage;
- manual data processing increases the risk of errors;
- Power BI is more suitable for larger and interrelated data models;
- maintaining regular management reports may require more manual work.

Excel is particularly suitable for:

Small/medium dataset → Calculations → PivotTable → Diagramma → Conclusion

Google Sheets

Google Sheets is a web-based spreadsheet tool that allows data to be entered, processed, analysed and shared in a browser.

Google Sheets offers formulas, charts and pivot tables, as well as functions such as FILTER, QUERY and IMPORTRANGE, which can be useful for selecting and combining data.

Advantages

- works in a web browser;
- easy sharing;

- multiple users can work on the same file simultaneously;
- no local software installation required;
- formulas, Pivot tables and charts;
- good integration with the Google ecosystem.

Disadvantages

- capabilities for complex business analytics are more limited than in Power BI;
- management of large and complex data models is not the tool's primary purpose;
- less suitable for professional BI infrastructure;
- collaboration convenience alone does not replace data modelling and governance.

Google Sheets is particularly suitable for:

Data → Collaborative editing → Formulas → Pivot table → Chart → Sharing

Comparison of Power BI, Excel and Google Sheets

Criterion	Power BI	Microsoft Excel	Google Sheets
Galvenais fokuss	Business analytics	Spreadsheet analysis	Online spreadsheets and collaboration
Data transformation	Very broad	Broad	Basic-medium
Data modelling	Very broad	Medium-broad	More limited
Statistical calculations	Broad business-analytics calculations	Broad functions	Good basic capabilities
KPI calculation	Highly suitable	Suitable	Suitable
Interactive analysis	Very high	Medium	Medium
Online collaboration	Augsts	High in a Microsoft 365 environment	Very high
Regularly refreshable analysis	Highly suitable	Suitable	Suitable for simpler processes
Learning difficulty	Medium	Low-medium	Low
Main advantage	Full-featured business analytics	Flexible calculations and familiarity	Accessibility and collaboration
Main limitation	Requires learning data modelling and DAX	The amount of manual work increases for complex analyses	More limited BI functionality

Which tool should be selected?

Google Sheets - when the priority is simple data collection and collaborative work online.

Microsoft Excel - when flexible calculations, tables, PivotTable and relatively small or medium-scale business analysis are required.

Microsoft Power BI - when structured, repeatable business analytics, data transformation, modelling, KPIs and interactive results are required.

Short selection principle

Simple online collaboration → Google Sheets

Flexible calculations and table analysis → Microsoft Excel

Data modelling + KPIs + business analytics → Microsoft Power BI

4.3. Instructions for Using the Main Functions

In these instructions, Power BI will be used to create a structured business analysis from a company's sales data.

The main focus is on data preparation and calculations rather than visualization design, because data visualization is covered in greater depth in Chapter 5.

Overall workflow:

Get Data → Power Query → Data check → Data transformation → Data model → Measures → DAX → KPI → Report → Interpretation

1. Step. Open Power BI Desktop

Download and install Power BI Desktop if it is not already available on the computer.

Action:

Open Power BI Desktop.

Create a new Power BI file.

Open the Home section.

Action sequence

Power BI Desktop → New report → Home → Start work

Step 2. Import business data

The Get data function in Power BI Desktop allows connection to different data sources. In the practical example, use an Excel file.

Action:

Select Home → Get data.

Select Excel workbook.

Specify the required file.

In the Navigator window, select the table.

Select Transform Data.

Action sequence

Home → Get data → Excel workbook → Navigator → Select table → Transform Data

Step 3. Check data in Power Query Editor

Before analysing the data, check its structure.

Pay attention to:

kolonnu nosaukumiem;

data types;

empty values;

incorrect values;

unnecessary columns;

duplicates.

Action sequence

Power Query Editor → Kolonnas → Data Type → Null / Errors → Duplicates → Check

Management principle. A high-quality analysis result is not possible without properly prepared source data.

Step 4. Transform the data

Power Query makes it possible to transform data before loading it into the Power BI data model. Common tasks include renaming columns, changing data types, filtering rows, splitting columns, grouping and other data preparation.

Action:

- Rename unclear column names.
- Set correct data types.
- Remove unnecessary columns.
- Check missing values.
- If necessary, filter out incorrect records.
- Select Close & Apply.

Action sequence

Power Query → Rename → Data Type → Remove Columns → Filter → Close & Apply

Step 5. Check the data model

Power BI Desktop provides Model view, where relationships between tables can be reviewed and managed.

If a single sales table is used, a complex data model is not necessary. However, it is important to understand the principle that multiple interrelated tables can be used in a Power BI project.

Action sequence

Model view → Tabulas → Relationships → Check data model

Step 6. Create the first Measure

A Power BI measure is a dynamic calculation whose result changes according to the filter context used in the report. Measures are created using DAX.

Create the total sales revenue indicator:

Total Sales = SUM(Sales[Sales])

Action sequence

Data pane → Sales → New measure → SUM → Total Sales

Step 7. Create the main business indicators

Create several measures.

Total costs:

Total Cost = SUM(Sales[Cost])

Total profit:

Total Profit = [Total Sales] - [Total Cost]

Profit margin:

Profit Margin = DIVIDE([Total Profit], [Total Sales], 0)

Average transaction value:

Average Order Value = DIVIDE([Total Sales], DISTINCTCOUNT(Sales[ID]), 0)

DAX allows new calculated indicators to be created from the data in the data model, while measures change depending on the context used in the report.

Action sequence

New measure → Total Sales → Total Cost → Total Profit → Profit Margin → Average Order Value

Step 8. Present the KPIs

Display the created indicators in Report view.

Use separate visual elements:

- Total Sales
- Total Profit
- Profit Margin
- Average Order Value

Action sequence

Report view → Visual → Measure → KPI result

Management principle. KPIs should be selected according to the management question. A large number of indicators does not mean higher-quality analysis.

Step 9. Analyse results by category

Create a simple comparison of sales results.

For example:

Region → Total Sales

Product Category → Total Profit

Month → Total Sales

Action sequence

Region / Product / Month → Measure → Compare results

The objective is not merely to create a chart, but to determine where and why the company's results differ.

10. Step. Pievienojiet filtru

Use a Slicer to analyse results for a specific data segment.

For example:

Region → Slicer

When a specific region is selected, Power BI recalculates the measures according to the selected filter context.

Action sequence

Report → Slicer → Region → Select region → KPIs recalculate

Step 11. Interpret the results

After performing the calculations, answer the business questions:

What is the total revenue?

↓

What is the total profit?

↓

What is the profit margin?

↓

Which region generates the highest revenue?

↓

Which product group generates the highest profit?

↓

How do the results change over time?

Action sequence

KPI → Comparison → Tendence → Novirze → Interpretation → Management conclusion

Management principle. A Power BI calculation is not a conclusion in itself. The user should be able to explain what the obtained indicator means in the specific business situation.

Step 12. Save the work

Save the Power BI project.

Action sequence

Check data → Check Measures → Check Report → Save → Save .pbix

Saving the project file makes it possible to continue working with the created data model, calculations and report.

Summary of the Power BI workflow

Data source → Get Data → Power Query → Data cleaning → Close & Apply → Model → Measures → DAX → KPI → Analysis → Interpretation → Save

4.4. Practical Task and Self-Assessment

Practical task

Situation

Company management wants to analyse one year's sales results and determine which regions and product groups generate the highest revenue and profit.

Your task is to prepare an analysis of the company's sales data in Microsoft Power BI, calculate key business indicators and formulate conclusions for management.

Source data

Create an Excel (.xlsx) file containing 150 sales transactions.

Each transaction must correspond to one data row.

Variable	Saturs	Data format
ID	Transaction number	1–150
Date	Transaction date	Datums
Region	Region	Riga / Kurzeme / Vidzeme
Product_Category	Produktu grupa	A / B / C / D
Units	Number of units sold	Positive integer
Sales	Transaction revenue, EUR	Positive number

Variable	Saturs	Data format
Cost	Transaction costs, EUR	Positive number

The data should cover a 12-month period, and the dataset must include:

- all 12 months;
- all three regions;
- all four product categories.

Use simulated data rather than real confidential company, customer or employee data.

Task 1. Import and prepare the data

Import the Excel file into Power BI.

Use Power Query Editor to check:

- kolonnu nosaukumus;
- data types;
- empty values;
- incorrect values;
- duplicates.

Action sequence

Get Data → Excel workbook → Transform Data → Power Query → Check → Close & Apply

Task 2. Create business indicators

Using DAX measures, calculate:

- Total Sales
- Total Cost
- Total Profit
- Profit Margin
- Average Order Value
- Action sequence

New measure → Total Sales → Total Cost → Total Profit → Profit Margin → Average Order Value

Task 3. Analyse sales results

Noskaidrojiet:

- which region generates the highest sales revenue;
- which region generates the highest profit;
- which product category generates the highest revenue;
- which product category generates the highest profit;
- how sales results change over the 12-month period.

Action sequence

KPI → Region → Product Category → Date → Compare → Interpret

Task 4. Create a presentation of results

On one Power BI Report page, display:

- Total Sales;
- Total Profit;
- Profit Margin;

revenue by region;

profit by product category;

sales-results trend by month.

Add a Region Slicer so that results can be analysed separately for each region.

Action sequence

Measures → KPI → Region analysis → Product analysis → Time analysis → Region Slicer

Task 5. Formulate management conclusions

Based only on the results of the analysis performed, prepare a brief management summary.

Answer the questions:

- What are the company's total sales revenue and profit?
- Which region shows the best results?
- Which product category performs best?
- How do sales results change over the year?
- Which result would require additional management attention?

Summary length - no more than 150 words.

Final work sequence

150 transactions → Power Query → Data check → 5 Measures → KPI → Regional analysis → Product analysis → Time analysis → Management conclusions

Assessment criteria

Criterion	Expected result
Dataset	150 structured transactions imported
Data preparation	Data checked in Power Query
Total Sales	Izveidots korekts measure
Total Cost	Izveidots korekts measure

Criterion	Expected result
Total Profit	Izveidots korekts measure
Profit Margin	Izveidots korekts measure
Average Order Value	Izveidots korekts measure
Regional analysis	All three regions compared
Product analysis	All four product categories compared
Time analysis	All 12 months analysed
Interactivity	Izveidots Region Slicer
Interpretation	Data-based management conclusions formulated

Self-assessment

Self-assessment criterion	Yes	Partly	No
I can import Excel data into Power BI.	☐	☐	☐
I can check and transform data in Power Query.	☐	☐	☐
I understand the difference between Power Query and DAX.	☐	☐	☐
I can create a simple DAX measure.	☐	☐	☐
I can calculate Total Sales, Total Profit and Profit Margin.	☐	☐	☐
I can analyse results by region and product group.	☐	☐	☐
I can use a Slicer for data analysis.	☐	☐	☐
I can interpret KPIs in a business context.	☐	☐	☐
I can formulate a data-based management conclusion.	☐	☐	☐

The task is successfully completed if the user can independently import and prepare business data, create the required DAX calculations, analyse results across different data segments and turn calculated indicators into data-based management information.

5. TOOLS FOR DATA VISUALIZATION AND PRESENTATION OF MANAGEMENT INFORMATION

Data-analysis results gain practical value in the management process when they are presented in an understandable, clear and decision-useful form. Data-visualization tools make it possible to transform structured data into charts, presentations of Key Performance Indicators (KPIs) and interactive management dashboards.

In this chapter, Tableau is used as the primary tool, while Microsoft Power BI and Microsoft Excel are examined for comparison. This makes it possible to compare a professional visual analytics platform with a business analytics solution and a widely available spreadsheet tool.

The objective of the chapter is not only to learn the technical creation of visualizations, but also to develop the ability to select an appropriate way to display data, create a management dashboard and interpret the information presented in visualizations.

Overall approach:

Source data → Data structuring → KPI → Visualizations → Dashboard → Management information → Decision-making

5.1. Tableau: Description and Applications

Tableau is a data visualization and visual analytics platform designed for data exploration and the creation of interactive visualizations and dashboards. The tool allows users to connect different data sources, analyse information visually and create reports without the need to program.

Tableau is particularly suitable for situations where it is necessary not only to create an individual chart, but also to analyse data interactively, compare several indicators, use filters and combine multiple interrelated visualizations in one view.

In a management environment, Tableau's main value lies in its ability to transform large volumes of data into structured and visually understandable information that makes it possible to identify trends, compare results, monitor KPIs and support management decisions.

In the initial sources for the methodological material, Tableau was likewise described as a professional data-visualization tool with interactive dashboards and broad data-connection capabilities.

Tableau at a glance

Criterion	Description
Tool type	Data visualization and visual analytics platform
Galvenais use	Creation of interactive visualizations, reports and dashboards
Operating principle	Visual drag-and-drop use of data fields
Programming skills	Not required for core functions
Data sources	Excel, CSV, databases and other data sources

Criterion	Description
Interactive filters	Yes
KPI display	Yes
Dashboard izveide	Yes
Desktop versija	Yes
Web environment	Yes, depending on the Tableau solution used
Free options	Yes
Suitability for the business environment	Very high
Suitability for the academic environment	High
Main benefit	Broad capabilities for interactive visualization and visual analysis

Why use Tableau?

Tableau's key advantage is the ability to move from a static data table to interactive data exploration and presentation of management information.

Typical workflow:

Data source → Check data structure → Worksheet → Visualization → KPI → Filters → Dashboard → Interpretation

Unlike a simple chart, a Tableau visualization allows the user to change filters, select specific periods, regions or categories and observe how the other indicators change accordingly.

This is particularly useful in a management environment where one report needs to answer several interrelated questions:

What are the overall results? → How do they change over time? → Which region performs best? → Which product group generates the highest revenue? → Where is management attention required?

