INTERDISCIPLINARY AND APPLIED KNOWLEDGE FOR GREEN AND DIGITAL LOGISTICS PROCESSES

EDITOR
Matevž
Obrecht

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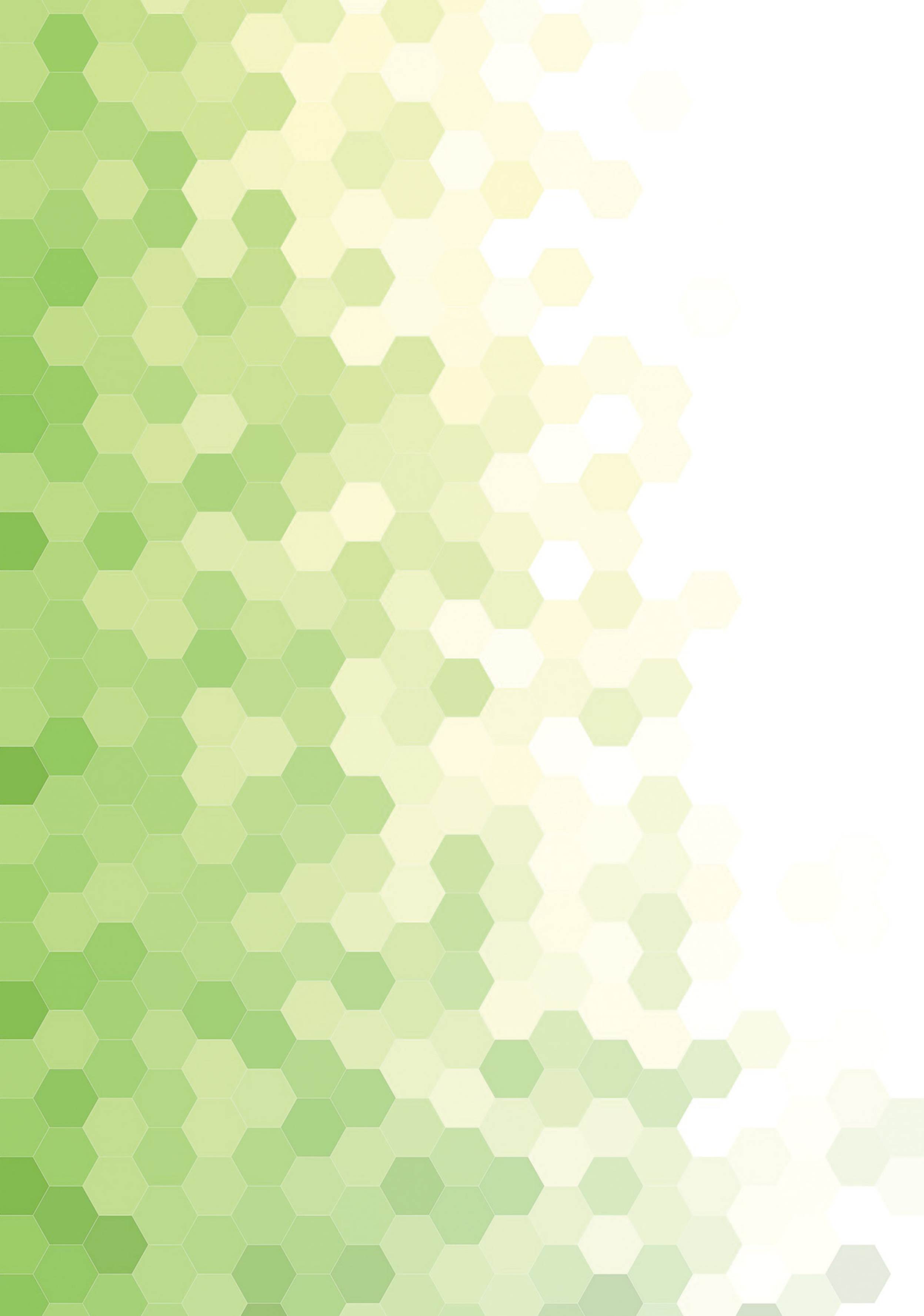

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Editor Matevž Obrecht
(University of Maribor, Faculty of Logistics)

Review Maja Fošner
(University of Maribor, Faculty of Logistics)

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Translation Nena Orel Šanko
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Language editing Kirsten Hempkin
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Technical editor Jan Perša
(University of Maribor, University of Maribor Press)

Cover designer Jan Perša
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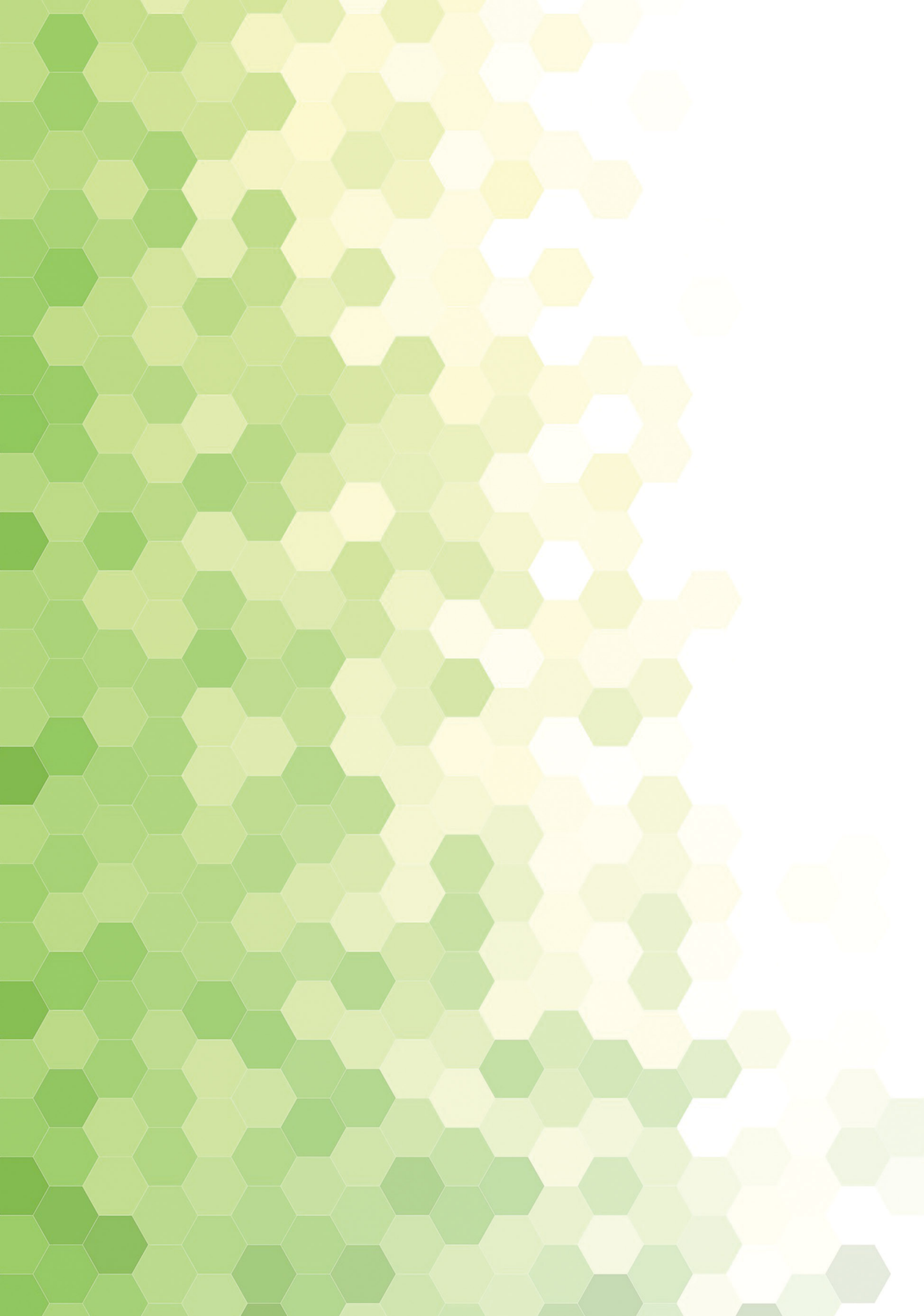

Leadership Communication

Mateja Čuček
University of Maribor, Faculty of Logistics, Celje, Slovenia
mateja.cucek1@um.si

Communication between employees, with business partners, customers and the external public is crucial for the effective flow of information and successful collaboration within and outside an organisation. How we communicate with the external environment of the organisation is primarily a reflection of what is happening within the organisation, and leadership is key to good communication and collaboration. It is leaders who help to minimise the challenges an organisation faces by example and adopting the right approach. In doing so, it is crucial that they know themselves, how they react in various situations, the leadership style they have and that they know their employees. There are several ways to identify and align employee preferences and expectations, one of which is by conducting regular annual interviews. When an organisation has employees from different generations, it is essential that managers and all employees are also aware of the values and behaviours of each generation to gain a competitive advantage.

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1 Introduction

To operate effectively, an organization needs a leader or a group of leaders who direct the entire operation of the organization, define its mission, adopt strategy, dictate the company vision and follow the set goals. There must be just enough leaders, so that they are able to direct the employees and not too many, so that the goals of the organization are not too broad (Wrench & Punyanunt-Carter, 2012).

For successful employee orientation, one of the key tools is effective communication. Many leaders do not sufficiently consider the consequences of poor communication in the decision-making process, thereby negatively affecting organizational effectiveness. Researchers believe that satisfactory and effective communication can contribute to organizational productivity and success, as well as customer orientation (Tkalac Verčič et al., 2021). They also find that with good communication, an organization can more easily introduce changes and a positive organizational climate (Meirinhos et al., 2022).

One of the misconceptions is that we communicate primarily with words (Mumel, 2012). The truth is that words have little weight in communication. If we look at the communication process as a whole, the share of word perception is present in 8% of communication. More important than the words themselves is the way or tone with which these words are said, which stands for 38 % of the communication process. Body language carries the greatest weight, constituting more than half of the entire process (55 %). This means that when talking to another person, our focus will be mainly on their gestures (e.g. we observe whether they are consistent with the words themselves). We pay attention to facial expressions, and from the volume and tone of voice we will quickly understand whether we are participating in a relaxed conversation or a serious situation where a problem is being solved. However, we will catch a smaller share of the words spoken.

2 Business communication

Business communication is the process of exchanging information, ideas, thoughts and messages within and outside an organization to achieve various business goals. Effective business communication is crucial for the success of any organization, as it ensures that everyone in the organization strives for the same goals, improves cooperation and helps in making well-considered decisions. In this process, people use various ways of communicating, which do not only refer to spoken or written words (Figure 1). As already mentioned, non-verbal communication accounts for 55 % of the effect within the entire communication process. This includes gestures, facial expressions, gaze, body posture, space, time, smell, touch, etc. (Možina et al., 2011).

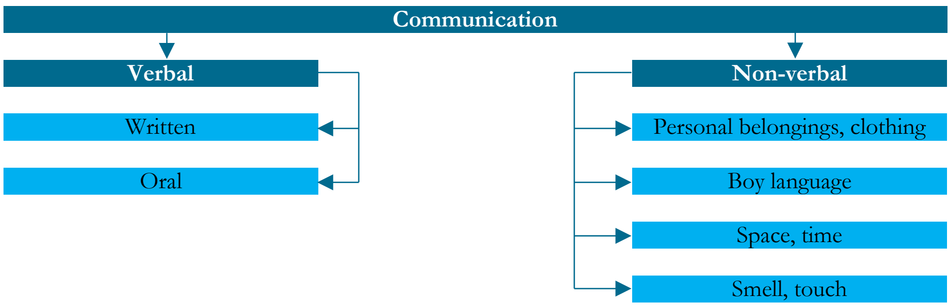

Figure 1: Ways of communication
Source: (Možina et al., 2011).

2.1 Communication process

The communication process may seem very simple in theory, but it requires awareness and practice. It occurs when source A wants to convey information to person B. The communication process (Figure 2) consists of seven components: communication source/sender, encoding, message, communication channel, decoding, receiver, feedback and communication noise.

Source of communication/sender: The person or other medium (e.g. a notice board) that initiates the communication process is known as the sender, source or messenger. In an organization, the sender will be the person who has the need or desire to send a message to others. The sender has information that he or she wants to communicate to another person in order to achieve a specific purpose. By sending a message, the sender is trying to achieve understanding and a change in the behavior of the recipient. (Aquinas, 2009)

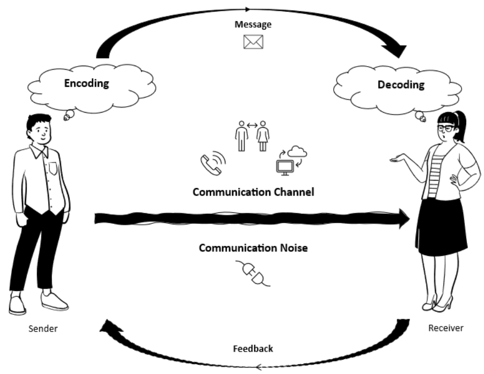

Figure 2: Communication process
Source: own.

Encoding: A process that occurs in the mind of the sender and refers to the conversion of ideas, thoughts, information, and messages into symbols or language that the receiver can understand. It is the first step in the communication process, where the sender selects appropriate symbols or words to express his message. (Mumel, 2012)

Message: The result of encoding can consist of verbal and non-verbal symbols. The message can be oral, written, symbolic or non-verbal, such as body gestures, silence, sighs, sounds, etc. or any other signals. (Mumel, 2012)

Communication channel: The means by which a message is conveyed to a recipient (visual, auditory, written, or a combination of all three). It represents the medium through which the message travels. Communication that uses the sender's voice as the communication channel is called oral communication. When the communication channel includes written language, the sender is using written communication. The sender's choice of communication channel communicates additional information beyond that contained in the message itself (e.g., documenting a poorly performed job in writing communicates that the manager took the problem seriously) (Aquinas, 2009).

Decoding: The process of transforming nerve impulses into thought or interpreting the sender's message in the receiver's mind. The receiver attempts to understand the sender's message as fully as possible. Effective communication occurs only when the receiver understands the message in exactly the same way (or as close as possible) as the sender intended it (Mumel, 2012).

Receiver: The person to whom the message is addressed and who perceives the message through one or more senses (e.g., a customer's voice on the telephone or a thumbs-up sign from a manager). He or she attempts to understand it as fully as possible so that the communication goal is achieved. The degree to which the receiver decodes the message depends on his or her knowledge of the content, experience, mutual trust, and relationship with the sender. Most importantly, the receiver will perceive the message in a way that is consistent with previous experiences (Aquinas, 2009).

Feedback: Feedback is communication that occurs in a reverse direction. If the sender is attentive to the feedback and interprets it correctly, the feedback can help the sender determine whether the original communication was decoded correctly. If there is no feedback in the communication, we speak of one-way communication. Employees often do not give feedback to managers because they feel that their time is wasted. Feedback can be negative, so they feel uncomfortable if they misinterpret the message they receive and do not want their managers to notice (Aquinas, 2009).

Communication noise: Interference that occurs during the encoding and decoding of a message. Such interference can be ambient noise that prevents the recipient from hearing the sender's voice, a short circuit in the internet connection, for example, if we have a meeting via Zoom/MS Teams, etc., lack of knowledge of terminology (technical language), different interpretation of words, etc. (Guffey & Loewy, 2022).

2.1.1 Barriers and solutions in communication

Communication barriers can be divided into verbal and non-verbal, as shown in Table 1.

The first verbal barrier refers to the lack of information about the level of knowledge on the part of the sender and recipient relating to a given situation. For example, a manager wants to talk to a subordinate about the challenges of a certain project but the subordinate has not yet received the project application documents and does not have a comprehensive understanding of the matter.

Table 1: Communication barriers

Verbal barriers	Nonverbal barriers
Lack of knowledge or vocabulary.	Inappropriate or conflicting signals.
Differences in interpretation.	Differences in perception.
Language differences.	Inappropriate emotions.
Inappropriate expression.	Distractions/interference.
Too abstract and ambiguous.	
Polarization.	

Source: (Newman, 2017)

Vocabulary refers to terminology that the other person may not necessarily be familiar with. If an employee is negotiating with a supplier from a different field, they should be careful not to use words that are too complex or too simple. Overly complex vocabulary can give a sense of superiority and increase the likelihood that the recipient will not understand what is being said, while overly simple vocabulary can indicate unprofessionalism.

Differences in interpretation can occur when words have different meanings (e.g., »capacity« can be the ability of a company to perform a certain amount of work or the quantity that can be accepted). Another form of misinterpretation can also occur when two interlocutors are discussing a price or salary and it is obvious to one that the price is with VAT, while to the other it is without VAT or gross or net value. Misinterpretation can also occur if the sender and the recipient have different feelings, or positive or negative attitudes towards certain terms (e.g., working from home). Differences in interpretation also occur when the recipient wants to convey content that has already been conveyed and summarizes the essence, losing important details that are crucial for the next recipient to understand.

Language differences often occur when doing business in a foreign language. Misunderstandings occur when using a first language but are even more common when using a foreign language because, in addition to the language, we also have to take into account the other culture and the customs or values of people who may understand terms in a different way to us.

Communication problems can quickly arise, so it is important to avoid abstract and ambiguous use of language when conveying information of a more complex nature.

Defining people into two groups (e.g. poor and rich) means polarization in communication, which we try to avoid as much as possible so as not to put the recipients in an uncomfortable position (Newman, 2017).

In the case of non-verbal barriers, one is the use of signals that have different meanings in different environments/cultures (e.g. a circle with the thumb and forefinger in our country means that everything is fine, whereas in France this gesture has a negative meaning).

Differences in perception occur due to different perceptions of events based on emotions. An example could be a meeting where the manager announces some news but the employees' reaction is different to that expected.

Nowadays, a greater degree of expression of emotions is allowed in the business world but we must keep in mind that excessive anger, prejudices, stereotypes, etc. do not belong in communication.

Finally, nonverbal barriers include distractions such as ambient sounds, technology problems, and other noises that prevent the correct transmission of the sender's message to the recipient (Newman, 2017).

3 Leadership

Leadership is the ability to direct, influence, and inspire a group of individuals or a team to achieve a common goal or task. It involves creating a clear vision, making sound decisions, communicating effectively and motivating others to cooperate in realizing the company vision. Leadership can be found in a variety of contexts, such as: business, politics, education, sports, and various social organizations.

3.1 Transactional or transformational leader

Depending on the style of leadership, leaders can be classified into two groups. One group is termed transactional leaders and the other group transformational leaders. If we explain this using Maslow's pyramid of needs, a transactional leader pays attention to satisfying the three basic levels, while a transformational leader also strives to satisfy the highest two levels (Figure 3).

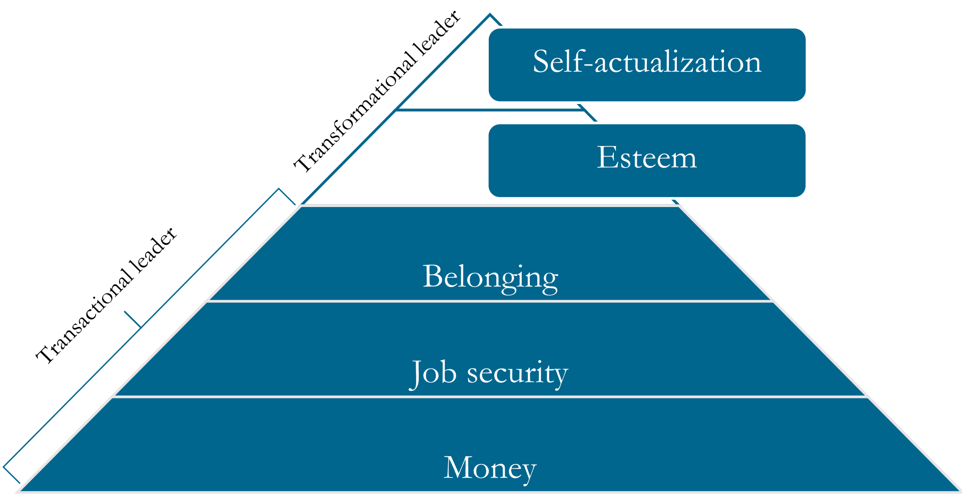

Figure 3: Maslow's pyramid of needs
Source: own.

As the word transaction itself suggests, this is an exchange between employees and their manager. For a job well done, the employee receives a reward or salary, has a secure job, and belongs to a group. If the job is not done well, there is a punishment (non-membership in the group, job instability, dismissal).

Transformational leadership is about guiding and motivating employees through change, achieving higher goals such as relevance and self-fulfillment in the career field. A transformational leader encourages employees and wants them to grow together, contributing to greater efficiency and the success of the organization.

Leaders who advocate and use the transactional leadership style adhere to a defined work structure, including a clear chain of command. They operate on the assumption that the leader and subordinates make a deal. The leader has all the authority and the subordinates have all the responsibility. This leadership style is suitable for achieving short-term goals. Employees are motivated by rewards and punishments. Leaders operate on a day-to-day basis, without a bigger picture and long-term goals.

Transformational leaders are truly transformational when they raise awareness of what is right, good, important, and beautiful, and when they help meet subordinates' needs for achievement and self-actualization. Such leaders want to achieve progress in employees and transform the organization, taking it to a higher level. They have a long-term vision and goals that differ from past goals. They motivate employees with the idea of a better future and development (Kavita, 2015).

3.2 Leadership styles

Leadership style refers to the approach or method a leader uses to communicate with their employees (or organization) and how this influences their behavior. Different leaders may use different styles based on their personality, values, experience, and the needs of their employees. What the leadership style will be depends on the leader, the employees, and the work environment.

A study was conducted to determine which specific leadership behaviors bring about positive results. The study was based on a sample of 3,871 managers worldwide and identified six generally accepted leadership styles that stem from different components of emotional intelligence, specifically (Možina et al., 2002; Mullins, 2005):

- leadership by coercion (the leader demands immediate fulfillment of obligations),
- leadership by direction (the leader encourages people to realize the vision),
- leadership by connection (the leader establishes emotional bonds and harmony),
- democratic leadership (the leader achieves consensus through cooperation),
- leadership by dictation (the leader expects excellence and self-initiative),

– leadership by mentoring (the leader cares about the development of employees for the future).

3.3 Leader competencies

Leaders have greater responsibility than other employees and their work intersects with various areas in the company. With their behavior, they set an example for others and set the boundaries of bold and expected behavior in the organization. The main responsibilities of leaders are: knowing the factors that affect leadership, directing events and maintaining harmony between individuals, the group and the work environment (Možina et al., 2002).

Table 2 describes the key competencies that are necessary and common to employees in leadership positions in order to be effective in leadership.

Table 2: Leadership skills

People management skills	Empathy	Empathy is important for an objective perception of employees, their rights, emotions, and beliefs. With empathy, a leader recognizes the needs of subordinates.
	Objectivity	Objectivity is key to analytical decision-making and fair dealing.
	Communication skills	With good communication, a leader receives and conveys information better, gives clear instructions, and uses resources more efficiently.
	Knowledge transfer skills	The ability to transfer knowledge in a way that is comprehensible to the employee.
	Social skill	A leader gains the trust and loyalty of subordinates through empathy and a friendly approach, thereby providing them with support.
	Power sharing	The ability to share power, influence, and control with other employees. This helps employees develop a sense of belonging, increases motivation, and relieves the manager.
	Vision	A clear idea of how to achieve goals and how to communicate this to other employees.
	Consistency of values	Consistent values of the leader with those of subordinates and the values of the organization mean better synergy and easier overcoming of challenges.
Conceptual skills	Understanding of the organization's management	
	Knowledge of the competition	
	Knowledge of the organization's financial situation	
Technical skills	A manager must have a thorough understanding of the principles, procedures, and activities of the workplace. Technical skills include specialized knowledge, analytical skills, and the ability to use the tools and techniques of a particular profession.	

