Scientific Research and Ethics (Lecture Notes)

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Preface

Humans built dams without knowing geometry, counted with their fingers without knowing mathematics, and decorated cave walls with paintings that even master painters cannot create today, despite having no knowledge of art and beauty. We owe everything we are proud of in terms of scientific and artistic creations to the movements of human hands throughout the ages.

While the changes, differences and problems encountered since ancient times have been analyzed and solved, the most important gain obtained is that human beings developed a process of awareness based on research and questioning. Research-based awareness is to realize and create awareness in order to develop talents. In the process of research-based awareness, talents often remain as problem solving, but rarely appear as inventions and discoveries that trigger each other.

Since it has existed in the world we live in with its current visible physical, mental and spiritual form, human beings have reproduced for the continuity of life while seeking solutions to the problems they encounter, adapted to changing environmental conditions, changed the environment beyond and communicated with their environment. The reproduction, adaptation, change and communication seen here are the existence itself. Communication is the ability to question and be questioned. On the other hand, in the coming thousands of years, the Earth and the universe beyond will change, and while humankind will continue to change and change physically, spiritually and mentally in order to survive in changing conditions, it will develop a consciousness towards research.

Being is the one who perceives and gives meaning. On the other hand, humans are the ones who bring the abilities of perception, animation and meaning to their minds. They are the ones who think and become conscious. When the first people who existed on Earth climbed on their rocks and looked around, they saw how lonely they were in the middle of a vast nature. Thunder was rumbling, lightning was flashing, thunderbolts were falling, they were facing the attack of animals much stronger than them. There was the sky above them. Now, they would fear this sky for centuries, they would respect this sky. It was a respect based on such fear that even the most intelligent of the future generations would not be able to save themselves from it. The sky would hold the measure of greatness, witness and strength in its blue hands for millions of years.

Humans are the only living species that transfer and expand their knowledge repository from generation to generation. The knowledge accumulated over centuries will quickly disappear from the lives of people who do not think, do not want to think, or are forbidden to think. Every living species follows a certain course of action required by their nature in order to sustain their lives.

The difference between humans and others is related to the mind, which is essential for sustaining their lives: everything a human needs must be discovered by their minds and produced by their labor. Humanity will owe its eternal survival to the research-based consciousness it will freely develop.

What will happen in the future?

The first industrial revolution in Europe began in the 18th century and the driving force was: coal, steam, and iron. The three keys to the second industrial revolution are steel, electricity, and chemicals. Thermodynamics led the 19th century and the industrial revolution. Thanks to this, the steam engine was developed, followed by electric motors and other machines. The scientific developments that left their mark on the 20th century are quantum mechanics, nuclear, and transistor. Thanks to this, the information age was experienced and continues to be experienced. Nowadays, the time difference between the proof of scientific discoveries and theories and their transformation into technology has disappeared.

Steam, electricity, computers, what will happen to the fourth bubble of capitalism? When and where will it burst? The shock of each crisis lasts for decades. At the end of this period, a world war breaks out. If so, will the third crisis cause a world war? What will be the excuse? In order to analyze the situation well, it is necessary to estimate very well where the computer will take things and what it will transform into. In the century we live in, mankind has begun to set sail for new adventures; a journey into the depths of space and the brain.

1. Power of Knowledge

Information is the most important power that forms the universe. Information, which appears as a search for an answer to a question, is actually a tool for change. Understanding the unscientific requires a very complex and mysterious process. Have you ever thought about when the first technological invention emerged? One of all inventions is very important. It is simple but creative. This is the invention of writing. Writing is the production and storage of information. The ideas in the written texts make time valuable. The first inscriptions are clay tablets, produced by the Sumerians who ruled in Mesopotamia. These inscriptions make the time they lived in very valuable as much as the Sumerians. The contents shown by the symbols do not tell what we see, but an idea. When everything thought is transformed into symbols, information begins to rule time. For example, when the symbols on the tablet belonging to the Sumerian king who lived in 2100 BC begin to be expressed, the journey to the past also begins. A real message prepared for us to know! It has been on the clay tablet for thousands of years. Our fingerprints touch each other from thousands of years away. As the shapes and symbols on the tablet were transformed into the expression of vocal narration, the power of knowledge began to emerge.

In the 18th century, silk weaving in Lyon, France, had become a sectoral power. Silk weaving, which included decorations and reliefs, involved very difficult processes. **In 1804, Joseph Marie Jacquard (1752 - 1834)** designed a system that was a miracle of creativity and created patterns and symbols with a very complex mechanism in silk weaving. Any shape that the fabric designer thought of could be applied to silk weaving without any difficulty. Thus, very different fabrics could be designed. The invention was punched cards. Pictures, reliefs, and symbols were converted into punched cards as information. These looms revealed the power of knowledge again. These holes decided which of the many threads would be used when and for how long. Jacquard showed that any symbol could be presented in a different structure with holes opened on a flat surface. Spoken language could be symbolized with a binary language. This was a very deep and forward-looking idea. Information could be converted into abstract symbols, stored and processed.