Applications in the business environment

Business situation	Tableau use
Sales analysis	Comparison of revenue, sales volume, profit and regions
Marketing analysis	Visualization of campaign, channel and customer-segment results
Financial reporting	Presentation of expenses, revenue, profit and other financial indicators
HR analytics	Analysis of headcount, turnover and other HR indicators

Business situation	Tableau use
KPI monitoring	Presentation of key performance indicators in a single report
Management reporting	Combining multiple indicators in an interactive dashboard
Market analysis	Comparison of products, segments, territories and time periods

Tableau's practical value lies in its ability to combine several interrelated indicators in one view, allowing a manager not only to see the final result but also to analyse its structure.

Applications in the academic environment

In the academic environment, Tableau can be used for:

- visualizing research results;
- exploring larger datasets;
- presenting quantitative results;
- study projects and case analysis;
- developing data-visualization competencies;
- analysing public datasets.

Tableau Public is particularly suitable for learning and public demonstration because it allows visualizations to be created and shared publicly free of charge. At the same time, information published in Tableau Public is publicly accessible, so confidential or sensitive data must not be published there.

Tableau versions and costs

Tableau can be used in several ways, so before selecting the tool it is necessary to determine whether individual data analysis, public sharing of visualizations or organization-level collaboration is required.

Solution	Approximate costs*	Suitability
Tableau Desktop Free Edition	0 USD	For individual analysis and local work
Tableau Public	0 USD	For learning and publicly shared visualizations
Tableau Cloud Creator – Standard	~USD 75 per user/month	For creating and publishing visualizations
Tableau Cloud Explorer – Standard	~USD 42 per user/month	For analysing and editing existing reports
Tableau Cloud Viewer – Standard	~USD 15 per user/month	For viewing dashboards and reports

***Note. The stated prices are approximate and valid as of 1 April 2026; they may change. Before selecting a paid solution, current information should be checked on the Tableau website.**

It is important to distinguish free local analysis options from Tableau Public. Tableau Public is intended for public sharing of visualizations, so the confidentiality of the data being processed must be considered when selecting the tool.

Installation and availability

Tableau are:

Tableau: https://www.tableau.com
Tableau Desktop: https://www.tableau.com/products/desktop
Tableau Public: https://public.tableau.com

Tableau Desktop is intended for work on a computer, while web and cloud options are also available in the Tableau ecosystem.

Data security

When selecting a visualization tool, it is important to evaluate:

Where is the data stored? → Who has access? → May the data be published?

If personal data, internal financial data, customer information or other confidential information is being analysed, the organization's data-security requirements must be checked before uploading or publishing the data.

What should be considered before choosing Tableau?

1. Is only a chart required, or an interactive management report?
Excel may be sufficient for simple visualizations. If several interrelated visualizations, filters and a dashboard are required, Tableau's advantages become more significant.

2. Do the results need to be shared within the organization?
It should be assessed whether local analysis is sufficient or organization-level publishing and access management are required.

3. May the data be public?
If the data is confidential, Tableau Public is not suitable for publishing it.

Selection summary

Tableau is a suitable choice when the following are required:

Data → Visualization → Interactive analysis → KPI → Dashboard → Data-based management conclusion

5.2. Tableau Alternatives and Comparison

When selecting a data-visualization tool, visualization capabilities, data volume, interactivity, costs, the existing software environment and end-user needs should be assessed.

Microsoft Power BI and Microsoft Excel are considered in this methodological guide as the main alternatives to Tableau.

Power BI is a more direct alternative to Tableau for business analytics and interactive reporting, while Excel is a widely available solution for simpler data analysis and visualization.

Microsoft Power BI

Microsoft Power BI is a business analytics platform for creating interactive reports, data models and visualizations.

It is particularly suitable for organizations that already use Microsoft 365, Excel, Azure or other Microsoft solutions.

Advantages:

- close integration with the Microsoft ecosystem;
- broad data-modelling capabilities;
- interactive reports and dashboards;
- suitable for KPI monitoring;
- Power BI Desktop is available free of charge for creating reports;
- suitable for regularly refreshed business analytics.

Limitations:

- many sharing features require a paid licence;
- advanced data modelling requires learning additional functionality, including DAX;
- Power BI Desktop is primarily oriented toward the Windows environment.

When is Power BI better than Tableau?
Power BI may be more suitable when the organization already uses the Microsoft ecosystem extensively, close integration with Excel and other Microsoft data sources is required, or a Power BI infrastructure has already been established in the organization.

Microsoft Excel

Microsoft Excel is a spreadsheet application that provides data entry, processing, calculations, PivotTable, PivotChart and the creation of various charts.

Advantages:

- very widely used and familiar;
- suitable for simple and moderately complex analysis;
- PivotTable and PivotChart make it possible to summarize data quickly;
- broad formula and calculation capabilities;
- already available under a Microsoft 365 licence in many organizations;
- no separate BI solution is required for simple tasks.

Limitations:

- less suitable for complex and regularly refreshed interactive dashboards;
- as workbook complexity increases, the risk of manual errors may increase;
- visual analytics and interactivity are more limited than in specialized BI tools.

When is Excel better than Tableau?
Excel may be more suitable when rapid data analysis, calculations and a few simple visualizations are required, users are already familiar with Excel, and a specialized interactive BI solution is not needed.

Comparison of Tableau, Microsoft Power BI and Microsoft Excel

Criterion	Tableau	Microsoft Power BI	Microsoft Excel
Galvenais fokuss	Visual analytics	Business analytics and BI	Spreadsheets and data analysis
Visualization capabilities	Very broad	Very broad	Labas
Interactive dashboard	Highly suitable	Highly suitable	More limited
KPI display	Highly suitable	Highly suitable	Suitable

Criterion	Tableau	Microsoft Power BI	Microsoft Excel
Data modelling	Broad	Very broad	Medium
Microsoft ecosystem integration	Pieejama	Very close	Very close
Learning difficulty	Medium	Medium	Low-medium
Free options	Yes	Yes	Parasti licences ietvaros
Suitability for the business environment	Very high	Very high	High
Suitability for the academic environment	High	High	Very high
Main advantage	Advanced visual analysis	Microsoft integration and BI	Accessibility and familiarity
Main limitation	Cost of organizational solutions	Advanced use requires additional learning	More limited interactive analytics

Which tool should be selected?

Microsoft Excel - when rapid data processing, calculations and relatively simple charts are required.

Microsoft Power BI - when the organization uses the Microsoft ecosystem and requires regular business analytics, data modelling and interactive reports.

Tableau - when the priority is advanced visual analysis, flexible interactive visualizations and the creation of professional dashboards.

Short selection principle

Rapid analysis + simple charts → Microsoft Excel

Microsoft ecosystem + business analytics → Microsoft Power BI

Advanced interactive visual analytics → Tableau

5.3. Instructions for Using Tableau's Main Functions

The purpose of the instructions is to create an interactive sales-results management dashboard step by step, from adding data through to saving the results.

Overall workflow:

Data file → Connect → Data Source → Worksheet → Visualizations → KPI → Filters → Dashboard → Interpretation → Saving

Step 1. Select the Tableau environment

Choose a suitable Tableau environment for the practical work.

If data must be processed locally, use the Desktop environment. Tableau Public can be used for visualizations of public learning data.

Action sequence

Tableau → Select work environment → Open the program → Start work

Management principle. When selecting the work environment, consider data confidentiality and whether the final visualization may be publicly accessible.

Step 2. Add a data source

In the practical work, we will use an Excel or CSV file.

Action:

- Select Connect.
- Select Microsoft Excel or Text file.
- Specify the data file.
- Open **Data Source**.
- Check the imported data.
- Make sure the data types have been identified correctly.

Action sequence

Connect → Microsoft Excel / Text file → Open → Data Source → Check data

Management principle. Before creating a visualization, ensure the quality and structure of the data. Incorrect data types or incorrect data can produce misleading visualizations.

3. Step. Open Worksheet

A Worksheet is a Tableau work page in which an individual visualization is created.

Tableau data fields can be used as categories and numerical measures.

For example:

Region → kategorija

Product Category → kategorija

Sales → numerical measure

Profit → numerical measure

Action sequence

Data Source → Sheet 1 → Worksheet → Select data fields

Step 4. Create a sales-results chart

Create a comparison of sales revenue by region.

Action:

- Move Region to Columns.
- Move Sales to Rows.
- Select an appropriate chart type.
- Check axis labels and units.
- Sort the results if this improves interpretation.

Action sequence

Worksheet → Region → Columns → Sales → Rows → Diagramma → Check result

Step 5. Create a time-trend visualization

Create a chart showing changes in sales results by month.

Action:

- Create a New Worksheet.
- Pievienojiet **Date**.
- Select the appropriate time period.
- Pievienojiet **Sales**.
- Select a line chart.

Action sequence

New Worksheet → Date → Columns → Sales → Rows → Line chart → Trend over time

Management principle. A time-series visualization makes it possible to identify growth, decline, seasonality and other changes in results that are important for management.

Step 6. Create a product analysis

Create a visualization that makes it possible to compare sales results across product categories.

Action sequence

New Worksheet → Product Category → Sales → Diagramma → Sort → Compare results

The visualization should make it possible to identify quickly which product category generates the highest and which the lowest sales revenue.

Step 7. Create KPIs

The most important results should be highlighted in a management report.

In the practical work, use at least:

Total Sales

and

Total Profit

KPIs should be easy to notice and interpret.

Action sequence

New Worksheet → Sales / Profit → Text → Format KPI → Check result

Management principle. A KPI should reflect an indicator that is important to the specific management question. A large number of KPIs does not in itself improve a management report.

8. Step. Pievienojiet filtrus

Filters allow the user to interactively change the data segment being analysed.

For example:

Region → Filter

Product Category → Filter

Date → Filter

Action:

- Select the required variable.
- Pievienojiet to **Filters**.
- Select Show Filter.
- Check how the filter works.

Action sequence

Variable → Filters → Show Filter → User selection → Visualization updates

Step 9. Create a Dashboard

A Dashboard combines several visualizations and KPIs into a single management report.

Action:

- Select New Dashboard.
- Add the created worksheets.
- Pievienojiet KPI.
- Arrange the elements in a logical order.
- Add the required filters.
- Check interactivity.

Action sequence

New Dashboard → KPI → Worksheets → Filters → Arrange → Check interactivity

Step 10. Check dashboard quality

Before using the result, check:

- whether the dashboard objective is clear;
- whether the most important KPIs are easy to notice;
- whether the charts have understandable titles;
- whether appropriate units are used;
- whether the filters work;
- whether the visualizations are not overloaded;

- whether the information can be understood without additional explanation.

Action sequence

Dashboard → Check KPIs → Check charts → Check filters → Remove unnecessary elements → Final report

Management principle. A good dashboard is not the one with the most visualizations, but the one in which the necessary management information can be understood quickly and unambiguously.

Step 11. Interpret the management information

After creating the dashboard, formulate what the visualized data means.

Answer in sequence:

What is happening? → Kur tas notiek? → How does the result change over time? → Which segment delivers the best/worst result? → Which areas require management attention?

Action flow

Dashboard → Observe trends → Compare → Identify deviations → Formulate a conclusion

Management principle. A visualization by itself is not a management conclusion. The conclusion must be based on data and answer a specific management question.

12. Save the result

After checking the dashboard, save your work according to the Tableau environment being used.

Action flow

Check Dashboard → Save → Save locally / Publish → Check access

Management principle. Before publishing, check not only the quality of the visualization but also whether the data used may be shared with the selected audience.

Summary of the Tableau workflow

Data → Connect → Data Source → Worksheet → Visualizations → KPI → Filters → Dashboard → Interpretation → Saving/Publishing

5.4. Practical task and self-assessment

Practical task

Situation

Company management wants an interactive sales performance management report that makes it possible to evaluate the company's results across three regions and four product categories.

Management is interested in:

- How do sales results change over the year?
- Which region generates the highest revenue?

- Which product category performs best?
- What are the company's total sales value and profit?
- How do the results change when analysing only a specific region?

Your task is to create a Tableau management dashboard that makes it possible to answer these questions.

Source data:

- Create an Excel (.xlsx) or CSV (.csv) file with 120 records.
- Each record represents one sales transaction.

Variable	Saturs	Data format
ID	Transaction number	1–120
Date	Transaction date	Datums
Region	Region	Riga / Kurzeme / Vidzeme
Product_Category	Produktu grupa	A / B / C / D
Units	Number of units sold	Positive integer
Sales	Transaction revenue, EUR	Skaitlis
Profit	Transaction profit, EUR	Skaitlis

The data must cover a 12-month period.

The dataset must include:

- all three regions;
- all four product categories;
- all 12 months.
- Use simulated data rather than real customer, employee, or confidential company data.

Task execution:

1. Import the 120-record dataset into Tableau.

Check the data structure and data types.

2. Create a visualization of sales revenue by month.

It should make it possible to identify the dynamics of sales performance over the year.

3. Create a visualization of sales revenue by region.

It should make it possible to identify the best-performing region.

4. Create a visualization of sales revenue by product category.

It should make it possible to compare all four product groups.

5. Create two KPIs:

    - Total Sales
    - Total Profit

6. Create one Dashboard that combines the three visualizations and both KPIs.

7. Add an interactive Region filter.

Check whether selecting a region affects the required dashboard visualizations and KPIs.

8. Check the quality of the dashboard.

It should be clear, uncluttered, and understandable without a detailed verbal explanation.

9. Prepare a 3-5 sentence management summary.

The conclusions must be based only on the data visible in the created dashboard.

Final action flow

120-record dataset → Connect → 3 visualizations → 2 KPI → Region Filter → Dashboard → Check → Management conclusions

Assessment criteria

Criterion	Expected result
Data structure	120 correctly structured records imported
Time analysis	A monthly sales trend has been created
Regional analysis	Three regions have been compared
Product analysis	Four product categories have been compared
KPI	Total Sales and Total Profit have been created
Dashboard	3 visualizations and 2 KPIs have been combined in one report
Interactivity	A functioning Region filter has been created
Visualization quality	The information is clear and not overloaded
Interpretation	Data-based management conclusions have been formulated

Self-assessment

After completing the task, evaluate your work.

