Literary and Linguistic Studies in Light of Digitalization Age
The Value of the Critical and Rhetorical Discourse

Development of Human Sciences in Digitalization Age: A Linguistic Study in Context of Analyzing Ursula von der Leyen's Speech (2020) on Shaping Europe's Digital Future

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Abstract

Critical discourse analysis (CDA) represents one of the areas of increasing importance in various human fields as the fields of discourse analysis have recently included fields of literature, culture, politics and even health and education. There are many approaches to the study and analysis of discourse, including linguistic, social, philosophical, and other approaches. Rhetoric is the art of good speech. It is latent in writing and speaking persuasively. Its aim is to inform, educate, persuade or motivate specific audiences in specific situations. Since rhetoric has a close relationship with the literary text in its various manifestations and its artistic, literary and analytical formations, the critical and rhetorical discourse has witnessed a remarkable development in the field of linguistics in general and discourse analysis in particular. The present study attempts to illustrate the value of the rhetorical discourse through exploring the persuasive strategies and linguistic devices used by Ursula Von der Leyen's speech on Europe's digital future. Through the study, the researcher tries to shed light on the cultural change and cognitive progress in light of digitalization age. The five principles of rhetoric: invention, arrangement, style, delivery, and memory will be explored for the analysis of the chosen speech. Rhetorical Structure theory (RST) as developed by Bill Mann in 2000 and William C. Mann in 2006 within the field of computational linguistics has been employed for proving the relationship between text organization and showing the effectiveness of the rhetorical and critical discourse, and hence showing the scientific and technological progress in the age of digitalization.

***Keywords**: Computational Linguistics, Rhetorical Structure Theory, Rhetorical Discourse, Digitalization Age, Ursula von der Leyen,*

مستخلص الدراسه

تطور العلوم الانسانيه في ضوء عصر الرقمنه: دراسه لغويه في سياق تحليل خطاب رئيسه المفوضيه الاوروبيه اورسولا فون دير لاين حول تشكيل المستقبل الرقمي لاوروبا

يمثل تحليل الخطاب النقدي أحد المجالات ذات الأهمية المتزايدة في مختلف المجالات البشرية حيث شملت مجالات تحليل الخطاب في الاونه الاخيره مجالات الأدب والثقافة والسياسة وحتى الصحة والتعليم. هناك العديد من المناهج لدراسة وتحليل الخطاب ، بما في ذلك المناهج اللغوية والاجتماعية والفلسفية وغيرها. البلاغة هي فن الكلام الطيب ، فهي تكمن في الكتابة والتحدث بشكل مقنع وهدفها هو إعلام و تثقيف أو إقناع و تحفيز جماهير محددة في مواقف محددة، وبما أن الخطاب يرتبط ارتباطًا وثيقًا بالنص الأدبي في مظاهره المختلفة وتشكيلاته الفنية والأدبية والتحليلية ،فقد شهد الخطاب النقدي والبلاغي تطورًا ملحوظًا في مجال اللسانيات بشكل عام وتحليل الخطاب بشكل خاص. تعمل الدراسة الحالية علي توضيح قيمة الخطاب البلاغي من خلال استكشاف الاستراتيجيات المقنعة والأجهزة اللغوية المستخدمة في خطاب رئيسه المفوضيه الاوروبيه فون دير لاين حول مستقبل أوروبا الرقمي. تحاول الباحثة من خلال الدراسة تسليط الضوء على التغيير الثقافي والتقدم المعرفي في ظل عصر الرقمنة. سيتم استكشاف المبادئ الخمسة للبلاغة: الاختراع ، والترتيب ، والأسلوب ، والإلقاء ، والذاكرة لتحليل الخطاب. سيتم ايضا توظيف نظريه البنيه البلاغيه الذي قام كلا من بيل مان في عام ٢٠٠٠ ووليام مان في عام ٢٠٠٦ بتطويرها في مجال علم اللغة الحاسوبي لإثبات العلاقة بين تنظيم النص وإظهار فعالية الخطاب البلاغي والنقدي ، وبالتالي ستستطيع الباحثه من خلال توظيفها في إظهار التقدم العلمي والتكنولوجي في عصر الرقمنة. .

الكلمات المفتاحيه: اللغويات الحاسوبيه، نظريه البنيه البلاغيه، الخطاب البلاغي، عصر الرقمنة، اورسولا فون دير لاين

1. Introduction

1.1 Digitalization Age

Utilizing digitized information to facilitate and improve established working procedures is known as digitalization. It doesn't entail creating entirely novel business plans or methods. It's about carrying out current tasks in a more efficient and appropriate manner. In order to comply with changing business and market expectations, digital transformation is required since it is the process of using digital technology to create new business processes, cultures, and customer experiences, or adapt existing ones. Digital transformation, then, is the reinvention of a business in the digital era. It extends beyond standard work duties like customer service, marketing, and sales. Digital transformation begins and ends with the way one thinks about and engages with his customers. Digital technology helps in conducting business and interacting with customers since one goes from paper to spreadsheets to smart applications for managing business. At the age of digitalization it became much easier to find and share information, but businesses' usage of their new digital records mostly imitated the outdated analogue techniques (*What is Digital Transformation*, 2022).

Digitalization is considered a cultural revolution. Many countries all over the world have witnessed this revolution such as Egypt and all European countries. In an important step towards enhancing Egypt’s digital capabilities and shifting towards financial inclusion, Dr. Amr Talaat, the minister of communications and information technology, has witnessed the announcement of new partnerships between the Ministry of Communications and Information Technology and many of the largest international companies operating in Egypt, including Dell Technologies, Vodafone Egypt, Kaspersky, and Huawei (Arafaa, 2019/ 2022). This partnership aims at enhancing the skills of the young people who enrolled in the Digital Egypt Builders initiative launched by the Ministry of Communications and Information Technology to develop the capabilities of outstanding graduates from the faculties of engineering, computer and information science. To build digital Egypt and enhance Egypt's position on the map of this industry, capacity building has become one of the most important axes of the Ministry of Communications and Information Technology. It tries to create a broad base of in-depth and trained competencies in all fields of communications and information technology. The majority of sectors have already entered the age of digital transformation thanks to the advancement of digital technology. There will eventually be an impact on everyone since many more are ready to enter. (*Digital Transformation*, 2017).

Digital Egypt Builders initiative comes as a dedication to these efforts as it aims to prepare distinguished elite of specialists in communications and information technology in an unprecedented manner through an integrated educational program. The initiative which encompasses a free scholarship intends to boost human capital in highly technological fields and foster young people's inventive abilities. In

cooperation with major international universities, companies and institutions working in the areas of developing managerial skills, the technical capabilities of young people enrolled in the initiative have been revealed. Many technological companies in the initiative contribute directly to building the capacities of the university youth participating in the initiative to be ready for the labor market and for future jobs in the field of information technology and digital transformation. Vodafone Egypt, for example, offers practical training programs for the participants through experts from Vodafone Academy for learning in the field of information technology (*Digital Egypt*…., n.d).

Egypt is always working to create partnerships and models of cooperation with government agencies and ministries to develop and support the digital transformation system and achieve the digital Egypt strategy. The majority of digital technologies present chances for enhanced productivity. However, if employees don't have the necessary mindset to change, digital transformation will just highlight shortcomings (Tabrizie et al., 2019). In order to make a transition in the era of digitalization, as is shown in figure (1), Thomas Widmann (2022) has proposed the following challenges: business models, man, time, and money. In this study the researcher tries to shed light on digitalization age and the technological progress which invaded the whole world after 2018 through analyzing one of the political speech presented by Ursula Von der Leyen on shaping Europe's digital future in context of rhetorical structure theory.

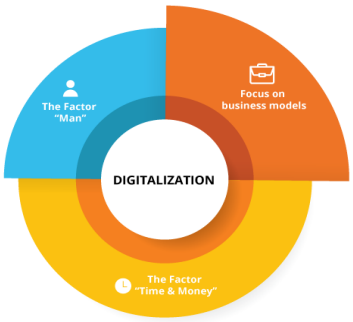


Fig 1: The Three Challenges in Digitalization Age (Widmann, 2022)

1.2 Rhetorical Discourse

The art of managing language to achieve persuasion is known as rhetoric (Wilkin, 2003). According to Malmkjaer (2002), rhetoric derives from the theory of how a speaker or writer can successfully persuade through the use of linguistic strategies. Aristotle defines rhetoric as the skill of identifying the persuasive linguistic devices that can be used to influence an audience (Burke, 1954). Political leaders use a variety of rhetorical and linguistic techniques to persuade the public to support their political ideology or take a certain political action. Political leaders have historically been able to affect the public's views, aspirations, and concerns by their deft use of language. In certain cases, they have even succeeded in tricking the public into believing false information to be true (Ibrahim, 2020).