So how would information be transmitted? Before telecommunication technologies, information was given to a fast-running, fast-riding horse or fast-moving ship. In the 19th century, there was an incredible development in the speed of information transfer. This development was electricity. Since electricity was controlled and managed, it was a perfect tool for transmitting information. Electricity could be sent through a wire. It was not affected by bad weather conditions. How could complex symbols be sent with a simple signal? The operating logic of the device developed by

Samuel Morse (1791 - 1872) and his friend Alfred Vail in 1840 was very simple. Letters were shown with dots and dashes. In this coding technique, the most commonly used letters in English were shown with simple symbols. Information was converted into symbols in the system called telegraphy. Most importantly, information was combined with electricity. The foundations of the modern information age were laid. Information could be transmitted very quickly to all parts of the world via cables.

Time continued to develop and strengthen the existence of knowledge. According to Scottish physicist **James Clark Maxwell (1831 - 1879),** you could create an orderly state from disorder. He explained this with the two-box experiment, which was directed by the devil, in order to pass from disorder formed by fast and slow moving molecules in two separate environments, which constitute the basis of thermodynamics, to order. A door was allowed between the two boxes, which passed the fast ones to one box and the slow ones to the other box. The devil, who directed this, followed all the molecules in the boxes with their movements. When the fast molecule approached the door, it opened the door; when the slow molecule headed towards the box where the slow ones were collected, the door was opened immediately. In this way, the slow molecules could be collected in one box and the fast ones in the other box. This experiment gave rise to a new idea. When the universe tends towards disorder, everything is doomed to fall apart. Despite this, can everything be collected and made regular? This idea started a debate in those years. Can order be created without spending any energy?

Alan Turing (1912 - 1954) was the first person to develop a computer. A machine that processes and changes information! Turing was actually thinking about solving a mathematical problem. Something unexpected happened and the computer emerged. This machine changed almost everyone's life. Turing was interested in solving certain operations in mathematics by following a simple set of rules. In 1936, the literal meaning of the word computer was arithmetic calculation. In those years, banking and commerce were developing rapidly. Many people were hired for interest calculations and navigation calculations. Turing asked a question: What happens in the mind of a person who makes calculations? Turing saw that all calculations were in binary numbering system (bit: 0/1). He focused on data and instructions that told him what to do with the data. Turing wanted to translate arithmetic operations into a language that machines could understand. Turing succeeded in this; he showed that when instructions consisting of 1s and 0s were given to the computer as commands on a tape, the machine would perform functions like the human brain. The tapes had become environments where information and commands were stored and processed. Today, pictures, music, writings, sounds, images can all be processed by a single machine. All the processes we call programs and applications on a computer are nothing more than data on very long strips consisting of 1 and 0. The 1s and 0s on the incredibly large strip can show you how a whole universe was created on the screen in front of your eyes. It showed that information is power.

Claude Shannon (1916 - 2001) passion for solving an extraordinary problem led to the emergence of a new power of information. He developed the mathematical theory of communication. He found a way to measure the amount of information. He showed that a message to be transmitted could be converted into a binary number system. Bit: 0/1 was defined. Bit is the smallest amount of information in the digital world. All requests have two faces: On / Off, Known / Unknown, Heads / Tails, Light / Dark, Stop / Go. Thanks to Shannon, bit became the common language of information. Thus, information became tangible. Information could be measured. Information is not something that only humans create. Any event in the universe can contain incredible information and messages. All physical and chemical events that we cannot normally see can be shown to us like a normal movie. Information is an inseparable part of the universe. Information is everywhere.

What is the relationship between information and energy? Information is not abstract. Information is not a formula that you can write on paper. Information is carried and given meaning; information is written on a stone, a book. It is written in a memory or in the brain. As a result, information is carried and there is something that carries it. This shows that information behaves according to the laws of physics. Humanity has to learn that information is integrated with the physical world. What makes information powerful is that we can store it in any system. Information was stored on a clay tablet for ages and stopped time. We sent information quickly as electricity, light, electron. The devices that carry information provide it with extraordinary features.

Today, the emergence of technologies has played an active role in the acquisition, sharing and creation of information. Because it causes social life to change, new relationships to emerge and the information necessary to sustain life to be constantly renewed. Today's economy is largely based on information. Today, successful organizations are those that use more competitive, original information than their competitors in order to adapt to the change in the economic structure. Rapid technological developments cause existing information to become obsolete and obsolete quickly. In this case, for organizations that want to increase and maintain their competitive power, it is a necessity to increase new and original information sources on the one hand, and to process and effectively manage large amounts of information in a short time.

It is emphasized that in order for information to be processed in the mind, it must first be coded or symbolized, and that the coded information can then be conceptualized and transmitted. On the other hand, the information that is defined as the implicit knowledge that directs people's actions and is inseparable from the knower can only be transmitted by seeing and experiencing in action.