Self-assessment criterion	Yes	Partly	No
I can add and check a data source in Tableau.	☐	☐	☐
I understand the difference between a Worksheet and a Dashboard.	☐	☐	☐
I can create a category comparison visualization.	☐	☐	☐
I can visualize changes in results over time.	☐	☐	☐
I can create and display KPIs.	☐	☐	☐

Self-assessment criterion	Yes	Partly	No
I can create an interactive filter.	☐	☐	☐
I can combine several visualizations in one Dashboard.	☐	☐	☐
I can evaluate Dashboard quality.	☐	☐	☐
I can formulate a data-based management conclusion.	☐	☐	☐

The task is successfully completed if the user can independently create an interactive Tableau management dashboard from a structured dataset, use KPIs and filters, and formulate data-based conclusions to support management decision-making.

6. TOOLS FOR MARKET ANALYSIS AND RESEARCH

In market research, it is important not only to obtain primary data through surveys but also to examine already available secondary data. Such data can help assess public interest, market development trends, competitors' digital presence, target-audience characteristics, and industry development.

This chapter uses Google Trends as the primary tool, while Similarweb and Google Keyword Planner are examined as alternatives. Two important but often overlooked official statistical sources are also covered separately - the Official Statistics Portal of Latvia and Eurostat.

This approach makes it possible to examine market research from several perspectives:

Google Trends → public search interest and its dynamics

Similarweb → competitors' digital presence and website audiences

Google Keyword Planner → assessment of search demand and keyword potential

Official statistics → demographic, economic, and industry context of the market

The initial methodological materials also envisage assessing research tools in terms of data-analysis capabilities, ease of use, and export formats, while the overall digital-tool evaluation methodology calls for comparing advantages, disadvantages, costs, availability, and suitability for the work environment.

Overall market-research logic:

Research question → Secondary data sources → Trend analysis → Market/competitor analysis → Information comparison → Conclusions

6.1. Tool description and application

Google Trends

Google Trends is a free Google tool that makes it possible to analyse how public interest in specific search terms or topics changes over time. The tool uses aggregated Google search data and allows users to analyse interest over a selected period and geographic area, compare several terms, and identify related searches.

Google Trends is not intended to determine precise market size. Its main value lies in analysing trends and relative interest.

Google Trends at a glance

Criterion	Description
Tool type	Tool for analysing search trends and public interest
Galvenais use	Analysis of market interest and the popularity dynamics of products, brands, and topics
Data source	Google Search data
Comparison of time periods	Yes

Criterion	Description
Comparison of regions	Yes
Comparison of multiple terms	Yes
Related queries / Related topics	Yes
Data export	Yes
Programming skills	Not required
Latvian-language interface	Pieejama
Costs	Bezmaksas
Suitability for business use	High for initial research into market interest and demand trends
Suitability for academic use	High as a secondary data source when its limitations are interpreted correctly

In the Google Trends Explore environment, users can compare terms, analyse results by region, view related searches, filter results by category, and export data.

What do Google Trends indicators mean?

It is important to understand that Google Trends does not show a simple absolute number of searches. Results are normalized so that search interest can be compared across periods and locations.

In practical interpretation:

100 → the highest point of relative interest in the selected period and area

50 → relative interest is approximately half the peak level

0 → there is insufficient data or interest is very low

Therefore:

Google Trends indicator ≠ market size

and

Google Trends indicator ≠ exact number of searches

Regional results are also calculated relative to total search activity in the respective area.

Search term and Topic

Google Trends offers two significantly different approaches.

Search term analyses the exact word or phrase entered.

Topic aggregates searches related to a specific concept across different languages and spelling variants. Google itself recommends using Topic when a suitable topic is available and a broader assessment of interest in the concept is needed.

This distinction is particularly important in international market research because the same product may be searched for in different languages in different countries.

Why use Google Trends?

Google Trends can help answer business questions such as:

- is interest in a product increasing or decreasing;
- is interest seasonal;
- in which area is interest higher;
- which of several competing products is searched for more often;
- what other questions or topics interest potential customers;
- whether new, rapidly growing search topics are emerging.

In the Related searches section of Google Trends, users can analyse both the most popular (Top) and rapidly growing (Rising) related searches.

Application in a business environment

Business situation	Google Trends use
Evaluation of a new product	Analysis of changes in public interest
Market comparison	Comparison of interest across countries or regions
Competitor analysis	Comparison of search interest in brands or products
Seasonality analysis	Identifying changes in demand over the year
Marketing planning	Identifying current and growing topics
Product portfolio analysis	Comparison of the popularity of several products or services

Application in an academic environment

Google Trends data can also be used in research, for example, to:

- analyse changes in public interest;
- study trends in consumer attention;
- analyse indicators of digital behaviour;
- conduct cross-country comparisons;

learn to use and critically interpret secondary data.

However, Google Trends data should not automatically be treated as public-opinion survey data. Search interest in a topic does not indicate a positive attitude toward it.

Access and costs

Google Trends:
https://trends.google.com

Google Trends is free and can be used in a web browser. Google also provides a help environment in Latvian.

Basic workflow

Explore → Search term / Topic → Location → Time period → Compare → Interest over time → Interest by region → Related queries → Conclusion

Official statistical data sources in market research

In market research, Google Trends or competitors' digital indicators should be supplemented with reliable statistical data. National and European Union official statistical sources are particularly important.

Official Statistics Portal of Latvia

https://stat.gov.lv

The Official Statistics Portal of Latvia provides data in areas such as:

- population and demographics;
- employment and wages;
- business;
- trade and services;
- cenas;
- households;
- economic development;
- various sectors of the economy.

Such data help assess, for example, the size of a potential target audience, population structure, the economic situation, and the development of a particular industry.

Eurostat

https://ec.europa.eu/eurostat

Eurostat is the statistical office of the European Union. It is particularly useful when market research requires comparing Latvia with other EU countries.

For example:

Latvia → Lithuania → Estonia → EU average

Such analysis can be useful when assessing opportunities for market expansion, consumer purchasing power, demographics, the business environment, or industry development.

Methodological principle. Google Trends, Similarweb, and official statistics are not interchangeable information sources. Each describes a different aspect of the market.

Search interest → Google Trends

Demographic and economic context of the market → CSP / Eurostat

Competitors' digital presence → Similarweb

The use of several such sources can be described as data triangulation - a conclusion is checked using multiple independent information sources.

6.2. Alternative tools, their advantages and disadvantages

Google Trends is not suitable for every market-research question. If the aim is to study competitors' website activity or obtain more detailed indicators of keyword demand, Similarweb or Google Keyword Planner may be more appropriate.

Similarweb

Similarweb is a digital market and competitor-research platform that makes it possible to analyse website traffic, audience activity, traffic sources, search keywords, and other indicators of digital competition.

Similarweb's free Website Traffic Checker allows a user to enter a specific domain and obtain information about its digital activity. The public free tool currently has a limited number of free searches - for example, it shows 3 searches per day.

Advantages

- competitor websites can be researched;
- traffic and audience-activity estimates are available;
- traffic sources and digital competitors can be analysed;
- a free public analysis tool is available;
- particularly suitable for e-commerce and digital-marketing analysis.

Disadvantages

- free access is limited;
- advanced functionality is paid;
- data on competitor websites are estimates rather than the company's own actual analytics data;
- data for small or low-traffic websites may be limited.

When is Similarweb better than Google Trends?
When it is necessary to analyse the digital performance of specific competitor websites rather than only public search interest.

Google Keyword Planner

Google Keyword Planner is a keyword-research tool available in Google Ads. It makes it possible to find new keywords, view approximate monthly search volumes, and analyse advertising-cost and demand indicators.

Advantages

- approximate search volume can be analysed;
- it suggests new keywords related to a product or service;
- a geographic area can be specified;
- it can help assess the volume of digital demand;
- the data are directly linked to the Google Ads search environment.

Disadvantages

- a Google Ads account is required;
- to access the basic functions, Google currently requires completing account setup and entering billing information;
- the tool is primarily intended for planning advertising campaigns rather than academic market research;
- search volumes and forecasts are estimates.

When is Keyword Planner better than Google Trends?

When it is necessary not only to see the trend in interest but also to obtain approximate monthly search-volume and commercial-demand indicators.

Comparison of Google Trends, Similarweb, and Google Keyword Planner

Criterion	Google Trends	Similarweb	Google Keyword Planner
Galvenais fokuss	Search-interest trends	Competitors' digital activity	Keyword demand
Interest over time	Very good	More limited	Historical indicators available
Regional comparison	Very good	Available depending on data/plan	Yes
Competitor website analysis	No	Very good	Limited
Approximate search volume	No, relative index	Partly	Yes
Related / keyword ideas	Yes	Yes	Very broad
Free availability	Completely free	Limited	No separate fee for the tool, but Google Ads account configuration is required
Ease of use	Low	Low-medium	Medium
Suitability for academic use	High with methodological caution	Medium	Medium
Suitability for business use	High	Very high for digital market analysis	Very high for digital-demand analysis
Main advantage	Simple and free trend analysis	Analysis of competitors' digital activity	Search-volume and keyword analysis
Main limitation	Does not show actual market size	Free data are limited	A Google Ads account is required

Quick selection principle

How is people's interest changing? → Google Trends

How are competitors performing in the digital environment? → Similarweb

What do people search for and approximately how often? → Google Keyword Planner

What is the actual demographic and economic context of the market? → CSP / Eurostat

6.3. Instructions for using the main functions

In this instruction, we will use Google Trends to conduct structured initial market research.

The aim of the instruction is not merely to obtain a graph, but to learn how to formulate a market-research question, select terms for comparison, define the geographic area and time period, and correctly interpret the results obtained.

Overall workflow:

Research question → Explore → Search term / Topic → Location → Time period → Compare → Interest over time → Interest by region → Related queries → Export → Conclusion

1. Define the market-research question

Before opening Google Trends, determine what you want to find out.

For example:

Has public interest in electric cars in Latvia increased over the past five years?

or:

Which of the three services - coworking, shared office, or virtual office - has greater search interest?

Action flow

Business problem → Research question → Concepts to compare → Analysis period → Teritorija

Research principle. Formulate the question first and only then search for data. Otherwise, there is a risk of selecting only results that confirm a prior assumption.

2. Step. Open Google Trends

Google Trends: https://trends.google.com

Action:

Open Google Trends.

Select Explore.

Enter the term or topic to be studied.

Action flow

trends.google.com → Explore → Search

3. Select Search term or Topic

Pay attention to what Google Trends offers under the entered name.

Search term → more precisely analyses the exact wording entered.

Topic → analyses a broader concept by combining related terms and variants in different languages.

Action flow

Search → Search term / Topic → Evaluate the meaning → Select the most suitable option for the analysis

Research principle. In international comparisons, when possible, it is often more useful to use Topic so that language differences have less influence on the result.

4. Define the geographic area

Select the country or area you want to analyse.

For example:

- **Worldwide**
- **Latvia**
- **Lithuania**
- **Estonia**

Action flow

Location → Latvia / cita teritorija → Update the result

5. Step. Detect laika periodu

The time period should be selected according to the research objective.

For example:

Past 12 months → for a short-term situation;

Past 5 years → for analysing a longer trend;

2004–present → for long-term changes;

Custom time range → for a specific period.

Action flow

Time range → Periods → Check data sufficiency

If there are insufficient data for a term, Google recommends extending the time period or reducing the specificity of the search term.

6. Compare several terms or topics

Select Compare and add an alternative product, brand, or topic.

For example:

Electric car ↔ Hybrid car

or:

Brand A ↔ Brand B ↔ Brand C

Google Trends allows several terms or topics to be compared in one analysis.

Action flow

Search term 1 → Compare → Search term 2 → Search term 3 → Compare

Research principle. The terms being compared should be conceptually comparable. A brand name should not be compared with a very broad product category without justification.

7. Analyse Interest over time

Apskatiet grafiku **Interest over time**.

Detect:

- whether interest is increasing or decreasing;
- whether seasonal fluctuations exist;
- whether sharp increases in interest are visible;
- whether the relationship between the compared terms changes over time.

Action flow

Interest over time → Tendence → Pieaugums / kritums → Seasonality → Unusual peaks

Important. A peak in interest does not by itself explain why search activity changed. Additional sources are needed to determine the cause.

8. Analyse Interest by region

Apskatiet **Interest by region**.

This result helps identify the areas where a particular topic is relatively more popular. Google Trends normalizes regional indicators against total search activity in the respective area.

Action flow

Interest by region → Regional comparison → Higher / lower relative interest

Research principle. A high regional index does not mean that the area has the largest absolute number of potential customers.

9. Analyse Related topics and Related queries

Google Trends makes it possible to identify interests related to the topic being studied.

Pay particular attention to:

Top → the most popular related searches;

Rising → terms showing the fastest growth.

Google states that the label Breakout is used when growth exceeds 5000%.

Action flow

Related topics / Related queries → Top / Rising → New needs → Potential market opportunities

10. Change Search type and Category if necessary

Depending on the research question, the analysis can be refined by category or search type.

Google Trends allows results to be filtered by category and different search contexts to be analysed.

Action flow

Category / Search type → Refine the data context → Check changes in the result

11. Export the data

Google Trends allows analysis data to be exported.

Action flow

Result → Download / Export → CSV → Excel / Power BI → Further analysis

This makes it possible to connect Chapter 6 with tools learned previously:

Google Trends → CSV → Excel / Power BI → Tableau

12. Compare with another information source

A Google Trends result should not be used in isolation.

Check the conclusion obtained using:

Central Statistical Bureau / Official Statistics Portal

or

Eurostat

or, if digital competitor analysis is required,

Similarweb.

Action flow

Google Trends result → CSP / Eurostat / Similarweb → Compare → Confirm or refine the conclusion

13. Formulate the market-research conclusion

The conclusion should answer the initial question.

Use the following structure:

What did we analyse? → What period and area? → What trend was identified? → What do other sources show? → What can be concluded in a business context?