Rhetorical theory returns back to Ancient Greece and Rome in the West and serves as the foundation for the modern discipline of communication. Rhetoric often possesses three key traits: pathos, ethos, and logos. Figure 2 represents the three modes of persuasion. The ability of the speaker to embody a personal character that makes his or her speech credible and trustworthy is related to ethos. The ability to elicit and motivate the audience's feelings and emotions is associated with pathos. The capacity to present the truth through persuasion and reasoned argument is related to logos (Beer & De Landtsheer, 2004). The five canons of rhetoric—invention, organization, style, delivery, and memory—are the basis of rhetoric which is really the art of discourse. Today, rhetoric is commonly understood to be the use of human symbols. The field of study known as rhetorical theory examines how people employ symbols, and the primary human tool for influencing how an audience perceives reality is rhetorical discourse. It frequently aims to persuade an audience to accept a notion before acting on it. It is developed in response to an existing circumstance or a set of circumstances such as a political dispute over welfare, a religious disagreement over women's membership in a particular denomination, a discussion about the morality of assisted suicide, debates about a rule that would restrict visitors to university residence halls, or a theatrical production that promotes racial harmony. In this study the researcher employs rhetorical structure theory to illustrate the ability of rhetoric and linguistic devices within the political discourse in revealing the main message of discourse.

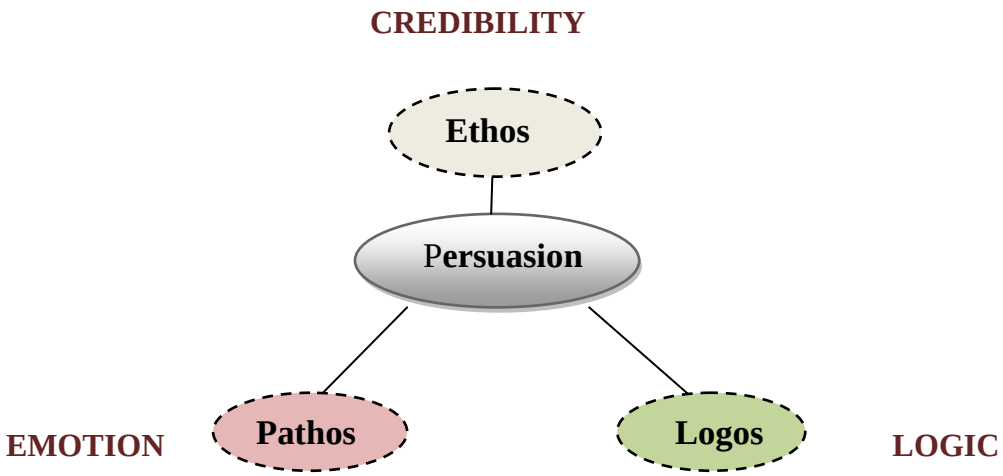


Fig.2: Modes of Persuasion (Leighfield, 2021)

1.3 Computational Linguistics

Computer-assisted language analysis is known as computational linguistics. Although many other sorts of linguistic analysis can be carried out by computers, computational analysis is frequently used to handle fundamental language data (e.g., constructing concordances and measuring frequencies of sounds and word parts). The scientific and technical field of computational linguistics focuses on comprehending written and spoken language from a computational perspective and developing tools

that can be used to process and produce language, either in large quantities or in a dialogue context. A computational understanding of language can shed light on thinking and intelligence to the extent that language serves as a reflection of the mind. Since language is our most instinctive and flexible form of communication, extremely proficient computers would greatly simplify our interactions with machines and software of all kinds and put the vast amount of textual and other internet resources at our fingertips in ways that truly meet our needs. Theoretical linguistics, philosophical logic, cognitive science (particularly psycholinguistics), and of course computer science have all influenced the approaches used in theoretical and applied computational linguistics research (Lenhart, 2020).

The development of processing methods and learning principles that take advantage of both the structural and distributional (statistical) properties of language, as well as the formulation of grammatical and semantic frameworks for characterizing languages in ways that enable precise analytical implementations of semantic and syntactic analysis are some of the theoretical goals of computational linguistics. Pinker (2007) states, "It is important to note that, at least for "obviously grammatical" and "clearly ungrammatical" sentences, linguists' specific well-formedness assessments are largely in accord with one another and non-linguists' judgments." Computational linguistics has been developed to include not only text and speech, but also it includes machine translation, man retrieval, and man-machine interfaces (Rashel, 2011). In the digital information age, computational linguistics is crucial. As shown in figure 3, it aids in the development of tools for crucial modern-day practical tasks including speech recognition, speech synthesis, machine translation, information extraction, text mining, grammar checking, and many others.

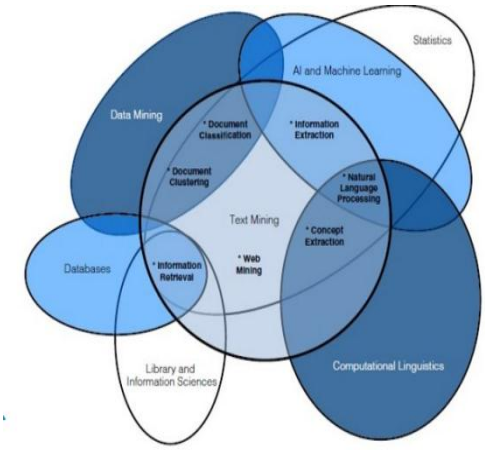


Fig 3: Closely-Related Fields and Disciplines to Computational Linguistics (Ray, 2021)

Rhetorical Structure Theory (RST) has been used in a variety of scientific fields. It was designed from the beginning as a means of describing text and textual relations for the goal of text production. In that field of computational linguistics RST continues

to have success. It has also been used in a variety of domains, including the instruction of writing and legal contracts. It is a way to take into account the text's functional potential, or its ability to serve speakers' goals and have an effect on listeners. Additionally, it demonstrates how to discriminate between coherent and nonsensical texts and outlines the effects of text structure (Abrahamson& Victoria, 2012). RST has been chosen for getting at the main objective of this study which is "displaying the valuable characteristics of digitalization age within Europe through employing RST that provides a structural place for every element in one of the political speeches presented by Ursula von der Leyen."

2. Research Objectives

This research has both academic and practical interests:

1- Providing a framework for the analysis of the chosen discourse, and therefore revealing what is behind it.
2- Explaining how a text is composed of hierarchically arranged groups of clauses that stand in different relationships to one another, rather than just a set of clauses.
3- Outlining the workings of RST and its applications such as studies of clause combining, coherence, and consequences of discourse structure.
4- Demonstrating how RST typically offers thorough analyses rather than selected commentary and demonstrating its proficiency in text size measurement; it has been applied to a wide range of the size of the text.
5- Showing the efficiency of RST within the field of computational linguistics.
6- Showing how the relationship between content planning and communicative goals is strengthened by the use of rhetorical relations to further communicative objectives like concept comprehension (e.g., through the elaboration of a definition), belief (through the presentation of evidence), or causal understanding (e.g., through a relation of volitional results).
7- Adding a new layer of annotation to a corpus that already exists, being interested in how rhetorical interactions are signaled in speech.
8- Proving the role of both technology and digitalization in changing the course of humanity for the better; they are becoming more breathtaking and more regular by the day. They are helping to better detect worldwide problems, support high-precision treatment for the needs of each society.

3. Limitations of the Study

The main idea of the study can be clarified through the analysis of the chosen discourse, using different theories of critical discourse analysis, theories of communication, semiotic theories. However, the study makes use of the theoretical goals of computational linguistics which include the development of processing methods and learning principles that take advantage of both the structural and distributional (statistical) properties of language in addition to the formulation of

grammatical and semantic frameworks for characterizing languages in ways that enable computationally tractable implementations of syntactic and semantic analysis. There are many theories within the field of computational linguistics, but the researcher employs the rhetorical structure theory which proposes potential coherence links across text spans and reveals the rhetorical relations between clauses or larger discourse segments. From another direction, many genres around the world have handled digitalization age for exploring its benefits; different articles, documentaries, images, and speeches have shed light on the characteristics of this age. This study is restricted to one of the European speeches handles by UrsulaVon der Leyen where she discusses digitalization and the challenges of the age. The chosen speech is designed by the researcher for the analysis.

4. Literature Review

RST has been created as a result of research on modified or meticulously prepared content from numerous sources. It currently enjoys a position in linguistics separate from its computational applications. Numerous different parsing techniques have been presented as a result of the growing interest in RST in academic circles, which has inspired the development of numerous cutting-edge applications like chat bots and other knowledgeable and intelligent systems. However, there are still not enough thorough literature evaluations, despite the long history of RST research. This research is not the first which conducts the study of RST. There are some researchers who conducted the study for various purposes. For example, in Bill Mann (2000) research entitled "An Introduction to Rhetorical Structure Theory" he asserts that RST is made to make text analysis possible. Although there is a pattern for representing text structures graphically, the definitions of the relations and other RST structures can be used to explicitly state the specific claims made by the analyst. When an existing set of definitions is insufficient, analysts are allowed to expand it.

In Eva Forsborn (2005) research entitled "Rhetorical Structure Theory in Natural Language Generation" she focuses on where RST is located within the design of generation systems. Some difficulties relating to the top-level organization of texts are covered, and the more specific planning such as the selection of discourse markers and clause arrangement has been examined. In Sophia Skoufaki (2009) research paper entitled " An Exploratory Application of Rhetorical Structure Theory to Detect Coherence Errors in L2 English Writing: Possible Implications for Automated Writing" she presents a preliminary investigation into the viability of using Rhetorical Structure Theory (RST) (Mann & Thompson, 1988) to identify coherence errors made by Taiwanese low-intermediate English learners. For three reasons, it is believed that this inquiry is necessary. First, other bottom-up coherence analysis techniques have been found to be useless. Second, this study offers a tentative classification of the coherence mistakes produced by Chinese learners of English who are using their first

language (L1). Third, a study has been done on discourse errors in second languages in practical linguistics.