Personal skills	Intelligence	Intelligence is an essential trait of leaders.
	Emotional maturity	This means mature and rational decision-making that brings positive consequences in the future.
	Personal motivation	The internal desire to get the job done and goals achieved. It can be intrinsic motivation, which brings personal satisfaction, or extrinsic in the form of material rewards.
	Integrity	A commitment to ethical and moral conduct that brings trust and respect.
	Open-mindedness	Making and changing decisions based on the expediency of the situation and thus adapting to circumstances.
	Intuition	Having a sense of what will happen in the future and how best to respond to the predicted events.
	Self-awareness	Knowing your strengths and weaknesses and overcoming them in this way.

Source: (Aquinas, 2009; Možina et al., 2002)

In addition to the listed competencies, it is important that leaders do not forget about clarity in communication, avoiding demotivators, listening to their employees, being attentive to providing clear and constructive feedback, and knowing how to allocate tasks, possibly delegating them, and never becoming too busy to lead.

4 Annual interview

The purpose of regular annual interviews in organizations is primarily to align the wishes and expectations of employees with the expectations of the organization.

The regular annual interview takes place between a subordinate and a superior. It is held once a year (some companies also introduce semi-annual regular interviews). The exact date and time are agreed upon at least a few days before the interview itself, as both participants prepare for it in advance. The superior has a prepared form, which the subordinate fills out and sends to the superior for review so that the superior can read the form and think about it. The subordinate must also have enough time to think and fill out the form. The purpose of the previously agreed upon date is also to prepare the environment for the interview. The space in which the interview is conducted is in most cases the superior's office. Preparing the environment also means that the manager ensures the smooth running of the interview, which can last from 45 minutes to a maximum of 2 hours.

The form consists of three sections: a section that includes questions related to past work/achievements; a section related to the work that the subordinate is currently doing; the third section is intended for the employee's goals and expectations in the near and distant future. The form also includes questions related to work with other colleagues and with the manager, what are good practices and where there are opportunities for improvement. The regular annual interview is also an opportunity for the manager to give praise or constructive criticism to the employee.

4.1 Benefits of annual interviews

Conducting regular annual interviews can be extremely effective if those involved are prepared for them and are aware of the importance and benefits for all involved. In case of resistance from employees, they should be informed about the purpose of conducting them and the potential benefits. Conducting annual interviews can have a positive impact on employees, managers and the entire organization. Below are listed the key benefits for each group mentioned.

Positive gains for the organization (Mumel, 2012):

- general increase in employee satisfaction,
- obtaining and updating data in the HR department,
- coordinating the goals of employees and the organization,
- improving communication flows in the organization.

Positive gains for managers (Mumel, 2012):

- improved communication with subordinates,
- getting to know subordinates' personalities and adapting leadership style,
- identifying subordinates' motivational factors,
- a space to share the floor with subordinates in terms of their opinions, suggestions for improvements, potential challenges at work, etc.

Positive benefits for employees (Mumel, 2012):

- employees feel like they are an important part of the organization,

- showing their work in the broader context of the organization,
- obtaining information about what the organization expects of its employees,
- providing information about what their expectations are of the organization,
- feedback on the performance and achievement of their department's goals,
- receiving information about the organization's goals and development.

5 Communication between different generations

Workplaces are filled with employees of different ages, which means different perspectives, values, and habits. Each generation has been marked by formative events. Due to rapid technological development and the subsequent adaptation of our lifestyles, these differences between generations are now much greater than ever before. To facilitate the cooperation of all employees, it is important to be aware of these differences and find a way of communicating that is suitable for all generations.

5.1 Generations currently present in the labor market

There are currently up to four different generations present in the workplace. The oldest employees belong to the Baby Boom generation, and there are around 6 % of them in employment, according to research from 2020. They are followed by members of Generation X, who constitute 35 % or less of the workforce. The same percentage, or currently probably the most numerous generation on the labor market, is Generation Y or the so-called Millennials. According to Statistical Office findings, this generation stood at 35 % in 2020. The youngest generation entering the workplace is Generation Z, which accounts for around 24 % of the workforce and is currently increasing (*Employment Worldwide by 2020, by Generation*, 2025).

5.1.1 Baby boomer generation (born between 1946 and 1964)

The Baby Boom generation was characterized by growth after World War II. Some of the key events that shaped this generation include: the Cold War, the founding of the Socialist Federal Republic of Yugoslavia, the development of the first televisions, and the moon landing (1969) (Williford, 2023).

Members of this generation like direct communication on a professional level. They prefer to communicate in person or over the phone. Society attributes to them characteristics such as: competitiveness, resistance to change, workaholics, realists and challenged when using new technologies. Factors that motivate employees of this generation are being appreciated, rewarded with money and bonuses, and acquiring prestige and status symbols such as a title and a parking space (Berkup, 2014).

5.1.2 Generation X (born between 1965 and 1980)

Generation X in Slovenia was shaped by a period of political reforms, the introduction of democracy, Slovenia's independence (1991) and the transition from socialism to a market economy. The fall of the Berlin Wall (1989) and the collapse of the Soviet Union (1991) also took place on European soil.

They are concise and flexible in their communication. They prefer to communicate via telephone or email. They are highly motivated to work.

Research confirms that members of Generation X are less loyal, more self-oriented, expect promotion earlier than older generations, and work is not as important a value for them as it was for previous generations (Smola & Sutton, 2002).

At the beginning, it is necessary to thoroughly explain to them what their work entails, what the expectations are of them from management and to allow them do the work themselves. It is important for them to feel safe at work, receive feedback and have the opportunity to advance in their career. (Berkup, 2014)

5.1.3 Generation Y (born between 1981 and 1996)

Generation Y was shaped by Slovenia's accession to the EU, the economic recession (2008) and, above all, the growth of digital technology and social networks (e.g. IRC). On a global level, the generation was influenced by the terrorist attacks of September 11, 2001.

Their communication is informal and efficient. It takes place via text messages or e-mail.

Research shows that this generation values free time more than previous generations but they also work more (Meriac et al., 2010). Members of this generation like to be led and respect mentors but they like to do their work individually. Leadership in a commanding manner and excessive hierarchy demotivate them. If the job does not suit them, they have no problem changing the work environment (Berkup, 2014).

5.1.4 Generation Z (born between 1997 and 2012)

Generation Z is the first generation to not know a world without digital technology, and for them the virtual world is a greater reality. It is the generation that encourages a positive attitude towards the environment, and its members are most committed to mitigating climate change. The Covid-19 pandemic has also had a major impact on this generation.

They are direct in their communication and like to present things visually. They do this most often in person or via video call. Due to the fast pace of life, which has been aided by technological progress, members of Generation Z have a great need for things to happen quickly or instantly, similar to Generation Y. Due to the numerous stimuli they are exposed to, especially digital technology, their attention span is short. One of the positive features that modern Internet technology has brought to this generation is that they can be interested in more than one topic at the same time. Because their ability to be interested in more than one area is very high, they are said to have the highest level of synchronization of motor skills of hands, eyes and ears in the history of mankind (Berkup, 2014).

5.2 Challenges and advantages of generationally diverse teams

There are a number of advantages and challenges concerning generationally diverse teams, i.e. people of different age groups in the work environment.

Different generations in a work team can bring challenges such as (Appelbaum et al., 2022; Oleka-Onyewuchi, 2023):

– communication: differences in communication style can lead to misunderstandings and difficulties in mutual understanding,

- conflict: different values, expectations and ways of working, which can lead to conflict and difficulties in cooperation if there is no appropriate leadership,
- leadership: leaders must adapt their leadership style to different generations, as they have different ways of communicating that are closer to them, respond differently to feedback and have different motivators,
- adaptation to change: members of younger generations often adapt to change more easily, while older generations may have more difficulty dealing with changes in the work environment, such as new technologies or processes.

On the other hand, there are many benefits to having a mixed-generation team. One of the most valuable is the diversity of perspectives. Each generation has grown up in different circumstances, technological environments, and with different social changes. This allows each individual to bring their unique experience and perspective to problem solving and decision-making within the team.

Another positive feature is greater creativity and the possibility of innovation. Different generations can contribute different ideas and strategies to innovation, and by combining them, the level of creativity and innovation in a team can be increased.

Learning and mentoring can be implemented through the collaboration of different generations. Older employees can share their knowledge and experience with younger employees, which enables the transfer of knowledge and skills between generations. Younger employees can bring new knowledge about the latest technologies and trends and teach them to older employees.

Generational teams can better understand the diverse needs of customers, as members of different generations have different backgrounds and experience, which can contribute to better product and service development (Appelbaum et al., 2022; Behie et al., 2023).

According to research and practical experience, effectively managing generationally diverse teams can bring great benefits but it also requires attention to the challenges that this diversity can bring.

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FUNDAMENTALS OF VIDEO PRODUCTION FOR MODERN MARKETING

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IGOR GROFELNIK
University of Maribor, Faculty of Logistics, Celje, Slovenia
igor.grofelnik@um.si

In the digital age, video production has become a key component of marketing strategies. As an engaging media format, video allows for the effective communication of information quickly, enhances brand visibility, and drives conversion. Despite its advantages, creating quality video content requires careful planning, technical expertise, and an understanding of the target audience. This article explores the three crucial stages of video production: pre-production, production, and post-production, emphasising the importance of grasping these fundamentals for successful video production in contemporary marketing.

Keywords:
video production,
data,
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1 Introduction

In today's digital world, promotional video content has become one of the most powerful tools for marketing products, services, and brands. At a time when consumer attention spans are limited and information is spread at lightning speed, video content offers a unique opportunity to connect with audiences on a deeper and more personal level. One of the main advantages of video content is its ability to present complex information in a simple and understandable way. The dynamism of video, which combines sound, movement, and visual elements, not only allows for better understanding and retention of information but also promotes an emotional connection with the viewer. In addition, promotional videos are extremely flexible and can be used on different platforms and in different formats, which allows companies to effectively reach their target groups. By using video, companies can track viewer behavior and optimize their marketing strategies based on the collected data. However, the successful use of video content in marketing requires thoughtful production that considers quality, content, and brand consistency. In conclusion, we can say that promotional video content in modern marketing has become an indispensable tool for connecting with audiences, telling stories, and building brands, which gives companies a competitive advantage in an increasingly saturated digital market.

2 The importance of promotional video content in modern marketing

In today's digital world, promotional video content has become one of the most powerful tools for marketing products, services, and brands. In a time when consumer attention spans are limited and information spreads at lightning speed, video content offers a unique opportunity to connect with audiences on a deeper and more personal level.

One of the main reasons for the growth in popularity of video content is its ability to present complex information in a simple and understandable way. Compared to text or static images, video allows information to be presented dynamically, through a combination of sound, movement and visual elements. This not only increases understanding and retention of information but also fosters an emotional connection with the viewer.

Additionally, promotional videos are extremely flexible and can be used across multiple platforms and formats. From short video ads on social media to more in-depth educational videos on company websites, video content allows companies to reach their target audiences in a way that is most effective for their specific marketing strategy.

However, the importance of video content in modern marketing goes beyond its visual and audio appeal. In the digital age, where analytics are key to measuring and optimizing marketing campaigns, video offers a rich set of data about viewer behavior. Companies can track how long viewers spend watching a video, which parts they watch repeatedly, where they stop watching, and much more. These insights are invaluable for adjusting and improving marketing strategies.

However, despite all the benefits of video, it is important for companies to approach its production thoughtfully. The quality, content, and message of the video must be consistent with the brand and its values. A poorly produced or misleading video can quickly damage a company's reputation and turn off potential customers.

The conclusion is clear: in modern marketing, promotional video content has become an indispensable tool for connecting with audiences, telling stories, and building brands. Companies that know how to harness the power of video content and integrate it into their marketing strategies will have a competitive advantage in an increasingly saturated digital market.

In a study titled "What to Build for Middle-Agers to Come? Attractive and Necessary Functions of Exercise-Promotion Mobile Phone Apps: A Cross-Sectional Study", the authors found that we live in an era in which the use of multimedia technologies, such as digital recorders and mobile phones, is rapidly increasing (Liao et al., 2017).

Furthermore, another study titled "Video Inter-frame Forgery Detection Approach for Surveillance and Mobile Recorded Videos" highlighted that videos recorded with mobile phones are often key evidence for an event and are therefore most susceptible to forgery (Kingra et al., 2017). This demonstrates the importance of ensuring the authenticity and integrity of promotional video content recorded and shared via mobile devices.

With the development of technology and changes in consumers' media habits, it has become imperative for marketers to understand and harness the power of video.

Video as a Dominant Media Format. In recent years, video has experienced explosive growth as a popular media format. According to research, users spend more time on websites with videos and are therefore more likely to share video content than other types of content. This has led to companies and brands starting to invest more resources and funds in video production.

The impact of video on audience engagement. Video has a unique ability to capture and hold the attention of an audience. Compared to other media formats, such as text or images, video provides a more dynamic and interactive experience. This means that viewers are more likely to stay engaged, share content, and take the desired action, such as purchasing a product or signing up for an email list.

Video and SEO. Video content can also improve a website's visibility in search engines. Search engines such as Google favor websites with high-quality video content, which means video can help increase a website's organic traffic and reach.

Video and Social Media. Social media has become a key platform for distributing video content. Platforms such as Facebook, Instagram, TikTok, and YouTube allow businesses to share videos with millions of users worldwide. Video content on social media can increase engagement, increase brand awareness, and attract new customers.

Understanding the importance of video in marketing is crucial for any marketing professional. By investing in video production and harnessing the power of video, businesses and brands can increase their reach, engagement, and conversion.

2.1 Benefits of using a camcorder for recording

In a world where visual communication is key, cameras have become an indispensable tool for capturing and sharing moments. Despite the rapid development of mobile phones and their cameras, traditional cameras still offer many advantages that smartphones struggle to match.

Image quality. Cameras are designed to provide the highest possible image quality. Larger sensors, better lenses, and advanced image processing features allow cameras to capture detail, color, and light better than most mobile phones (Ruwaimana et al., 2018).

Flexibility. Most cameras allow users to change lenses, providing greater flexibility in shooting a variety of scenarios, from macro photography to wide-angle shots (Grizzle et al., 2008).

Control over settings. While smartphones offer automatic shooting modes, cameras offer manual settings such as shutter speed, aperture, and ISO, allowing photographers to have greater control over the final result (Loo et al., 2019).

Long-lasting battery. Cameras are designed for long-term use, so they usually have batteries that last longer than cell phone batteries, which is especially useful when recording or taking photos for long periods of time (Preti et al., 2021).

Ruggedness and durability. Many cameras, especially professional DSLRs and mirrorless cameras, are designed to withstand harsh conditions such as cold, heat, or humidity. Some are even waterproof or shockproof, making them ideal for use in harsh environments (Shaw et al., 2012).

Although smartphones are becoming increasingly advanced and popular for recording, traditional cameras still offer many advantages that are difficult to replace. For serious photographers and videographers, using a camera is crucial to achieving the highest possible quality and flexibility.

2.2 Benefits of using a camera for recording

In the age of digital technology, where smartphones have become ubiquitous, traditional cameras still remain an indispensable tool for many professionals and photography enthusiasts. Despite the convenience and accessibility that smartphones offer, cameras offer many advantages that mobile devices struggle to match.

Image quality. Cameras are designed to provide the best image quality possible. Larger sensors and better lenses allow for greater detail capture with greater sharpness and dynamic range (Ruwaimana et al., 2018).

Flexibility. Most DSLR and mirrorless cameras allow for interchangeable lenses, allowing users to customize their equipment to suit their shooting scenario, from macro photography to wide-angle shots (Whitmarsh et al., 2018).

Manual control. Cameras offer manual settings such as shutter speed, aperture, and ISO, allowing for greater control over the final result and creativity (Moore et al., 2021).

Battery and storage. Cameras are designed for long-term use, offering higher-capacity batteries and the ability to use larger and faster memory cards to store larger files (T. Lee et al., 2021).

Ruggedness. Professional cameras are often designed to be weatherproof, such as rain, dust, and cold, allowing them to be used in a variety of environments and conditions (Shaw et al., 2012).

In summary, while smartphones have become a popular tool for everyday photography and videography, traditional cameras still offer many advantages that are difficult to replace. For those who want greater quality, flexibility, and control, using a camera remains essential.

2.3 Advantages of using mobile phones for recording

In today's digital world, mobile phones have become much more than just communication devices. With the rapid development of technology, smartphones have evolved into powerful tools for content creation, including recording high-quality videos. This development has made recording more accessible to a wider range of people without the need to invest in expensive cameras or additional equipment (Haddock et al., 2013).

Their portability and versatility make mobile phones ideal for capturing spontaneous moments, travel, events, and even professional vlogs or short films. Their cameras are equipped with advanced features such as high resolution, slow motion, and image stabilization, which allow for stunning video recording (Shaw et al., 2012).

Additionally, modern smartphones offer a variety of apps and editing tools that allow users to process and enhance their footage directly on the device. This means that the entire process, from recording to editing and sharing, is now possible with a single device (Ludwig et al., 2020).

However, as with all technologies, it is important to understand the basics and best practices when shooting with a mobile phone. This includes understanding lighting, composition, stabilization, and other key aspects of shooting that can drastically affect the final quality of the footage (Ye et al., 2017).

Despite some limitations, such as limited battery life and storage space, mobile phones offer a unique opportunity to democratize shooting. With more and more people having access to these devices, it is expected that more innovative and creative content will be shot on smartphones in the future (Krieter & Breiter, 2018).

Using mobile phones for recording offers many advantages that traditional cameras have difficulty achieving:

- **Portability.** One of the biggest advantages of mobile phones is their compactness and portability. They can be easily put in a pocket or bag and taken with you anywhere. This allows you to record spontaneous moments without having to carry heavy equipment (Haddock et al., 2013).
- **Accessibility.** Most people already have a smartphone, which means that the recording tool is always at hand. This eliminates the need for additional investments in expensive cameras or equipment (Stöggl et al., 2014).
- **Quality.** Modern smartphones are equipped with high-resolution cameras that can record in 4K or even 8K. These cameras are capable of creating stunning quality videos that are comparable to those recorded with professional cameras (Krieter & Breiter, 2018).

- **Multifunctionality.** Mobile phones are not just for recording. They allow editing, adding special effects, music, and other elements directly on the device. This means that the entire production process, from recording to publishing, can be done on a single device (Abulkhair, 2015).

However, despite their many advantages, the use of mobile phones for recording also brings some challenges, such as: limited battery life, limited storage space, and the need for stabilization. However, the advantages that mobile phones bring undoubtedly outweigh the potential disadvantages.

In a study titled "Automatic Identification of Referral-Warranted Diabetic Retinopathy Using Deep Learning on Mobile Phone Images", the authors found that despite the presence of multiple artifacts and low-resolution images generated by users with varying levels of medical training, deep learning algorithms can identify images captured with mobile phones with high reliability (Ludwig et al., 2020). This suggests that mobile phones can produce high-quality videos suitable for professional use.

2.4 The basics of recording videos for promotional purposes

In today's digital world, videos are a key element of a company's promotional strategies. An effective promotional video can increase brand awareness and sales, , and improve customer relationships. To achieve these goals, it's important to understand the basics of video recording:

- **Planning and preparation**: Before you start filming, it is important to have a clear vision and goal. Identify your target audience, think about the message you want to convey, and choose the right tone and style for your audience (Smith, 2019).
- **Technical equipment**: Quality equipment is essential for a professional video. This includes a high-definition camera, stabilizer, microphone, and proper lighting (Jones & Brown, 2020).
- **Composition and framing**: Proper composition is key to a visually appealing video. Follow the rule of thirds, avoid distracting background elements, and ensure good lighting (Miller, 2018).

- **Story and Script**: A good story is the heart of every video. Think about the beginning, middle, and end, and how you will guide the viewer through the story (White, 2017).
- **Editing and post-production**: After filming, it's time for editing. Use software such as Adobe Premiere or Final Cut Pro to edit, add graphics, music, and other elements that will enhance your video (Lopez, 2021).
- **Distribution and promotion**: Once your video is finished, consider the best channels to distribute it. These could be social media, YouTube, websites, or television (Green, 2019).
- **Performance measurement**: After publishing your video, track its performance. Use analytics tools such as Google Analytics or YouTube Analytics to see how your video is performing (Taylor, 2020).

An effective promotional video is a combination of a good story, technical quality, and the right distribution strategy. By following these basics, you can create a video that will truly resonate with your audience.

3 Types of video content we can record

In the world of digital marketing and communications, video content has become one of the most powerful tools for connecting with your audience. Different types of video content can serve a variety of purposes, from education to entertainment and promotion. Let's take a look at some of the most common types of video content that you can create:

- **Promotional videos**: These videos are designed to promote a product, service, or brand. They are typically shorter, focusing on the main benefits and features, and include a call to action at the end.
- **Educational or instructional videos**: These videos are designed to provide valuable information or teach a specific skill to the audience. Examples include how-to guides, webinars, and lectures.
- **Narrative videos**: Narrative videos tell a story, usually with characters, conflict, and resolution. These can be short films, music videos, or even ad campaigns with a strong story.

- **Product reviews**: In these videos, reviewers introduce a specific product, discuss its features, pros, and cons, and give their opinion. These videos are very popular on platforms like YouTube.
- **Interviews:** Interviews offer an opportunity to have an in-depth discussion about a specific topic with an expert or interesting person. They can be formal or informal, and are used for a variety of purposes, from news to podcasts.
- **Event videos:** These videos cover events such as conferences, seminars, concerts, or weddings. They give the audience a glimpse into an event that they may not have been able to attend in person.
- **Customer testimonials**: In these videos, customers or users share their experiences with a product or service. These videos are a great tool for building trust and credibility.
- **Animated videos**: Animated videos are great for presenting complex ideas in a simple and understandable way. They are often used for business presentations, educational content, or advertisements.
- **Vlogs**: Vlogs are personal video diaries that individuals share with their audience. They are usually informal and reflect the daily life, thoughts, and feelings of the vlogger.
- **Live broadcasts**: Thanks to platforms like Facebook Live and YouTube Live, individuals and businesses can live-stream events, presentations, or even conversations with their audience.

Different types of video content offer different opportunities to connect with your audience. Whether you want to promote a product, share a story, or educate your audience, video is a powerful tool that can help you achieve your goals. By understanding the different types of video content and their purpose, you can create effective and engaging videos that will captivate your audience.

4 Basics of recording with a video camera or camera

In today's digital world, recording with a video camera has become an essential tool for communication, education, and entertainment. In order to create quality video content, it is important to understand the basic techniques and approaches to recording. **Understanding the technology:** B efore you start recording, it is important to understand the basic functions and capabilities of your camera

(Nassauer & Legewie, 2019). This includes understanding resolution, frame rate, and different exposure modes.

Composition and framing: Proper composition is key to creating visually appealing shots. Follow the rule of thirds, avoid distracting background elements, and ensure good lighting (Lahlou, 2011).

Camera movement: Camera stability is key for professional shots. Use stabilizers such as a gimbal or tripod to prevent camera shake while recording (Wilson & Serisier, 2010).

Sound: Good sound quality is just as important as image quality. Use external microphones and ensure good acoustics during recording (Akino et al., 2018).

Editing: After recording, it's time for editing. Use software like Adobe Premiere or Final Cut Pro to edit, add graphics, music, and other elements that will enhance your video (Nassauer & Legewie, 2019).

Storage and archiving: Make sure you store your footage securely. Use external hard drives or cloud services to store and archive your videos (Lahlou, 2011).