Main process flow

Research question → Google Trends → Tendence → Regions → Related queries → Official statistics / competitor data → Comparison of information → Market conclusion

6.4. Practical task and self-assessment

Practical task

Situation

A company is considering expanding its range of services related to electric vehicles in the Baltic market. Before conducting a detailed investment analysis, management wants to obtain an initial overview of how public interest is developing in Latvia and of the broader European market context.

Your task is to use Google Trends and at least one official statistical source to conduct an initial secondary market analysis.

Task 1. Prepare a Google Trends analysis

In Google Trends, analyse a period of at least 5 years.

Select Latvia and compare at least three related terms or topics, for example:

elektroauto

hybrid car

electric car charging

If Google Trends does not have sufficient data for the specific Latvian-language terms, select appropriate Topics or make a justified adjustment to the search terms.

Action flow

Google Trends → Latvia → Past 5 years → 3 terms/topics → Compare

Task 2. Analyse the dynamics of interest

Izmantojiet Interest over time.

Detect:

- which term/topic has the highest overall relative interest;
- whether interest has increased or decreased over the five-year period;
- whether seasonality is observable;
- whether significant peaks in interest are visible.

Action flow

Interest over time → Tendence → Seasonality → Peaks → Comparison

Task 3. Analyse regional interest

If sufficient data are available for the selected term, use Interest by region.

Determine whether interest is evenly distributed across Latvia or relatively higher in certain areas.

Action flow

Interest by region → Regions → Compare relative interest

Task 4. Analyse related searches

Select Related queries and check:

- at least 5 Top related searches;
- at least 5 Rising related searches, if available.

Determine whether they indicate new customer needs or potential market segments.

Action flow

Related queries → Top + Rising → Select 5 + 5 → Interpret

Task 5. Supplement the analysis with official statistics

Use at least one of the following sources:

- Official Statistics Portal of Latvia: https://stat.gov.lvhttps://stat.gov.lv
- Eurostat: https://ec.europa.eu/eurostat
- Find at least two quantitative indicators that help describe the context of the market being studied.

These may include, for example:

- population;
- household income;
- vehicle or transport-structure indicators;
- energy or mobility data;
- other official statistical indicators related to the selected market.

Specify:

Indicator → Gads → Value → Data source

Task 6. Compare information sources

Create a short summary table.

Question	Avots	What do the data show?
How is public interest changing?	Google Trends	...
What related questions interest users?	Google Trends	...
What is the economic/demographic context of the market?	CSP / Eurostat	...

Action flow

Google Trends → Official statistics → Compare → Overall conclusion

Task 7. Prepare a management conclusion

Prepare a 100-150 word summary for company management.

Address the following:

- Is public interest in the selected topic increasing, decreasing, or stable?
- Which of the compared terms/topics generates the greatest interest?

- What new or growing interests are shown by Related queries?
- What do official statistical data add to the market context?
- Does the information obtained justify the need for more in-depth market research?

Important. It must not be concluded that an increase in Google Trends interest automatically means a proportional increase in sales or market volume.

Final workflow

Research question → 3 terms/topics → 5 years of Google Trends data → Top/Rising queries → 2 official statistical indicators → Source comparison → Management conclusion

Assessment criteria

Criterion	Expected result
Research question	Clearly formulated
Analysis period	Vismaz 5 gadi
Comparison	At least 3 terms or topics analysed
Interest over time	Interest over time interpreted correctly
Regional analysis	Used if sufficient data are available
Related searches	Top and Rising results analysed
Official statistics	At least 2 quantitative indicators used
Source comparison	Google Trends results are not interpreted in isolation
Interpretation	Relative search interest is distinguished from actual market size
Conclusion	A data-based management summary has been formulated

Self-assessment

Self-assessment criterion	Yes	Partly	No
I can formulate a market-research question.	☐	☐	☐
I understand the difference between Search term and Topic.	☐	☐	☐
I can define an appropriate Location and Time range.	☐	☐	☐
I can compare several terms in Google Trends.	☐	☐	☐
I can interpret Interest over time.	☐	☐	☐

Self-assessment criterion	Yes	Partly	No
I understand that the Google Trends index is not an absolute number of searches.	☐	☐	☐
I can analyse Related queries.	☐	☐	☐
I can use the Central Statistical Bureau or Eurostat to describe the market context.	☐	☐	☐
I can compare information from several data sources.	☐	☐	☐
I can formulate a data-based but cautious market conclusion.	☐	☐	☐

The task is successfully completed if the user can do more than simply find a Google Trends chart: they can formulate a market-research question, correctly interpret relative search-interest data, supplement them with official statistics, and create a data-based initial market assessment.

7. TOOLS FOR CREATING SURVEYS AND COLLECTING DATA

Digital survey tools make it possible to obtain primary data from respondents in a structured way, automatically compile responses, and prepare them for further analysis. They are used in customer and employee surveys, market research, study and research projects, and for collecting feedback.

This chapter uses Microsoft Forms as the primary tool and examines Google Forms and Qualtrics as alternatives.

Overall workflow:

Research objective → Survey structure → Questions → Survey testing → Distribution → Response collection → Data export → Analysis

7.1. Tool description and application

Microsoft Forms

Microsoft Forms is a web-based tool for creating surveys, questionnaires, quizzes, and other structured data-collection forms. It allows users to create different question types, organize a survey into sections, use conditional logic, distribute the survey to respondents, and automatically compile the responses received.

Microsoft Forms offers question types such as Choice, Text, Rating, Date, Ranking, Likert, File upload, and Net Promoter Score. (support.microsoft.com)support.microsoft.com

Microsoft Forms at a glance

Criterion	Description
Tool type	Online survey and data-collection tool
Galvenais use	Surveys, questionnaires, application forms, and quizzes
Programming skills	Not required
Question types	Choice, Text, Rating, Date, Ranking, Likert u. c.
Sections	Yes
Branching	Yes
Respondentu saite	Yes
QR kods	Yes
Response collection	Automatic
Results summary	Yes

Criterion	Description
Eksports	Microsoft Excel
Latvian language	Yes
Free option	Yes, with a personal Microsoft account
Suitability for business use	High
Suitability for academic use	High

The Microsoft Forms interface is also available in Latvian. (support.microsoft.com)support.microsoft.com

Why use Microsoft Forms?

Microsoft Forms combines the key stages of survey creation and data collection in one environment:

New Form → Questions → Preview → Collect responses → Responses → Open in Excel

The tool is suitable for users who want to create a structured survey without programming or specialized research software.

Branching can be used to create different survey flows depending on a respondent's previous answer. For example:

Have you used the service? → Yes → Service evaluation

Have you used the service? → No → Next section / end of survey

Application in a business environment

Situation	Use
Customer satisfaction	Evaluation of a service or product
Employee surveys	Research into satisfaction, engagement, and needs
Market research	Identifying potential customers' opinions and choices
Event evaluation	Collecting participant feedback
Application collection	Structured collection of customer or participant information
Product research	Collecting evaluations from potential users

Application in an academic environment

Microsoft Forms can be used for:

- surveys for study and final papers;
- applied research;
- pilot studies;
- student and lecturer surveys;

- structured collection of research data;
- evaluation of the learning process.

A digital tool does not replace research methodology. Before creating a survey, determine what needs to be found out and what data are required for that purpose.

Research objective → Required data → Questions → Response scale → Microsoft Forms

Availability

Microsoft Forms is web-based and can be used on Windows and macOS computers as well as mobile devices.

Microsoft Forms:

https://forms.office.com

Access flow

forms.office.com → Sign in → New Form → Create survey

Microsoft Forms is available with a personal Microsoft account and eligible Microsoft 365 work and education accounts.

Note. The features and response-count limits of free and paid plans may change, so before conducting a larger study it is advisable to check the current Microsoft terms.

Data collection and further use

Microsoft Forms automatically compiles received responses. Results can be viewed in Forms or opened in Excel for further processing.

This makes it possible to create a unified workflow:

Microsoft Forms → Excel → jamovi / Power BI / Tableau

In this process, Microsoft Forms is used for data collection and compilation, while specialized tools can be used for in-depth statistical analysis and visualization.

Data protection and research ethics

Before distributing a survey, evaluate what data are genuinely necessary to achieve the research objective. If respondent identification is not needed, names, email addresses, or other identifying data should not be collected without justification.

The survey introduction should preferably specify:

- the purpose of the survey;
- that participation is voluntary;
- the approximate completion time;
- the purpose for which the data will be used;
- whether responses are anonymous or confidential.

7.2. Alternative tools, their advantages and disadvantages

Google Forms and Qualtrics can be used as alternatives to Microsoft Forms.

Google Forms

Google Forms is a free web-based tool for creating surveys, questionnaires, and other forms. It is closely integrated with the Google environment, and received responses can be automatically linked to Google Sheets.

Advantages

- free with a Google account;
- easy to use;
- works in a web browser;
- easy survey distribution via a link;
- integration with Google Sheets;
- data can be exported in CSV format;
- suitable for simple business and academic surveys.

Disadvantages

- more limited options for complex research than Qualtrics;
- fewer options for professional respondent management;
- complex research designs may require a more specialized tool.

When should Google Forms be selected?

When a simple, free survey is needed and the data will subsequently be processed in Google Sheets.

Qualtrics

Qualtrics is a professional survey and research platform suitable for more complex market, customer, employee, and academic research.

Advantages

- extensive survey-creation capabilities;
- advanced conditional and survey-flow logic;
- suitable for more complex research designs;
- professional respondent and research-management capabilities;
- a limited free version is available.

Disadvantages

- more complex for beginners;
- many professional features are paid;
- for a simple survey, the functionality may be excessive.

When should Qualtrics be selected?

When a more complex research design, broader conditional logic, and more professional management of the research process are required.

Tool comparison

Criterion	Microsoft Forms	Google Forms	Qualtrics
Galvenais use	Business and academic surveys	Simple data collection	Professional research
Ease of use	Low	Very low	Medium-high
Free option	Yes	Yes	Limited
Sharing via link	Yes	Yes	Yes
Response collection	Automatic	Automatic	Automatic
Conditional logic	Yes	Yes	More extensive
Likert	Yes	With grid questions	Yes
Data export	Excel	Google Sheets / CSV	Depending on the plan
Usage environment	Microsoft	Google	Specialized research environment
Suitability for academic use	High	High	Very high
Suitability for business use	High	High	Very high
Main advantage	Integration with Microsoft and Excel	Simplicity	Extensive research functionality
Main limitation	Less suitable for very complex research	More limited functionality	Complexity and paid features

Quick selection principle

Simple survey + Google environment → Google Forms

Business or academic survey + Microsoft/Excel environment → Microsoft Forms

More complex professional or academic research → Qualtrics

7.3. Instructions for using the main functions

In this section, we will create a customer-satisfaction survey in Microsoft Forms.

Overall workflow:

Objective → New Form → Questions → Sections → Branching → Preview → Collect responses → Responses → Excel

1. Define the survey objective

Before creating the survey, formulate what information needs to be obtained.

For example:

Determine customer satisfaction with service quality and identify areas for improvement.

Action flow

Problem → Survey objective → Required data → Questions

2. Step. Open Microsoft Forms

Open:

https://forms.office.com

Sign in with a Microsoft account and select New Form.

Specify:

- survey title;
- a short description;
- the necessary information for the respondent.

Action flow

forms.office.com → Sign in → New Form → Title → Description

3. Create the questions

Select Add new and the required question type.

Commonly used question types:

Choice → single- or multiple-choice selection;

Text → free-text response;

Rating → rating on a scale;

Likert → rating several statements;

Net Promoter Score → rating willingness to recommend.

Activate Required for questions that must be answered.

Action flow

Add new → Question type → Question → Answer options → Required

4. Create a Likert question

If several aspects of the service need to be assessed, select Likert.

For example:

- quality of service;
- staff responsiveness;
- speed of service delivery;
- value for money.

Skala:

1 - Very dissatisfied → 5 - Very satisfied

Action flow

Add new → Likert → Statements → Options → Required

5. Structure the survey with Sections

Divide a longer survey into thematic sections.

For example:

Klienta profils → Service use → Service evaluation → Overall assessment

Action flow

Add new → Section → Section title → Questions

6. Create Branching

Use Branching when subsequent questions depend on a previous answer.

For example:

Have you used our service in the past 6 months?

Yes → Service-evaluation questions

No → End of the form

Action flow

Question → More settings → Add branching → Atbilde → Next question / End of the form

7. Test the survey

Select Preview and check:

- the wording of questions;
- answer options;
- Required laukus;
- Branching behaviour;
- the appearance of the survey on a computer and mobile device.

Action flow

Preview → Computer / Mobile → Test completion → Check → Labojumi

8. Configure respondent access

Check who will be allowed to complete the survey.

For an external customer survey, you can use:

Anyone can respond

For an internal organizational survey, the respondent group can be restricted according to the available account settings.

Action flow

Settings → Respondent access → Check anonymity / identification

9. Step. Contribute a querry

Select Collect responses.

Depending on the situation, the survey can be distributed using:

- **Copy link**;
- QR kodu;
- e-pastu;
- **Embed**.

Action flow

Collect responses → Respondent mode → Copy link / QR code → Distribute

It is important to assess not only how to distribute the link but also which respondents receive it, so that the data obtained correspond to the survey objective.

10. Compile and export responses

Open Responses to view a summary of the responses received.

After the data have been collected, they can be opened in Excel and prepared for further analysis.

Action flow

Responses → Check results → Open in Excel → Check data → Analysis

In the exported file, check:

- whether each respondent corresponds to one row;
- whether questions are in separate columns;
- whether unnecessary personal data are absent;
- whether numerical responses are suitable for further analysis.

Procesa Conclusion

Objective → New Form → Questions → Sections → Branching → Preview → Collect responses → Responses → Excel → Analysis

7.4. Practical task and self-assessment

Practical task

Situation

The management of a service company wants to determine customers' satisfaction with the service received and identify areas that require improvement.