In Taboada & Das (2013) research entitled "Annotation upon Annotation: Adding Signalling Information to a Corpus of Discourse Relations" they have chosen the 385 Wall Street Journal articles from the RST Discourse Treebank (Carlson et al., 2002), which is annotated for rhetorical relations. Despite the fact that the corpus may not be ideal, they choose to use it in order to speed up their research on signals. Given the availability of so many pre-existing annotated corpora that can be reused and extended, they predict that this will become an increasingly common occurrence for discourse scholars. In Zhang et al., (2020) research paper entitled" Rhetorical structure theory: A comprehensive review of theory, parsing methods and applications" they provide a thorough introduction to RST. Then, RST-DT, a widely used discourse treebank, is expanded. To categorize the RST parsing techniques, they provide a brand-new taxonomy. They also evaluate the advantages and disadvantages of these approaches with an emphasis on the traditional and most modern methods that have recently been established.

5. Methodology

5.1 Rhetorical Structure Theory

A fundamental component of how natural text is organized is described by the **rhetorical structure theory**. It is an effective way for describing natural texts from a linguistic perspective because it emphasizes the relationships that exist between the text's many components. Rhetorical Structure Theory offers a variety of elements as a descriptive framework for text that have been helpful in various types of discourse studies. It looks at the text as a hierarchical structure. The schemas that make up a text's structural hierarchy explain the parts' functions rather than their physical attributes. The definitional machinery of RST makes extensive use of relationships between text portions that are akin to conjunctive relations. It identifies both the transition point of a relation and the scope of the items connected, describing the relationships between text portions in functional terms. Instead of selective commentary, it offers thorough assessments (Mann & Thompson, 1988).

5.1.1 Rhetorical Structure Theory and Varieties of Structure

Language is an approach to communication. Our typical experience is that when individuals get together and engage, especially in regularly occurring types of interactions, the interaction happens for one or more participants. Participants can use words to accomplish certain goals. The factors which influence the process of communication are the individual's perception of the environment, the cultural context of the interaction, stress, experience or knowledge, individual characteristics, and technology. When the speaker and the hearer talk in the same language, they typically succeed in understanding each other (Elzaghal, 2022, p.2005); however, when they do not, they struggle. If the possibility for a successful conclusion or the accomplishment

of the participants' goals is created, then communication is effective. These interactions might take the form of invitations to social events, negotiations, and requests for financial contributions. Good language helps in creating integrity between the different parts of the text. Some presentations and texts possess integrity that others don't. We perceive them as a single item, and they "make sense."

Each component of the text must play a part in the overall narrative; otherwise, the text would be incoherent. In this sense, we view magazine articles as texts, but we also view some discussions, newscasts, and magazines as structured collections of texts. According to RST, coherence is explained by postulating a linked, hierarchical structure of texts in which every portion of a text has a role to play and a purpose in relation to other aspects of the text (Taboada& Mann, 2006, p.425). Coherence relations, then, link the various elements of the text together. The coherence relation appears to serve the purpose any writer or author intends for each "component of the text" to fulfill. Coherence in text should be taken into account by textual communication theory. The theory must give each portion of the text a status or fail to give it a status in order to account for non sequiturs. This type of thorough assignment of status is one of the goals we have in mind to develop theory of communication. The feeling of unity or integrity that is one of the distinguishing characteristics of texthood cannot be explained by selective commentary or incomplete theories due to their own nature (Matthiessen et al., 1989, p.3).

The different types of portions that texts can contain as well as the rules of combining those parts into whole texts are all covered by text structure theories. RST stands for relational structural theory. Although it significantly interacts with holistic and syntactic structure, and recognizes additional sorts, it makes no attempt to provide explanations of either genre or syntax. The several types of structure are aligned in the interaction such that a certain arrangement like a group of clauses may frequently be expressed in more than one manner. Descriptions from these viewpoints are fascinating as the many types of structure interpenetrate and illuminate one another. One effect of this interpenetration is that there isn't a clear distinction between the many variations, either conceptually or practically.

RST diagram can be considered well-formed if it is complete, connected, and unique (Mann & Thompson, 1988, p. 249). As long as they share the same parent node, coherence linkages can exist between non-adjacent units or unit spans (De Silva, 2007, p. 37). If "an RST diagram is a connected whole, with every unit of the text linked into the diagram in some way (Taboada& Mann, 2006, P. 428)," then the analysis shows how the text may be viewed as coherent. There are several restrictions on how RST diagram works. The fundamental restriction is that each text must adhere to a coherence-relation schema's organizational principles. Coherence relation diagrams are represented in an abstract manner using such a schema. The violation of any principle of RST-diagram formation indicates a coherence break as it is clear in

figure 4. A well-structured RST diagram, according to Mann and Thompson (1988, pp. 248-249), adheres to the following guidelines:

Completeness: At the top of the design, a single schema links all of the units together.

Connectivity: All nodes should either be leaf nodes or nodes inside a schema, with the exception of the top node.

Uniqueness: Every schema in a diagram will have a unique combination of units.

Adjacency: Only similarly situated functional elements may be combined to create bigger structures.

Functional components: Only nearby functional parts are connected to one another in every row of the schematic.

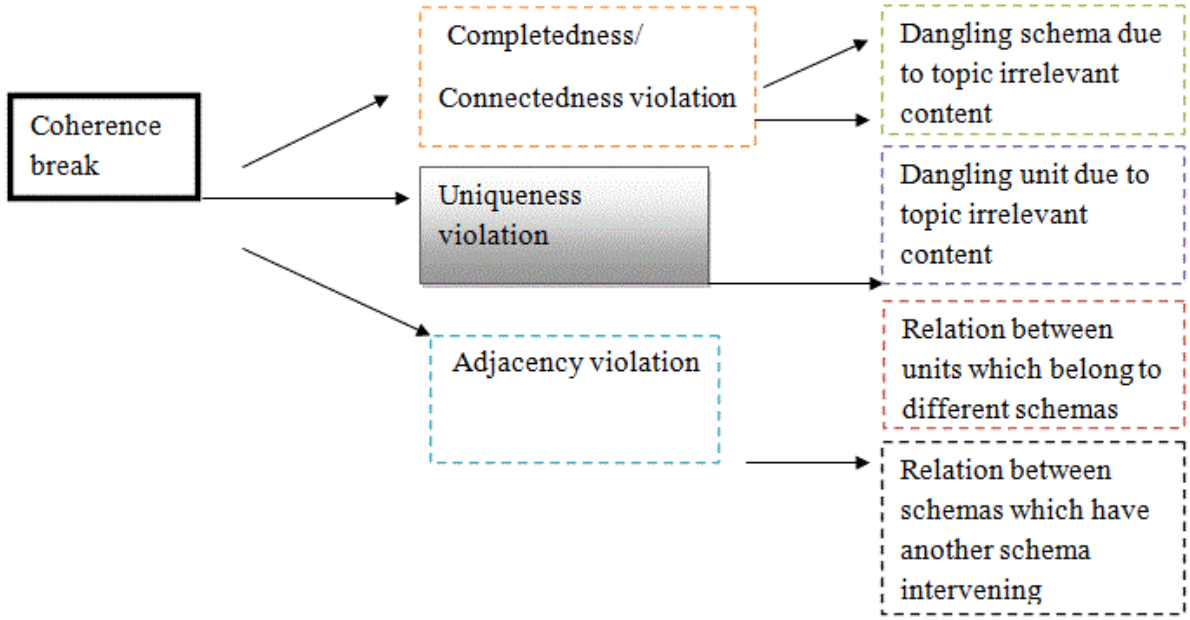


Fig 4: Coherence Breaks Indicated by the Violation of RST-Diagram Formation Principles (Skoufaki, 2020)

5.1.2 Principal Mechanisms of Descriptive RST

By giving a text a structure, RST can be employed for analyzing it. A text is divided into units based on a convenient size for the analyst's needs. Independent clauses are typically the smallest units; however, for longer texts, larger units may be used. These components serve as grid points in a RST structure, which is a text-spanning tree. The RST analysis is composed of instances of the schemas shown in Figure 5. Each schema describes the division of the text into other entities. The vertical line designates the nucleus, one of the text spans that the schema encompasses (Mann& Thompson, 1988). The relationships between the various spans and the nucleus are depicted by labeled curving lines. These portions are known as satellites. The analysis of a specific text is drawn using the text's left-to-right order. The schema definitions do not restrict the order of spans. In terms of one (or possibly two) relations, a schema is defined. Generally, diagram of RST analysis is provided in figure 6.