Distribution: Once your video is finished, consider the best channels for distributing it. These could include social media, YouTube, websites, or television (Wilson & Serisier, 2010).

Videography is both an art and a science. By following these basics and constantly learning new techniques, you can create videos that will truly resonate with your audience.

4.1 Choosing the right camera or camcorder for recording

In today's technologically advanced world, choosing the right camera or camcorder for your recording needs can be a daunting task. Different cameras offer different features, so it's important to understand what you need and what's available on the market.

Camera Type: The first decision you need to make is the type of camera. While some cameras are better for taking photos, others are better suited for recording videos (Delmerico et al., 2018). It's also important to consider the size and weight of the camera, especially if you plan to carry it around frequently.

Resolution and Image Quality: Resolution and image quality are key to achieving clear, sharp images. The higher the resolution, the better the image quality (Di Gennaro et al., 2022). It is also important to consider the camera's ability to record in low light conditions.

Features and accessories: Some cameras offer additional features, such as Wi-Fi connectivity, a touchscreen, and water resistance. Depending on your needs, you may want a camera with certain additional features (S. Lee et al., 2022).

Price: Price is always an important factor when choosing a camera. It is important to find a balance between quality and price to get the most for your money (Muender et al., 2019).

Choosing the right camera or camcorder for your shooting needs depends on your specific needs and budget. By researching and comparing different models, you can find the perfect camera for your needs.

4.2 Mobile Phone Recording Basics

4.2.1 Choosing the Right Phone

Choosing the right mobile phone for video recording is crucial. There are many different phone models on the market, varying in camera quality, resolution, performance, and other features. When choosing a phone, the following factors should be considered:

- **Camera resolution**: The higher the camera resolution, the better the video quality. Most modern smartphones offer high-resolution cameras that can record in 4K or even 8K.
- **Stabilization**: Stabilization is important for quality videos. Some phones have built-in optical image stabilization (OIS) to help reduce camera shake.

- **Light sensitivity**: A phone with a good sensor and a wide aperture will perform better in low light conditions.
- **Additional features**: Some phones offer additional features such as: slow motion, time-lapse, and other advanced recording options.

4.2.2 Basic Camera Settings

Before you start recording, it's important to set up your phone's camera properly. Here are some basic settings to consider:

- **Resolution**: Depending on the purpose of your video, choose an appropriate resolution. For most promotional videos, 1080p or 4K is high enough.
- **Frame rate**: The standard frame rate for most videos is 30 frames per second (fps). If you want to create a slow-motion video, choose a higher frame rate, such as 60 fps or 120 fps.
- **Exposure mo**de: Most phones allow you to adjust the exposure manually. If you're recording in a bright environment, reduce the exposure to prevent overexposure.
- **Focus**: Some phones allow you to adjust the focus manually. If you want to emphasize a specific object or person, adjust the focus manually.

4.2.3 The Importance of Stabilization

Stabilization is essential for creating professional videos. Camera shake can be distracting to viewers and reduce video quality. Most modern smartphones have built-in stabilization, but in some cases, additional equipment such as tripods or gimbal stabilizers may be necessary.

In a study titled "YouTube-BoundingBoxes: A Large High-Precision Human-Annotated Data Set for Object Detection in Video", the authors found that recording quality, often similar to that of a handheld mobile camera, is crucial for accurate object detection in video (Real et al., 2017). This highlights the importance of stabilization when recording videos with a mobile phone.

5 How to Prepare for a Promotional Video

In today's rapidly changing media landscape, a promotional video is crucial to the success of a brand or business. To ensure effective and professional promotional video, careful preparation is required.

Understanding your audience: Before you start filming, it's important to understand who your target audience is and what they want to see (Cornett, 2007). This will help you craft content that will truly resonate with your audience.

Scripting: The script is the foundation of every video. It defines what will happen, who will participate, and how the content will be presented (Zhang, 2023). The script should be clear, structured, and goal-oriented.

Technical preparation: Choose the right equipment for the shoot, including a camera, microphones, and lighting. Also, make sure that your location is suitable for filming and that you have obtained all the necessary permits (Bubadué & Evangelista Cabra, 2021).

Team preparation: Each team member should know exactly what their role is and what is expected of them. This includes the director, cameraman, actors, and everyone else involved in the production (Fatimah et al., 2021).

Rehearsal: Before you start filming, make sure you have rehearsed all the scenes several times. This will ensure that the filming goes smoothly and without unnecessary interruption (Cornett, 2007).

Post-production: After filming, it's time to edit and finalize your video. This includes adding music, graphics, and other elements that will enhance the final product (Zhang, 2023).

Distribution and Promotion: Once your video is finished, consider the best channels to distribute it. These could include social media, YouTube, websites, or television. Also, consider strategies to promote your content and reach the largest possible audience (Fatimah et al., 2021).

Preparing for a promotional shoot is crucial to the success of your project. By following these steps and working with an experienced team, you can create effective, professional content that will truly resonate with your audience.

The location where you shoot is also important. It can have a big impact on the final look and feel of your video. When choosing a location, consider the following factors:

- **Background:** Keep the background clean and free of distractions. If you're recording an interview or promotional video, choose a background that complements the theme or message of your video.
- **Light**: Natural light is best for recording videos. If you're recording outside, choose a time when the light is soft, such as early morning or late afternoon.
- **Sound**: Avoid locations with a lot of noise. If you're recording in places like cafes or on the street, use an external microphone to reduce noise.

5.1 Lighting and its impact on video quality

Lighting is one of the most important factors that affect the quality of a video. The correct use of light can highlight certain elements, add depth and texture, and create a desired atmosphere or mood. Conversely, poor lighting can make a video look unprofessional, blurry, or even unrecognizable.

Types of Lighting: There are different types of lighting that can be used when shooting a video. These include natural light, artificial light, basic light, key light, and background light (MacQuarrie & Steed, 2020). Each type of light has its own advantages and disadvantages, so it is important to understand when and how to use them.

Color and intensity of light: The color and intensity of light can greatly affect the look and feel of a video. Warm light can create a warm and cozy atmosphere, while cool light can create a sense of tension or distance (Abdullah et al., 2019).

Direction of light: The direction from which light comes can affect the shadows, highlights, and shape of a subject. For example, front lighting can flatten shadows and emphasize the shape of a subject, while side lighting will create stronger shadows and emphasize texture (MacQuarrie & Steed, 2020).

Lighting techniques: There are several lighting techniques that can be used to improve the quality of a video. This includes the use of diffusers, reflectors, filters, and other tools that can help balance the light and create the desired effect (Abdullah et al., 2019).

The Importance of Adjusting Lighting: Lighting needs to be adjusted according to the environment you are filming in. For example, if you are filming outdoors, you may need to account for changes in weather conditions such as clouds or sunset. It is also important to consider how light reflects off different surfaces such as water, glass or metal (MacQuarrie & Steed, 2020).

Effects of Poor Lighting: Poor lighting can cause a number of problems such as: overexposure, underexposure, unwanted shadows or color shifts. These problems can reduce the quality of the video and distract viewers (Abdullah et al., 2019).

Lighting is crucial to creating quality video. By understanding the different types of lighting, techniques and tools available, you can create a video that is visually appealing, professional and effective.

5.2 Audio and How to Optimize It for Video

Audio is a key element of any video. While the visual component is what draws the viewer's attention, it is the audio that creates depth and emotional connection. Poor audio quality can reduce the effectiveness of a video, no matter how well it is recorded. That's why optimizing audio for video is crucial.

The importance of quality audio: Audio quality can have a major impact on the perception of a video. Clear, crisp audio can enhance the professionalism and credibility of a video, while noise, distortion, or unclear audio can diminish its value (Nagels et al., 2020).

Using the right equipment: To achieve the best audio quality, it is important to use the right equipment. This includes high-quality microphones, sound cards, and headphones. It is also important to consider the acoustics of the room you are recording in to reduce echo and noise (Chao et al., 2020).

Post-production and audio editing: After recording, it's time to edit and optimize the audio. This includes removing unwanted noise, equalizing the volume, adding effects and music, and synchronizing the audio with the video (Halperin et al., 2019).

Considering spatial sound: When recording a video that includes spatial sound, it's important to consider the direction and location of the sound sources. This can increase the realism and immersion of the video by allowing the viewer to hear sounds from different directions (Lim et al., 2021).

Audio is a key element of any video, and optimizing it is crucial to achieve the best possible quality. By using the right equipment, techniques, and tools, you can create clean, clear audio that will enhance the effectiveness and professionalism of your video.

5.3 Composition and Frames

In the world of video production, composition and frames are key elements that determine how the final product will visually communicate with the viewer. The correct use of these techniques can help tell a story, emphasize important elements, and create visually appealing shots.

Meaning of Composition: Composition refers to the arrangement of elements within a frame. This includes the placement of subjects, the use of the rule of thirds, lines, and shapes, and the balance between different elements (Sun et al., 2009). Proper composition can help direct the viewer's attention, emphasize important information, and create a harmonious and balanced look.

Different Shots and Their Impact: Different shots are used in video production, such as wide, medium, and close shots. Each shot has its own purpose and impact on the story. For example, a wide shot can show the entire scene or environment, while a close shot emphasizes a specific subject or detail (Gandhi et al., 2014).

Dynamic Composition: In some cases, it may be necessary to dynamically change the composition, for example by simulating camera movement within a static shot. This can help to make the shot dynamic and add additional depth (Gandhi et al., 2014).

Techniques to Improve Composition: There are various techniques that can be used to improve composition, such as: leading lines, symmetry, frame within frame, and the golden spiral. These techniques can help to better guide the viewer's eye and create more interesting and visually appealing shots (Sun et al., 2009).

Composition and framing are key elements in video production that can have a significant impact on the final product. By using the right techniques and understanding the basics of composition, you can create videos that are visually appealing, tell a story, and communicate with the viewer in an effective way.

5.3.1 Rule of Thirds

The rule of thirds is a basic compositional principle used in photography and video production. It is based on dividing an image or video into nine equal parts with two horizontal and two vertical lines. This creates four intersection points where the lines meet. These points are visually appealing and serve as a guide for placing the main elements in the frame:

- **Emphasis on intersection points**: Place the main subjects or elements at or near the intersection points to create a balanced and appealing look.
- **Horizontal orientation**: When shooting landscapes or wide scenes, use horizontal lines to balance the horizon.
- **Vertical orientation**: When shooting portraits or shooting tall objects, use vertical lines to guide the viewer's eye.

5.3.2 The Importance of Proper Focus

Focus is crucial for the clarity and sharpness of your video. Blurry or blurry video can diminish the professionalism and quality of your content:

- **Manual focus**: Some smartphones allow you to manually adjust the focus, allowing you to choose which part of the frame will be in focus.
- **Autofocus**: Most phones use autofocus, which automatically adjusts focus based on the subject or object in the center of the frame.
- **Depth of field**: By using a wide aperture or shooting close-up, you can create the look of a shallow depth of field, where the foreground object is sharp, and the background is blurred.

5.3.3 Camera Movement and Dynamic Shots

Camera movement can add dynamism and interest to your video. However, it is important to use camera movement wisely and not excessively:

- **Panoramic recording**: This is the horizontal movement of the camera from left to right or vice versa. This is used to show a wide scene or to follow a moving subject.
- **Tilting**: This is moving the camera vertically up and down. This is used to show tall objects or to follow a subject moving up or down.
- **Zoom**: Zooming in or out on a subject. Although digital zoom is available on most phones, optical zoom is better for maintaining image quality.

5.4 Tools for Better Recording

In the digital world, video production has become a key component of communication, education, and entertainment. The quality of a video depends not only on the content, but also on the technical execution. In order to achieve professional-quality video, it is important to use the right tools and equipment. These tools range from cameras and microphones to advanced software and accessories that enhance the quality of the recording.

Video production is more than just pressing a button to record. It requires planning, technical expertise, and the right equipment. To film insect predators in the wild, researchers used a custom video system that consisted of a multichannel digital video recorder, active night-vision cameras, and a waterproof housing (Grieshop et al., 2012). In a medical setting, surgeons used a commercially available helmet-mounted camera to record traumatic surgeries in emergency situations (Matsumoto et al., 2013). In an educational setting, ultrasound videos were developed to teach pronunciation to young learners of English as a foreign language (Alshehri, 2022). In engineering, videos were created to help students with 3D printing and computer-aided design (CAD) for their projects (Bringardner & Jean-Pierre, 2017).

These examples illustrate the wide range of tools available to improve video quality in a variety of settings. Regardless of the specific use, the common goal is always to create clear, high-quality, and effective video that will serve its purpose.

5.4.1 Using Tripods, Gimbals, and Other Stabilizers When Shooting Vide

In the world of video production, stability is key to achieving professional results. Whether you're shooting a documentary, music video, or vlog, using the right stabilization equipment is essential to achieving clean, steady footage.

Tripods: A tripod is a staple for any videographer. It provides a stable platform for the camera and prevents it from shaking or moving while you're filming. Additionally, tripods allow you to precisely adjust the height and angle of the camera, which is especially useful when shooting static scenes or interviews.

Gimbal: A gimbal is an advanced stabilization device that uses motors and sensors to balance the camera in real time. This allows you to capture smooth, steady footage even while you're moving; walking, running, or driving. A gimbal is ideal for shooting dynamic scenes, such as tracking shots or handheld shooting.

Other stabilizers: In addition to tripods and gimbals, there are other stabilizers such as: Steadicam, drones and sliding rails. These devices allow for a variety of shooting techniques from flying shots to sliding the camera on a rail for dynamic transitions.

The importance of stabilization: Stabilization is essential for achieving professional-quality video. Camera shakes or movement can reduce the quality of the footage and distract viewers. In addition, stabilization allows for better storytelling by ensuring that the viewer's attention is precisely focused.

Whether you are a professional videographer or an amateur, using the right stabilization equipment is key to achieving the best results. By investing in quality accessories such as tripods, gimbals and other stabilizers, you can improve the quality of your videos and increase your professionalism.

5.4.2 External Microphones for Better Audio When Recording Video

In the world of video production, audio is just as important as visuals. While a high-quality camera can produce beautiful visuals, additional equipment is required to achieve professional-quality audio. External microphones are an essential accessory for any videographer looking to improve the audio quality of their footage.

The Importance of Quality Audio: Audio is a key element of any video. It can help tell a story, create atmosphere, and add depth to visuals. Poor audio quality can detract from the effectiveness of your video and distract viewers. That's why investing in an external microphone is essential for getting the best results.

Limitations of Built-in Microphones: Most cameras and smartphones have built-in microphones, but these often don't provide the best audio quality. They're sensitive to ambient noise, lack directional sound pickup, and can introduce unwanted sounds like camera shake or camera noise.

Types of external microphones: There are several types of external microphones that are suitable for different purposes:

- **Directional (shotgun) microphones:** These microphones are ideal for interviews and recording dialogue, as they capture sound from a specific direction and reduce ambient noise.
- **Lavalier microphones:** These are small, portable microphones that can be attached to your clothing. They are ideal for interviews and presentations.
- **Stereo microphones:** These microphones are suitable for recording ambient sound or music, as they capture sound from multiple directions.

In addition to external microphones, you may also need additional equipment such as sound cards, headphones for monitoring sound, and sound shields to reduce wind noise or other unwanted sounds. External microphones are a key accessory for improving the sound quality of your video recording. By investing in the right equipment, you can ensure that your sound is clean, clear, and professional, which will increase the efficiency and quality of your videos.

6 Video Editing

6.1 Editing Video on Your Computer

In the digital age, computer video editing has become an essential skill for many content creators, filmmakers, and marketing professionals. With advances in technology, video editing has become more accessible than ever, allowing even amateurs to create high-quality videos. This section will explore the basics of computer video editing and show you how to achieve professional results with the right tools and techniques.

Choosing the Right Software: Choosing the right software is crucial to getting started with video editing. There are a number of options on the market, from free programs like iMovie and Windows Movie Maker to professional programs such as Adobe Premiere Pro and Final Cut Pro. Your choice will depend on your budget, needs, and level of experience.

Importing and Organizing Clips: Once you have the software installed, the next step is to import your clips into the program. Most editing programs allow you to easily import clips from your camera, hard drive, or even mobile devices. Once your clips are imported, it is important to organize them into folders or "bins" to make it easier to find and edit your scenes.

Basic Editing - Cutting and Editing Clips: Basic editing involves cutting and editing your clips. This means selecting the best parts of your clips and placing them in the order you want. Most editing programs offer an easy drag-and-drop feature that allows you to move clips around the timeline.

Adding Transitions and Effects: Once you have a basic sequence of clips, you can start adding transitions between scenes to make your video more dynamic. There are many different transitions available, from simple fades to complex 3D transitions. In addition to transitions, you can also add various visual and audio effects to enhance the quality of your video.

Color and Exposure Correction: Color and exposure correction is essential for achieving a professional look. Most editing programs allow you to adjust brightness, contrast, saturation, and other parameters to improve the quality of your footage.

Add audio and music: Audio is just as important as image when creating a video. Most editing programs allow you to add soundtracks, music, and sound effects. You can also adjust the volume, add effects like echo or reverb, and sync the audio with the video.

Export and share your video: Once you’re happy with your edited video, it’s time to export it. Most editing programs allow you to export your video in a variety of formats and resolutions, depending on where you plan to share it. Once your video is exported, you can share it on online platforms like YouTube, Vimeo, or social media.

Video editing on a computer has become an essential skill in the digital age. With the right tools and techniques, you can create high-quality videos that will impress your audience. Whether you're a beginner or an experienced videographer, there's always room to learn and improve your editing skills.

6.2 Editing Video on a Mobile Phone or Tablet

In the digital world, mobile technology has become a key part of our daily lives. Mobile phones and tablets are no longer just communication devices, but also powerful tools for creating and editing content. With the advancement of apps and hardware, editing video on mobile devices has become easy and accessible to everyone.

The benefits of editing on mobile: Mobile devices are lightweight, portable, and always at hand. This means you can shoot, edit, and share a video in minutes without having to transfer files to a computer or use complicated software. Additionally, mobile video editing apps are usually more intuitive and user-friendly than traditional computer programs.

Choosing the right app: There are a number of video editing apps on the market, ranging from free to paid. Popular options include iMovie, Adobe Premiere Rush, KineMaster, and FilmoraGo. Your choice will depend on your needs, budget, and experience level.

Basic editing features: Most mobile video editing apps offer basic features such as trimming, adding transitions, adding music and text captions. These features are usually enough for basic editing and enhancing your footage.

Advanced features: Some apps also offer advanced features such as color correction, adding special effects, animations and even green screen. These features are especially useful for those who want to take their videos to the next level.

Sync with other devices: Many apps allow for easy syncing with other devices, meaning you can start editing a video on your mobile phone and finish it on your tablet or computer. This is especially useful for those who frequently switch between devices.

Share and export: Once you're happy with your edited video, it's time to share. Most apps allow you to easily export and share your video on social media platforms such as YouTube, Facebook, and Instagram. Some apps also offer direct cloud storage, making it easy to back up and share.

Editing video on your mobile phone or tablet has become easy and accessible to anyone. With the right tools and techniques, you can create high-quality videos that will wow your audience. Whether you're a beginner or an experienced videographer, there's always room to learn and improve your mobile editing skills.

6.3 Presentation of popular applications for editing video content

In a world where video content reigns supreme, the ability to edit and customize videos has become a key skill for many creators. Fortunately, there are many apps available to make this process easier, whether you're a professional editor or a beginner. Let's take a look at some of the most popular video editing apps:

- **Adobe Premiere:** This is the leading professional video editing app. With a rich set of tools that allow for precise editing, color correction, audio processing, and more, it's the choice of many professional editors and filmmakers.
- **Final Cut Pro X**: Exclusive to Mac users, Final Cut Pro X offers an intuitive interface and powerful editing tools. With a magnetic timeline option and advanced color correction features, this app is popular among professional and amateur editors.
- **DaVinci Resolve**: In addition to being one of the most powerful color correction tools, DaVinci Resolve offers comprehensive editing features. The best part is that the basic version of the program is completely free.
- **iMovie**: This is a simple and user-friendly solution. Exclusive to Apple devices, this app offers basic editing tools that are ideal for beginners or those who want to quickly put together a video.
- **KineMaster**: This is a popular mobile video editing app available for Android and iOS. Despite being mobile, it offers a wide range of professional tools, including a multi-layer timeline, special effects, and advanced color correction.
- **Filmora**: This is a popular editing app known for its user-friendly interface and many creative tools. It also offers a wide range of preset transitions, effects, and music that users can add to their videos.

Video editing has become an essential skill in the digital age. Whether you're a professional editor or someone looking to enhance their home videos, there's an app to suit your needs. With the constant advancement of technology and software tools, it's now easier than ever to create high-quality videos that will wow your audience.

6.4 Basic Video Editing Techniques

Editing is the heart of any video. Proper editing can transform the narrative, add rhythm and momentum, and connect disparate elements into a cohesive whole. While editing is an art that develops over time and through practice, there are some basic techniques that every beginner should know. Let's take a look at some of them:

- **Action Cut:** This technique involves cutting between two shots when a specific action occurs. For example, if someone throws a ball in one shot, the next shot could show the ball landing. Action Cut helps create a sense of continuous movement and connection between shots.
- **J-angle and L-angle editing:** In these techniques, the audio and video do not overlap exactly. In J-angle editing, the audio of the next shot begins before the end of the current shot, while in L-angle editing, the audio of the current shot continues into the next shot. This allows for smooth transitions between scenes.
- **Transitions:** Transitions such as fades, gradients, or digital effects are used to transition between two shots. They can be effective, but it is important to use them sparingly, as too many transitions can confuse the viewer or make the video look unprofessional.
- **Cutting to music:** Music can add rhythm and emotional tone to a video. Cutting clips to the beat of the music can create a dynamic and engaging video. It is important that the clips and music work together to tell a story.
- **Using B-roll footage:** B-roll footage is additional footage that is not part of the main action but adds context and depth to the scene. If the main footage is an interview, B-roll footage could show the person at work, details of the surroundings, or other people's reactions. B-roll footage helps break up monotony and add visual interest.
- **Continuity:** When editing, it is important that the clips flow smoothly and logically. Continuity refers to the consistency in the video, which means that the clips should be arranged in a way that creates a sense of continuity in time and space.

Basic editing techniques are crucial to creating effective and engaging videos. By understanding these techniques and using them correctly, content creators can tell stories that will engage and delight their audience.

6.4.1 Adding Graphics, Text, and Transitions to Videos

In modern video production, adding graphics, text, and transitions is essential to enhance visual appeal and tell a story. These elements can help to enhance the understanding of the content, add aesthetic value, and enhance the professionalism of the video. Let's take a look at how you can incorporate these components into your video projects.

Graphics in videos can include everything from simple icons to complex animated sequences. Graphics can:

- **Highlight information:** A chart or diagram can visualize statistics or information.
- **Add aesthetic value**: Animated illustrations or logos can add a professional look to a video.
- **Guide the viewer**: Arrows or pointers can direct the viewer's attention to specific parts of the video.

Text is another element that can be added to a video:

- **Titles and subtitles:** Create structure and help the viewer follow the content.
- **Subtitles**: Provide accessibility for the deaf and hard of hearing, and for those watching the video in silence or in a foreign language.
- **Highlights**: Short text notes can highlight key points or information.

Transitions are effects used to move between two shots or scenes:

- **Fade:** A gradual transition from one scene to another or from black to a scene.
- **Blend**: One scene gradually flows into the next.
- **Digital effects**: These can range from simple movements to complex 3D animations.
- **Cut**: An instant transition from one scene to another, which is the most common and basic option.

Adding graphics, text, and transitions to videos is essential for enhancing quality and storytelling. By using these elements, content creators can communicate their message more effectively, increase viewer engagement, and give their videos a professional look. Whether you're creating a promotional video, an educational guide, or a personal vlog, using these techniques is essential to the success of your project.