Your task is to create a customer-satisfaction survey in Microsoft Forms and prepare the resulting data for further analysis.

Task requirements

Create a survey with 10 questions.

It must include:

Requirement	Minimum amount
Choice	2 questions
Rating	1 question
Likert	1 question block
Net Promoter Score or a 0-10 scale	1 question
Text	1 open-ended question
Required	at least 6 questions
Sections	vismaz 2
Branching	vismaz 1

In the survey introduction, specify:

- the purpose of the survey;
- the approximate completion time;
- that participation is voluntary;
- whether responses are anonymous or confidential;
- the purpose for which the data will be used.

Workflow

1. Create the survey according to the specified requirements.

2. Use Preview and complete at least 3 test submissions, checking the questions, Required fields, and Branching behaviour.

3. Prepare the survey for distribution using Collect responses.

4. Obtain at least 20 training or simulated responses.

5. Open Responses and review the results summary.

6. Select Open in Excel and check the structure of the resulting dataset.

Action flow

10 questions → Preview → 3 test submissions → Collect responses → 20 atbildes → Responses → Excel → Data check

Evaluation of the result

After compiling the data, determine:

1. the overall level of customer satisfaction;
2. which aspect of the service received the highest rating;
3. which aspect received the lowest rating;
4. how willing customers are to recommend the service;
5. which aspect of the service the company should analyse in greater detail.

Prepare a 3-5 sentence conclusion.

If simulated responses were used, the conclusions must not be interpreted as the results of an actual customer study.

Assessment criteria

Criterion	Expected result
Survey objective	Clearly formulated
Survey structure	10 questions
Question types	Required question types used
Likert	A correct rating scale has been created
Sections	Vismaz 2
Branching	At least 1 functioning condition has been created
Preview	At least 3 test submissions completed
Dataset	At least 20 training responses
Eksports	Data correctly opened in Excel
Conclusion	A short, data-based conclusion has been formulated

Self-assessment

Self-assessment criterion	Yes	Partly	No
I can formulate the objective of a survey.	☐	☐	☐
I can select an appropriate Question type.	☐	☐	☐
I can create a Likert question.	☐	☐	☐
I can use Sections and Branching.	☐	☐	☐
I can test a survey using Preview.	☐	☐	☐
I can prepare a survey for distribution.	☐	☐	☐
I can review received responses.	☐	☐	☐
I can export data to Excel.	☐	☐	☐

Self-assessment criterion	Yes	Partly	No
I can assess anonymity and data-protection issues.	☐	☐	☐
I can formulate a data-based conclusion.	☐	☐	☐

The task is successfully completed if the user can independently create a Microsoft Forms survey, test its operation, compile responses, export the resulting data, and prepare them for further analysis.

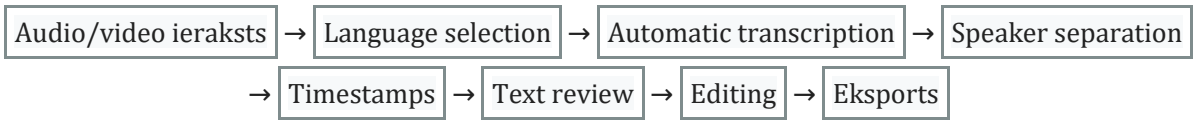
8. TOOLS FOR TRANSCRIBING MEETINGS, INTERVIEWS, AND AUDIO MATERIALS

Automatic transcription tools make it possible to convert audio and video recordings into structured text, reducing the time required for manual transcription. They are particularly useful for documenting meetings, processing interviews and focus groups, preparing research materials, and creating subtitles.

This chapter uses Sonix as the primary tool and examines Notta and Happy Scribe as alternatives. All three selected tools support transcription in both Latvian and English, which is important in Latvia's business and academic environment. Sonix supports more than 54 languages, including Latvian and English; Happy Scribe offers transcription in more than 150 languages, including Latvian.

When selecting a transcription tool, particular attention should be paid not only to language support but also to whether the system can distinguish speakers, assign speaker labels, preserve timestamps, and link text to a specific point in the audio or video recording. These functions are essential if the transcript is later used in research, meeting documentation, or qualitative data analysis.

Overall workflow:



8.1. Tool description and application

Sonix

Sonix is a web-based automatic transcription platform for converting audio and video recordings into text. It offers transcription in more than 54 languages, including Latvian and English, automatic speaker identification, text editing, timestamps, and various export formats.

For Latvian-language transcription, Sonix automatically adds speaker labels and word-level timestamps, meaning that timing information is linked to individual words. This enables the user to quickly return from the transcript to a specific point in the original recording.

Sonix at a glance

Criterion	Description
Tool type	Automatic transcription platform
Galvenais use	Conversion of audio and video into text
Latvian-language transcription	Yes
English-language transcription	Yes
Automatic speaker separation	Yes
Speaker renaming	Yes

Criterion	Description
Timestamps	Yes
Word-level timestamps	Yes
Text-audio linking	Yes
Text editing in a web browser	Yes
Audio and video files	Yes
Export formats	Word, PDF, TXT, SRT, and others
Free trial	30 transcription minutes
Suitability for business use	High
Suitability for academic use	High

Language support

Language support is one of the most important criteria when selecting a transcription tool. Sonix, Notta, and Happy Scribe are covered in this chapter because they make it possible to work with recordings in both Latvian and English.

This is important in situations where, for example, some research interviews are conducted in Latvian while international meetings are held in English.

A distinction should be made between:

Transkripcijas valoda → the language in which the speech was recorded and which is converted into text

and

Translation languages → the languages between which the tool can translate the text already obtained

The range of languages supported by specific additional functions may differ from the range of transcription languages itself.

Speaker recognition and time tracking

For interview and meeting transcription, converting speech into text alone is not enough. It is also important to preserve information about who is speaking and at what point in the recording the statement was made.

Sonix automatically separates speakers and adds word-level timestamps.

In practice, the working structure is:

Audio → Speaker identification → Speaker label → Timestamp → Teksts

For example:

[00:03:12] Interviewer: How would you rate the service you received overall?

[00:03:18] Respondent: Overall, I am satisfied, but the waiting time was too long.

This structure is particularly useful in research because it allows the accuracy of the transcript to be checked against the original recording.

Why use Sonix?

A key advantage of Sonix is its simple workflow:

Upload → Latvian / English → Transcribe → Speakers → Review → Edit → Export

The tool not only generates text but also allows it to be edited in a web browser and stored together with speaker and timing information. On its Latvian-language page, Sonix lists automatic speaker identification and timestamps as standard features.

However, automatic transcription should be treated as an initial version of the transcript rather than a final document. Accuracy can be affected by background noise, overlapping speech, microphone quality, specialized terminology, people's names, and pronunciation.

Therefore:

Automatic transcript → Audio review → Labojumi → Gala transkripts

Application in a business environment

Situation	Sonix use
Sapulces	Conversation documentation and creation of a text archive
Klientu intervijas	Transcription of customer-experience materials
Fokusa grupas	Preparing discussions for qualitative analysis
Darbinieku intervijas	Structured documentation of conversations
Video materials	Preparation of text and subtitles
Management interviews	Documentation of decisions and opinions

Application in an academic environment

Sonix can be used for:

- transcribing research interviews;
- processing focus-group materials;

- preparing qualitative research data;
- processing lecture and seminar audio;
- preparing text versions of audio or video sources;
- preparing transcripts for subsequent coding and categorization.

A typical workflow in qualitative research is:

Intervija → Ieraksts → Transkripts → Text review → Coding → Kategorijas → Interpretation

Availability and costs

Sonix currently offers new users 30 free transcription minutes. After the trial, for example, a Pay As You Go model is available at approximately USD 10 per transcription hour, along with subscription plans for more regular use.

The 30 free minutes are counted according to the duration of the uploaded audio or video. For example, a 10-minute interview uses 10 of the 30 available minutes.

Sonix: https://sonix.ai

Access flow

sonix.ai → Sign up / Sign in → Upload → Language → Transcribe

Note. The stated prices and free-use conditions are approximate and current as of 1 April 2026; they may change. Before using a paid service, check the current Sonix information.

Data protection and confidentiality

An audio recording may contain not only a speaker's voice but also confidential personal, company, or research information.

Before uploading a file to an external transcription platform, assess:

May the recording be uploaded? → Have participants been informed about the recording? → Does the recording contain personal data? → Who will have access to the transcript? → When will the recording be deleted?

In research interviews, the information provided to respondents about recording, storage, and data use must be respected.

8.2. Alternative tools, their advantages and disadvantages

Notta and Happy Scribe are examined as alternatives to Sonix. Both tools support transcription in Latvian and English and offer functions required for processing interviews and meetings.

Notta

Notta is a transcription and meeting-documentation platform that can transcribe uploaded files and online meetings and identify speakers.

The free plan currently provides 120 transcription minutes per month; however, the maximum duration of a single recording on the free plan is only 3 minutes. Speaker identification is also available on the free plan.

Advantages

- transcription in Latvian and English;
- speaker identification;
- file upload;
- transcription of Zoom, Microsoft Teams, Google Meet, and Webex meetings;
- free plan;
- mobile and web versions;
- timestamps and speakers can be preserved in exports.

Disadvantages

- on the free plan, one transcription recording can be only 3 minutes long;
- downloading transcripts and some additional features require paid plans;
- language support for various additional features may differ from the range of basic transcription languages.

When should Notta be selected?
When meetings and short recordings need to be processed regularly, especially when combining file transcription with Zoom, Teams, or Google Meet.

Happy Scribe

Happy Scribe is a European transcription and subtitling platform that supports Latvian and English, automatic speaker detection, and timestamps. The platform also states that data are stored and processed in the EU.

Latvian transcripts can be exported in TXT, DOCX, PDF, SRT, and other formats, and timestamps and speaker names can be retained in exports.

Advantages

- transcription in Latvian and English;
- automatic speaker detection;
- timestamps;
- text editing;
- subtitle preparation;
- extensive export options;
- support for meeting recordings;
- EU data residency and a GDPR-oriented environment.

Disadvantages

- the free trial for automatic file transcription currently includes only 10 minutes;
- regular transcription requires a paid plan;

- the broader range of export formats depends on the plan used.

When should Happy Scribe be selected?
When subtitles, broader export options, meeting processing, or an EU-based data-storage environment are particularly important in addition to transcription.

Comparison of Sonix, Notta, and Happy Scribe

Criterion	Sonix	Notta	Happy Scribe
Latvian-language transcription	Yes	Yes	Yes
English-language transcription	Yes	Yes	Yes
Audio transkripcija	Yes	Yes	Yes
Video transkripcija	Yes	Yes	Yes
Automatic speaker separation	Yes	Yes	Yes
Speaker renaming	Yes	Yes	Yes
Timestamps	Yes	Yes	Yes
Word-level timestamps	Yes	Not highlighted as a main feature	Yes
Text-audio linking	Yes	Yes	Yes
Speakers in exports	Yes	Yes	Yes
Timestamps in exports	Yes	Yes	Yes
Meeting integrations	Pieejamas	Extensive	Extensive
Subtitle capabilities	Yes	Yes	Very extensive
Free option	30-minute trial	120 min./month, but up to 3 min. per recording	10-minute AI file-transcription trial
Main advantage	LV/EN file transcription, detailed timestamps	Meetings and regular transcription	Languages, subtitles, and EU data environment
Main limitation	Use is paid after 30 minutes	Very short recording limit on the Free plan	Neliels bezmaksas failu transkripcijas limits

Quick selection principle

Latvian/English interview + precise linking of text to the recording → Sonix

Latvian/English meetings + Zoom/Teams/Meet integrations → Notta

Latvian/English transcription + subtitles + EU data environment → Happy Scribe

8.3. Instructions for using the main functions

In this section, we will use Sonix to convert a Latvian- or English-language audio recording into a reviewed transcript.

Overall workflow:

Audio/video → Upload → Language → Transcribe → Speakers → Timestamps → Review → Edit → Export

1. Step. Sagatavojiet ierakstu

Before uploading the file, check:

- whether the speakers can be heard clearly;
- whether background noise is not excessive;
- whether speakers avoid talking over one another as much as possible;
- whether the file is complete;
- whether the recording may be processed on an external platform.

Action flow

Ieraksts → Audio quality → Permissions → Data security → Fails gatavs

2. Step. Open Sonix

Open:

https://sonix.ai

Create an account or select Sign in if an account already exists.

Action flow

sonix.ai → Sign up / Sign in → Workspace

3. Upload the file

Select an audio or video file.

Sonix supports a wide range of audio and video file formats.

Action flow

Upload → Select file → Audio / Video → Upload

4. Select the transcription language

Specify the actual language of the recording:

Latvian

or

English

Action flow:

Language → Latvian / English → Confirm

Management principle. Selecting the wrong recording language significantly reduces the quality of automatic transcription.

5. Run automatic transcription

Start the transcription process.

Sonix izveido:

Tekstu + Speaker labels + Word-level timestamps

for Latvian-language recordings.

Action flow

Transcribe → Speech recognition → Speaker identification → Timestamps → Transcript

6. Check speaker recognition

If there are several people in the recording, check whether the system has correctly detected speaker changes.

Rename the speakers according to the purpose of the work.

For a research interview:

Speaker 1 → Interviewer

Speaker 2 → Respondents

Sapulcei:

Speaker 1 → Manager

Speaker 2 → Participant A

Action flow

Speaker labels → Listen → Check speaker change → Rename

Research principle. If anonymity has been promised to a respondent, use a neutral identifier in the transcript, such as Respondent 1, rather than the person's name.

7. Check timestamps

Select several points in the transcript and check whether the timestamp corresponds to the actual point in the recording.

In particular, check:

- speaker-change points;
- important quotations;
- neskaidras transkripcijas fragmentus;
- places where several people speak at the same time.

Action flow

Timestamp → Open the specific audio point → Compare the text → Confirm / Correct

Timestamps are important because they make it possible to verify later whether a text fragment used in the analysis precisely matches the original recording.