Fig.5 Generic RST Schema (Mann & Thompson, 1988, p.87)

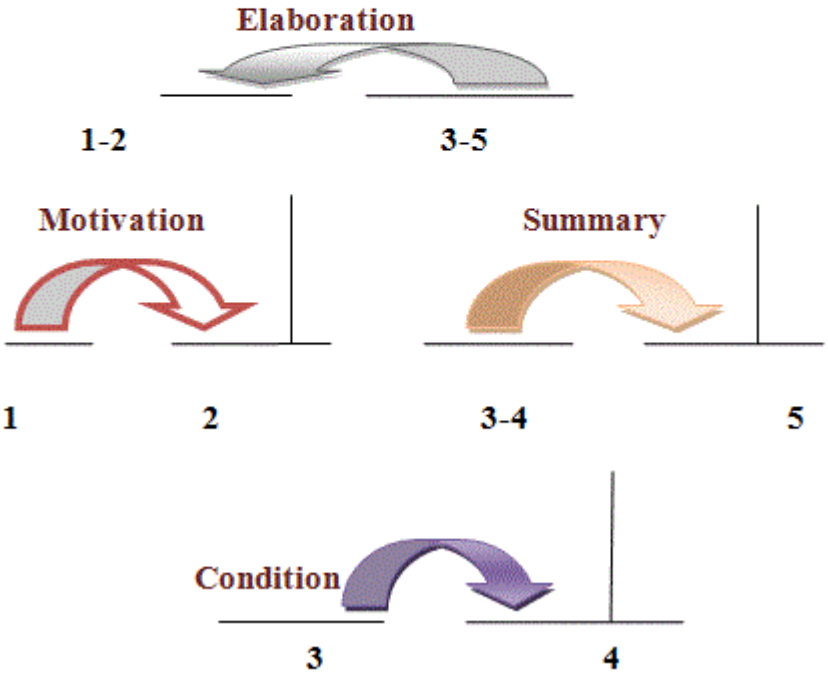


Fig 6: Diagram of RST Analysis (Cited in Liu, 2021)

In contrast to random collections of sentences or other words, texts typically have a sense of unity. RST provides a justification for text coherence. Coherence can be defined as the absence of gaps and non-sequiturs. In other words, there is no sensation that any portion of a cohesive text is missing because every part has a purpose and has a credible justification. RST concentrates on characterizing texts, not the steps involved in generating, reading, and comprehending them. It proposes a wide range of structural options, including several kinds of "building blocks" that can appear in texts. These "blocks" exist on two levels, with the main one focusing on "nuclearity" and "relations" (often called coherence relations in the linguistic literature). Schemas refer to the second level of structures. The most common structural pattern is the relationship between two text spans, which are almost next to one another, such that one of them plays a particular role in relation to the other. A claim and supporting evidence make up the paradigmatic case (Mann& Thompson, 1988).

Between the two spans, RST proposes an evidence relationship. The claim is more crucial to the text than any given piece of evidence, and this crucial nature is exemplified by referring to the claim's span as a nucleus and the evidence's span as a satellite. That is to say, any text is segmented into minimal units or spans, and these spans are composed of more than one unit. Some spans are more central to the purpose of the text (Nuclei), but others play additional role (satellite). Spans that are in a discourse relation enter into new relations easily. Although there is ordering for each relation, the order of spans is not restricted. Table 1 shows the relationship between nucleus and satellite with regard to the different parts of the text. A relation is referred to as multinuclear if it lacks a specific portion of text that is more important to the author's objectives. The neutral Contrast relation is one illustration (Mann, 2000).

Table 1: Nucleus -Satellite Relation with regard to the Different Parts of the Text (Mann& Thompson, 1988)

Relation Name	Nucleus	Satellite
Background	text whose understanding is being facilitated	Text for facilitating understanding
Preparation	Basic information	Additional information
Elaboration	Text to be presented	Text which prepares the reader to expect and interpret the text to be presented.

5.1.3 Underlying Assumptions

Text structure has led to certain basic assumptions underlying RST, including organization, unity and coherence, hierarchy, homogeneity of hierarchy, and relational composition. Texts are made up of functionally valuable aspects, which are components of patterns that may be merged to form bigger sections and entire texts. For a piece of work to be recognized as a text, it must convey a feeling of overall coherence that each individual component contributes to. Text is regarded as a unified whole which contains unity and coherence when all of its constituent components are viewed as serving a single goal, i.e., as intended to produce a single impact. As an alternative, some have argued that consistency with a well-known pattern in the subject matter, such as a time sequence or frequent references to a character, results in unity and coherence. Some people discover it in abstract semantic patterns like hyponomy and metonymy. Basic components of the text are integrated into larger components which are assembled into other bigger components until the text as a whole is reached. The presumption of hierarchy differs with other presumptions about the patterns of text organization without describing the nature of the components or the compositional rules. One can suppose, for instance, that adjacency patterns, linearly connected sequences of phrases, or semantic propositions define text structure (Matthiessen et al., 1989, p.7).

RST presupposes homogeneity within relational structure: there is a single set of structural patterns for text organization accessible at all scales, from the biggest such as the body of a letter, body of an article in a magazine, or even the entire text to the lowest size (maybe a two-clause combination). Size does not affect the possibility of relational structure, but scale, genre, and other factors will affect frequencies. At scales between the RST schema and the element of holistic structure, there are no traditional patterns. Another possibility is that there is a rank-scale or size-scale of objects such as sections and paragraphs, each of which has unique functional descriptions and related composition principles. By definition, structural patterns are semantic since they are subject matter patterns such as temporal or causal sequences. RST does not imply that all structure is relational; relational structure precludes semantic structure, and all patterns are based on simple pairings. RST assumes that relational patterns are overwhelmingly dominant.

The functional nature of text structuring relations may be characterized in terms of the types of effects that they produce. They can be explained in terms of the author's goals, assumptions about the reader, and specific propositional patterns in the text's subject matter. An RST structure is "rhetorical" in the sense that the text structuring relationships reflect the writer's choices for presentation and organization. Inversely, one can believe that text structural relations just mirror subject matter relationships (e.g. of succession, cause or conditionality.). The relationships between the numerous word sequences that make up any text do not hold. Instead, the word sequences are manifestations of more abstract concepts such as the intents and meanings they reflect (Matthiessen et al., 1989, p.9).

RST as a whole is pre-realizational in this sense because it makes claims about how these intents and meanings are organized and blended, but not about how they are carried out. Since it would be difficult to recognize the abstraction for every mention, we shall assert that relations exist between spans of text. However, there will always be a difference between the abstract concept and its reality. RST does not assume any specific function, despite identifying the nature of text structuring relations as functional. Since language's main purpose is to inform, it serves as a means of communication and operates as a message passing medium, a code. This is consistent with our culture's attitude and metaphors (content, communicate, message, and language as a conduit (Reddy, 1979), but it cannot withstand close scrutiny. Larkin & O'Malley (1973) lists several outliers to that viewpoint.

A form of lexical knowledge such as that of conjunctions is knowledge of text structural relations. Conjunctions, frequently a variety of conjunctions, can be used in RST to make the reader aware of the relations. All of them can also be totally implicit. Whether or not these relationships are grammatically or lexically signaled, RST offers a generic technique to explain the relationships between organizational parts in a text. RST is a helpful framework for linking conjunction meanings, clause combining

grammar, and non-signaled parataxis. Fox (1987) shows how the organizational structure revealed by RST can be used to develop explanations of the choice between pronoun and full NP in explanatory English texts. RST is effective in examining narrative discourse. Kumpf (1986) demonstrates how RST is useful for describing the grammatical and rhetorical features of the narratives that speakers construct. Finally, in evaluating texts RST offers a framework for investigating Relational propositions which are implied, but unsaid propositions that result from text structure.

5.1.4 The Meaning of Relation

Through the use of relationships that exist between text elements, RST addresses text organization. Texts have a connected, hierarchical structure and each portion of a text has a function to perform in relation to other portions of the text. Text coherence is achieved by text relations, which have also been referred to in literature as coherence relations, discourse relations, or conjunctive connections. Despite the fact that Asher and Lascarides' (2003) theory is not RST, they use the term "rhetorical relations." For the analysis of text which is divided into numbered units, reading it and drawing a diagram becomes pivotal. Four fields are used to define RST relations: 1) Limitations on the nucleus; 2) Limitations on the satellite; 3) Limitations on the interaction between the satellite and the nucleus; and 4) Effect on the text receiver. The analyst must make full use of the context and the writer's intentions to make plausibility decisions and to specify each field for any instance of a specific relation. The four fields serve as the definitions for all relations. No reliable or unambiguous signal for any of the relations is found; hence definitions are dependent on functional and semantic criteria rather than morphological or syntactic signals. Table 2 shows a set of other relations (Taboada &Mann, 2006).

Table 2: A set of Other Relations (Taboada &Mann, 2006)

Relation name	Nucleus	Satellite
Interpretation	a situation	an interpretation of the situation
Evidence	a claim	information intended to increase the reader's belief in the claim
Evaluation	a situation	an evaluative comment about the situation
Enablement	an action	information intended to aid the reader in performing an action
Elaboration	basic information	additional information

Condition	action or situation whose occurrence results from the occurrence of the conditioning situation	conditioning situation
Concession	situation affirmed by author	situation which is apparently inconsistent but also affirmed by author
Circumstance	text expressing the events or ideas occurring in the interpretive context	an interpretive context of situation or time
Background	text whose understanding is being facilitated	text for facilitating understanding
Antithesis	ideas favored by the author	ideas favored by the author
Justify	a text	information supporting the writer's right to express the text
Motivation	an action	information intended to increase the reader's desire to perform the action
Non volitional cause	a situation	another situation which causes that one, but not by anyone's deliberate action
Non volitional result	a situation	another situation which is caused by that one, but not by anyone's deliberate action
Otherwise(anti conditional)	action or situation whose occurrence results from the lack of occurrence of the conditioning situation	conditioning situation
Purpose	an intended situation	the intent behind the situation
Restatement	A situation	A re expression of the situation
Solutionhood	a situation or method supporting full or partial satisfaction of the need	a question, request, problem, or other expressed need
Summary	text	a short summary of that text

Volitional Cause	a situation	another situation which causes that one by someone's deliberate action
Volitional Result	a situation	another situation which is caused by that one by someone's deliberate action

(Bill, 2000, p.4)

There are relations that do not clearly carry a selection of one nucleus in addition to this most common pattern of nucleus and satellite. These are called multinuclear relations which appear in table 3.