6.5 Optimizing Video for Different Platforms

In the digital age, it is crucial that your video is tailored and optimized for different platforms. Each platform has its own specific requirements, audience, and characteristics, so it is important to understand how to adapt your video for each of them.

6.5.1 Aspect Ratio and Orientation

Before you start optimizing, it is important to understand which platform you are optimizing for. Is it a social network like Facebook or Instagram? Is it a website or a blog? Or maybe YouTube or Vimeo? Each platform has its own requirements in terms of file size, aspect ratio, quality, and duration.

6.5.2 Understanding your target platform

Vertical: Platforms like Instagram Stories or Snapchat require vertical videos. This ratio is typically 9:16.

Square: Square videos (1:1) are popular on platforms like Instagram and Facebook.

Horizontal: The classic 16:9 ratio is best for platforms like YouTube, Vimeo, and most websites.

6.5.3 Quality and file size

Most platforms have file size limits. This means you may need to reduce the quality of your video or use compression to meet the requirements. However, it's important to make sure that the video is still of high enough quality that it doesn't lose its clarity and professionalism.

6.5.4 Video Length

Each platform has limitations on length:

- **Instagram:** up to 60 seconds for regular posts, up to 15 seconds for stories, and up to 10 minutes for IGTV.
- **Twitter**: up to 2 minutes and 20 seconds.
- **Facebook**: it is recommended that videos be less than 2 minutes, although the platform supports longer videos.
- **YouTube**: no real limit, but for most content it is recommended that they do not exceed 15 minutes.

6.5.5 Adding subtitles

Many people watch videos on mobile devices without sound, so adding subtitles is essential for accessibility and understanding of the content.

6.5.6 SEO and Metadata

For platforms like YouTube, search engine optimization (SEO) is crucial. This includes adding relevant keywords, descriptions, titles, and tags to help your video reach a wider audience.

6.5.7 Tailoring Your Content to Your Audience

Each platform has its own audience. TikTok is popular with younger generations, while LinkedIn is more business oriented. Tailor the tone, content, and style of your video to the platform's audience.

6.5.8 Testing and Adapting

After you publish your video, track its performance. Use analytics and audience feedback to determine what's working and what's not and adjust your strategy accordingly.

Optimizing your video for different platforms is crucial in today's digital world. By understanding the specifics of each platform and adapting your video to those requirements, you can ensure that your content reaches the right audience and has the greatest possible impact.

7 Conclusion

Video production is a complex and multifaceted process that requires an understanding of many techniques and tools. From the basics of shooting, composition, lighting, and sound to advanced editing techniques, graphics, and optimization for different platforms, each step in the process plays a role in creating an effective and engaging video. In the digital age where video content is ubiquitous, it is crucial for content creators to understand and master these skills. Whether you are creating a promotional video, an educational guide, or a personal vlog, using these techniques and tools is essential to the success of your project. In a world where competition is increasing, continuous education, adaptation, and innovation are the keys to standing out and connecting with your audience.

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INFORMATION AND COMPUTER LITERACY

BENJAMIN MARCEN
University of Maribor, Faculty of Logistics, Celje, Slovenia
benjamin.marcen@um.si

In today's digitalized world, information literacy is a key skill that enables the effective and confident use of technology. In this chapter we will explore all the aspects of information and computer literacy that are indispensable for the contemporary life. We will start with basic steps such as using and customizing your desktop, working with the taskbar and icons, and managing files and folders. We will also learn how to use explorer, lock, and compress files and manage various useful applications. We will continue with the more advanced use of Word and Excel. We will look in detail at creating and formatting text, using cross-references, creating tables, using functions and entering graphs. In addition, we will explore user communication, the use of different internet browsers, and online communication applications such as Microsoft Teams and Zoom.

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1 Information and computer literacy

In today's rapidly changing world, where computer technology has become an indispensable part of everyday life, it is crucial to understand the concepts of information and computer literacy. This chapter is designed to provide you with a comprehensive insight into the world of digital skills that are invaluable in modern society.

The content of the chapter goes beyond technical aspects. By introducing you to the basics of computer systems management, we aim to encourage critical thinking and the development of analytical skills. We will discuss the importance of information, how to search for and evaluate it, and how to use it to make better decisions (Fraillon et al., 2020; Gerick et al., 2017; Hignite et al., 2009; Hoffman & Blake, 2003; Kubiatko, 2007; Williams, 2003).

Customizing and using your desktop is the first step on the path to computer literacy. This will increase your productivity and efficiency. You will learn how to properly organize your desktop, use the taskbar, and manage files and folders effectively. You will also explore advanced techniques such as locking files for increased security and compressing files to better optimize disk space.

Working with data is a key skill in the digital world. You will learn not only how to use tools such as Microsoft Word and Excel but also how to create expressive and professionally designed documents. You will delve into creating and editing text and tables, using functions to automate tasks, and inserting graphs to visualize data (*Computer Literacy: Using Microsoft Office*, 2020; HEC, 2012; Mrhar, 2016).

In the online world, you will explore the use of the Internet, acquiring skills for effective browsing, searching for information, and using online services safely. Basic tips for protecting your privacy and recognizing online threats will be an important part of this unit (*Computer Literacy: Using Microsoft Office*, 2020; HEC, 2012; Mrhar, 2016).

A key component of modern communication is the use of email, which includes all aspects of creating and using email accounts, composing messages, replying to and forwarding them, as well as observing appropriate email etiquette. You will also focus on changing and updating email account settings in Outlook and Gmail, which includes customizing and managing your email account.

You will also learn how to use the Google Sheets web application, a great tool for editing, analyzing, and sharing spreadsheets. You will explore different options for entering, editing, and formatting data, and learn to use functions and formulas to automate calculations. You will also learn about charting capabilities, while highlighting the benefits of real-time collaboration, which facilitates teamwork and group decision-making.

Finally, you will focus on remote communication, which has become indispensable in the modern work environment. You will learn how to use tools such as Microsoft Teams and Zoom, which allow you to organize meetings, video conferences, and collaborate remotely. You will explore their features for teamwork, screen sharing, chatting and project management, and learn how to effectively use these platforms to successfully collaborate virtually and connect with other team members regardless of geographical distance.

Our goal is for you to become a more confident and skilled computer user who understands both the technical aspects and the importance of information and computer literacy in the modern world.

2 Desktop customization and usage

2.1 Taskbar

The taskbar allows you to quickly launch programs, open documents, and perform the most important settings.

On the far left of the taskbar (Figure 1) is the “Start”, button, which you will learn more about in the next subsection. The icons displayed are those for quick program launches. These icons are followed by buttons for running programs, and on the far right of the bar you will see the notification icons (Figure 2).

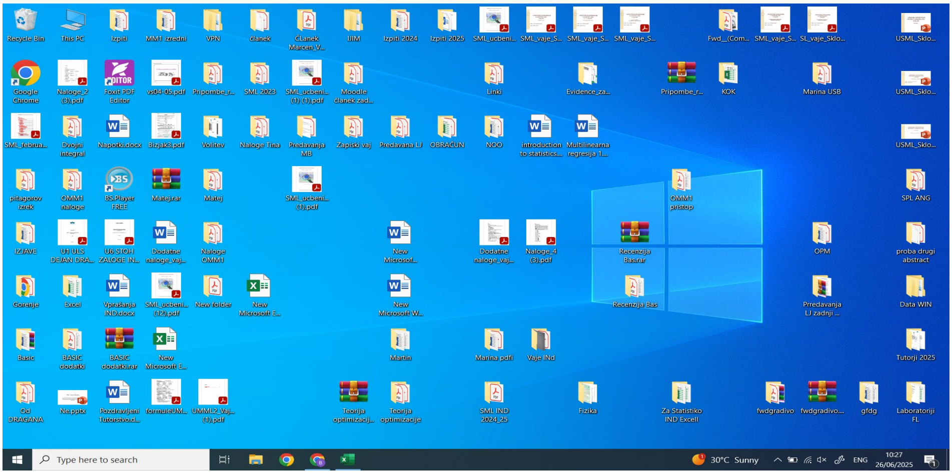

Figure 1: Left side of the taskbar

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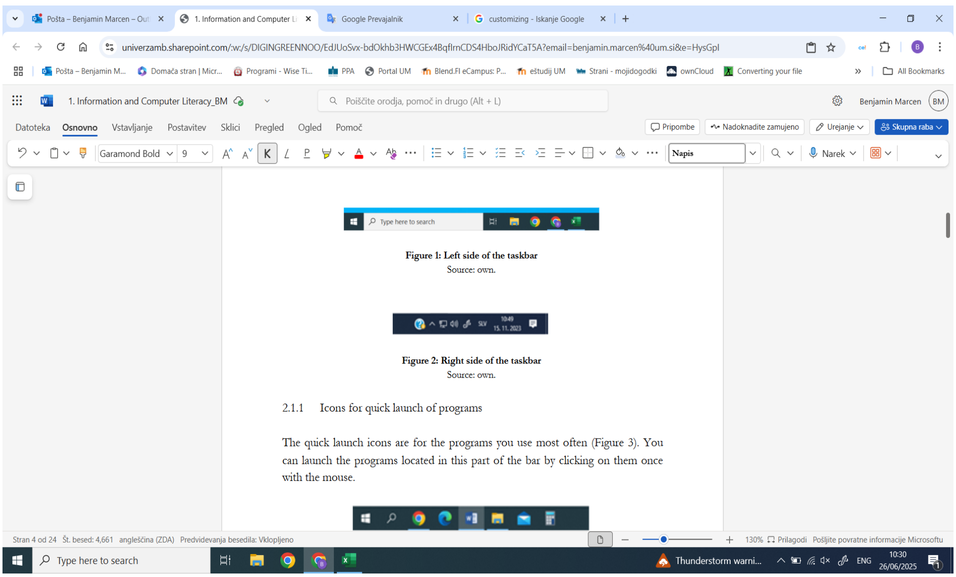

Figure 2: Right side of the taskbar

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2.1.1 Icons for quick launch of programs

The quick launch icons are for the programs you use most often (Figure 3). You can launch the programs located in this part of the bar by clicking on them once with the mouse.

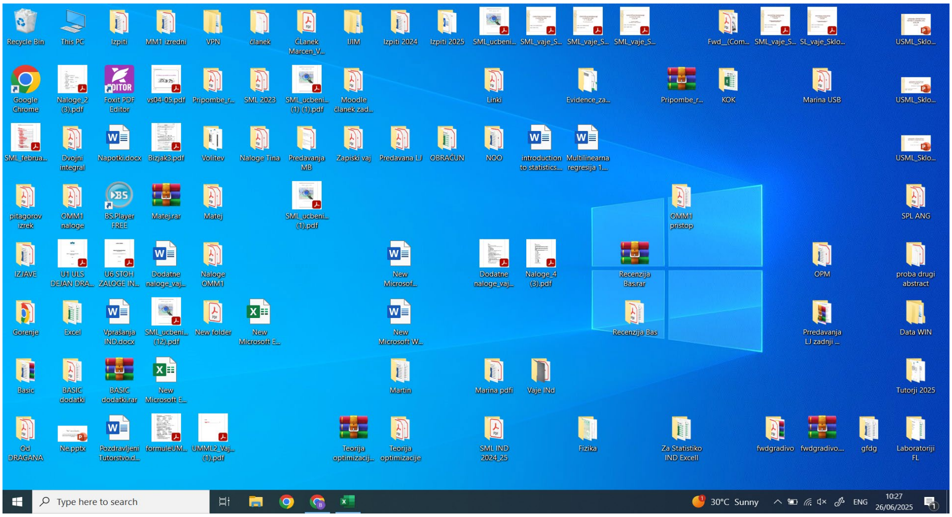

Figure 3: Icons for quick launch of programs
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2.1.2 Launching a program from the Start menu

There are several ways to launch programs from the "Start" menu. If the program you want to launch is listed at the top of the menu among the most frequently used programs, you can simply click on it once with the mouse.

2.1.3 Starting a program from the alphabetical program list

All the programs installed on your computer are listed alphabetically at the bottom of the "Start" menu. If the alphabetical list of programs is not visible, click *All Apps* on the "Start" menu.

The most common way to launch programs is as follows:

- the easiest way to find a program icon is to click the *Start* button and type the first few letters of the program name,
- When the “Start” menu displays installed programs that match your search, you launch the desired program by clicking on its icon.

2.1.4 Adding a program to the Start menu

You can also pin your most frequently used programs to the right part of the start menu:

- click the “Start” button (1),
- find the desired program and click on it with the left mouse button (2),
- hold down the mouse button and drag the program icon to the right part of the menu. If you drag the icon from the area of existing groups, you must enter the name of the new group (3).
-

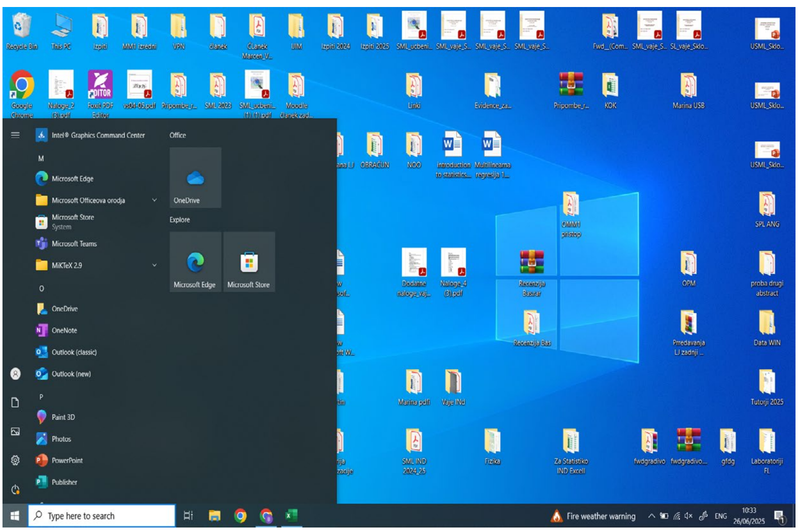

Figure 4: Icons in the Start menu

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2.1.5 Adding a program to Quick Launch

Programs that you use frequently are usually placed at the bottom of your computer screen in the taskbar.

The easiest way to add a program to the taskbar is to open the program. In the taskbar, hover over the icon of the selected program, right-click on it and select the command “Pin this program to the taskbar”.

2.1.6 Opening recently used documents via jump lists

Right-click on the program icon in the taskbar. In the pop-up list, click on the document you want to open.

3 Working with data

Right-click on the program icon in the taskbar. In the pop-up list, click on the document you want to open.

3.1 Explorer

There is an Explorer icon on the taskbar. Clicking on this icon opens a window with all the drives on your computer that you use to manipulate data, such as copying, moving, deleting, and renaming. This program area is divided into two windows. The left window contains shortcuts, and the right window contains the contents of the selected folder. To open the contents of the shortcuts, click on the icon in the left window. You can open drives and folders in the right window by double-clicking on them.

3.2 Search for files and folders using Explorer

You often search for folders with data, images, or old documents that are not in your recent documents. Use File Explorer to do this.

Click the File Explorer button and select a search area in the left pane. You enter your search text in the search field. This displays a new toolbar for more precise searches. After you enter your search term, you see the first results on the right side of the window. Double-clicking the result icon opens the search item.

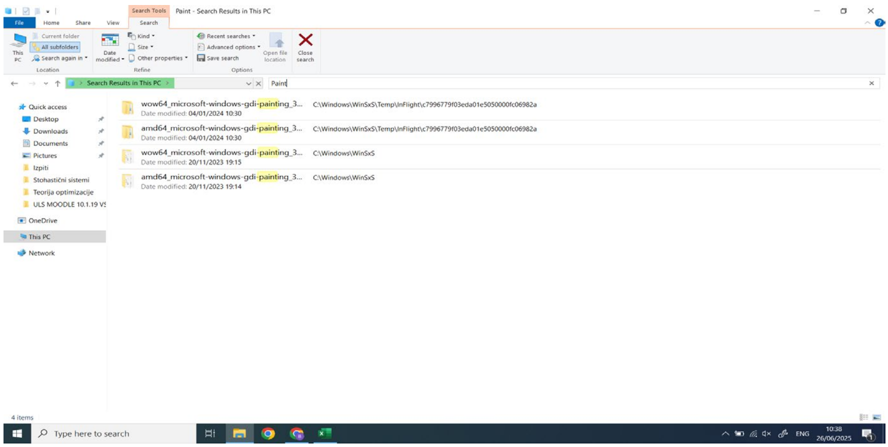

Figure 5: Explorer
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4 Compressing and decompressing files

Files that are compressed take up less space and are easier to transfer to other computers than uncompressed files. In Windows, you can work with compressed files and folders in the same way as you work with uncompressed files. Combining multiple files into a single compressed folder makes it easier to share a whole group of files with others.

4.1 Compressing a file or folder in a WIN10 environment

- Compressing files or folders:
  - find the file or folder you want to compress,
  - press and hold (or right-click) the file or folder, select »Send to«, and then »Compressed folder«,

  - a new folder with the same name and the compressed folder will be created in the same location. To change the name, press and hold (or right-click) the folder, select »Rename«, and enter a new name.
- Expanding (extracting) files from a compressed folder:
  - Find the compressed folder from which you want to extract files or folders,
  - do one of the following:
  - To extract a single file or folder, open the compressed folder, then drag the file or folder from the compressed folder to a new location,
  - To extract the entire contents of the compressed folder, press and hold (or right-click) the folder, select Extract all, and follow the instructions.

Notes:

- If you want to add files or folders to an already created compressed folder, simply drag them into it,
- When compressing encrypted files, the files may be decrypted when decompressed, which could expose personal or sensitive information. Therefore, it is best to avoid compressing encrypted files,
- Some file types, such as JPEG images, are already highly compressed. Storing them in a compressed folder will not significantly reduce the overall size of the folder.

4.2 How to compress files using WinZip and WinRAR

Files can be compressed into various formats such as: .ZIP, .RAR, .TAR.GZ and others. The formats commonly used for uploading to the server are: .ZIP, .TAR.GZ or .BZ2. Compressing files can be done with various programs such as: WinZip, WinRAR, or 7-Zip. Below are instructions on how to compress files with the aforementioned programs:

- WINZIP:
  - Select the desired files, right-click on them and select »WinZip -> Add to Zip file …«.

  - In the "File name" window, you can change the name of the .ZIP file, and in the "Target" field, specify the location where the file will be saved.
  - Click the "Add" button and wait for the compression process to be completed.

- WINRAR (Figure 6):
  - Select the desired files, right-click on them and select »Add to archive …«.
  - Select the desired archive format, for example .ZIP or .RAR, click the "OK" button and wait for the compression process to be completed.

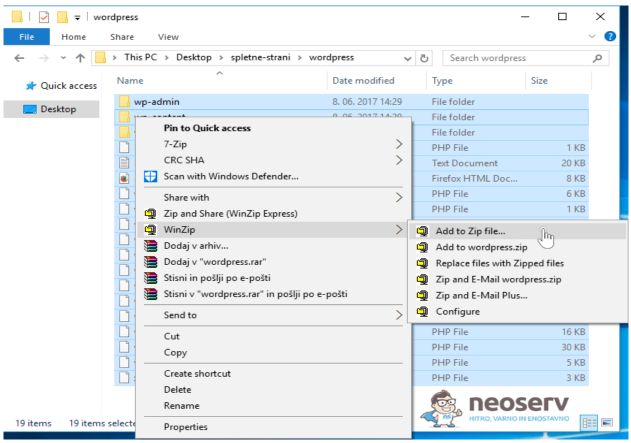

Figure 6: WINRAR

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5 Text editing

In this section, we focus on Microsoft Word, which is part of a family of word processing programs. This program allows you to create, edit, format, and print text. Newer versions of Word also allow you to display graphs, insert images, create tables, perform calculations, create books, and even correct grammatical errors.

5.1 Quick page numbering

Open the "Insert" menu and click the "Page Number" button. Select the placement of numbers at the top, bottom, or along the edges of the page from the list (Figure 7).

In the additional menu, select one of the existing templates. To exit the document footer, double-click on the document surface or select the "Close Header and Footer" button in the right part of the contextual menu.

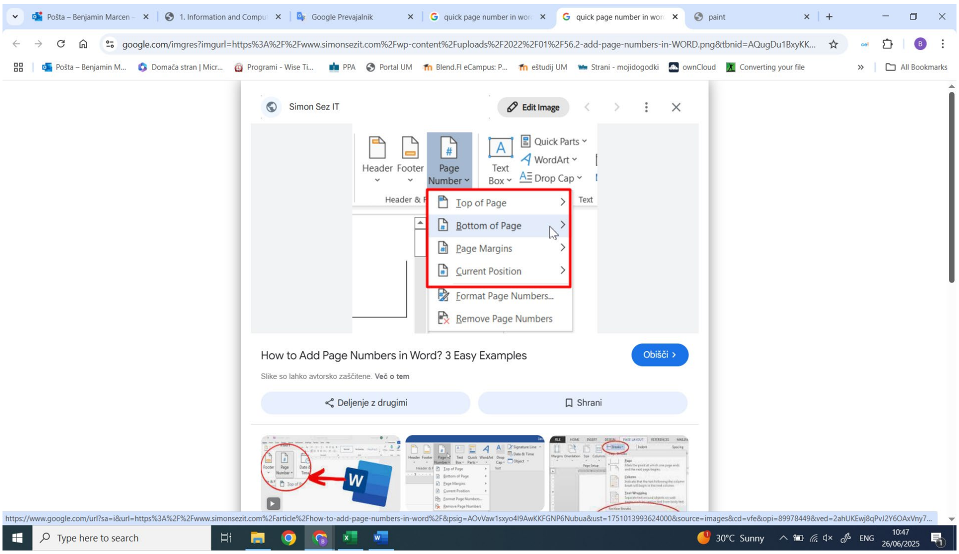

Figure 7: Page numbering
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5.2 Applying Styles

You can format text directly by specifying character properties, paragraphs, etc. However, a much more elegant solution is to use styles. Styles make formatting easier because you don't have to manually change the text properties each time you format it with a style. This happens automatically.

Select the text you want to format in style. In the "Basic" menu, in the "Styles" area, select the appropriate style (Figure 8). The text will then be automatically formatted according to the characteristics of the selected style.

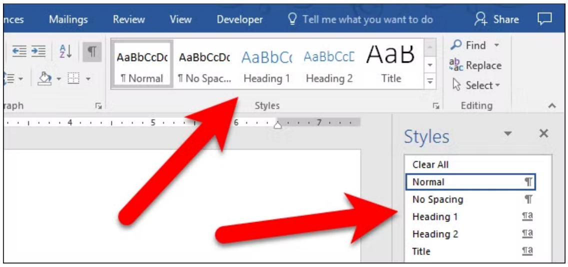

Figure 8: Applying Styles

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5.3 Paragraph marking and numbering

Paragraph numbering and marking are accessible via the "Marks" and "Numbering" commands in the "Basic" menu and allow you to insert numerical and other markings before paragraphs, which is often used in enumeration.