8. Edit the transcription

Listen to the recording and correct the automatically generated text.

In particular, check:

- personal names;
- company names;
- professional terms;
- numbers;
- dates;
- Latvian diacritical marks;
- English terms in a Latvian-language conversation;
- unclearly recognized passages.

Action flow

Play → Read → Compare → Labot → Save

9. Anonymize information if necessary

If identifying information is not required in the transcript for research purposes, replace it with neutral labels.

For example:

"Jānis Bērziņš" → "[Respondents]"

a specific client's name → "[Klients A]"

Action flow

Transcript → Personal data → Assess necessity → Anonymize

10. Step. Sagatavojiet gala transkriptu

Before exporting, check:

Speakers → Timestamps → Text → Personal data → Final version

Automatic transcription by itself is not the final result. The final transcript must be sufficiently accurate for its intended purpose.

11. Export the transcript

Select the required export format.

For example:

DOCX → for further editing

TXT → for text analysis

PDF → for a fixed document version

SRT → subtitriem

Sonix Latvian-language transcripts can be exported, for example, in Word, PDF, and SRT formats.

If available in the export settings, retain speaker labels and timestamps when they are needed for further analysis.

Action flow

Export → Format → Speakers / Timestamps → Download

12. Transcription Conclusion

Ieraksts → Upload → Latvian / English → Transcribe → Speaker identification → Timestamp check → Text review → Labojumi → Anonymization → Export

Main quality principle:

Language recognition + Speaker recognition + Timing accuracy + Text accuracy = usable transcript

8.4. Practical task and self-assessment

Practical task

Situation

A company has conducted a short interview with a customer to understand their experience with the service provided. The interview recording must be prepared for subsequent qualitative analysis of customer experience.

Your task is to use Sonix to create, review, and export the interview transcript.

Source material

Izmantojiet:

Criterion	Requirement
Ieraksta ilgums	5-10 minutes
Valoda	Latvian or English
Number of speakers	2
Lomas	Interviewer + respondent
Faila veids	MP3, WAV, M4A, or another Sonix-supported format
Audio quality	Speech must be clearly audible

A 5-10 minute recording allows the practical task to be completed using only part of the 30 free transcription minutes available to a new Sonix account.

Task execution

1. Upload the recording to Sonix.

2. Select the language corresponding to the recording - Latvian or English.

3. Create the automatic transcription.

4. Check automatic speaker separation.

Label the speakers as:

- **Interviewer**
- **Respondents**

5. Select at least 5 speaker-change points and check whether Sonix identified them correctly.

6. Select at least 5 timestamps at different points in the recording and check whether they correspond to the actual audio.

7. Listen to the entire 5-10 minute recording and correct significant text-recognition errors.

8. If the transcript contains personal data that are not needed for the analysis, anonymize them.

9. Export the transcript in DOCX or TXT format, preserving speaker information and timestamps if the relevant export setting is available.

Action flow

5–10 min. ieraksts → Upload → Latvian / English → Transcribe → 2 speakers → 5 speaker-change checks → 5 timestamp checks → Text correction → Export

Assessment of transcription quality

After completing the task, prepare a brief assessment of the tool.

Criterion	What should be assessed?
Language recognition	How accurately was Latvian or English recognized?
Speaker separation	Did the system correctly identify speaker changes?
Timestamps	Did the checked timestamps correspond to the recording?
Text accuracy	What types of errors were most common?

Criterion	What should be assessed?
Need for editing	How many manual corrections were needed?
Practical usefulness	Would the tool be suitable for longer interviews or meetings?
Costs	After the free 30 minutes, would the paid model be justified for the specific use case?

Prepare a 3-5 sentence conclusion that provides a reasoned assessment of Sonix's suitability for the selected task.

Self-assessment

Self-assessment criterion	Yes	Partly	No
I can prepare an audio/video file for transcription.	☐	☐	☐
I can select the correct Latvian / English language.	☐	☐	☐
I can create an automatic transcription.	☐	☐	☐
I can check automatic speaker separation.	☐	☐	☐
I can rename speakers according to the interview structure.	☐	☐	☐
I can use timestamps to find a specific point in a recording.	☐	☐	☐
I can check the accuracy of timestamps.	☐	☐	☐
I can compare automatically generated text with the original audio.	☐	☐	☐
I can correct significant transcription errors.	☐	☐	☐
I understand when personal-data anonymization is required.	☐	☐	☐
I can export a transcript for further use.	☐	☐	☐
I can critically assess the quality and cost of a transcription tool.	☐	☐	☐

The task is successfully completed if the user can not only automatically convert a Latvian- or English-language recording into text but also check speaker separation, timestamp accuracy, and the quality of the transcript itself, make the necessary corrections, and prepare a reliable final transcript for further business or research use.

9. TOOLS FOR CREATING PRESENTATIONS AND BUSINESS VISUAL CONTENT

Presentations and business visual content are used to explain ideas, present projects, prepare marketing materials, deliver training, and support management communication. Modern digital tools make it possible not only to format slides but also to use artificial-intelligence functions for structuring content, transforming text, generating visual elements, and automating design.

This chapter uses Gamma as the primary tool and examines Canva and Google Slides as alternatives.

Overall workflow:

Objective → Auditorija → Saturs → MI atbalsts → Structure → Dizains → Editing → Review → Sharing / export

9.1. Tool description and application

Gamma

Gamma is a web-based tool for creating presentations, documents, web pages, and other visual content with artificial-intelligence support. Its key advantage is the ability to automatically generate a presentation structure, text, and initial visual design from a short description or prompt.

Gamma is particularly suitable when it is necessary to move quickly from an idea to a structured presentation draft:

Ideja → Prompt → Structure → Slaidi → Editing → Final material

Gamma at a glance

Criterion	Description
Tool type	AI-assisted presentation and visual-content creation tool
Galvenais use	Presentations, documents, web pages, and visual materials
MI atbalsts	Very high
Presentation-structure generation	Yes
Text generation and transformation	Yes
Image generation	Yes
Design automation	Yes
Manual editing	Yes
Import	PDF, PPTX u. c.

Criterion	Description
Eksports	PDF, PPTX, PNG, Google Slides
Browser-based use	Yes
Free option	Yes
Suitability for business use	Very high
Suitability for academic use	High, provided the content is checked

Why use Gamma?

Gamma's main advantage is rapid generation of content and structure. The user does not necessarily have to start with a blank slide.

For example, you can enter:

“Create an 8-slide business presentation for company management about implementing a customer-satisfaction study.”

Gamma may suggest:

Name → Problem → Objective → Solution → Advantages → Implementation stages → Riski → Suggestion

This significantly reduces the initial structuring time.

However, AI-generated content should be treated as a draft rather than finished work. The user must check:

- fakti;
- numbers;
- termini;
- conclusions;
- avoti;
- valoda;
- suitability for the specific audience.

AI support as a work tool

Gamma AI can be used for:

- Structuring ideas
- Shortening text
- Rephrasing text
- Creating slide structure
- Generating visual elements
- Adapting content design

Important principle:

AI generates → The user evaluates → The user corrects → The user is responsible for the final content

Application in a business environment

Situation	Gamma use
Project presentations	Structuring project ideas, objectives, and benefits
Management presentations	Preparing concise management summaries
Sales materials	Presenting proposals and products
Marketing content	Creating visual materials for campaigns and products
Training	Structuring learning materials
Internal communication	Explaining processes, changes, and projects

Application in an academic environment

Gamma can be used for:

- presentations of study assignments;
- structuring research results;
- presenting project work;
- materials for seminars and group work;
- creating learning materials;
- visually structuring complex topics.

In an academic environment, it is important to remember that an AI-generated presentation does not replace the use of sources, argumentation, and content verification.

Availability

Gamma works in a web browser.

Gamma:
https://gamma.app

The free plan allows presentations to be created with certain AI-credit and feature limits. Paid plans provide broader generation, brand-customization, and sharing options.

Access flow

gamma.app → Sign up / Sign in → Create → Presentation

Data security

Confidential information should not be entered in a prompt unless there is certainty about the terms governing its use.

In particular, assess:

Customer data → Financial data → Internal information → Unpublished research data → May it be entered into an external AI tool?

9.2. Alternative tools, their advantages and disadvantages

Canva and Google Slides are examined as alternatives to Gamma. All three tools allow presentations to be created, but their main focus and level of AI support differ.

Canva

Canva is a broad visual-design tool for creating presentations, posters, social-media materials, infographics, videos, and other visual materials.

Advantages

- very wide range of design templates;
- suitable for more than presentations;
- *easy drag-and-drop use;*
- extensive visual-element options;
- AI features for creating text, images, and designs;
- a free plan is available;
- suitable for business and marketing materials.

Disadvantages

- the large number of templates and elements can distract from the content;
- some professional elements are paid;
- if the template is not customized, the result may look standardized;
- presentation logic more often needs to be structured manually than in Gamma.

When should Canva be selected?
When a broad range of visual content and extensive design control are needed.

Google Slides

Google Slides is a web-based presentation tool designed for creating, collaboratively editing, and presenting presentations.

Its key advantage is simultaneous collaboration - several users can edit one presentation, add comments, and track changes.

Advantages

- free with a Google account;

- works in a browser;
- very good real-time collaboration;
- easy sharing via a link;
- automatic saving;
- comments and version history;
- can be exported in PPTX and PDF formats;
- AI features with Gemini are available in eligible Google Workspace plans.

Disadvantages

- AI automation is generally more limited than in Gamma;
- design capabilities are less specialized than Canva;
- availability of AI features depends on the account and Google Workspace plan;
- slides more often need to be structured and formatted manually.

When should Google Slides be selected?
When team collaboration, easy sharing, and joint online editing of a presentation are the highest priorities.

AI support as a tool-selection criterion

AI support in presentation tools can include several different functions:

- **Text generation**
- **Content shortening**
- **Presentation-structure creation**
- **Image generation**
- **Dizaina ieteikumi**
- **Automatic layout adjustment**

Therefore, when selecting a tool it is not enough merely to determine whether "AI is available." It is necessary to assess:

Ko MI dara? → How much does it automate? → Can the result be edited? → How much control remains with the user?

Comparison of Gamma, Canva, and Google Slides

Criterion	Gamma	Canva	Google Slides
Galvenais fokuss	AI-assisted presentation creation	Visual design	Presentations and collaboration
MI atbalsts	Very high	Augsts	Medium, depending on the account
AI-based structure generation	Very suitable	Yes	More limited
Text generation/transformation	Yes	Yes	Available with Gemini

Criterion	Gamma	Canva	Google Slides
Image generation	Yes	Yes	Available in eligible plans
Design automation	Very high	High	Lower
Range of templates	Broad	Very broad	Broad
Manual design control	Medium-high	Very high	High
Real-time collaboration	Yes	Yes	Very high
Comments and collaborative editing	Yes	Yes	Very good
Browser-based use	Yes	Yes	Yes
Export to PPTX/PDF	Yes	Yes	Yes
Free option	Yes	Yes	Yes
Suitability for business use	Very high	Very high	High
Suitability for academic use	High	High	Very high
Main advantage	Fast AI-generated structure and draft	Design variety	Collaboration and accessibility
Main limitation	Content must be checked carefully	Design can dominate over content	Less automation

Quick selection principle

Quickly create a presentation structure and draft with AI → Gamma

Create visually diverse and customized content → Canva

Collaboratively create and edit a presentation online → Google Slides

9.3. Instructions for using the main functions

In this section, we will use Gamma to create a short business presentation.

Overall workflow:

Objective → Prompt → Generate → Outline → Theme → Edit → Visuals → Fact check → Share / Export

1. Define the presentation objective

Before using the tool, determine:

- who the presentation is intended for;
- what the audience needs to understand;
- what the main message is;
- how many slides are needed;
- what action is expected from the audience.

Action flow

Auditorija → Objective → Main message → Slaidu skaits → Expected action

2. Step. Open Gamma

Open:

https://gamma.app

Sign in to an account or create a new one.

Action flow

gamma.app → Sign up / Sign in → Workspace

3. Create a new presentation

Select the option to create new content.

Action flow

Create → Presentation → Generate

4. Step. Sagatavojiet promptu

A high-quality prompt should include:

- topic;
- auditorija;
- objective;
- slaidu skaits;
- main sections;
- valoda;
- desired style.

Example:

Create an 8-slide business presentation in Latvian for company management about implementing a customer-satisfaction study. Include the problem, research objective, data-collection approach, benefits, implementation stages, risks, and a final recommendation. Use a professional and uncluttered style.

Action flow

Topic → Auditorija → Objective → Slaidu skaits → Structure → Valoda → Stils → Prompt

5. Check the generated structure

Before further formatting the presentation, check:

- whether the slides are arranged logically;
- whether there are repetitions;
- whether any topics are missing;
- whether the conclusion addresses the presentation objective.

Action flow

Outline → Check → Delete unnecessary content → Add missing content → Approve

6. Select a Theme

Select a professional design theme appropriate for the audience and topic.

Action flow

Theme → Select style → Check readability → Apply

Design principle. In a business or academic presentation, design should support the content rather than become the main focus of attention.

7. Edit the content

Review each slide and:

- shorten text that is too long;
- rephrase awkward wording;
- remove repetitions;
- add specific data or examples;
- clarify terminology.

Action flow

Slide / Card → Text → Shorten → Clarify → Check

A presentation slide is not intended for long blocks of text.

8. Adjust the visual elements

Check the automatically selected images and graphic elements.

If necessary:

- **Replace image**
- **Generate image**
- **Add visual**
- **Delete**

Action flow

Visual → Check relevance → Replace / Generate / Delete → Final visual element

A visual element should help the audience understand the message, not merely fill empty space.

9. Check facts and sources

In an AI-generated presentation, pay particular attention to checking:

- numbers;
- datumus;
- organization names;
- faktus;
- atsauces;
- research results;
- conclusions.