Table 3: Multinuclear Relations

Relation Name	Span	Other Span
CONTRAST	One alternate	The other alternate
JOINT	Unconstrained	Unconstrained
LIST	An item	A next item
SEQUENCE	An item	A next item

(Bill, 2000, p.5)

5.1.5 Mechanisms of RST

Relations and spans are the two main components of RST. Relationships are defined as holding between two non-overlapping text spans which are satellite and the nucleus. A relation definition consists of two fields: (1) Constraints which include a set of restrictions on the nucleus and a set of restrictions on the relation, and restraints on the satellite as well as a number of restrictions on the combination of the satellite and the nucleus; (2) Effect which includes a description of the effect that the author may have been trying to achieve by using the relation as well as the effect's locus, which is either the nucleus alone or the nucleus and satellite combination. The evidence relation can be used to connect two text spans where one of them (the evidence satellite) offers proof for the assertion made in the other (the nucleus). The operation of nuclearity is closely tied to the functioning of the Effect field. Informally, we postulate that nuclearity affects how the reader assigns various responsibilities to various textual components. The writer can suggest that the nucleus is more deserving of response—including attention, consideration, and reaction—if the satellite acquires its significance through the nucleus because of the relation's inherent nuclearity.

There is a difference between relations whose locus of effect is the nucleus and those whose locus of effect is both the nucleus and the satellite using the Locus of Effect field. Nuclearity represents the qualitative contrasts between the essential and the inessential when the locus of effect is the nucleus, as it is obvious in the Evidence connection. The satellite supports it despite not contributing to the nucleus. When both the satellite and the nucleus are the locus of effect, a unique type of function is performed: the relation exhibits particular characteristics of the subject matter. The

Circumstance relation, for instance, has a locus of effect that is both nucleus and satellite. According to the Circumstance relation, the satellite establishes a subject matter framework that allows for the interpretation of the nucleus. The reader is merely supposed to understand that the situation provided in the satellite offers the framework for comprehending the nucleus; its locus is therefore both the nucleus and the satellite. RST diagrams in Figure 7 illustrate both the Circumstance Relation and the Evidence Relation (Matthiessen et al., 1989, pp.13-15).

1-2 **EVIDENCE**

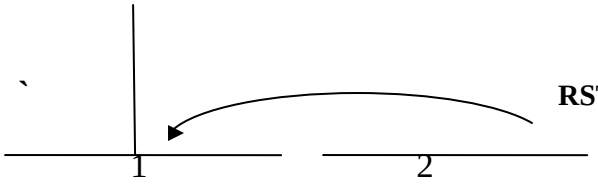
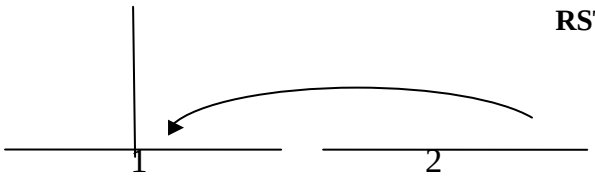


Fig 7:

RST Diagram Showing the Circumstance Relation

1-2 **CIRCUMSTANCE**



RST Diagram Showing the Circumstance Relation

(Matthiessen et al., 1989)

5.1.6 Steps in performing RST Analysis

According to Matthiessen et al., (1989, pp.18-19), organizing a text into units is the initial stage in text analysis. In RST, the size of units is arbitrary; in theory, they can range in size from common lexical items to entire paragraphs. However, it is useful to employ in our work on RST units with some degree of functional integrity that is comparatively theory-neutral. The following stage is to identify spans and relations, using either a top-down approach (progressive refinement) or a bottom-up one (aggregation), or even both if it is more practical. Once more, the analyst is assessing what relationship should be assumed to exist between two specified text spans by evaluating whether the relation definition reasonably fits. In notation, nuclei are shown with vertical lines, and satellites are shown at the ends of arcs which displays the top-level schema. A single nucleus and all of its satellites make up the grouping in nucleus-satellite relationships. Generally, it is necessary to make decisions regarding the purposes of texts and text components throughout the development and testing of a linguistic theory of text structure. Since communicating humans can make such judgments in real life, judgments must obviously be subjective. These judgments are

based on the knowledge that individuals have about their own language, culture, and society.

RST makes use of subjective judgments in a different, more contentious capacity. They are employed both in the creation and evaluation of analyses. This method is employed in RST because it can be used to construct useful descriptions of text as a first step toward understanding communication. Because texts are complicated objects, their functional descriptions are complex. Such descriptions must be developed and combined from numerous smaller functional descriptions in order to achieve basic goals. This type of judgment is specifically represented in RST by the analyst's affirmation of certain claims about the text and the author as probable rather than factual. The fact that RST relations are created without referencing specific textual patterns is related to this method; for example, the Purpose relation is formed without referring to "in order to."

6. Shaping Europe's Digital Future in the Framework of RST

The current study attempts to reflect Europe's Digital Future through exploring the persuasive strategies and linguistic devices used by Ursula Von der Leyen's speech given in 2020 for discussing the development of human sciences in digitalization age, especially in Europe. RST is adopted for the analysis as rhetorical relation refers to the text coherence between different portions of the text in which each part has a function with respect to the other parts. Structural relationship will be examined for the interpretation of the text. The written text of the chosen discourse itself will be analyzed from the viewpoint of the researcher as the process of interpretation differs from one to another. As RST has an explanatory power in terms of speech intention, it becomes a decisive means for exploring the main message behind the text. Relations provided by RST are an open system that can be expanded for serving the purpose of the analysis.

An annotation effort will be presented for adding signaling information to an existing corpus of rhetorical relations and for determining to what extent rhetorical relations carry signals that may help readers identify the various relations. The analysis relies on the assumption that some text units are more central to the text than others, and that the other units are given to support the reader’s belief in them. Language, rhetorical structure, syntactic structure, coherence relations, size of the text, the use of conjunctions, and the different relations between spans of the text will be investigated for stressing the relationship between the rhetorical structure of the text and conveying messages. Each of these elements will be employed for revealing one of the manifestations of digitalization age as depicted in the chosen text.

6.1 Technological Innovation and Artificial intelligence

Ursula von der Leyen started her speech by talking about digital strategy and the technological success in Europe. She stressed the role of digital transformation in powering Europe's economy and referred to her strong desire to find European

solutions in the digital age. Language in the first idea tackled by her is neat, good, and coherent. She communicated well and conveyed her message by paying attention to coherence relations. Any president is interested in a number of factors that affect the power and effectiveness of his political speech, including the rigidity and flexibility of language, rhetorical devices, textual coherence and the use of text coherence factors, in addition to the use of emotive language that affects people's hearts. Politicians utilize language in general or coherent tactics in particular to persuade their audience that their viewpoint is the right one. Since political communication depends on the soundness of the arguments and their connection to strong and effective language, each politician makes an effort to explain any implicit remarks in the language of politics.

Ursula von der Leyen presented the amazing things achieved by artificial intelligence in the fields of health care, precision farming, smart heating, science field, and research field. The first three paragraphs discuss all these points. Since all text components are connected and the thoughts move in the same direction, these paragraphs are cohesive. All sentences make sense, and neither the audience of the speech nor the reader of the text would have any trouble in understanding them. All ideas and concepts are employed, related, and connected, resulting in effective communication. They are accompanied by a sense of continuity. These paragraphs contain numerous examples of relationships, including causation, enablement, reason, purpose, and time. For example, Ursula von der Leyen (2020) said, (1)" We want the digital transformation to power our economy and we want to find European solutions in the digital age ;"(2) " …….So let me start with Artificial Intelligence;" (3) " …….. And I think we do not talk enough about what Artificial Intelligence is able to do;" (4) " is saving millions and millions of tonnes of oil for example and therefore reducing the CO2 footprint, and (5)" if we look at the health care sector, we know that we use now Artificial Intelligence for, for example, better diagnoses (*Press Remarks*…., 2020)" Certain prepositions and conjunctions are used to act as vital markers to the structure of the sentence and to connect words, phrases, and clauses that are of the same syntactic importance together each in their own unique way.

The different coherent relations, prepositions, and conjunctions help in conveying the main messages behind the idea. Europe has witnessed a long history of technological success and innovation, having big businesses and a strong industry. It cares for individual rights and values thanks to digital strategy, and it tries to power economy and find solutions in the digital age for achieving digital transformation(*Press Remarks*…., 2020). Then, she stressed the role of artificial intelligence in doing amazing things and improving daily lives such as better diagnoses and treating fatal diseases such as cancer in the field of medicine. In talking about digitalization, she referred to precision farming which help in reducing

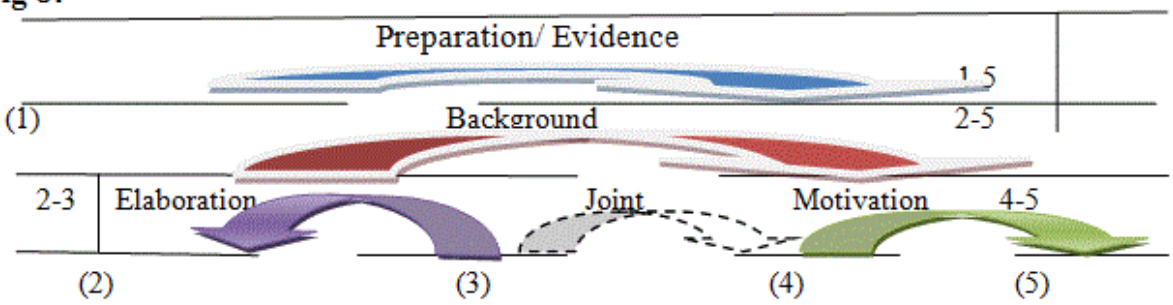
pesticides and fertilizers, and smart heating which saves millions of tonnes of oil and reduces the CO2 footprint.