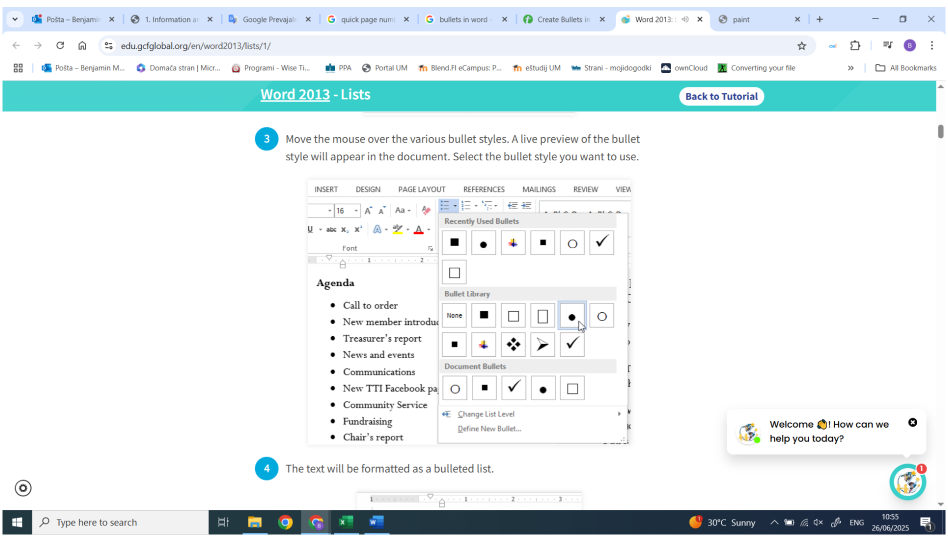

Figure 9: Paragraph marking

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First, you write the paragraphs that you want to add numbers or symbols to. Then mark these paragraphs. So, if you want to number paragraphs, you click on a button similar to the one you click to put symbols in front of them.

Additional marking and numbering options are displayed by clicking on the arrow next to the selected button (Figure 9).

5.4 Tables

You can edit and arrange numerical and other data in Word in tables that consist of columns and rows. This way of displaying data provides better clarity. You can also perform simple calculations on tables.

5.4.1 Inserting tables manually

To manually insert a table and create a larger number of cells, follow these steps; first click on the "Table" button, then on the "Insert Table" command. In the opened dialog box, specify the desired number of columns and rows and press Enter to confirm your selection (Figure 10).

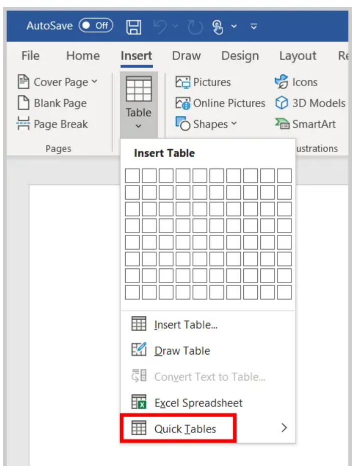

Figure 10: Inserting tables
Source: own.

5.4.2 Calculation in tables

Word allows you to perform simple calculation operations on tables. The most common ones are column summation and row summation. *Calculating the sum of numbers in a column*:

– Place yourself in the cell in which you want to display the sum of the values of all cells above it. Open the Layout contextual tab.
– Click the Formula button to open a dialog box.
– If the cell in which you want to display the sum is at the bottom of the table, Word suggests that you enter the sum formula = SUM(ABOVE) in it.
– Click the OK button or press Enter. The sum appears in the cell.

5.4.3 Updating values in formulas

In smaller companies, Word is often used to write contracts that contain information such as service prices, payment methods, taxes, and the like. For this purpose, they prepare a general contract, in which they then simply change individual values written in table cells. To avoid re-entering the same equations, you can simply refresh the results when the values change.

The process of refreshing values in the entire document looks like this: enter new values in the table cells, highlight the entire document, and press the F9 key, which refreshes the values of all fields in the document.

5.4.4 Using the Google Sheets app

Google Sheets (Figure 11) is a web-based spreadsheet editing and sharing application that lets you create, edit, and work with spreadsheets in real time. It's designed for easy sharing and collaboration between users, and it also features automatic cloud storage, so you can access your spreadsheets anytime, anywhere online. With built-in calculation functions, graphing tools, and the ability to import data, Google Sheets is a powerful tool for managing and analyzing data.

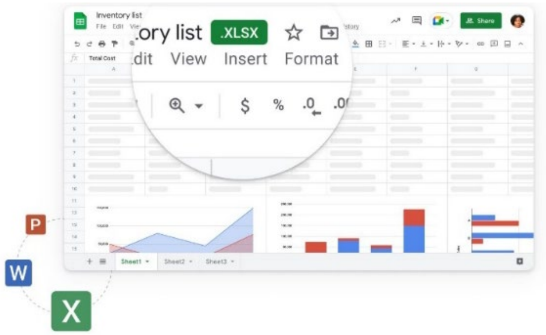

Figure 11: Google Sheets app
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6 Updating device drivers in Windows 10

In this section, you'll focus on the importance of device drivers on Windows computers. You'll explore in more detail the process of installing, disabling, removing, and updating device drivers, and how to take steps to fix various issues, such as Windows startup problems and driver-related problems, such as no sound or no network connection.

The Device Manager in Windows (Figure 12) allows you to perform actions such as: rolling back a driver, reinstalling a driver, updating a driver, etc.:

- press the Windows + R key combination, type "devmgmt.msc" and click "OK",
- this will open the Device Manager and display a list of all installed drivers,
- now find the desired driver and right-click on it,
- you will see several options:
    - "Update software drivers".
    - "Disable device".
    - "Uninstall device drivers".
    - "Scan for hardware changes".
    - "Properties".

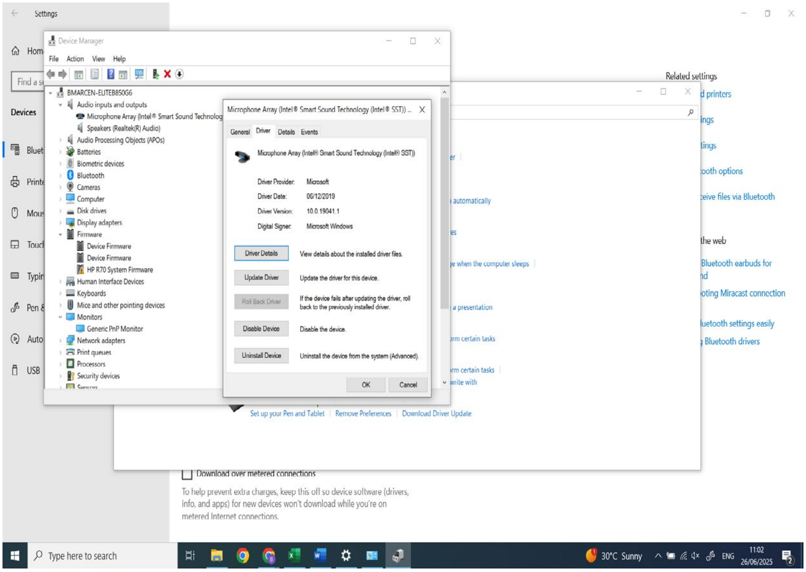

Figure 12: Device Manager

Source: own.

To update a device driver (Figure 13), right-click on the problematic driver (for example: "View Driver") and select "Update Driver". A wizard will open and give you two options:

- to search the web automatically,
- to browse/search your computer for driver software.

Select and click the desired option to continue. If you select "Search the Web Automatically", Windows will check if the latest driver software is available. If it finds one, it will download and install it. After that, restart Windows for the changes to take effect.

If the drivers are not found, we recommend that you do it yourself. Visit the device manufacturer's website (for graphics drivers, such as AMD, Intel, NVidia) and download the latest driver available. Select the driver you downloaded from the manufacturer's website and follow the on-screen instructions.

Figure 13: Updating drivers
Source: own.

6.1 Reinstalling the device driver

Open Device Manager. Right-click on the problematic driver and select "Uninstall Device". Now restart Windows to completely remove the driver from the device. The next time you start Windows, it will automatically install the driver software. Alternatively, you can visit the device manufacturer's website and download the latest driver version available.

6.2 Driver Rollback, Disable/Enable Drivers

This option is available if you recently upgraded your driver software and are experiencing problems. If the problem started after a Windows update or a recent driver update, you can perform the Roll Back option. This will roll back the current driver to the previous version.

Open Device Manager. Right-click on the problematic driver selection properties. A new pop-up window will open here. Move to the "Driver" tab. Here you will see several options. Select "Update Driver": this will launch the Hardware Update Wizard. Select "Roll Back Driver": this will remove the last updated driver and revert your configuration to the previous version. If you find that the device is failing after updating the driver, you may need to roll back the driver. "Disable (or Enable) Driver": this will disable the driver until you enable it again. "Uninstall Driver": this will completely remove the driver files and registry settings for the selected hardware.

7 Internet use

The Internet is a global network that connects many computer networks, creating a vast worldwide network. Users can send and receive information, watch videos, listen to radio stations from around the world, order products, send e-mails, copy programs, and perform many other activities there:

- **Email**: if we want to communicate with another computer or user in the vast Internet community, we need to know their address. Email addresses consist of two parts: the user's name and the domain name. The two parts of the address are separated by the @ sign, for example: janez@kranjskinet.si.
- **Web URLs:** to connect to other computers on the World Wide Web, you use URLs (Uniform Resource Locators), which are made up of three parts.
    - **Protocol:** the beginning of the address specifies the protocol that defines how data is transferred from the server. The http:// protocol connects us to other websites and is the most commonly used.
    - **Server address:** follows the domain name, usually written in words (e.g. www.google.com). Web server names often start with the prefix www.
    - **Data path:** Since there are many web pages on the servers, we need to use the full path to access each page. For example, if we want to view the document headings.htm, stored in the directory "data", the last part of the address will look like this: /data/headings.htm. The full URL of our fictional document would therefore be something like this: http://digingreen.com/data/headings.htm

7.1 Some basic tips for safe internet browsing

You can recognize a secure connection on the website by the padlock symbol. You can obtain additional information about security by clicking on the website icon (Figure 14).

Be aware that malicious actors sometimes copy a company's entire website and place it at a different address that only varies slightly from the original (e.g., instead of www.google.si, they use www.goooogle.si). Only choose larger companies for online purchases, as security standards in large corporations are often subject to strict controls.

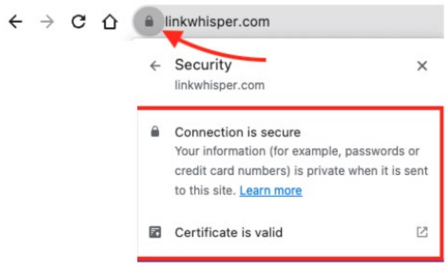

Figure 14: Website identification
Source: own

Give priority to cash delivery options if possible. Never reveal your credit card "PIN code", as it is unnecessary for online purchases, despite possible persuasions to the contrary.

For e-commerce, choose only providers that operate via digital signatures, often with a smart card with a public key. When logging into online services from other computers, disable saving passwords in login forms.

7.2 Using email

E-mail is the exchange of computer messages or electronic letters that can be sent to all users connected to the Internet. The distance between users is not important, since electronic messages, with the appropriate connection, are transmitted around the world in a few seconds.

Emails are not limited to a simple string of letters and numbers; they also allow for complex formatting and the attachment of additional data, such as images or other files, which are then sent to the recipient along with the message.

An email address consists of the user's name and the computer address, separated by the @ sign. An example of an address is, for example, afna.gunca@siol.net.

In this chapter, you will focus primarily on the basics of using the Gmail web application (Figure 15), which is the most popular email program among users. Gmail will also be one of the topics you will learn about in more detail.

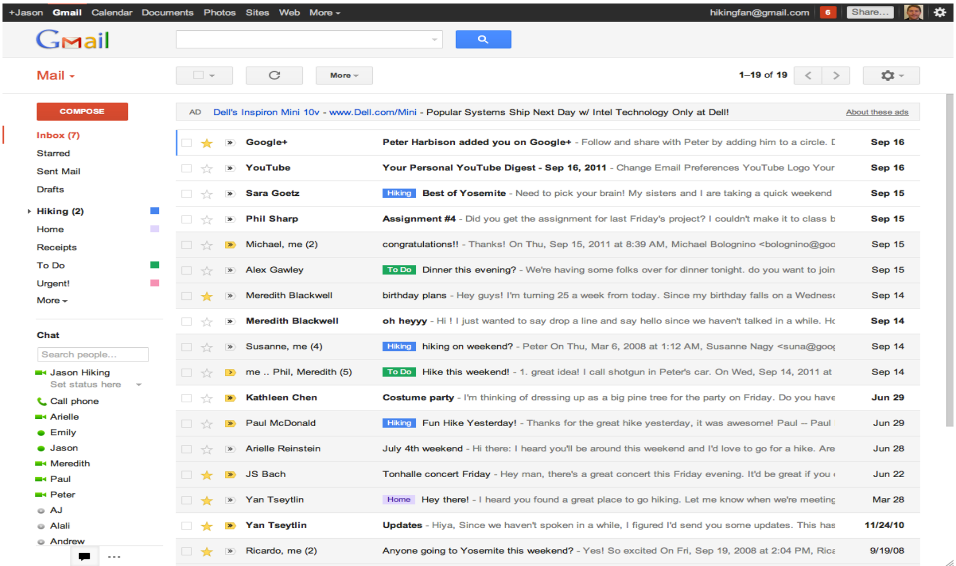

Figure 15: Gmail

Source: own.

7.2.1 Sending messages

When writing any email message, you need to enter some basic information, including the subject of the message and the recipient's address. All email programs include the following fields:

- **To**: in this field, enter the email address of the recipient, i.e. the person to whom you want to send the letter.
- **Subject:** use this field to write the subject of the letter, which is optional.
- **Cc:** In the "Cc" field, enter the email addresses of other people who will receive a copy of the same letter. For example, if you enter pika.nogavicka@net.si, the letter will also be sent to this address, and the recipient will see a list of all the people who received a copy of the message.

– **Administrator (Bcc):** In the "Bcc" line, you write the address of the recipient who will receive a copy of the message, but this option is different from the previous one. None of the other recipients will know who else received the same letter, as these addresses are hidden.

7.2.2 Viruses and malicious codes

We have mentioned that e-mail is a common source of infection with viruses and other malicious codes. Therefore, it is always advisable to be careful.

Another common problem when using e-mail is so-called spam, which is unwanted mail of various forms. These are often annoying advertisements, and in some cases also harmful and malicious letters. When you receive such mail, there is one rule - mark it and click on the "Spam" button. From now on, all mail from this address will automatically be moved to the "Spam" inbox/folder. The most important thing is not to open spam attachments, as the data in them is often infected with viruses.

Customizing settings: Users often want to customize basic program settings. In the Gmail web client, this is done through the "Account Settings" command (Figure 16), which can be accessed by clicking the "Settings" button.

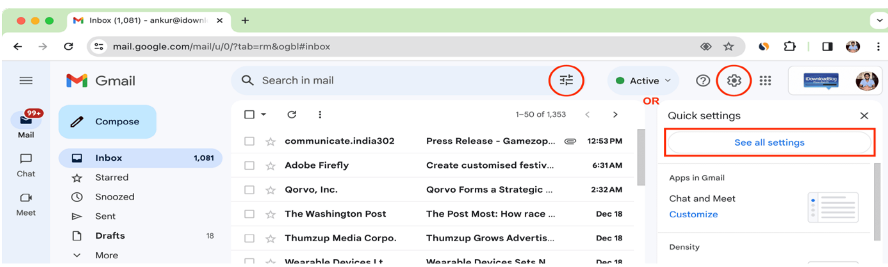

Figure 16: Gmail settings
Source: own.

A new web page appears where you can change and check hundreds of pieces of information (Figure 17).

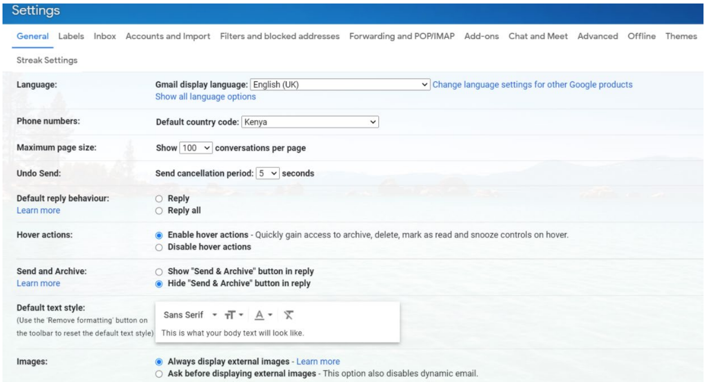

Figure 17: Additional Gmail settings

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7.2.3 Change or update email account settings in Outlook for Windows

Sometimes you need to change your email account settings. You can do this if you have a new password, if your email provider has asked you to change your settings, or if you are having problems sending and receiving email. You can make changes through the Windows Control Panel or from within Outlook.

Update or change your email settings in Outlook for Windows:

- Open Outlook and select "File".
- In the "Account Information" section, select the account you want to change from the drop-down list (Figure 18).
- Select "Account Settings" (Figure 19).
- Select the type of information you want to change:
    - account settings to add or remove accounts and change server settings,
        - account name and sync settings to update your account's friendly name and set the email sync period,
        - server settings to change your login information, including your password, server name, port, and authentication settings,
        - change profile to switch to a new profile,

  - Manage profiles to add or remove profiles and change profile settings.
- The most common settings you will change are the server settings.
- Select either "Incoming Mail" or "Outgoing Mail" to change various server settings and update your email password as needed.

When you are finished updating your settings, select Next > Done.

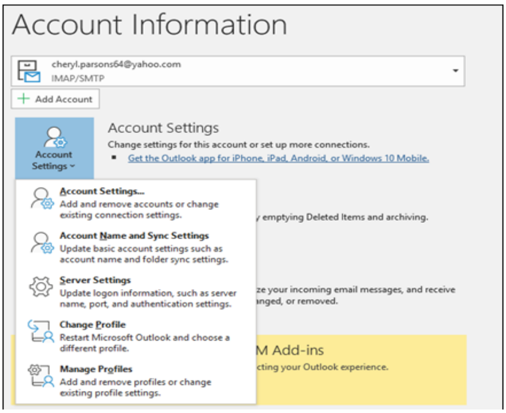

Figure 18: Account information

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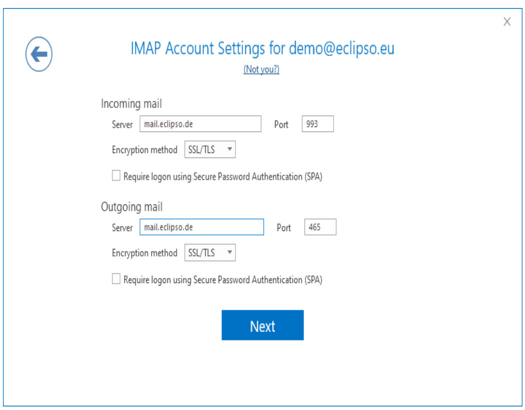

Figure 19: IMAP account settings

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8 Working with Microsoft Teams and Zoom

An overview of the basic and advanced features provided by MS Teams and Zoom. Microsoft Teams and Zoom are popular tools for online collaboration and virtual meetings. The following lists their basic features and instructions for use:

- Microsoft Teams (Figure 20):
  - Meetings and video conferencing: MS Teams allows you to create meetings where colleagues can meet in a virtual environment.
  - Messaging and Chatting: There is a built-in instant messaging system, group chat, and the ability to share files and screens.
  - Teamwork: Allows teams to collaborate on projects using shared folders, documents, and tasks.
  - Integration with other tools: Connection to other Microsoft tools such as: Word, Excel, and OneNote, enables seamless collaboration.
- Zoom (Figure 21):
  - Video Conferencing: Zoom offers easy creation and participation in video conferences, suitable for small meetings and larger events.
  - Screen Sharing: Allows for easy screen sharing, which is useful for presentations, training, or project collaboration.
  - Virtual Rooms: The ability to create virtual rooms for smaller groups where more personal collaboration can take place.
  - Zoom Webinars: Suitable for organizing online seminars and lectures with many participants.

Both tools also offer whiteboarding capabilities, meeting recording, scheduling integration, and other advanced features that enable effective virtual collaboration and communication. The choice depends on the needs and preferences of the individual or organization.

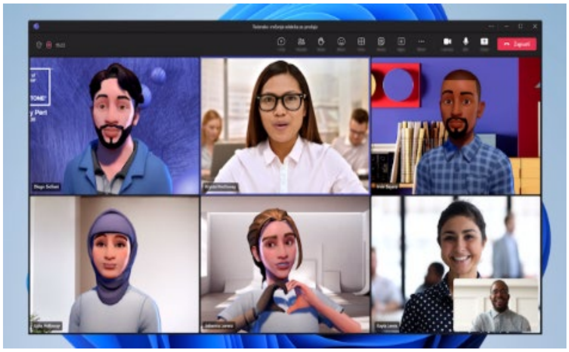

Figure 20: MS Teams
Source: own.

Figure 21: App Zoom
Source: own.

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THE LOGISTICS OF A HOTEL

LAZAR PAVIĆ
University of Maribor, Faculty of Logistics, Celje, Slovenia
lazar.pavic@um.si

This chapter addresses the issue of establishing the concept of a dispersed hotel grounded in the principles of sustainability, circular economy, and the reuse of pre-existing resources within a specific community. This represents a novel approach to the development of tourism activities in remote and rural areas, offering a solution to a multitude of challenges that may arise within the local environment. The chapter highlights the key advantages of the dispersed hotel as a tourism development concept when compared to the traditional hotel as an accommodation establishment. Furthermore, the chapter explores the various phases involved in the establishment of the dispersed hotel concept, among which the most pivotal phase can be identified as the concrete steps necessary for the implementation of the dispersed hotel concept within the local community.

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1 Introduction

Planning the development of tourism in a particular area today is a significant challenge. This is especially true for places that are far from the main traffic flows, larger cities, infrastructure and resources that are necessary for the smooth implementation of tourist activities. On the other hand, planning the development of tourism that follows the guidelines of the concept of sustainable development can bring significant benefits to all groups of stakeholders. One of the options, and an important alternative to mass forms of tourism, is the development of green forms of tourism, which, considering a number of criteria, the views of all stakeholders and, last but not least, protection and development criteria, can contribute to the sustainability of a location as a tourist destination.

An important element of sustainable tourism development is the authenticity of the tourist experience. This means offering preserved architecture, intangible heritage, connecting traditional events, and various culinary, educational, sports and other events, in which the local population is necessarily included. Connecting authenticity with green forms of tourism, with on the one hand the homely qualities of the local population, and the revitalization and sustainable development of rural areas on the other, constitutes a challenge that can be solved through offering different, innovative tourist products that include green tourism practices (Cucari et al., 2019). One possible solution is the dispersed hotel model, which we will present in more detail below.

2 Definition of the term »dispersed hotel«

Below we will define the term "dispersed hotel". We will present the basic theoretical foundations of the concept, compare a hotel and a dispersed hotel, and briefly present the key advantages of introducing dispersed hotels, which bring simultaneous benefits to everyone (stakeholders, local population, tourists, environment).

2.1 Hotel or dispersed hotel?

The word hotel comes from the French language (hotêl) and defines »large, luxurious buildings with vestibules and ceremonial halls that served as residences for the nobles of the city«. Since the beginning of the 18th century, the word has taken on a new meaning and defines larger, modern inns, the central focus of which is the hotel rooms, which occupy most of the hotel building (Lebe, 2013).

The development of modern tourism has enabled the establishment of various types of hotels, whose function goes beyond the basic hotel services of accommodation and food (Lebe, 2013). Depending on the type of facility, hotels today offer different types of rooms, appropriately designed dedicated spaces, adapted to a range of various non-hospitality services, and equipment appropriate to the category of the hotel itself.

Unlike a classic hotel, a dispersed hotel is not a hotel at all, but a new model of tourism development. The condition for the emergence of a dispersed hotel is the connection and cooperation of the population of a certain place (potential tourist destination), which uses all existing resources and connects all existing activities there into a comprehensive, unique and attractive tourist offering, aimed at a precisely defined target group of tourists (Črnigoj Marc et al., 2016).