Action flow

Apgalvojums → Check the source → Confirm / Correct → Tikai tad izmantot

Academic principle. An AI-generated source or reference should not be regarded as verified merely because it appears plausible.

10. Check the language of the presentation

Check:

- gramatiku;
- terminus;
- consistency of style;
- virsrakstus;
- anglicismus;
- overly generic AI wording.

Action flow

Teksts → Valoda → Terminology → Stils → Gala labojumi

11. Share or export the presentation

Depending on the purpose of the work, the presentation can be:

- shared via a link;
- exported as PDF;
- exported as PPTX;
- moved to Google Slides;
- used for presenting in the Gamma environment.

Action flow

Share / Export → Link / PDF / PPTX / Google Slides → Check the final result

12. Summary of the presentation-creation process

Auditorija → Objective → Prompt → Outline → Theme → Editing → Visual elements → Fact checking → Language check → Export

Main principles:

AI speed + human critical evaluation = a high-quality presentation

9.4. Practical task and self-assessment

Practical task

Situation

Company management is considering introducing a regular customer-satisfaction study in order to identify service-quality problems in a timely manner and improve customer experience.

Your task is to use Gamma to prepare a short business presentation for company management.

Presentation requirements

Create an 8-slide presentation in Latvian designed for an approximately 5-7 minute presentation.

Slaids	Required content
1.	Presentation title and objective
2.	Problem / business need
3.	Objective of the customer-satisfaction study
4.	Data to be obtained and research approach
5.	Expected benefits for the company
6.	Main implementation stages
7.	Main risks and limitations
8.	Recommendation to company management

Task 1. Prepare a prompt

In the prompt, specify:

- auditoriju;
- objective;
- 8 slaidu apjomu;
- required content;
- Latvian language;
- professional business style.

Action flow

Auditorija → Objective → Saturs → 8 slaidi → Latvian language → Stils → Prompt

Task 2. Generate and check the structure

Use Gamma to create an initial version of the presentation.

Check:

- whether all 8 required slides are included;
- whether the sequence is logical;
- whether there are repetitions;
- whether the presentation has a clear conclusion.

Action flow

Generate → Outline → Check → Labot → Approve

Task 3. Edit the content

Each slide should be concise and easy to understand.

Remove:

- wordiness;
- repetitions;
- generic statements;
- nepamatotus faktus;
- text blocks that are too long.

Action flow

MI melnraksts → Edit → Shorten → Clarify → Gala teksts

Task 4. Check AI-generated content

Find at least 3 statements that Gamma has generated as facts, data, or recommendations.

Katram Detect:

Verifiable and correct

or

Insufficiently substantiated / needs correction

If a fact cannot be verified, rephrase or remove it.

Task 5. Adjust the design

Check:

- consistency of design;
- text readability;
- relevance of visual elements;
- whether the slides are not overloaded;
- whether the colours and elements are suitable for a business audience.

Action flow

Theme → Visuals → Layout → Check → Adjust

Task 6. Prepare the final presentation

Export the final work in PDF or PPTX format.

Check the exported file to make sure that the slide layout has not changed and no content has disappeared.

Final workflow

Prompt → Generate → 8 slaidi → Editing → Fact checking → Dizains → Export → Final check

Assessment criteria

Criterion	Expected result
Audience and objective	Clearly defined
Prompt	Specific and structured
Structure	8 logically ordered slides
Saturs	Concise, specific, and appropriate
AI content checking	At least 3 statements checked
Visual design	Professional and uncluttered
Valoda	Correct Latvian language
Eksports	PDF or PPTX prepared
Presentation readiness	Suitable for a 5-7 minute presentation

Self-assessment

Self-assessment criterion	Yes	Partly	No
I can formulate the objective and audience of a presentation.	☐	☐	☐
I can prepare a specific Gamma prompt.	☐	☐	☐
I can check an AI-generated structure.	☐	☐	☐
I can shorten and improve AI-generated text.	☐	☐	☐
I can critically verify AI-generated facts.	☐	☐	☐
I can assess whether a visual element is necessary.	☐	☐	☐
I can adapt a presentation to a business audience.	☐	☐	☐
I can evaluate the advantages and limitations of AI support.	☐	☐	☐
I can export and check the final presentation.	☐	☐	☐

The task is successfully completed if the user can use Gamma not only for automatic slide generation but also critically evaluate the AI-generated structure, content, and visual design, make the necessary corrections, and prepare a professional presentation suitable for the audience.

10. AI TOOLS AND AGENTS FOR SUPPORTING ADMINISTRATIVE AND MANAGEMENT PROCESSES

Generative artificial-intelligence tools can be used for more than asking one-off questions or generating text. AI agents are becoming increasingly important in organizations - configured digital assistants with a specific objective, operating principles, knowledge sources, and, in more complex solutions, access to tools and business processes.

In this chapter, Microsoft Copilot is used as the primary ecosystem, with a particular distinction between:

Microsoft 365 Copilot → Agent Builder → Copilot Studio

Google Gemini Enterprise Agent Designer and Zapier Agents are examined as alternatives.

Overall development logic:

AI chat → Specialized agent → Agent with knowledge → Agent with tools and actions → Multi-step business process

10.1. Tool description and application

Microsoft Copilot and AI agents

Within the Microsoft Copilot ecosystem, it is important to distinguish three levels of use.

1. Microsoft 365 Copilot — ikdienas MI asistents

Microsoft 365 Copilot is an AI assistant for working in the Microsoft 365 environment. Users interact with it by asking specific questions or assigning tasks.

Simplified operating logic:

User request → Copilot → Atbilde

For example:

- **"Prepare a summary of this document."**
- **"Create a draft meeting agenda."**
- **"Rewrite this text in a more professional style."**

This type of use is suitable for one-off or changing tasks, but each time the user must formulate the required request themselves.

2. Microsoft 365 Copilot Agent Builder - creating a specialized agent

Agent Builder allows users to create a specialized AI agent for a specific work task within Microsoft 365 Copilot without programming.

An agent can be configured with:

- nosaukumu;
- an objective;
- detailed Instructions;
- specific Knowledge sources;
- Suggested prompts for users;
- rules governing how to respond and what not to do.

Microsoft describes Agent Builder as a simple way to quickly create agents for individual use or small teams using natural language and organizational content. An agent can be given access, for example, to SharePoint content and information available through Microsoft 365 Copilot connectors.

Operating logic

Objective → Instructions → Knowledge → Suggested prompts → Test → Agent

For example, one can create:

- Employee onboarding agent
- Project information agent
- Internal procedures agent
- Management-document preparation agent
- Study-process information agent

Agent Builder is particularly suitable when the same task recurs and the agent needs to regularly use the same instruction and defined knowledge sources.

Microsoft states that Agent Builder is intended mainly for individual users or small teams and lighter knowledge-based agents.

3. Microsoft Copilot Studio - a more professional level of agent creation

Microsoft Copilot Studio is designed for more complex agents requiring multi-step actions, integrations with business systems, broader publishing, or organization-level management.

Microsoft identifies Copilot Studio as the more appropriate solution when an agent requires:

- multi-step processes;
- conditions and branching;
- approval workflows;
- integrations with external systems;
- APIs and connectors;
- tools and actions;
- more autonomous actions;
- organization-level security and governance.

Operating logic

Request / Trigger → Agent → Knowledge → Reasoning → Tool / Action → Business system → Result

For example:

1. An employee submits a request
2. The agent determines the type of request
3. Checks organizational rules
4. Uses the required system
5. Performs an action or starts an approval process
6. Informs the user of the result

Copilot Studio agents can use Knowledge, Tools, connectors, REST APIs, and workflows, and can also collaborate with other agents.

Three levels of Microsoft Copilot at a glance

Criterion	Microsoft 365 Copilot	Agent Builder	Copilot Studio
Main objective	Ikdienas MI asistents	Creation of a specialized agent	Creation of professional agents and processes
One-off questions	Yes	Yes	Yes
Persistent Instructions	Limited	Yes	Yes
Knowledge avoti	According to Copilot capabilities	Yes	Extensive
Suggested prompts	—	Yes	Yes
Tools / Actions	Depends on the scenario	More limited	Extensive
Multi-step workflows	Limited	Limited	Yes
External-system integration	More limited	More limited	Yes
Autonomous actions	Limited	No / limited	Yes, according to configuration
Suitable for	Everyday user	Individual / small team	Department / organization / external users
Complexity level	Zems	Low-medium	Medium-high

Microsoft also provides an option to move an agent created in Agent Builder to Copilot Studio, preserving the initial configuration and later adding more complex functions.

Thus, practical development can be:

Copilot → Agent Builder → Copilot Studio

What is an AI agent?

An AI agent is not merely a saved prompt.

In practical terms, an agent can be described by several elements:

- Objective - what the agent must achieve;
- Instructions - how the agent must work;
- Knowledge - from which sources it should obtain information;
- Tools / Actions - what actions it may perform;
- Rules / Boundaries - what it must not do;
- Testing - how we verify that the agent operates correctly.

Simplified flow:



Standard AI, automation, and an AI agent

It is important to distinguish three concepts.

Criterion	Standard AI chat	Automation	AI agent
User question	Usually required	Not always	May be required
Instrukcijas	Katram uzdevumam / kontekstam	Predefined	Persistent
Knowledge	As needed	Usually limited	Can be added specifically
Sequence of actions	Flexible in conversation	Predefined	Can be dynamic
Tools	Depending on the tool	Specific actions	**Can select an appropriate

Application in business and management

AI agents can be used for:

- explaining internal procedures;
- darbinieku onboarding;
- preparing management meetings;
- classifying customer requests;
- searching documentation;
- compiling project information;
- processing administrative requests;
- supporting report preparation;
- retrieving information from multiple business systems.

Data security and human control

An AI agent can gain access to a broader range of data and actions than a standard chat. Therefore, the following principle should be followed:

Minimum necessary access

An agent should be granted only the data and tools required to perform its specific task.

It is particularly important to define:

1. What may the agent read?
2. What may the agent change?
3. What may the agent send?
4. In which cases is human approval required?

10.2. Alternative tools, their advantages and disadvantages

Google Gemini Enterprise Agent Designer and AI by Zapier are examined as alternatives to the Microsoft Copilot agent ecosystem.

Google Gemini Enterprise Agent Designer

Agent Designer is the Google Gemini Enterprise no-code/low-code environment for creating single- or multi-action agents.

An agent can be started with a natural-language description or a visual Flow builder can be used to configure a more complex multi-step agent.

An agent can be given access to:

- **Instructions**;
- data sources;
- failus;
- **Tools**;
- subagents;
- **Starter prompts**;
- izpildes grafiku.

Google Agent Designer can also connect agents to Google and third-party data sources and tools and create multi-step agents.

Advantages

- no-code and low-code approach;
- natural-language agent creation;
- visual Flow builder;
- multi-step agents and subagents;
- Google ecosystem integration;
- scheduled agent execution.

Disadvantages

- focused on the Gemini Enterprise / Google Cloud environment;
- appropriate organizational infrastructure is required;
- for beginners, access may be more complex than Microsoft Agent Builder.

When should Gemini Enterprise Agent Designer be selected?
When the organization mainly uses the Google Workspace and Google Cloud ecosystem.

AI by Zapier

Zapier previously offered a separate product called Zapier Agents, but in 2026 it is being migrated to AI by Zapier - agentic actions are being integrated directly into the Zap automation environment. This makes it possible to combine AI reasoning with standard trigger, action, filtering, and branching steps in a single process.

This is particularly important when an agent must work with many external applications.

Advantages

- close integration of AI and process automation;
- very broad range of application connections;
- deterministic steps can be combined with agentic AI actions;
- suitable for cross-system administrative processes;
- no-code approach.

Disadvantages

- configuration effort increases for more complex processes;
- features and pricing may vary by plan;
- the platform is currently transitioning from the separate Zapier Agents product to the AI by Zapier model.

When should AI by Zapier be selected?
When the main task is to connect many different business applications and combine AI decisions with automated actions.

Tool comparison

Criterion	Microsoft Copilot Agent Builder / Studio	Gemini Enterprise Agent Designer	AI by Zapier
Galvenais fokuss	Organizational AI agents and Microsoft 365 processes	Agents in the Google ecosystem	Agentic process automation
No-code/low-code	Yes	Yes	Yes
Instructions	Yes	Yes	Yes
Knowledge	Extensive	Extensive	Extensive
Tools / Actions	Very extensive in Studio	Extensive	Very extensive for integrations
Multi-step processes	Copilot Studio	Yes	Yes
Microsoft 365 integration	Very high	More limited	Through integrations
Google integration	Through connectors	Very high	High

Criterion	Microsoft Copilot Agent Builder / Studio	Gemini Enterprise Agent Designer	AI by Zapier
External business applications	Extensive	Extensive	Very extensive
Simple agent creation	Agent Builder - very suitable	Suitable	Suitable
Organization-level governance	Very high	High	High
Main advantage	Gradual transition from Copilot to a professional agent	Google ecosystem + multi-agent flows	AI + extensive automation
Main limitation	Licensing and multiple functionality levels	Enterprise/Cloud vide	Automation costs and a transitioning product structure

Quick selection principle

Microsoft 365 organization → Copilot Agent Builder / Copilot Studio

Google Workspace / Cloud organization → Gemini Enterprise Agent Designer

Many different applications and cross-system processes → AI by Zapier

10.3. Instructions for using the main functions and creating an AI agent

In this instruction, we will create an internal procedures and administrative-information agent using Microsoft 365 Copilot Agent Builder.

This is an appropriate entry level because no programming is required. A more complex agent can later be developed further in Copilot Studio.

Overall workflow:

Task → New agent → Name → Description → Instructions → Knowledge → Starter prompts → Try it → Test → Refine → Create

1. Define the agent's objective

Before creating the agent, formulate one specific task.

For example:

The agent's objective is to help employees find information in the organization's administrative procedures and provide concise answers based only on the attached documents.

Action flow

Business problem → User → Task → Expected result → Agent objective

Principle. Initially, it is advisable to assign one clear work function to one agent.