Since the process of interpretation varies from person to person, readers should rely on more than linguistic skill to analyze this text and detect the scent of rhetoric in the presence of cogent relationships and pure language. To detect the odor of coherence inside the selected political discourse, the clever reader must comprehend each text exactly as it has been presented. Each text can be seen as a collection of larger units (titles and headings) and more specific smaller units related to the main topic (words). For instance, in the first three paragraphs which form a text certain words are chosen and repeated such as digital, strategy, businesses, and intelligence. These words are related to the main message behind discourse. The chosen text itself is divided into coherent or rhetorical parts: title, the first paragraph which works as an abstract, body paragraphs, and a concluding one.

A single set of structural patterns within the text such as the whole paragraph or even a set of clauses makes the whole text appear as a rhetorical structure. For example, most chosen clauses are independent ones as in "It is the White Book for Artificial Intelligence and the Data Strategy. We do have in Europe a long history of technological success (*Press Remarks*…., 2020)," and this creates homogeneity within the relational structure of the chosen text. The syntactic structure which is represented in the choice of related words creates this homogeneity and affects the rhetorical structure of the text well; all words in the first three paragraphs belong to one field. For example, most chosen words are used within the context of digitalization and artificial intelligence such as "digital, strategy, artificial, intelligence, strategy, technological, innovation, businesses, industry, transformation, power, age, amazing, health care, diagnoses, robots, climate, smart heating, tonnes, and CO2 footprint."

The chosen text is divided into units called spans. That is to say, we can look at each paragraph and each independent clause as a span. The speaker has chosen to convey her message through a strong discourse. It is not too long as the main message is only latent in showing the role of digital transformation in different fields of life. All sentences in the chosen text are related, and this leads to creating a sense of coherence between the different ideas beyond the text. The first idea, for example, is restricted to illustrating the role of digitalization in fields of medicine, farming, and smart heating. The different relations used between spans help in creating a rhetorical atmosphere in the whole text in addition to helping in delivering information well. In the following figures: figure 8, figure9, and figure 10 the horizontal line covers a span of text (possibly made up of further spans). The vertical line signals the nucleus. Curves represent relations and the direction of the arrow. The first paragraph as a text in itself has been broken into five units for analysis. They are meant to achieve some effect on the reader. Other relations between spans appear in table 4.

Fig 8:



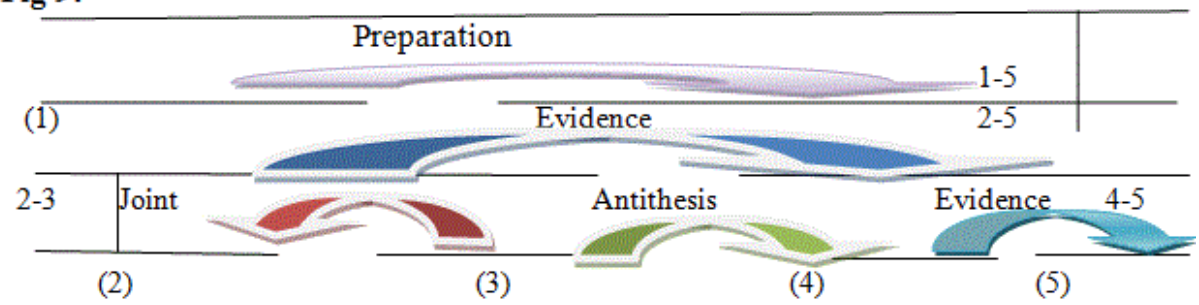
(1) Indeed, today, the College adopted a whole package on our digital strategy: It is the White Book for Artificial Intelligence and the Data Strategy
(2) We do have in Europe a long history of technological success and innovation
(3) We have big businesses; we have a very strong industry.
(4) And in Europe, we are caring very much for individual rights and our values.
(5) We want the digital transformation to power our economy and we want to find European solutions in the digital age. *(Press remarks……,2020)*

Table 4: Additional Relations

Relation Name	Span	Other Span
Interpretation	(1) ⟶	(2)
Evidence	(2) ⟶	(3)
Restatement	(2) ⟶	(3)
Purpose	(1) ⟶	(5)
Concession	(1) ⟶	(4)
Sequence	(4). ⟶	(3)

Other relations that can reveal what is behind the second paragraph in the first idea are obvious in figure 9:

Fig 9:



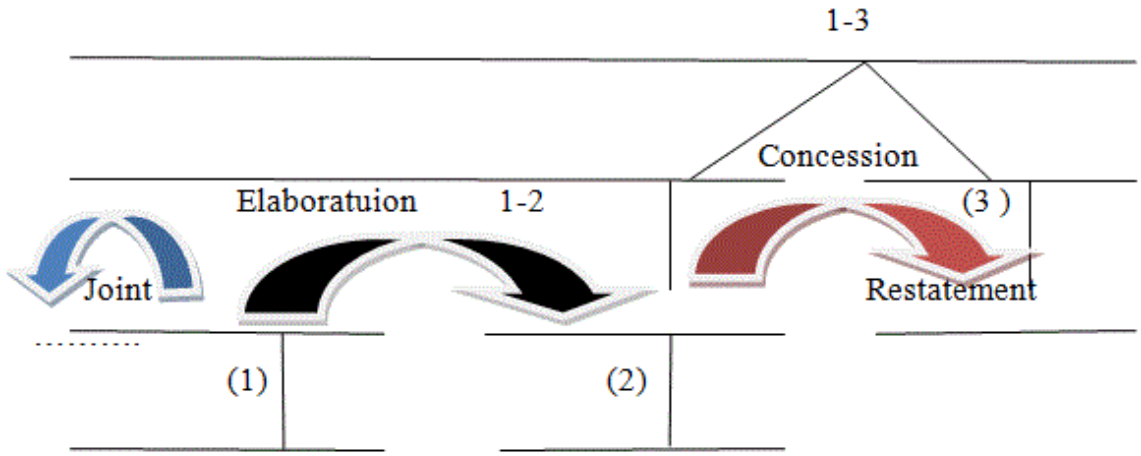
(1) So let me start with Artificial Intelligence.
(2) We all know that Artificial Intelligence can do amazing things.
(3) And I think we do not talk enough about what Artificial Intelligence is able to do to improve our daily lives.
(4) For example, if we look at the health care sector, we know that we use already now Artificial Intelligence for, for example, better diagnoses and earlier diagnoses.
(5) And better and earlier diagnoses are crucial when you treat for example cancer – or we use robots for precision surgery. *(Press remarks……,2020)*

Table 5: Additional Relations

Relation Name	Span		Other Span
Enablement/ Exemplification	(4)	→	(3)
Elaboration/ Restatement/Sequence	(2)	→	(3)
Condition	(4)	→	(5)
Background	(1)	→	(5)
Restatement	(4)	→	(5)
List	(5)	→	(4)
Non Volitional Result	(1)	→	PREVIOUS SENTENCES

Likewise, other relations that can reveal what is behind the third paragraph in the first idea are obvious in figure 10:

Fig 10:



(1) **But Artificial Intelligence is also key for us when we want to reach our goal to be climate neutral in 2050.**

(2) **Just think of precision farming: Precision farming, AI-driven, enables us to reduce pesticides, enables us to reduce fertilizers, for example.**

(3) **Or if you think of smart heating: Smart heating, AI-driven again, is saving millions and millions of tonnes of oil for example and therefore reducing the CO2 footprint.** *(Press remarks……,2020)*

6.2 Artificial Intelligence and the Better Access to Data

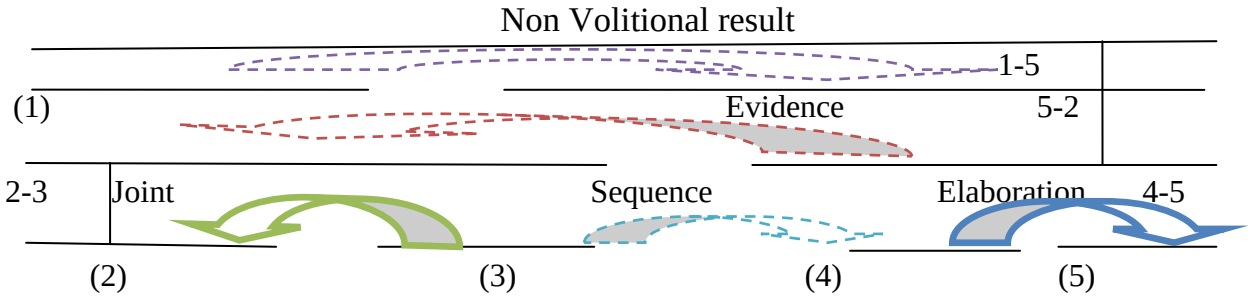
Ursula von der Leyen continued talking about the decisive role of digitalization and artificial intelligence, asserting that artificial intelligence improves daily lives; AI (artificial intelligence) has proved its vitality in manufacture, the science field, and research field. Industrial robots, for example, have led to a big revolution in Europe and all over the world. AL, generally, has increased the international income. It has given access to data that are out there, giving businesses, researchers, and the public services better access to data where enormous amount of precious ideas, potential innovation, and untapped potential lie. The daily statistics that are gathered throughout Europe are extremely rich and diverse. It is called business data, industry data, data from factories, equipment, vehicles, and weather sensors. The vast bulk of the data Europe get today is undoubtedly never even utilized. And this cannot possibly be

sustained. Therefore, AL helps in creating European data spaces where businesses, governments and researchers can store their data and have access to other data they need for innovation.