In addition, the dispersed hotel offers a method of resistance against urbanization, as it involves the development of tourism in rural and remote areas, abandoned to demographic and economic decline. In this way, the development of the dispersed hotel concept promotes the revitalization of the countryside and ensures the preservation of the architectural characteristics of a particular location.

For the successful operation of a dispersed hotel concept at a specific destination that follows sustainable development guidelines, it is essential to adhere to the following guidelines (Šifkovič Vrbica, 2017):

– The owner of the hotel is a cooperative as a legal and organizational form established by local residents. It is also possible that one investor owns the entire hotel, but such a dispersed hotel is not a representative example of a sustainable method of operating in the local community.

- All members of the cooperative that form a dispersed hotel must have equal rights in decision-making.
- The purpose of establishing a dispersed hotel is to demonstrate and facilitate the implementation of projects local circular economy and sustainable self-sufficiency in a practical way and thus to encourage thinking about sustainable consumption patterns.
- The end result of establishing a dispersed hotel concept should be simultaneous benefit for all involved, specifically the local population, tourists and the environment.

The concept of a dispersed hotel at the operational level encompasses the following tangible elements (Šifkovič Vrbica, 2017):

- the combined parts of a dispersed hotel are: reservations, promotion, check-in, reception, which, like in a hotel, is the point of contact for all events and business processes, and other hotel offerings, depending on the concept of the specific hotel (for example, a common dining room in which food is offered to guests);
- dispersed parts, which are mainly reflected in accommodation in smaller houses (rooms) in a smaller town.

2.2 Why dispersion?

The concept of a dispersed hotel has some key advantages, which we present below. It is primarily about solving problems faced by the residents of rural and remote areas, such as: emigration, population aging, the decline of remote rural villages and, last but not least, environmental sustainability. At the same time, by solving perceived problems in rural areas, the tourist offering of the place or destination in which the dispersed hotel will be established is also expanded (De Montis et al., 2015).

By combining all material and immaterial resources, the location of the dispersed hotel comes back to life and the countryside is gradually revitalized. In this way, the funds obtained from the developed tourist activity remain within the local population, who are united around a common project, creating a sense of belonging, which is one of the basic prerequisites for creating hospitable behavior of locals towards tourists. This ultimately proves to be an important contribution to the well-being of the local community, which is manifested as a connected and clearly defined tourist offer of the entire place, formed by coordinated local providers of the place (destination) in which the dispersed hotel operates (Confalonieri, 2011).

The indirect effects of establishing a dispersed hotel are mainly seen outside of tourism activities: the opportunity to market agricultural products, create local jobs, and the absence of large investors, which means that almost all profits remain in the local environment. The overarching advantage of implementing the dispersed hotel concept is that sustainable development thus becomes one of the important quality standards of tourism services, the consumers of which are loyal, educated tourists who respect local tradition and the environmental sustainability of the place (destination) to which they return (Dragicevic & Letunic, 2015). The key advantages of establishing the dispersed hotel concept are presented in Figure 1.

WHY DISPERSION

Solves the problems of rural areas	Enriches tourist offer
• Outmigration • Population aging • Decline of remote rural villages • Environmental sustainability	• Combining all local resources (empty spaces of large or small houses, crops, work, knowledge and tradition) • The place comes to life, the countryside is revitalized • The funds from tourism activities remain with the local population, who come together around a common project • Local hospitality, which brings the rural landscape closer to tourists

Figure 1: Advantages of establishing a distributed hotel concept
Source: own.

3 How to achieve a dispersed hotel? From initiative to evaluation

The establishment of a dispersed hotel concept generally takes place in five distinct phases. The duration of each phase and the order in which they are carried out depend on the specifics of the individual place (destination) in which they occur e, and above all on the maturity of the local community and how aware they are of the benefits that a dispersed hotel brings. In practice, it very often happens that individual phases need to be repeated. Roughly speaking, the five main phases of establishing a dispersed hotel concept are (Šifkovič Vrbica, 2017):

- initiative;
- identifying key stakeholders of a distributed hotel;
- steps to establish a distributed hotel;
- communication;
- evaluation.

3.1 Initiative

The initiative is the first and most essential phase of establishing a dispersed hotel. In this phase, the potential initiator critically assesses whether the place (destination) has the resources that are of key importance for the existence of a dispersed hotel. These include, in particular: spatial resources and real estate, knowledge of the local population and the ability to engage in tourism, and lastly, the willingness of the inhabitants to devote themselves to tourism activities. If it turns out that there are enough resources, the next phase involves the creation of an initiative. The initiator of a dispersed hotel can be any economic entity or individual from the intended location of the establishment of the dispersed hotel. The initiative preparation phase includes several d activities, among which it is necessary to highlight targeted and continuous contact with stakeholders (providers) of tourism services at the destination and the possibility of operating in a connected and organized manner, which is a necessary prerequisite for establishing a dispersed hotel. Based on the situation on the ground, the initiator prepares an assessment of the capacity of the local community and an assessment of the ability to self-organize. They conduct a conversation with the municipality, whose support is necessary for the implementation of such a project. It is highly desirable to organize a visit to a dispersed hotel as an example of good practice, whereby providers on the ground would learn first-hand about the key advantages of such a concept and how it works. It is crucial that the initiative presented is based on the real needs of the local environment and solves at least one of the problems of the local community.

3.2 Identifying key stakeholders of a distributed hotel

In the second phase, it is necessary to identify key stakeholders and their role in establishing the concept of a dispersed hotel. There are several groups of stakeholders who differ in purpose and task in establishing the a dispersed hotel. It is important to emphasize that the successful establishment of the aforementioned concept requires coordinated action by all participants, which can only be achieved if the tasks of each stakeholder group are clearly defined. The following groups of stakeholders participate in establishing the a dispersed hotel (Šifkovič Vrbica, 2017):

- cooperative;
- municipality;
- other organizations and companies;
- local population;
- supporting actors and
- tourists.

A cooperative is the most suitable legal organizational form for local community projects, as it is based on two basic starting points of participatory action; co-management and co-ownership. In the first phase, the members of the cooperative or its founders are precisely those providers of tourist services in the local place (destination) who will offer various services within the framework of the dispersed hotel at the beginning of its operation: accommodation providers, catering service providers, tourist farms, sports activity organizers, local organizations operating in the field of culture, etc. In the next phase, it is possible to connect other providers and garner their views (Dragicevic et al., 2016). The main purpose of the cooperative is to ensure that the dispersed hotel, based on the authenticity of the local environment, is offering a comprehensive range of high-quality services and activities.

The role of the municipality in establishing a dispersed hotel is important and is reflected primarily in support services. The municipality is not part of the cooperative, but it can be an initiator and active supporter in establishing a dispersed hotel in the local environment, as it is well aware of the specific problems on the ground that the local community faces. The municipality's support is reflected primarily in providing administrative support for various formal procedures, providing subsidies for the arrangement and rental of certain premises (this mainly concerns the common spaces offered by the dispersed hotel) and promoting the concept of a dispersed hotel at home and abroad.

Other organizations and companies that offer non-tourism services in the local area (destination) are of key importance, as they are services that tourists absolutely need during their stay at the destination. These include services such as: pharmacies, post offices, banks, health services, laundries, garden centers, crafts, etc. Although such organizations are not members of the cooperative, they are aware of the clear benefits that they can gain by cooperating with a dispersed hotel.

The role of the local population, who are not part of the cooperative, is primarily manifested in ensuring broader support from the local community. In order to achieve such support, it is crucial to clearly and transparently communicate from the very beginning the key benefits that the entire place (destination) would have from the establishment of a dispersed hotel and to realize such benefits later. In this way, the idea of establishing a dispersed hotel will be recognized as an idea that everyone would profit from, even those who are not involved in tourism and do not participate in the cooperative.

Supporting actors in the establishment of a dispersed hotel are mainly organizations located outside the local community, at the regional or national level. These are mainly regional development agencies, local, regional and national tourism organizations, various action groups operating at the local community level, various non-governmental organizations, etc. In addition to administrative assistance, and the knowledge and financial mechanisms that they can offer to support the project of the dispersed hotel, some established organizations can be included in the range of hotel services, offering activities and services relating to recreation, culture, sports, education, event organization, etc. (Dragicevic et al., 2016).

Tourists are an indispensable part of a dispersed hotel, so when planning the establishment of this concept in a particular location, it is essential to take into account any previous experience with tourism at this destination. If there have been no organized tourist activities in the location so far, the cooperatives must, together with the local community, define what kind of tourists they want there or define one or more target groups that the dispersed hotel wishes to attract. If tourism is already established at the destination, it is necessary to analyze existing data and consider whether the dispersed hotel is to be aimed at existing tourist target groups or f a completely new target group (Monge et al., 2015). The segmentation of tourist target groups can be carried out on the basis of several criteria (location, gender, age, level of education, motive for visit, income, etc.).

3.3 Steps to setting up a distributed hotel

Establishing a distributed hotel is a complex project that involves several different phases and is an enormous logistical challenge from idea to realization (Figure 2).

Figure 2: Steps to establishing a distributed hotel concept
Source: own.

It is possible to roughly define a few basic steps, but their duration, time sequence and, above all, the operational implementation of individual activities must be specifically adapted to the specifics of the individual case or local community in which the dispersed hotel will be created. The steps for establishing a dispersed hotel are as follows (Šifkovič Vrbica, 2017):

- preparing a presentation idea and gaining support from the local community;
- drawing up a plan for establishing a dispersed hotel;
- defining hotel services;
- obtaining permits and complying with standards;
- establishing a cooperative; and
- obtaining financial resources.

In the first step, which involves preparing a presentation idea, it is essential to secure the support of the municipality and the wider community and to prepare a list of the first potential providers of tourist services in the local area who would like to become part of the cooperative. The mandatory principles in preparing a successful presentation idea that will gain the support of the wider local community are participation and open communication. From a content perspective, the presentation of the business idea must include: an assessment of the needs of the local community from which the business idea originates, an assessment of the potential that the local community has for implementing such a business idea in the local environment, a presentation of examples of domestic and foreign good practices, and the preparation of a draft concept for a dispersed hotel.

The idea needs to be presented to the wider local community by organizing an event, which may include a viewing of a case study of a dispersed hotel or a presentation by one of the representatives of an existing dispersed hotel. In the event of positive responses from the wider local community, a cooperative is formed at this stage, whose task is to prepare a framework for the concept of the operation of the dispersed hotel, based on the draft concept and any suggestions made by the wider local community (participating in the discussion). At this stage, continuous and open communication with the local community is again very important, especially in terms of clearly highlighting the concrete benefits that the wider local community will gain in relation to the perceived problems it faces, the resources available, the investments and any obstacles that have already been identified. The main goal of this step is to obtain the principled support of the local community, which is understood as a green light for further work.

Drawing up a plan for establishing a dispersed hotel is a step that includes a situation analysis, a precise definition of the desired type of dispersed hotel and the definition of the hotel infrastructure. When analyzing the situation, it is necessary to precisely define the foundations on which the dispersed hotel concept will be developed. As previously highlighted, in the first phase, these are the needs that exist in the local community and the problems and obstacles that the local population perceives. The concept of a dispersed hotel that is based on the needs of the local population and at the same time solves the problems of the local community has a greater potential for success in the local environment. In addition, the concept of a dispersed hotel necessarily includes the following elements of the destination: natural resources , cultural attractions and specialties, local produce, cuisine and drinks, cultural specialties and traditions, infrastructure, buildings and supply of basic goods, knowledge present in the local community, existing tourism in the local community, compliance with any development plans and strategic documents of the local community and, last but not least, an analysis of stakeholders who are willing to support the idea of establishing a dispersed hotel (Presenza et al., 2019). All of the above elements must be analyzed and assessed from the perspective of a potential starting point on which the dispersed hotel will be designed.

Next, it is necessary to define the desired type of dispersed hotel. The definition of the type of dispersed hotel is connected primarily to the conducted situation analysis. In this step, it is necessary to define: the desired type of tourists (target group, one or more), the type of dispersed hotel offering (year-round or seasonal operation), the specificity and uniqueness of what the dispersed hotel offers and details relating to the appearance of the offering itself (location of the reception, location of the hotel accommodation units, organization of catering services, methods of supplying tourists with local produce during their stay, organization of other non-catering offers of the dispersed hotel, organization of promotion, etc.). In this step, it is necessary to simultaneously define the coordination of the implementation of catering services in a way that will enable an increase in the well-being of the local community, considering all environmental and social standards for the implementation of activities. Finally, all decisions related to the choice of the desired type of dispersed hotel directly depend on the sum of the planned investments for the selected type of dispersed hotel (Monge et al., 2015).

Special attention should be paid to the organization of the hotel infrastructure in this step. Depending on the specific case, it is necessary to consider whether it is better to connect existing accommodation and catering providers (if the latter already exists and operates) or to build everything from scratch. An important part of the hotel infrastructure is also the infrastructure relating to common areas, such as: reception, dining room, common areas for carrying out individual recreational activities, etc. It is necessary to be particularly careful when taking over and reusing abandoned areas and examining any formal obstacles. Last but not least, in this step it is also necessary to prepare an assessment of the financial aspect of the idea itself.

When defining the hotel services that will be part of a dispersed hotel's offering, careful consideration must be given to the definition and standardization of two groups of services:

- the offer of basic hotel services, which includes accommodation, meals, cleaning and maintenance;
- the offer of other services of a more tourist nature, which includes various experiences, guided tours, local traffic management and micromobility in the place/destination, events at the destination, various cultural, educational and entertainment programs, and more.

It is worth noting that when implementing all the services of a dispersed hotel, it is necessary to establish internal business standards that relate to meeting the needs of tourists. Some of these are: environmental and nature conservation standards, protection of cultural heritage, sustainable mobility, sustainable supply of locally produced organic food, sustainable energy supply, water and waste management, accessibility of infrastructure for people with limited mobility, cooperative management, fairness of payments and pricing policy, and others (Romolini et al., 2017).

In addition to clearly defined internal business standards, it is essential to take into account all legislation and prescribed external standards for the implementation of catering and tourism activities, such as: prescribed standards for the implementation of catering services, food safety standards, registration of activities, tourist tax, etc. In the case of any construction work, it is essential to take into account legislation relating to permits in the field of interference with nature and any building permits relating to the field of building permits for accommodation facilities and any interference with nature.

The next step is to legally and formally establish a cooperative. The purpose of a cooperative, which is established by at least three natural or legal persons, is to ensure the economic benefit and development of the economic or social activities of its members. The cooperative is based on equality in cooperation and management. Regardless of the amount of capital investment, the rule »one member, one vote« applies. More information about establishing a cooperative is available on the website of the Cooperative Association of Slovenia (www.zzs.si) and the Slovenian Business Point SPOT (www.spot.gov.si).

The last step in the process of establishing a dispersed hotel is obtaining financial resources. Smaller investments can be made by the owners of the premises, but larger investments, especially those related to common areas and the start of operation of the hotel itself, require obtaining funds from other sources (municipality, public tenders from domestic ministries and funds, and funds available from European sources).

3.4 Communication

Good communication or good information flow is an excellent way to successfully realize the idea of establishing a dispersed hotel. In order to ensure transparency in communication, it is recommended that the project idea is publicly published online and that the public is kept informed about the progress of the project. Successful communication is ensured if the successful transfer of information takes place in several directions at the same time. First and foremost, it is important that communication between cooperative members runs smoothly. It is also mandatory that the cooperative communicates adequately with the municipality, key stakeholders and employees, and all others who are not part of the cooperative but are included in the dispersed hotel offering. Last but not least, appropriate communication and sharing of necessary information with tourists and the general public significantly contributes to the success of the entire dispersed hotel concept.

In order for communication to be successful, it is essential to prepare an appropriate communication plan, the emphasis of which must be on ensuring sustainability and communicating the elements of a cooperative dispersed hotel with the aim of encouraging changes in ways of thinking and motivation towards more sustainable behavior. It is imperative to adapt communication channels to this so that the messages sent can achieve their purpose. An important part of communication with tourists is promotion, which, in cooperation with the tourist organization and other stakeholders responsible for promoting tourism at the destination, will influence tourists' decisions regarding the choice of a dispersed hotel for their vacation.

3.5 Evaluation

The last phase of establishing a dispersed hotel is the evaluation phase. The purpose of this phase is to monitor progress in the realization of the set idea of establishing a cooperative dispersed hotel, identify possible deviations from what is planned and improve the later steps in the realization of the project. Given that this is a joint local community project, which in a broader context solves the perceived problems of the local community from which it originates, it is essential to ensure continuous support for the realization of the project from the wider local environment.

The evaluation phases also take place during the implementation of the project, so it is essential to provide appropriate means to measure the satisfaction of both groups directly involved in the operation of the dispersed hotel: hotel guests and providers who are involved in the operation of the cooperative that manages the dispersed hotel. This evaluates the realization of the idea from both perspectives for a broader picture of the evaluation in the local community, just as in the project establishment phase. It is necessary to evaluate the opinion of other residents of the area, who provide the final piece of the jigsaw of the coordination of the hotel's operation with the local community.

4 Conclusion

The dispersed hotel is an innovative form of tourist experience. Despite the fact that the word "hotel" in its name is somewhat confusing, it is a new tourism development concept, based on the principles of sustainability and the circular economy. The emphasis of the concept is on maintaining the authenticity of the tourist experience and solving the specific problems within a particular local community. In this way, the solidarity component of tourism, based on maintaining concern for the well-being of the local population and the entire environment, is brought to the forefront.

It is necessary to highlight the positive features and benefits that the concept of a dispersed hotel can bring to the local community. These are reflected in the local environment in which the dispersed hotel operates. They are mainly manifested in the reuse of existing resources and their combination into a new concept that breathes new life into the place the hotel is established. An important factor is also that the dispersed hotel creates new jobs for the local population, which means that potentially remote locations and rural areas are revitalized. In a broader sense, the concept of a dispersed hotel enables environmental sustainability, since as the concept is not based on large investments and the mass nature of the tourist experience, it consequently impacts significantly less on the environment.

The presented phases of establishing a dispersed hotel concept constitute only a basic starting point in theory. The implementation of the individual phases in practice depends on the specificities of the local community in which the dispersed hotel concept is to be established. Practice shows that one of the biggest obstacles is the effort to gain broader support in the local community, which often leads to a standstill in the individual phases of the idea's realization. There is also often a lack of knowledge, skills and abilities that are necessary for the development of an individual tourism idea, as remote and rural areas often face the problem of emigration of the younger population and, consequently, an aging population. There is no exact recipe for establishing a dispersed hotel, but in this process, it is crucial to connect the concept with a specific problem that the local community as a whole is facing.

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Basics of Data Decision- making in Business

Lazar Pavić
University of Maribor, Faculty of Logistics, Celje, Slovenia
lazar.pavic@um.si

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In this chapter, the fundamental concepts necessary for successful business decision-making based on data are presented. The basic phases of research and fundamental concepts essential for effective decision-making are introduced: statistical population, units of analysis, representative sample, variables, measurement scales, and hypotheses. The importance of collecting primary and secondary data in business decision-making, along with proper tabular and graphical representation of data, is then emphasized. The chapter is concluded with guidance on selecting appropriate statistical analysis to confirm or reject properly formulated research hypotheses.

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data,
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data visualization,
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1 Introduction

In today's business world, where information is rapidly generated and changing, data-driven decision-making has become a key component of successful business. The fundamentals of data-driven business decision-making provide the foundation on which organizations build their strategies and plans. This approach enables organizations to transform the information they collect into actionable knowledge that helps them make better decisions.

One of the key benefits of data-driven decision-making is its speed. The ability of organizations to quickly analyze and interpret data enables agility in responding to changes in the environment. This is especially important in dynamic sectors such as logistics and supply chain management, where market conditions change rapidly. Another important benefit is better targeting of marketing campaigns. By analyzing data, organizations can accurately understand the needs of their customers, which enables targeted marketing and personalized approaches. This increases the effectiveness of marketing efforts and improves customer satisfaction. The optimization of business processes is another key benefit of data-driven decision-making. By recognizing the efficiency of business processes and identifying areas for improvement, organizations can increase operational efficiency and reduce costs. By analyzing quality data, organizations also gain insight into patterns and trends, which allows them to adapt their offerings and services. Tracking customer preferences, changing market trends, and adapting business models are concepts that become possible when decisions are supported by quality data.

In addition, data-driven decision-making enables improved risk management. Identifying potential problems through the analysis of reliable data allows organizations to take preventive measures and reduce the negative impacts of potential risks. Accordingly, data-driven business decision-making also enables innovation. By constantly tracking data, organizations can quickly identify opportunities for innovation and adaptation, leading to sustainable competitive advantage.

In this chapter, we will explore key aspects of data-driven decision-making and present basic concepts for developing guidelines for the successful implementation of data-driven decision-making in a business environment.

2 Phases of data exploration

Data exploration takes place in three separate but interconnected phases (Košmelj, 2007):

- collecting and organizing data;
- analyzing the collected data; and
- explaining or interpreting the results.

The data collection and editing phase is crucial for the reliability of the final results. The process includes data collection planning, which determines the type of data, data collection methods, and sample. This is followed by quality control of the data collected, which includes assessing the adequacy of the information collected and identifying and correcting any errors. Data editing includes coding, classification, normalization, and format conversion for optimal analysis. Data preparation for analysis includes filtering, selecting key variables, partitioning data, and creating new variables. Proper implementation of these steps ensures the purity, reliability, and readiness of the data for accurate statistical analysis, which in turn leads to high-quality research results.

The analysis phase of the collected data in research is crucial, as researchers use various statistical methods to understand, describe and interpret the data. In this phase, the selection of the appropriate statistical analysis is crucial. The most commonly used analyses include descriptive statistics, identifying statistically significant differences between different groups of subsamples, correlation and regression analysis, etc. Tabulating the results and visualizing them with charts are key in gaining in-depth insight and drawing conclusions based on statistical analyses. However, it is important for researchers to remain cautious and take into account potential limitations and biases of the research conducted.

In the interpretation phase, researchers closely link the results obtained to the objectives of the study. It is important to assess the statistical significance of the results, verify the practical relevance of the results, and consider any limitations of the study, including alternative explanations. Linking to existing knowledge allows the findings to be placed in a broader theoretical framework, and while this phase is important for scientific research, it is usually not carried out in data-driven business decision-making. Correct interpretation is key to understanding the significance of the results and their application to the context of the research.

The rest of the chapter will introduce the basic concepts related to data-driven decision-making. Understanding these concepts is crucial and forms the basis for properly dealing with data.

2.1 Mass phenomenon

For the purposes of data-driven decision-making, we focus on mass phenomena. These are phenomena that occur in large numbers in a business environment at a certain time and in a certain place. For each mass phenomenon, we can ask at least one research question, as explained below. In this way, we examine all the rules and laws that generally apply to the mass phenomenon, while at the same time learning very little about the specific individual case (Košmelj, 2007).

Example of a mass phenomenon: employees in the field of supply chain management

Example of a research question: What factors motivate employees to work in the field of supply chain management?

2.1.1 Set, unit and sample

A statistical population is formed by those arbitrarily selected mass (identical) phenomena that we wish to study. To more precisely define a mass phenomenon, we simultaneously use the following three criteria (Vrečar, 2020):

- factual definition: we answer the question »Who or what are we studying?«;
- spatial definition: we answer the question »Where are we studying?«;
- temporal definition: we answer the question »When are we studying?.

By simultaneously defining all three of the listed criteria, we define our studied population with sufficient precision. For the example presented in Chapter 2.1., the definition of the statistical population would be "employees in the field of supply chain management in Slovenia in 2023". It is highly recommended that the term "all/all" be used before defining the substantive criterion, as this way the statistical population is defined even more precisely and separated from the sample, as will be explained below.