2. Step. Open Microsoft 365 Copilot

Agent Builder is available in the Microsoft 365 Copilot environment, including the Microsoft 365 Copilot web environment and the desktop/web versions of Microsoft Teams.

Action flow

Microsoft 365 Copilot → New agent

3. Create a new agent

Select:

New agent

The agent can be created:

using a natural-language description

or

Skip to configure → manually

Microsoft recommends the natural-language approach as the fastest way to get started.

Action flow

New agent → Describe agent / Skip to configure

4. Specify Name and Description

For example:

Name: Administrative Procedures Agent

Description: Helps employees find and understand the organization's administrative procedures using only approved knowledge sources.

Action flow

Name → Description → Skaidra loma

5. Create Instructions

Instructions are the agent's main operating rules.

Example in copyable text format:

You are the organization's administrative procedures agent. Answer user questions using the attached Knowledge sources. Respond concisely, professionally, and in a structured manner. If the information cannot be found in the documents, clearly state that the answer cannot be confirmed from the available sources. Do not invent procedures, deadlines, contact persons, or rules. If human involvement is required, advise the user to contact the responsible organizational unit**.**

Action flow

Role → Task → Sources → Response format → Boundaries → Escalation

6. Step. Pievienojiet Knowledge

Agent Builder allows various types of knowledge sources to be added, including SharePoint, OneDrive, uploaded files, and public websites.

For the practical task, add, for example:

- an internal rules document;
- a business-travel procedure;
- leave-request instructions;
- a document-circulation procedure.

Action flow

Knowledge → Add source → File / SharePoint / OneDrive → Check sources

Principle. Knowledge sources must be current and approved. The quality of an agent is substantially determined by the quality of the sources it uses.

7. Create Starter prompts

Starter prompts help users understand what tasks the agent is intended for.

For example:

- “How do I apply for a business trip?”
- “Where should I submit a leave request?”
- “What documents are required for a procurement request?”

Action flow

Starter prompts → Most common user questions → 3-5 examples

8. Test the agent

Izmantojiet **Try it**.

Microsoft Agent Builder allows an agent to be tested before it is made available to users.

Test at least three situations:

Question 1 - the answer is in a Knowledge source

Question 2 - the answer is in several documents

Question 3 - the answer is not in the Knowledge sources

Action flow

Try it → Test question → Atbilde → Source relevance → Labot Instructions

9. Check that the agent does not invent information

Ask a question for which there is no answer in the attached documents.

Expected result:

The agent clearly states that the information cannot be found in the available sources.

Incorrect result:

The agent invents a procedure or deadline.

Action flow

Unknown question → Agent checks Knowledge → No data → Acknowledges the limitation

10. Refine Instructions

If the agent's responses are:

- too long;
- too generic;
- nepietiekami pamatotas;
- incorrectly structured,

mainiet Instructions.

Action flow

Test → Problem → Instruction refinement → Test again

11. Create the agent

When the agent works as intended:

Create / Save → Agent

The agent can then be used personally or shared with other users in accordance with the organization's policies.

12. Determine whether Copilot Studio is required

After creating an Agent Builder agent, assess:

Does the agent only need to provide information?

If yes → Agent Builder may be sufficient.

Does the agent need to perform an action in another system?

If yes → consider Copilot Studio.

Is a multi-step workflow or approval required?

If yes → Copilot Studio.

Action flow

Q&A / Knowledge → Agent Builder

Knowledge + Tools + Actions + Workflows → Copilot Studio

13. Copilot Studio professional level

The basic structure of a Copilot Studio agent is similar:

Name → Instructions → Knowledge → Tools → Workflows → Preview → Evaluate → Publish

The difference is that Tools allow the agent to go beyond providing information and perform actions.

Microsoft states that tools can:

- izsaukt API;
- run automated flows;
- read current data from business systems;
- create or update records;
- send notifications.

Procesa Conclusion

Microsoft 365 Copilot → New agent → Goal → Instructions → Knowledge → Starter prompts → Try it → Refine → Agent Builder

If actions are required:

Copilot Studio → Tools → Workflows → Integrations → Test → Publish

10.4. Practical task and self-assessment

Practical task

Situation

Employees in an organization regularly ask the same questions about administrative procedures. The information is available in several documents, but employees need time to find the correct document and the relevant section.

Management wants to test an AI agent that would help employees find the necessary information without inventing missing procedures.

Your task is to create an Administrative Procedures Agent in Microsoft 365 Copilot Agent Builder.

Source materials

Use 3-5 training documents describing, for example:

- business-travel applications;
- leave applications;
- document approvals;
- procurement requests;
- work-equipment requests.

For training purposes, use documents that do not contain sensitive or confidential information.

Task execution

1. Define the agent's objective.

The objective must be formulated in one sentence.

2. Create the agent in Agent Builder.

Specify:

Name → Description → Instructions

3. Pievienojiet 3–5 Knowledge avotus.

4. Create at least 3 Starter prompts.

5. Test the agent with at least 6 questions:

- 3 questions for which the documents contain a clear answer;
- 2 questions whose answers must be compiled from several sources;
- 1 question for which the documents contain no answer.

6. Check whether the agent follows the Instructions.

7. If necessary, refine the Instructions and test again.

Agent quality check

Criterion	What should be checked?
Alignment with the objective	Does the agent do only what it is intended to do?
Use of Knowledge	Are the answers based on the attached sources?
Accuracy	Does the information match the documents?

Criterion	What should be checked?
Handling unknown information	Does the agent acknowledge when information is unavailable?
Compliance with Instructions	Are the format and operating rules followed?
Clarity of the answer	Can the user understand what to do?
Data security	Has unnecessary confidential information been avoided?

Final workflow

3–5 dokumenti → Agent Builder → Instructions → Knowledge → 3 Starter prompts → 6 test questions → Error analysis → Improving Instructions → Final agent

Additional assessment: is Copilot Studio required?

After creating the agent, indicate whether the specific agent should be developed further in Copilot Studio.

Atbildiet:

Is providing information alone sufficient for the agent?

or

Should it also perform actions in the future?

For example:

"Explain the business-travel procedure" → Agent Builder

bet

"Explain the procedure and, after user approval, create a business-travel request in the system" → Copilot Studio

Assessment criteria

Criterion	Expected result
Agent objective	Clearly and narrowly defined
Instructions	Role, behaviour, and limitations defined
Knowledge	3-5 relevant sources added
Starter prompts	Vismaz 3

Criterion	Expected result
Testing	At least 6 questions
Unknown question	The agent does not invent missing information
Uzlabojumi	Instructions refined if necessary
Data security	Appropriate training data used
Choice of level	The need for Agent Builder or Copilot Studio is justified

Self-assessment

Self-assessment criterion	Yes	Partly	No
I understand the difference between Copilot and an AI agent.	☐	☐	☐
I understand the difference between Agent Builder and Copilot Studio.	☐	☐	☐
I can determine when standard Copilot is sufficient.	☐	☐	☐
I can determine when Agent Builder should be used.	☐	☐	☐
I can determine when Copilot Studio is required.	☐	☐	☐
I can formulate a clear agent objective.	☐	☐	☐
I can create Instructions for an agent.	☐	☐	☐
I can add Knowledge sources.	☐	☐	☐
I can create Starter prompts.	☐	☐	☐
I can systematically test an agent's operation.	☐	☐	☐
I can determine whether an agent is inventing information.	☐	☐	☐
I understand the role of Tools and Workflows in a professional agent.	☐	☐	☐
I can assess an agent's data-access and security risks.	☐	☐	☐

The task is successfully completed if the user can distinguish standard use of an AI assistant from agent behaviour, independently create a simple Microsoft 365 Copilot Agent Builder agent, add instructions and knowledge sources, test its reliability, and make a justified determination of when the specific task should be developed further in Microsoft Copilot Studio.

CONCLUSION

Digital and artificial-intelligence tools can significantly facilitate business and management work - data collection and analysis, information visualization, market research, survey organization, presentation preparation, process automation, and the use of AI agents. However, using a tool is not an end in itself. It is essential to select a solution appropriate to the specific task, critically evaluate the result obtained, and comply with data-protection, security, and responsible-AI requirements.

Selecting a digital tool according to the business and management task

Tool selection begins with the work task, not with a particular application.

Selection flow

Work task → Expected result → Data type → Collaboration needs → Need for automation / AI → Data security → Tool selection

Need	Suitable tool category
Data collection and calculations	Spreadsheet tools
Automation of repetitive processes	Automation tools
Statistical analysis	Statistical tools
Business data analysis	BI and analytics tools
Data visualization	Visualization tools
Market research	Market-research tools and statistical data sources
Conducting surveys	Survey-creation and data-collection tools
Converting audio to text	Transcription tools
Presentations and visual content	Presentation and design tools
Recurring, knowledge-based AI task	AI agent
Complex AI-assisted business process	AI agent + Tools + Workflows

When selecting a tool, assess not only its functionality but also costs, ease of use, integrations, language support, collaboration capabilities, data security, and suitability for the organization's digital environment.

Selection principle

Not “Which tool is the best?” → but “Which tool is most suitable for the specific task?”

Combining several digital and AI tools in a unified workflow

In practice, a single tool rarely provides everything required. A more effective solution may be to combine several specialized tools.

For example:

Survey → Data collection → Data cleaning → Statistical analysis → Visualization → Presentation → Management decision

Or:

Data source → Automation → AI analysis → Result verification → Management information

An AI agent can also be used in a more advanced process:

User request → AI agent → Knowledge → Tools → Action → Human control → Result

Connecting tools does not mean that the entire process should be automated. It is particularly important to define human-control points at which data, AI conclusions, or the intended action are checked.

Workflow principle

Process → Repetitive activities → Suitable tools → Integration → Automation → Kontroles punkts → Result

The greater the potential impact of an automated action on a customer, employee, organization, or its financial results, the more carefully the required level of human control should be assessed.

Data security, GDPR, and confidentiality

The technical capabilities of a digital or AI tool do not mean that any organizational information may be entered into it.

Before using data, determine:

What data am I using? → Are they personal data? → Is the information confidential? → May these data be entered into this particular tool? → Where and how will they be processed? → Who will have access?

Particular attention should be paid to:

- customers' and employees' personal data;
- financial information;
- contracts and collaboration information;
- unpublished research data;

- internal organizational documents;
- trade secrets;
- special categories of personal data.

General Data Protection Regulation (GDPR)

The processing of personal data must comply with Regulation (EU) 2016/679 of the European Parliament and of the Council, the General Data Protection Regulation (GDPR).

When using digital and AI tools, the following are particularly important:

GDPR norma	Practical significance
5. pants	Data-processing principles, including purpose limitation, data minimization, accuracy, and confidentiality
6. pants	A lawful basis is required for processing personal data
9. pants	Additional requirements apply to the processing of special categories of personal data
25. pants	Data protection by design and by default
32. pants	Appropriate security of personal-data processing
22. pants	Conditions for automated individual decision-making, including profiling

In practice, one of the most important principles is data minimization - using only the personal data that are genuinely necessary for the specific purpose in a digital or AI tool.

Safe-practice flow

Specific purpose → Tiesiskais pamats → Only necessary data → Appropriate tool → Controlled access → Secure processing

Latvian regulation

In Latvia, the Personal Data Processing Law applies in addition to the GDPR and supplements personal-data protection regulation at the national level.

Therefore, when using digital and AI tools in professional work, take into account:

EU regulation → Latvian legislation → Internal organizational rules → Terms of use of the specific tool

If there is uncertainty about whether specific data may be entered into an external digital or AI tool, they should not be entered until the organization's requirements and the conditions of data processing have been clarified.

Responsible use of artificial intelligence

An AI-generated result should not automatically be regarded as correct.

An AI system may:

- provide factually incorrect information;
- misinterpret context;
- generate non-existent sources or references;
- draw unsupported conclusions;
- reproduce biases contained in data;
- produce a confidently worded but incorrect answer.

Therefore, professional work should follow this process:

AI result → Critical evaluation → Verification of facts and sources → Necessary corrections → Human decision

EU Artificial Intelligence Act

The use of AI must also take into account Regulation (EU) 2024/1689, the Artificial Intelligence Act (AI Act), which establishes harmonized rules on artificial intelligence.

In the context of this learning material, Article 4 of the AI Act on AI literacy is particularly important. It requires providers and deployers of AI systems to take measures to ensure a sufficient level of AI literacy among persons dealing with the operation and use of AI systems on their behalf, taking into account their technical knowledge, experience, education and training, and the context in which the AI systems are to be used.

Depending on how AI is used, other AI Act requirements may also apply. For example, Article 50 establishes transparency obligations for certain AI systems and, in specified situations, requires a person to be informed that they are interacting with an AI system.

Practical review flow

What do I want to do? → What data will I use? → Are personal data involved? → What is the lawful basis? → Is the tool permitted in the organization? → Do AI Act requirements apply? → Is human control required? → Izmantot

Special attention to AI agents

Using an AI agent can create greater risk than using a simple AI chat because the agent may have access to Knowledge, Tools, organizational data, and the ability to perform actions in other systems.

Therefore, before deploying an AI agent, define:

What may the agent know?

1. What data may it access?
2. What Tools may it use?
3. What actions may it perform independently?
4. Which actions require human approval?
5. Who monitors and reviews the agent's operation?
6. Who is responsible for the final result?

Agent-control principle

Minimum necessary access → Skaidras Instructions → Approved Knowledge sources → Restricted Tools → Testing → Human control → Regular review

Digital competence in a business and management environment is not merely the ability to use a particular application. It is the ability to select the most appropriate technology, connect several tools in a unified workflow, use organizational data responsibly, and critically evaluate the results produced by both automation and AI.

Overall workflow:

Define the task → Select the tool → Assess the data and lawful basis → Perform the task / automate → Check the result → Ensure human control → Make a justified decision

Digital and AI tools support professional work, but responsibility for data use, evaluation of results, and the final decision remains with the human user.

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