Each paragraph in this idea works as a "text" and remains coherent. It represents a kind of ideational essence of the larger text. It is formally representative in the sense that the whole text is considered in deriving it. Each paragraph in itself is a connected whole. O'Brien (1995) suggests that writers' understanding of coherence affects how coherent their writing is, and this demonstrates the efficiency of the given text. RST analysis is adopted as this analysis reveals the hierarchical organization of coherent texts by indicating the scope relationships among text spans. Rhetorical relations make text smooth and coherent. Like the previous paragraphs, each paragraph in this idea contains a set of independent clauses which help in conveying ideas smoothly as in "We produce 25% of all industrial robots," "The most articles are published from the European science community," and "Artificial Intelligence is about big data." Consistency results from the grammatical structure which is clearly represented in the selection of related terms; all words in this idea fall into a single field. For instance, the majority of words are used in the context of AI such as "industrial, manufactures, robots, science, data, and algorithms."

Each paragraph as a unit consists of a set of spans with a set of relations between them (multinuclear relations). Through understanding all rhetorical relations, the reader may not believe the nucleus to a degree satisfactory to the writer of the text, the reader believes satellite and finds it credible, the reader should understand satellites properly to get at the meaning of the nucleus or to be convinced with it. Through the analysis of rhetorical relations, apart from the task's explicitness, the observer's position is similar to that of the reader of the text. The reader will typically also find the relationships that the observer finds plausible. The text's relations and sentences both have communicative content. Putting into consideration the following relations, RST's primary goals are to ascertain, by a thorough analysis of related structures, how writers realize their writing intents and how they achieve communication. That is to say, Ursula von der Leyen in her speech related her own intentions with the structure of her speech and the rhetorical relations. Figure 11 shows a set of relations related to RST analysis with regard to the first paragraph of the handled idea.

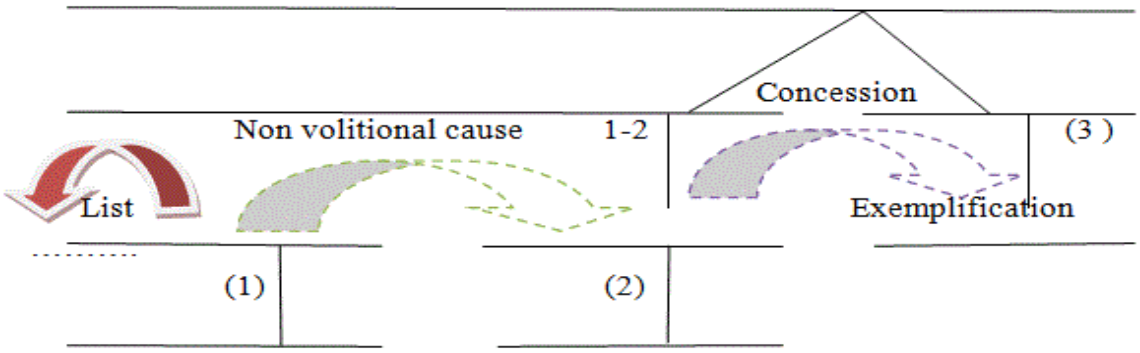
Fig 11:



(1) AI will not only improve our daily lives, but Europe is already leading in AI.
(2) Europe has a pole position and we should also be aware of that: We produce 25% of all industrial robots, for example.
(3) And if you look at our manufacturers, every second of them is using, already today, at least one AI application.
(4) And if you look at the science field, the research field, you see when you look at the articles that are published: The most articles are published from the European science community.
(5) And therefore, we want to boost European Artificial Intelligence by attracting more than EUR 20 billion per year, for the next decade. *(Press remarks....., 2020)*

Other relations related to the second idea that can reveal the relationships between spans and what is behind each sentence are clear in figure 12, figure 13, table 6, and table 7.

Fig 12

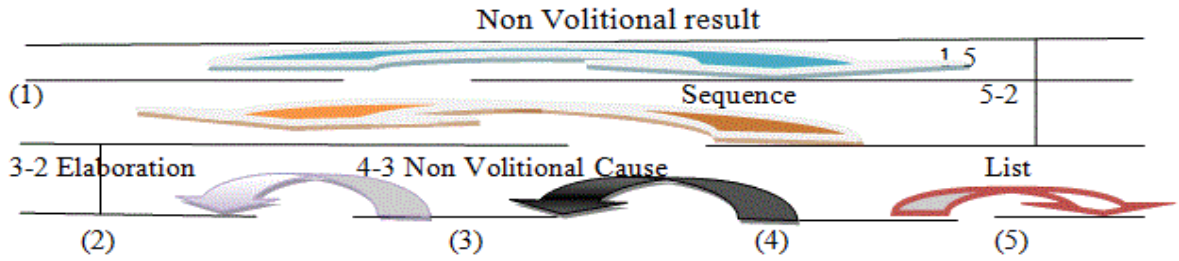


(1) Artificial Intelligence is about big data, data, data and again data. And we all know that the more data we have, the smarter our algorithms.
(2) This is why we want to give our businesses, but also our researchers, and the public services better access to data.
(3) Today, for example, the global amount of data that is produced, when you look five years ahead from now, this amount of data will be only produced by Europe. (*Press remarks....., 2020)*

Table 6: Other Relations

Relation Name	One Span	The Other Span
Elaboration Joint	(2) ⟶ , but also our researchers, and the public services better access to data.	(1) This is why we want to give our businesses
Joint	Artificial Intelligence is about big data, data, data and again data	And we all know that the more data we have, the smarter our algorithms.
Circumstance	when you look five years ahead from now, this amount of data will be only produced by Europe	Today, for example, the global amount of data that is produced

Fig 13:



(1) Europe has a good advantage in the quality of data we have, because we have a broad economic diversity with our small and medium enterprises – what we call 'Mittelstand' –, with our industry, it is a very diverse and rich landscape.

(2) And therefore, the data that are collected in Europe on a daily basis are very diverse and rich, too: Industry data, commercial data, data from factories, machines, cars, weather stations, you just name it.

(3) In these data we collect – that are out there – lies an enormous amount of precious ideas, potential innovation, untapped potential we have to unleash.

(4) And therefore, we follow the principle that you have to offer, in Europe we have to offer, data spaces where you can not only store your data, but also share with others.

(5) And therefore, we want to create European data spaces where businesses, governments and researchers can not only store their data, but also have access to other data they need for their innovation. (*Press remarks....., 2020)*

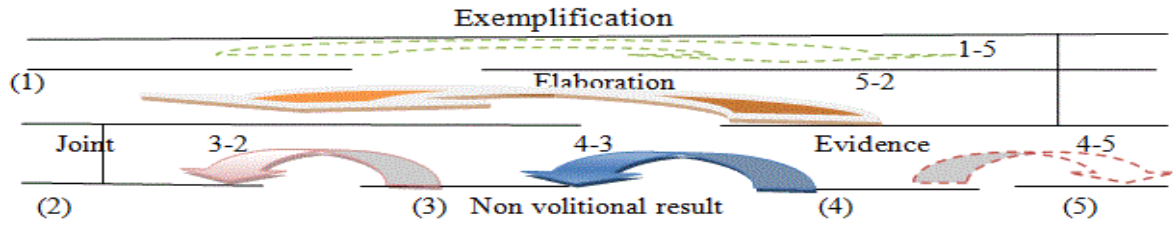
Table 7: Other Relations

Relation Name	Span	The Other Span
Evidence	, because we have a broad economic diversity with our small and medium enterprises – what we call 'Mittelstand' –, with our industry, it is a very diverse and rich landscape.	Europe has a good advantage in the quality of data we have.
List	Industry data, commercial data, data from factories, machines, cars, weather stations, you just name it.	And therefore, the data that are collected in Europe on a daily basis are very diverse and rich, too.
Joint (Non Volitional Cause)	And therefore, we want to create European data spaces where businesses, governments and researchers can not only store their data.	but also have access to other data they need for their innovation.