Example of defining a statistical population: (all) employees in the field of supply chain management in Slovenia in 2023.

A statistical set (population) consists of a large number of statistical units. The number of units in a statistical population is denoted by the letter N. Depending on the type of statistical set, the number of units in the population may be known or unknown.

Example of statistical unit definition: (one) employee in the field of supply chain management in Slovenia in 2023.

A sample represents a part of the population, the units of which are selected in order to assess the situation in the population. The reasons for conducting research on a sample and not on the population are mainly hidden by time and financial obstacles, since conducting research on large populations requires a lot of time and financial resources. On the other hand, the characteristics of certain populations, in which it is not possible to come into contact with all the units or the final number of all units is not even known, direct us to conduct research on a sample and not on the population. The number of units in the sample is denoted by the letter n, where it is always the case that the number of units in the sample is less than the number of units in the population, or $n<N$.

When choosing a sample, we must always try to ensure that the latter is ***representative*** (Košmelj, 2007), or that it reflects and conveys all the properties of the statistical population. As an example of a statistical population, we can imagine a cake consisting of three parts: sponge, cream and whipped cream. If we only taste one or two of the three previously presented ingredients, we cannot definitely say that the cake tastes good. Therefore, a piece of cake that is cut in this way does not represent a representative sample. A correctly cut piece of cake from top to bottom, which also includes sponge, cream and whipped cream, is an example of a representative sample, since we can comprehensively judge the taste of the cake based on the tasting of all its parts.

To extract a sample from a statistical population, we always use at least one, previously determined criterion, which we apply sensibly according to our research question and the goals we want to achieve. This can be an additional factual criterion, a location criterion, a time criterion, or a combination of these.

Example of sample definition: employees in the field of supply chain management in Slovenia in 2023 with a company headquarters in the Savinja statistical region.

2.1.2 Variables and parameters

Statistical variables (or just ***variables***) represent the properties of statistical units. We use them to describe our statistical units. They represent the common characteristics of statistical units that we want to study through the research process. The characteristics of the entire statistical population are called ***parameters*** (Vrečar, 2020).

Examples of variables/parameters: gender, level of education, length of service in years, number of employees in the company, etc.

The main characteristic of each variable is that it has its own values, which differ from each other (change). Depending on the type of value it can have, all variables are divided into two large groups, specifically (Bastič, 2006):

- non-numeric or descriptive variables whose values cannot be expressed in numbers;
- numeric variables whose values are expressed in numbers.

Examples of descriptive (non-numeric) variables: gender and level of education, since the values male/female/other and primary school/secondary school/college/university/master's degree/doctorate of science do not have numerical values.

Examples of numerical variables: length of service in years and number of employees in the company, since they can have numerical values from 0 to 40 or from 1 to + infinity.

To make it easier to distinguish between descriptive and numerical variables, we can also use distinctions in the way we think when we observe the entirety of our research problem. When operating with non-numerical variables, we always think in terms of ***proportions*** (e.g., the proportion of female supply chain management employees, the proportion of supply chain management employees with a Master of Science degree, etc.). When operating with numerical variables, we always think in terms of averages (average length of service of supply chain management employees, average number of employees in logistics companies, etc.).

It is important to highlight the fact that numerical variables are higher quality variables from a data processing perspective, as they allow for a greater number of statistical tests to be performed and consequently yield more useful findings in business decision-making. The values of numerical variables can therefore be displayed with a smaller number of descriptive values and consequently change the way of thinking with a focus on shares (for example: the share of employees with an average service period of up to 10 years in the field of supply chain management).

Unlike numerical variables, descriptive variable values cannot be represented by numerical values, as they are lower quality variables. Unfortunately, research often involves errors that occur in the process of coding variable values. For example, the values of the gender variable are assigned numerical codes: female = 1, male = 2, other = 3. It is important to note that the numbers mentioned here are simply a code that replaces the letters »male«, »female« and »other« and are in no way numerical values from which averages could be calculated. »What is the average gender of employees in the field of supply chain management?« is an example of such an unsuitable research question.

2.1.3 Measuring scales

Depending on the method of measurement or the types of values they have, all variables can be divided into four large groups. It should be borne in mind that each of the previously presented types of variables has its own two separate measurement scales (Vrečar, 2020).

Descriptive variables are divided into two groups depending on the measurement scale used, specifically:

– nominal;
– ordinal variables.

Nominal variables represent the lowest quality variables. They allow us to determine whether two values of a variable are the same or different. Ordinal variables allow us to place the values of a variable in order and in this way determine which value is greater and which is smaller. It is necessary to highlight the fact that in no case are these numerical values (greater, smaller or equal), therefore any mathematical operation other than counting is inadmissible in the case of nominal or ordinal variables.

Numerical variables are divided into two groups depending on the measurement scale used, specifically:

– interval or spaced;
– ratio or proportional variables.

Using a spaced measurement scale, we can calculate (numerical) differences between different values of variables. One of the characteristics of these variables is that they often have values that are limited by a minimum and a maximum and contain a specific unit of measurement. Most numerical variables are proportional variables, the main characteristic of which is that we can calculate (numerical) relationships or proportions between them. The value of these variables is not limited in theory, so they can have values from 0 to $\pm\infty$. As already highlighted, numerical variables are variables of higher quality, which allow for the implementation of a larger number of statistical tests and, consequently, higher-quality inference in a business environment.

Example of a nominal variable: location of a warehouse (Celje, Maribor, Ljubljana, Koper).

Example of an ordinal variable: year of construction of a warehouse (1985 < 1989 < 2000).

Example of an interval variable: air temperature in a warehouse (10 C ° in the morning, 8.5 C ° at night). The difference is 1.5 C °.

Example of a proportional variable: stocks of product A001 in warehouse A - 1200 pieces, stocks of product A001 in warehouse B - 2400 pieces. Warehouse B is twice as stocked with product A001 as warehouse A.

If we look at all types of variables as a common unit, we can see that the variables are arranged in order from nominal, which is the lowest quality, to ratio, which is the highest quality. Each subsequent type of variable takes on the properties of the previous ones and has an additional property that improves its quality. A schematic representation of this is presented in Figure 1.

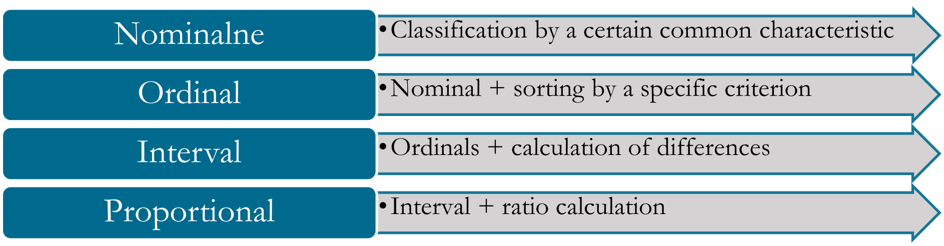

Figure 1: Schematic representation of variable properties according to a measurement scale
Source: own.

2.1.4 Assumptions (hypotheses)

Assumptions or hypotheses are used when we want to present our research question more concretely. In other words, with a hypothesis we concretize our research problem and write it down with a series of clearly formulated statements that can be confirmed or refuted with the help of appropriate data processing and the implementation of an individual statistical test. The main component of all hypotheses are variables.

All assumptions are divided into two large groups (Bastič, 2006):

- null hypotheses, which basically state that there are no (statistically significant) differences, relationships, or influences between variables;
- research hypotheses, which basically state that there are (statistically significant) differences, relationships, and influences.

Null hypotheses are not the subject of research work. When formulating hypotheses in business decision-making and research, we focus on research hypotheses, which are divided into:

- indirect research hypotheses, which are aimed at identifying differences, connections and influences without determining the direction and strength of the influence (it differs, they are related, influences);
- direct research hypotheses, which determine the direction of the differences (greater/smaller) and the strength of the influence connection (positive/negative, strong/medium strong/weak).

Example of a null hypothesis: The quantity of product A001 in stock in warehouses in the Western cohesion region of Slovenia is (statistically significant) ***not different*** from the quantity of products in stock in warehouses in the Eastern cohesion region of Slovenia.

Example of a two-sided research hypothesis: The quantity of product A001 in stock in warehouses in the Western cohesion region of Slovenia is (statistically significant) ***different*** from the quantity of products in stock in warehouses in the Eastern cohesion region of Slovenia.

Example of a one-sided research hypothesis: The quantity of product A001 in stock in warehouses in the Western cohesion region of Slovenia is (statistically significant) ***greater*** than the quantity of products in stock in warehouses in the Eastern cohesion region of Slovenia.

The phrase statistically significant is also given in brackets. Statistical significance refers to the criterion used to assess the significance of the results of a statistical analysis, or in other words, it is the percentage of risk that the conclusion that we will draw based on the risk analysis is not due to the fact that we are stating. Statistical significance is usually based on a certain level of risk, called the significance level, which is chosen before analyzing the data and is expressed in percentages (the most commonly used values are 1% and 5%). In other words, we are talking about a fact or percentage that we could be wrong about. Statistical significance is a mandatory component of all research hypotheses based on statistics, as long as we use it in business decisions as required according to the goals of the individual research (Bastič, 2006).

2.1.5 Primary and secondary data

Depending on the research topic, we distinguish between two groups of data: primary and secondary data (Vrečar, 2020).

Primary data are data that are collected specifically for the purpose of solving a specific (concrete) problem. This is data that requires more time to be spent on its collection and editing phases, but its main advantage is that it can be adapted to the specific topic of a specific research problem. The following methods are most often used to collect primary data:

– **Survey**: The key part of this method is the composition of the survey questionnaire or the preparation of a group of questions and answers that the respondent chooses themself. There are several ways to conduct a survey (in person, by phone, by regular mail or by e-mail). The survey questionnaire can be prepared in a classic manner or with the help of various programs that enable sharing of survey questionnaires online (example: Forms in GoogleDrive, Microsoft Forms, 1ka, etc.). Surveys mostly contain closed questions (pre-selected answers that the respondent chooses, yes/no, numerical measurement scales), but they can also contain open questions, often to a smaller extent. The main purpose of the survey is to check the strength of an individual option, or we expect respondents to confirm our assumption as to which option the respondents could select most frequently.

- **Interview**: The key part of this method is a conversation in which the interviewee answers questions that can be open or closed. Open-ended questions are mostly used in interviews, as we expect the interviewees to answer questions such as: what, how, what do you think, etc? The interview is often the starting point for the brainstorming method, the search for new solutions, or the basis for preparing a survey questionnaire in cases where we want to combine qualitative and quantitative research methods.
- **Observational study**: The key part of this method is observation, which most often refers to the observation of human behavior. However, we can also observe the product range, individual elements of the company, buildings, etc. The starting point for conducting an observational study is an observation sheet, which contains a combination of open and closed questions.

Unlike primary data, secondary data is already collected and stored in a specific location, which means that when using secondary research data, we save time and resources required for their acquisition. Their weakness is that they are quite inflexible, sometimes inadequately broken down, geographically or temporally inappropriate for the needs of our research, etc. Secondary data is therefore already collected from institutional providers of secondary data, such as: AJPES, Business Register of Slovenia, Statistical Office of the Republic of Slovenia, EUROSTAT, OECD, United Nations and similar.

Regardless of the type of data (primary or secondary data) or the method of data collection (survey, interview, observational study), the raw data collected must be stored in a systematic manner. For this purpose, we use a **data collection framework**. This is a structure or plan that we use when collecting information for a research project or study. It includes certain guidelines, methods and procedures that help to systematically obtain data in a way that ensures the reliability, accuracy and comparability of results. The data collection framework also includes decisions about how the data will be collected, what types of data will be captured, who will be involved in the research and how the data will be analyzed. This framework is essential for ensuring the quality and relevance of the data obtained in the research process.

In practice, a data collection framework means a survey questionnaire, interview, observation sheet or spreadsheet into which the raw data will be entered. After the data collection process is completed, the final result of this phase is a spreadsheet with raw data, which needs to be refined and prepared for the implementation of appropriate statistical analyses.

2.2.6 Tabular and graphical display of data

Data is presented in two basic ways: tabular and graphical. Both methods of presenting data must be appropriately equipped or contain all the necessary elements in order to be sufficiently transparent for the reader.

Each table contains the following mandatory elements (Vrečar, 2020):

– ***table title***, which must answer four questions that in Slovene begin with the letter K (What, When, Where and How);
– ***table header***, which includes column names;
– ***table header***, which includes row names in two-dimensional tables (e.g. inventory status by product and by month);
– ***rows and columns with data*** that form ***fields (cells)*** at the intersection;
– ***summary rows and summary columns***, which display summarized data, such as total stocks by product, total stocks by month, and the like;
– ***data source,*** which can be external or internal (own);
– ***additional methodological explanations,*** what the element represents, which is used as needed and with which we provide, for example, the calculation methodology, any problems with the data source, any additional explanations regarding the data, etc.

Table 1 provides a good example of a table that covers all the required elements.

Table 1: Number of products in stock by product serial number and month for the company Zaloga d. o. o for the third quarter of 2023

Product serial number	August	September	October	Total
A001	30	70	40	140
A002	50	30	50	130
B001	100	44	45	189
B002	80	25	60	165
C001	20	73	80	173
Total	280	242	275	797

Source: own research

We use ***graphs*** to highlight the data that is most important from the perspective of our research. As with tables, the rule is that graphs must be equipped with mandatory elements, such as: title, source and, if necessary, additional methodological explanations. Vrečar (2020) lists some basic rules for the correct presentation of data using graphs:

- it is important to ensure correctness of data display (e.g. if one phenomenon is twice as large as another, this must be displayed correctly);
- it is not sensible to create a chart if there is very little or very much data or if the phenomenon is very stable (does not vary much);
- when using bar charts, make sure that the starting point of the y-axis is at the value 0;
- it is very important to choose an appropriate chart, which, depending on the needs of the research, is divided into ***simple*** (bar charts, line charts, pictograms, cartograms) and ***analytical***, which are considered tools for statistical analysis (structural circle, histogram, polygon).

Figure 2 presents a good example of a simple chart that includes all the necessary elements.

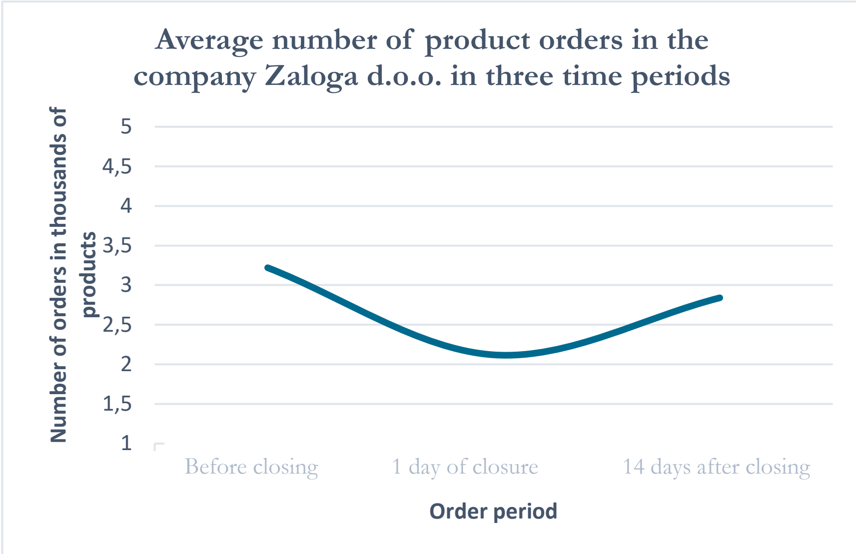

Figure 2: Graph example
Source: own.

2.2.7 Choosing the appropriate statistical analysis

The choice of the appropriate static analysis depends on the way in which we have formulated our research hypothesis. Basically, we distinguish two large groups of static analyses (Bastič, 2006):

– ***descriptive statistics***, which focuses on describing and summarizing the data collected. It uses various methods such as: means, ranges and graphical displays to reveal the basic properties of the data set. The goal is to present information in an understandable way, which helps to form a clear insight into the characteristics and distribution of the data, without attempting to establish causal or statistically significant relationships between variables;
– ***inferential statistics***, which deals with drawing conclusions and generalizing from a sample of data to the entire population. This attempts to answer questions about the population based on statistical analyses of the sample, using approaches such as confidence intervals and various statistical tests.

3 Conclusion

Based on the content presented in this chapter, we can conclude that the basic concepts presented are of vital importance and understanding them plays a key role in the process of correct business decision-making. A basic understanding of data analysis concepts proves to be a key tool that allows companies to effectively utilize the vast amounts of data they collect. With in-depth knowledge of these basic concepts, we enable organizations to more successfully manage information, which leads to better and more thoughtful business decisions.

In addition, this chapter has highlighted how a basic understanding of analytical methods and approaches can contribute to improving decision-making processes in an organization. With the correct interpretation of data and the use of analytical tools, decisions become more focused and goal-oriented. This is reflected in more effective business decision-making strategies, which are crucial for the long-term success of a company.

Ultimately, based on the content presented, we can conclude that a fundamental understanding of the basic concepts of data analysis is key to achieving a competitive advantage in the market. Organizations that strive for excellence in data-driven business decision-making will be better prepared for the challenges and opportunities brought by the modern business environment, such as the green transition, digitalization, and ensuring long-term resilience, through a deeper understanding and appropriate application of these concepts.

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How to Organize Individual Travel?

Lazar Pavić, Tina Cvahte Ojsteršek
University of Maribor, Faculty of Logistics, Celje, Slovenia
lazar.pavic@um.si, tina.cvahte@um.si

Tourists' activities are often marked by unsustainable behavior or a lack of awareness of the environmental, societal and economic impact of travel. Because of this, the chapter presents factors influencing travel decisions and ways to make travel and mobility within them more sustainable. It focuses on trip organization and the influence of motivation and decision-making on it. Travel motivation is explored through four groups of motives: physical, cultural, interpersonal, and status. The selection of a destination, which is determined by various factors, is also examined, emphasizing the importance of understanding this process. Mobility in tourism has a significant impact on the environment, with air travel being the most burdensome. Different forms of transportation have different environmental impacts, which is crucial for sustainable travel. When individually organizing trips, considering destination choice, mode of transportation, weather conditions, duration of travel, accommodation, finances, and the reality of destination information is recommended. Mobility at the destination is crucial as tourist visits can burden the environment. Sustainable transportation modes such as walking, cycling, and public transport are recommended to reduce environmental impacts and enable more authentic tourist experiences.

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1 Introduction

The Slovenian Literary Dictionary defines travel as »moving from place to place, especially by means of transport« (Meterc et al., 2024). It is a circular process, as a mandatory part of travel is also the return to one's home place of residence (domicile). Travel can in itself be a goal or the realization of a desire for an individual activity, with which we achieve various needs that cannot be satisfied in our place of permanent residence.

Travel organization falls within the broader field of travel activity, which can be defined as "the activities of tour operators, travel agencies and other travel-related activities, such as tourist guidance (Nemec Rudež, 2013). In this context, travel organization is viewed as an economic activity that encompasses the operations of a large number of different economic entities that provide their customers (tourists) with a range of different services.

In this chapter, we will focus on travel organization from an individual perspective. Therefore, the focus of the chapter will be on individual ways of organizing travel and introducing sustainable practices into individual phases of an individual's travel organization. Some of the definitions that we will present in this chapter may also apply to travel organization from an economic perspective.

2 Motivation for travel and decision to travel

Determining the motivation for travel actually means determining the reasons (motives) of behavior in the decision-making process about choosing a travel destination, which in turn always involves behavior with a specific reason. The reason for a certain behavior is mitigated by unsatisfied needs or desires. Schiffman & Kanuk (2004) designed a model of the motivational process, which can also be meaningfully applied to the field of motivation for travel. According to this model, unsatisfied needs, desires and expectations cause impatience and a desire for action. Important factors that influence behavior or the decision to travel are certainly prior learning and thinking.

Đeri (2009) lists four groups of motives for travel:

- physical motives, which include physical rest, sports activities and possible medical treatments, the aim of which is to improve the physical condition and physical health of the individual;
- cultural motives, which put the individual's desire to travel in the foreground with the aim of getting to know other countries, cultural heritage, art, music, etc.;
- interpersonal motives, with the reason for travel visiting family or friends or changing the everyday environment, which often includes escaping from family, friends, colleagues, business contacts, escaping the monotony of everyday life or simply the desire to meet new people and make new friends;
- status and prestige motives, which arise from personal needs for self-esteem and development, relating mainly to work and professional interest, with the aim of education or pursuing a hobby.

The United Nations & World Tourism Organization (2010) divide all tourist trips into two basic groups: private and business or professional trips. A large number of motives are cited for both types of trips. The following motives are typical for private trips:

- rest, relaxation and recreation;
- visiting relatives and friends;
- education and training;
- health and medical care;
- religious reasons;
- shopping;
- transit and
- other reasons such as: voluntary work, investigative work, migration, etc.

The decision to travel, and especially the choice of a travel location or tourist destination, is influenced by a range of different factors. Researchers have tried to simplify this complexity by creating different models to understand travel choice. One such model, which encompasses a holistic approach to deciding on the choice of a tourist destination, is the »tilde« model developed by Schiffman & Kanuk (2004). The model is based on three main components:

- input data;
- decision-making process;
- output data.

In the »tilde« model, the input data are external influences, which are a source of information about a particular travel destination and have a significant impact on the behavior of individuals in the final travel decision. The input data are:

- marketing activities of tourism companies, which encompass all communication activities that tourism companies carry out with the aim of guiding individuals to choose a particular place as their travel destination;
- socio-cultural circumstances, such as: the influence of family, lifestyle, culture and subculture, the Internet and social networks, social class, etc.

The decision-making process in the »tilde« model includes several phases, among which we highlight:

- the psychological field, which includes the internal influences of the individual, such as: motivation, perception, learning, personality and individual attitudes;
- recognition of needs, which can be the result of external or internal factors and often manifest as "problems" that the individual faces (stress at work, dissatisfaction with the place of residence, anxiety, the need to experience something new, etc.);
- information search, which covers several different sources of information about the tourist offer of individual sources, such as: previous experiences, accessible marketing and non-commercial information that helps in organizing the trip and
- evaluation of alternatives, which includes a list of tourist destinations from which a choice is intended to be made and a list of criteria that will be used in evaluating each tourist destination.

The output data in the »tilde« model covers two activities that are closely related to each other:

– purchase/reservation of services at a selected tourist destination, which includes a trial purchase when we first decide on the services of a particular company and a repeat purchase, which is the result of loyalty to a particular company, which is the result of satisfaction with previous experience;
– evaluation after returning from a tourist destination, which includes comparison with expectations and can result in satisfaction, neutral feeling or dissatisfaction.

3 Mobility in a sustainable way

A key part of travel and tourism in general is mobility. The movement of people to and from destinations is a prerequisite for travel and tourism activities, but it also potentially constitutes the greatest burden on the environment and other aspects of sustainability. The most important factor in the impact of tourist mobility on the environment is the choice of transport modality, as each modality has its own patterns of use and environmental impacts. We limit ourselves to emissions; the differences between individual modalities per passenger per kilometer traveled are shown in Figure 1.

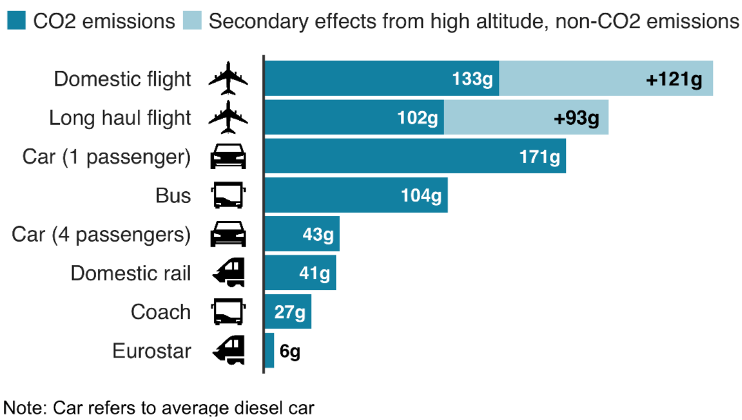

Figure 1: Emissions from different modes of transport per passenger per km travelled
Source: ('Climate Change', 2019).

Regardless of the research methodology, air travel is indisputably the most environmentally damaging mode of travel. In 2009, it was highlighted that aviation contributes a significant share of global CO_2 emissions and is also responsible for other emissions, such as nitrogen oxides, which have a significant impact on the state of the atmosphere and the environment. As global mobility continues to increase, emissions from air travel are expected to increase, highlighting the need for sustainable travel interventions. An alternative to air travel is train travel, especially for medium-distance journeys of up to 500 km, where, with suitably fast train connections, train travel is cheaper, faster and more comfortable (Genter, 2019). Rail travel per passenger means a significant reduction in environmental impact compared to cars and planes, but this depends in part on the way locomotives are powered and the electricity for electric locomotives is generated. Individual car travel, especially those using petrol or diesel as fuel, is a significant contributor to global CO_2 emissions. For example, in the EU, cars and vans are responsible for around 15% of all CO_2 emissions (*Reducing Carbon Emissions: EU Targets and Policies*, 2023). The overall environmental footprint of cars is of course influenced by various factors, including fuel efficiency, number of passengers and distance travelled. In order to reduce the environmental impact, measures such as carpooling and the use of fuel-efficient vehicles are essential. Electric vehicles are one way to reduce the environmental impact of travel locally, although globally they can still have a significant negative impact on environmental well-being (Holland et al., 2016). Buses, especially when operating at full capacity, are a more environmentally friendly solution than individual car trips, but they are less comfortable and often slower than trains, so they are most often used for medium-long distances or as part of package tours. Other modes, such as walking or cycling, can also be used for local travel.

The decision about which mode of travel to choose is influenced by countless factors. The main factors that we consciously or unconsciously consider every time we decide on a travel modality are:

- Cost: This is one of the dominant factors. Travelers often weigh the costs of different travel options against their benefits or compare them with the values of other decision factors.
- Time: The duration of the journey is important, especially for business travelers or those with a tight schedule.
- Convenience: The ease of access to the mode, the frequency of availability and the directness of the route all play an important role. In the case of a private car, ownership is also an important factor in this context.

- Comfort: The perceived comfort of the mode of travel, which can include seating, cleanliness and available services as well as flexibility in terms of individual requirements.
- Ease of use: This factor refers to how easy it is for users to select and use a particular mode of transport.
- Reliability: This mainly refers to the consistency and ability of the mode to meet the set requirements in terms of travel time, frequency and comfort.
- Accessibility of information: It is important how passengers can find, understand and use information about the mode, such as: timetables, fares and real-time status. Access to this information via websites, mobile applications or other means can greatly influence a passenger's decision to choose a mode of transport.
- Environmental concerns: Travelers are increasingly considering the carbon footprint and other environmental and local impacts of their travels and are choosing more sustainable modes.
- Safety: Perceived safety and actual safety data about a modality can be an important factor in choice, especially in the case of risky modes.
- Cultural and social influences: The acceptability of some modes over others in different cultural contexts or peer groups can influence the choice of travel mode in certain groups.
- Personal preferences: Some people may have specific personal preferences, such as a desire for privacy or past experiences, which influence their choice.

According to research by Fiorello et al. (2016), EU residents most often choose to travel by private car for trips over 1,000 km, in half of all cases. This is followed by a decision to fly in a third of cases, and about 10% of EU residents choose to travel by train. The picture is similar for distances between 300 and 1,000 km, as in this range three quarters of trips are made by private car, and about 15% by train. In recent years, the trend in travel habits for tourism purposes has been towards longer trips, with travelers planning to travel by plane in about half of cases, with a quarter intending to travel by private car, and about 16% by train (*Monitoring Sentiment for Domestic and Intra-European Travel*, 2023).

4 Important questions when organizing individual travel

When planning an individual trip, we often have many questions. In other words, a large number of decisions need to be taken before the implementation of an individual trip. On the Bontraveller website (www.bontraveler.com), we find 10 key questions that need to be answered before deciding on an individual trip. We list them below (Wright, 2023).

4.1 Choosing a destination – Where am I going or what do I need in life right now?

Choosing a travel destination is the first and perhaps most important question when deciding to travel. Choosing a travel destination is closely linked to the current unmet needs of the individual. For example, an individual who currently lives in a city and feels stress or the initial stage of burnout needs a contrasting experience; nature, rest, peace. These three words (nature, rest and peace) are the starting point for choosing a travel destination. Other elements, such as finances, length of stay, etc., will subsequently be aligned.

4.2 Choosing a mode of transport

A very important issue in individual travel organization is certainly the method of transportation to the destination. The trip itself should not be too expensive, too tiring or take a lot of time. Therefore, it is highly recommended thatall possible modes of transportation at this stage are considered, which is especially true for remote destinations, where it is imperative to consider flight connections. In addition to the time aspect, the financial aspects of travel should also be considered, which means that overpriced plane tickets with one or more transfers are not the right decision. For flight connections, the use of freely available online tools is recommended, such as: Google Flights, FlightConnections, Skycannner, etc., which allow for the optimal choice based on time, finances, number of transfers, etc.

4.3 Water temperature

If you are planning to go to a destination for swimming, the water temperature is a very important factor. This is especially true for places that are usually served by low-cost airlines with ticket prices that are often much more affordable compared to other destinations. Therefore, it is advisableto consider this factor before deciding to travel.

4.4 Weather conditions according to the season

Given climate change and possible natural disasters, which we have been witnessing frequently lately, it is essential to study and take into account the possible occurrence of the latter before deciding to travel. The frequency of individual phenomena is more pronounced in certain seasons, which in many cases means that the prices of tourist services are often lower during these times. Certain trips may also be cancelled more often. Therefore, it is even advisable to study the weather in a particular location on an annual basis according to the available data.

4.5 Number of days of travel – going abroad or staying local?

The decision to travel abroad or stay in your hometown depends on how many free days you have available. In the case of distant destinations, Bontraveller recommends the rule: "at least 1 day for every hour spent on the way", which is especially true for air travel. Such a rule allows us to more easily finalize the destination and determine whether we have enough time to stay at each stop.

For shorter trips, Bontraveller recommends visiting nearby destinations, which is also highly recommended from a sustainable development perspective. Traveling to nearby destinations in the local environment allows for a more relaxed experience in a shorter time.

4.6 What will work at the destination?

The opening times of individual tourist attractions are a very important factor in deciding whether to travel. Therefore, it is necessary to double-check before traveling what exactly will be open during your stay at the destination. If there is a list of attractions that you want to visit, it is imperative to check the opening hours of public holidays separately from the reservations, as sometimes the calendars do not match.

4.7 How will I get around at my destination?

If you are not traveling with your own car, it is necessary to examine the mobility options at the destination level. Therefore, thinking about how you will move around the destination before deciding to travel is definitely recommended. If you decide to rent a car, you need to consider the rental costs, which can be high. Therefore, it is very important to also examine other modes of mobility at the destination, such as renting a bicycle or motorbike, public transport at the destination, which is much more acceptable from a financial and environmental point of view, if such options exist there.

4.8 Choosing the right accommodation

Accommodation is one of the most important considerations when deciding to travel. Important elements when choosing an accommodation facility are certainly safety, practicality and, last but not least, the location of the accommodation itself. Bontraveller lists a list of important questions that are good to have answers to before starting a trip. The questions are especially important in the case of a family traveling with a small child or baby. These are the following questions:

- Location: Is the accommodation close enough to easily visit the attractions I want to visit based on my travel itinerary?
- Safety: Are there open balconies, swimming pools, and other elements that could be a nuisance?
- Functionality: Does the accommodation have everything I need (kitchen, washing machine, baby bed, etc.)?
- Does the accommodation have air conditioning? This question is very important for summer travel.

4.9 Finances – does the trip make sense at this time from a financial perspective?

Depending on the different needs, desires and motives for travel, the budget for travel varies significantly. However, it is important to determine some criteria regarding travel that relate to the financial aspect. Bontraveller lists the three most important factors:

- average price of transportation costs (planes, accommodation);
- average price of accommodation (for example, the Airbnb portal offers this information on its website when choosing a destination);
- mobility costs at the destination.

These are the most important costs incurred on a single trip in terms of the share they account for in the overall trip budget and consequently provide a quick insight into the planned budget for the entire trip.

4.10 Expectations and reality of information provided about the destination

The social media era we live in and the frequency of edited photos can lead to unrealistic expectations for a particular trip. This can in turn lead to disappointment upon arrival at the chosen destination. To avoid this, Bontraveller offers some useful suggestions, such as:

- reviewing photos with a marked location, where you can quickly get a sense of whether the photo is real or edited;
- monitoring people you trust, as this reduces the possibility of creating unrealistic expectations.

5 Mobility at the destination

Part of travel, regardless of its purpose, is also mobility at the destination itself. Tourist visits, although often economically beneficial for local communities, can bring a number of problems in terms of mobility and traffic, which we as tourists need to be aware of and reduce through our activities. One of the main challenges is the strain on the environment and local resources. The seasonal influx of tourists can cause excessive strain on transport, public spaces and infrastructure, leading to congestion in city centres and tourist attractions. Such seasonal fluctuations can exceed the capacity of local infrastructure, especially in smaller towns and seaside resorts, which are not designed to handle such large numbers of tourists.

In addition, access to information for tourists may be limited or misleading, resulting confusion and inefficient use of transport. Tourists often have different needs and expectations from transport than the local population, which can lead to misunderstandings and conflicts. While the local population focuses on a quick and efficient journey to work, tourists may be looking for more tourist-oriented transport options. In addition, in many tourist destinations there is a lack of multimodality and intermodality in transport. This means that different transport modes may not be well connected or do not work together, making it difficult to switch between different modes of transport, such as buses, trains or bicycles, and thus reducing the efficiency and comfort of travel for visitors. All these factors should be considered when planning a trip, and at the destination itself, choosing modalities that are more friendly to the environment and the local population is advised.

It has been proven that tourists use different means of mobility at a destination than in their normal lives, mainly due to different travel goals and time constraints. The shift occurs in favor of more sustainable mobility alternatives (Zamparini & Vergori, 2021). Thus, as tourists, by using modalities such as walking, cycling and public transport, we can significantly contribute to reducing the impacts of our travel.

In the context of a tourist destination visitor, it is crucial to understand how our mobility patterns and decisions can affect the places we visit and at the same time enrich our experience. One strategy that we as individual travelers can use is to choose sustainable mobility alternatives, such as the concept of Mobility as a Service (MaaS). This innovative approach combines different forms of transportation, such as public transportation, bicycles, walking, and car-sharing programs, into a single user experience that allows for flexible and convenient travel (Hensher, 2017). By using platforms that offer such services, tourists not only contribute to reducing environmental impacts but also gain deeper insight into the local culture and environment.

Similarly, choosing slower modes of transport, such as cycling and walking, is not only beneficial for the environment but also for the visitor's experience. This allows for a more relaxed, authentic and engaging way of exploring destinations, which typically offers more direct and authentic interactions with the local community and environment. Choosing cycling or walking as your main mode of transport can provide access to more remote and less tourist-heavy places, creating unique and personal travel experiences.

Tourists generally have access to a number of platforms and tools to help them choose sustainable means of transport and plan their trips. Using digital ride-sharing platforms or public transport route planning apps can improve travel efficiency and enable more integrated and greener itineraries (Cohen & Kietzmann, 2014). Connecting with locals through these platforms or forums can also enrich the experience with valuable local advice and information.

In addition to digital technologies that support travel planning at the destination, it is also necessary to mention the concept of smart tourism, which closely coincides with the concept of smart mobility, in the context of tourism in the modern world. Smart tourism, which also takes advantage of smart mobility concepts, can offer tourists many benefits, especially by integrating information and communication technologies into the tourist experience. Gretzel et al. (2015) note that digital platforms that enable route optimization, transport reservations and car sharing do not only offer economic and ecological awareness but also bring flexibility and efficiency to the trip itself. Smart tourist destinations try to design more efficient and sustainably oriented mobility solutions through data analysis and behavioral studies and reduce traffic congestion, which can enrich the research experience (Buhalis & Amaranggana, 2015). By enabling connections between different modes of transport and ensuring easy access to different means of transport through digital tools, the logistical side of travel is thus facilitated. In this way, the concepts of smart mobility and smart tourism can enable the upgrade of the basic tourist experience, and consequently, when selecting a destination and planning tourist experiences, it makes sense to also consider the aspect of accessibility of modern support solutions.

In some regards, mobility at the destination can also be part of the tourist experience itself. Typical examples are cycling holidays or pilgrimages, as well as cruises. Despite the attractiveness of cruise ships, they are associated with heavy environmental concerns. Comer et al. (2015) found that ships have a large environmental footprint, which is not only a result of fuel consumption, but also relates to waste disposal and potential disruptions to marine ecosystems. Sulfur oxides emitted by passenger ships can have a significant impact on air quality and health, and black carbon is also problematic, with cruise ships emitting up to three times more than the average cargo ship.

6 Conclusion and recommendations for green travel

Planning a trip can be a complex process that requires thoughtful decisions and careful planning. It is crucial that travelers who want to travel more sustainably focus on a range of important aspects that will contribute to a carefree and memorable experience in harmony with modern sustainability principles. Choosing a destination is the first and most important step in planning a trip. It is important that the destination meets the travelers' current needs and desires, whether the trip will be primarily a rest in nature, a cultural experience, sports activities, as the right choice of destination can have a significant impact on the entire trip. The next crucial step is choosing accommodation. Important factors here include location, safety and practicality, as well as the sustainability potential and range of places to stay at the destination and location. It is worth checking whether the accommodation offers the necessary amenities for comfort or special requirements when traveling.

The mode or modality of travel is the next decision that has a significant impact on the overall sustainability orientation of travel. The decision is usually made based on the available options, which depend primarily on accessibility and infrastructure potential, taking into account both time and finances. The wrong choice of transport can negatively affect travel experiences and outcomes. Of course, the sustainable aspect of travel is also important, because, as we have shown, the choice of travel modality and movement at the destination itself can have a significant impact on reducing the impact of travel on the environment and the local community. Choosing environmentally friendly modes of transport and respecting local culture and the environment can also improve the overall travel experience and contribute to sustainable tourism.

In addition, it is crucial to consider the motivation for travel, of course in connection with the consideration of factors that also influence the subsequent choice of modality at different stages of the journey. Understanding our physical, cultural, interpersonal or status motives can help to better plan the trip and choose the destination and modalities that best meet our expectations and requirements.

In conclusion, we can conclude that organizing a trip requires thought, planning, and consideration of various factors. Understanding our input needs, choosing a suitable destination, and caring about sustainability are key factors for a successful trip. By taking into account the factors and guidelines identified, your trip will also be green.

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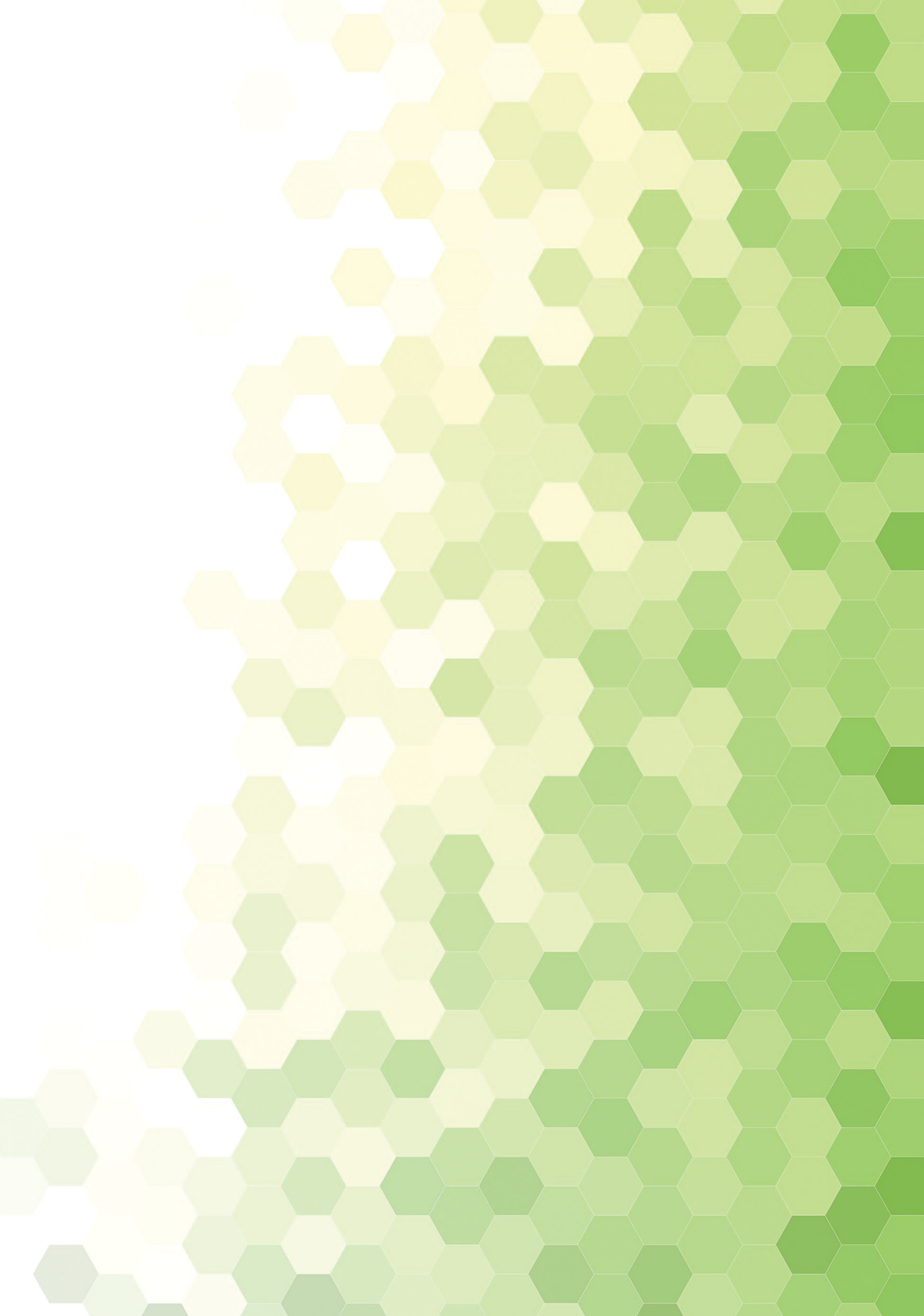

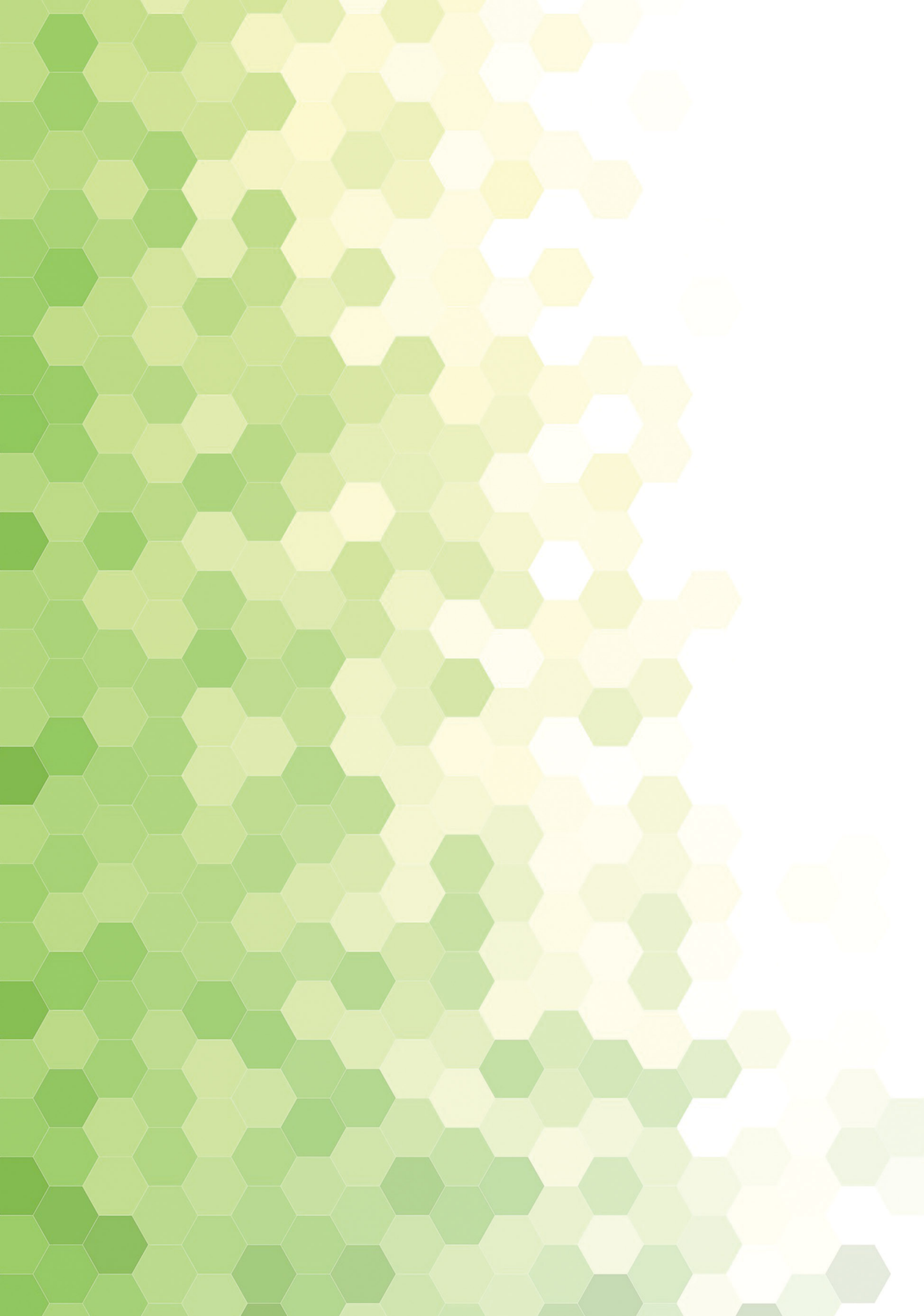

Interdisciplinary and Applied Knowledge for Green and Digital Logistics Processes

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Matevž Obrecht (ed.)
University of Maribor, Faculty of Logistics, Celje, Slovenia
matevz.obrecht@um.si

The university textbook "Interdisciplinary and Applied Knowledge for Green and Digital Logistics Processes" is a comprehensive guide aimed at supporting sustainable and digital approaches in logistics. It focuses on reducing the environmental impact of logistics processes and improving their efficiency through the use of various supporting mechanisms. The interdisciplinary approach combines knowledge from multiple fields, enabling a holistic understanding of modern logistics and the application of practical knowledge to areas beyond logistics. Readers are equipped with practical skills and expertise to enhance the efficiency and sustainability of individual processes. The textbook covers topics such as leadership and communication, data-driven business decision-making, information and computer literacy, the importance of promotional video content, the organization of sustainable travel, sustainable mobility, and the logistics of a dispersed hotel. The entire content is aimed at strengthening the competencies that are essential for successfully managing modern logistics challenges.

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