6.3 The Role of AI in Complying with People's Rights

Another decisive role to AI is research field; it helps all researchers create new jobs, collect new data, feed algorithms with data, invent new tools, and access the data of other researchers to go into new fields and to push towards excellence. AI encourages new technologies and creativity in different fields of life such as healthcare, transport, police, and law enforcement. Artificial intelligence must always respect people's rights because it exists to help humankind. This is why important choices must always be made by a person. It presents a significant opportunity for Europe. European countries definitely have a lot, but they need to tap into its full potential. They wish to support the development of artificial intelligence by their companies, researchers, innovators, and company owners. They also want to encourage countrymen to use it with confidence. In Europe, they essentially have everything they need, but they must realize this potential. Like all previous ideas, the main message can be conveyed through adopting RST for the analysis. Figure 14, figure 15, and table 8 handle the most important rhetorical relations between spans in this idea.

Fig 14:



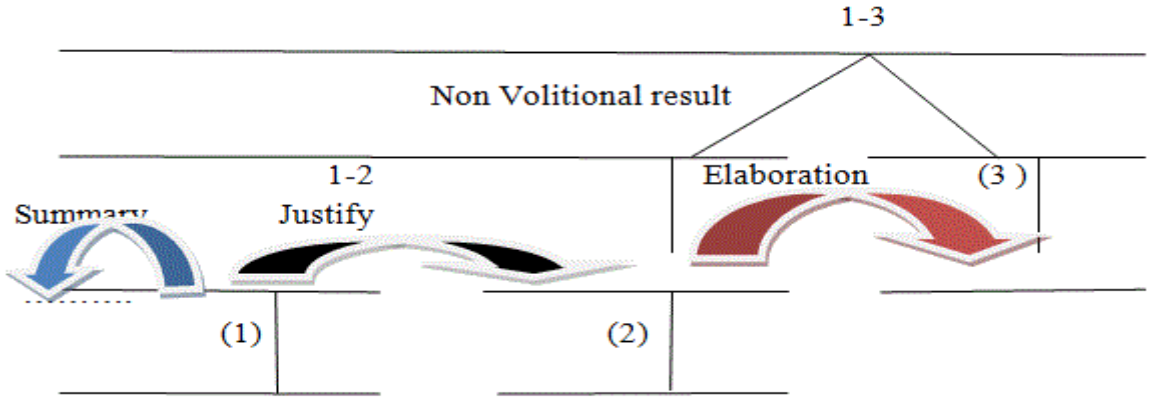
(1) There is a good story to tell about AI in Europe, data in Europe
(2) But of course, with every good part, there is also the part of the risks.
(3) And in his widely quoted book '21 lessons for the 21st century' Yuval Noah Harari said– and I want to quote that……..
(4) So these so-called 'new tools': We want citizens to trust the new technology.
(5) This is for example recruitment; this is for example the healthcare sector.

(Press remarks……, 2020)

Table 8: The Most Important Rhetorical Relations between Spans

Relation Name	Span	The other Span
Attribution	And in his widely quoted book '21 lessons for the 21st century' Yuval Noah Harari said	and I want to quote that……..
Motivation	So these so-called 'new tools':	We want citizens to trust the new technology
List	This is for example recruitment	this is for example the healthcare sector.

Fig 15:



(1) Overall, today's message is that Artificial Intelligence is a huge opportunity in Europe, for Europe.
(2) We want to encourage our businesses, our researchers, the innovators, the entrepreneurs, to develop Artificial Intelligence.
(3) In Europe, basically we do have all what we need, but we have to unleash this potential.

(Press remarks……, 2020)

7. Conclusion and Findings

Through study and analysis the researcher has put forth RST as a technique to take into consideration text's functional potential, including its ability to serve speakers' goals and have an impact on listeners. In the process of taking into

consideration probable outcomes, the researcher has also demonstrated a method to discriminate between coherent and incoherent texts and listed a few effects of text structure. In presenting an analysis of a political speech, the approaches have been made clear enough so that one can explore with RST and make it better by employing the similar techniques found in other speeches. The researcher has demonstrated an annotation project that enhances a corpus of rhetorical interactions with signaling data. The goal of the study is to ascertain the degree to which rhetorical relations contain cues that could aid readers and listeners in recognizing the relationship.

The bulk of relations are implicit, that is, they don't contain any overt signals, according to research that has concentrated mostly on one form of signals, discourse markers. While some implicit relationships may still exist, the majority of relationships in our corpus are explicit, that is, they are expressed, sometimes through several signals. Discourse parsing is another major use for such an annotated corpus. Discourse markers have been widely used recently to automatically parse relations, almost primarily at the sentence level (da Cunha et al., 2012), as well as in previous approaches (Schilder, 2002). Our comprehensive range of signals and the fact that they work at all discourse levels will surely make this process simpler.

Rhetorical Structure Theory offers a mix of elements as a descriptive framework for texts that have been helpful in various types of discourse research. It recognizes hierarchical textual organization. It identifies the transition point of relation and the scope of the connected items, describing relationships between text portions in functional terms. In place of selective commentary, it offers thorough assessments. It has been used with a wide range of text sizes and is insensitive to text size. RST provides the nucleus-satellite difference, making it an excellent descriptive foundation for researching clause combining. Additionally, since text relations have unique assertive consequences, RST offers a foundation for the research of discourse coherence. As it specifies concepts like nuclearity and hierarchy, offering a strong descriptive foundation for a wide range of investigations, RST is thus a linguistically relevant account of the nature of text.

RST is now at a stage beyond what papers and studies that are currently available imply. The development of descriptive RST has reached a stage where it can pose intriguing questions regarding speech and communication. The nature of coherence, the ability to communicate in multi-sentential texts, the functions of conjunctions, and the basis of clause combining are some of these areas of study. A text's RST structure gives each segment of the text a functional explanation and demonstrates the believable impact of each section. Descriptive RST is an intriguing new method for text analysis because RST patterns are common in texts.

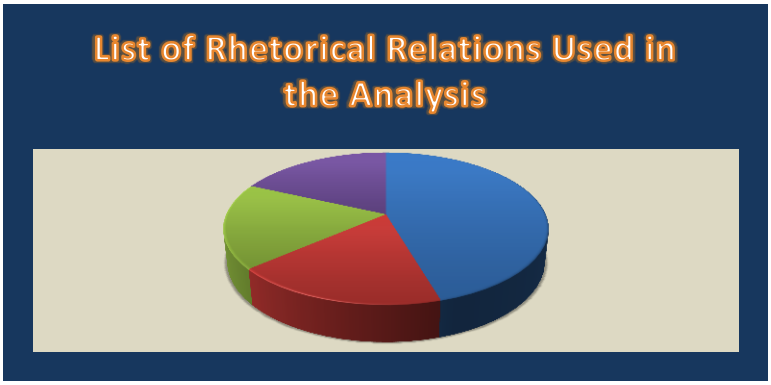
Constructive RST has advanced to the point where it can pass simple effectiveness tests. It can replicate some aspects of how natural texts are created, providing the proper structures when given the right extra-textual data. However, the issue of

creating a workable text planner for lengthy innovative writings is still not fully resolved. Through the analysis, it becomes clear that the most common rhetorical relations used between spans are evidence, list, elaboration, joint, concession, exemplification, restatement, and non volitional result. Table 9 and chart 1 show the most common relations used for the analysis. This proves the success of the chosen political speech, and the ability of the speaker in using different strategies for convincing.

Table 9: The Most Common Relations Used for the Analysis

The Rhetorical Relation	Number of Usage
Non volitional cause	3
Evidence	7
preparation	2
list	5
Background	2
Non volitional result	5
Elaboration	8
Circumstance	1
Joint	7
Motivation	2
Interpretation	1
Restatement	3
Purpose	1
Concession	3
Sequence	3
Antithesis	1
Enablement	1
Exemplification	3
Condition	1
Justify	1
Summary	1

Chart 1: The Most Common Relations Used for the Analysis



Elaboration-Evidence-Joint-List

Non volitional cause-Non volitional result-Restatement

Concession-Exemplification-Background- Motivation

Other relations

From another direction, the study has depicted the value of digitalization and artificial intelligence in Europe as a manifestation to the scientific progress in light of digitalization all over the world. The digital revolution has changed the process of creating, storing and transmitting knowledge. The ultimate goals of science remain unchanged in this new world, but the paths that scientists travel to reach them have changed, leading to another series of new developments. Ursula von der Leyen referred to this progress in her speech. Digitalisation has gradually permeated several industries in the middle of the 20th century, and with the emergence of the internet in the 1990s, it has advanced strongly. The advent of big data in the present millennium (2013 AD) has further strengthened this, making the world dominated by ones and zeros. The computer's language, binary coding (0 and 1), is consuming everything on a daily basis, from kids' toys to the governments and organizations of nations that are "digitizing."

In addition, digitalization has changed the way the world lives in most of its economic and social aspects, so that it has become rare to find someone who has nothing to do with “digitalization” from near or far, and those who do not know how to deal with digital information technologies are called “digital illiterates.” “Digitalization age” in the whole world will radically change human lives with the spread of disruptive modern technologies (i.e. innovative technologies that eliminate the old and create a completely new environment) such as artificial intelligence, quantum computing, 3D printing and the fifth generation mobile network (scheduled to be implemented by 2020 which will transfer and process big data quickly).

Digitalization will not only increase economic returns, but also contribute to the achievement of the UN Sustainable Development Goals. The benefits of these innovative technologies will not be realized without the "digitalization" of everything in the world. The noise about "digitalization" has risen with the wide spread of the third information society (the first society was the era of printing more than five hundred years ago, and then the second during World War II). Everyone in this community now owns a mobile phone, 70% of its population subscribes to mobile broadband, and half of them use internet and computers.

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