Initially, the word computer was a name given to objects that facilitated the calculation process. Examples of computers in this early period include the number bead (abacus) and the AntiKitira Machine (150-100 BC). Centuries later, in light of new scientific discoveries at the end of the Middle Ages, the first of a series of mechanical calculation devices developed by European

engineers belongs to Wilhelm Schickard (1623). The punched cards produced by Joseph Marie Jacquard in 1801 to automate the process on the weaving loom are considered to be one of the first traces of software (installation) in the development process of computers, albeit limited. Thanks to these cards provided by the user, the loom could adapt its operation to the drawing described by the holes on the card.

In 1837, Charles Babbage conceptualized and designed the first fully programmable mechanical computer, which he named the Analytical Engine. However, due to financial reasons and the inability to complete his work on it, he did not develop this machine. The first large-scale use of punched cards was the calculator designed by Herman Hollerith in 1890 for use in accounting transactions. Hollerith's business at the time was IBM, which would become a global computer giant in the following years. By the end of the 19th century, applications (technologies) that would contribute greatly to the development of computing hardware and theories in the years to come had begun to emerge: punched cards, Boolean algebra, space tubes, and teletype devices.

Konrad Zuse's "Z machines". The Z3 (1941) was the first machine that could operate on a binary number base and operate with real numbers. In 1998, the Z3 was proven to be Turing compatible, thus earning the title of the first computer. The Atanasoff-Berry Computer (1941) was based on space tubes and had a binary number base as well as a capacitance-based memory hardware. The British-made Colossus computer (1944) showed that the use of thousands of tubes could produce sufficiently reliable results, despite its limited programmability (installability). It was used to decipher the secret communications of the German armed forces in World War II. Harvard Mark I (1944), a computer with limited installability. ENIAC (1946), developed by the US Army, was based on a decimal number base and was the first general-purpose electronic computer.

The first computers in the mid-20th century were the size of a large room and consumed hundreds of times more power than today's computers. By the beginning of the 21st century, computers could fit into a wristwatch and operate on a small battery. The main reason they could be manufactured so small was that circuits that could fit into very small areas could be made with semiconductors in 1969. The computers we use today gained momentum after Intel's first processor, the 4004. The basic working principle of the computer is the binary number system, coding consisting of only 0 and 1.

Computers are everywhere, but they are starting to become invisible. In the near future, the computer will be inside the lens. The screen will be in front of the eye. Or the screen, keyboard and microprocessor will take their place in the pocket inside the foldable paper. Laptops and desktop computers will disappear. The keyboard will not be carried. Your memory will follow you in the cloud. The extension of life expectancy and developments in artificial intelligence technologies will make machines people's colleagues. It should not be forgotten that for the first time, people accepted an artificial device from the outside as their organ; smartphones. It has become a must-have.

In 1950, Alan Turing, one of the pioneers of artificial intelligence, proposed an artificial intelligence test: He said that we cannot measure the intelligence of an artificial intelligence numerically in this test, but instead we should evaluate its behavior. The Turing Test still remains valid as an iconic test, and artificial intelligence experiments based on this test continue.

According to the Turing test, the machine is hidden somewhere out of sight of the interrogator, together with a volunteer human. The interrogator tries to determine which one is human and which one is computer by asking only questions. The interrogator's questions and, more importantly, the answers he receives are given completely without sound, that is, either written on a keyboard system or displayed on a screen. No information is given to the interrogator about either party other than the information obtained in this question-answer session. If the interrogator cannot consistently identify the human as a result of the repeated tests in a series, the machine is considered to have passed the Turing test.

Although we always think of learning intelligence as a "robot with a body," it is actually much more than that. Many electronic devices in our homes and even in our pockets are equipped with artificial intelligence. For example, Siri... We are always by your side; most of us may not use it, but over time it has become such an improved assistant that its capabilities can be truly surprising. For example, when you ask for a recipe for a meal, it can generate results using tools like Google or Wikipedia and present them to you. Siri also has the ability to answer some obvious questions and obey your obvious commands. For example, you can use Siri to learn the weather, have it find the address of a meeting you have added to your agenda with GPS and direct you, and even provide you with information that will help you win a bet you made with your friends. In this respect, you can think of it as a very basic assistant. Thanks to artificial intelligence, you no longer need to waste time typing anything. All you have to do is talk to your phone.

What about Cortana? You can't skip her. She works in parallel with Siri; a voice assistant. You know, "real intelligence" can learn from past experiences and reach more accurate conclusions in the future. We see the first traces of this in Cortana. For example, she can find answers to future questions more effectively by remembering the question and the answer you asked before. Cortana can even take things a little further and learn the nicknames you use for people, objects and places. For example, if you want to go home and you refer to your home as "in" or "barn" every time, after a few times, she can understand what you mean without even asking you what you mean! In other words, she manages to match your home with your "barn" in her memory. This is one of the most basic features of learning machines and when it is developed, it will bring about dazzling results.

Now let's come to Google Now... Although it is not as popular a name as Siri, it is quite ambitious. Google can chat with you by complicating Cortana's learning algorithm a little more. For example, when you say "I want to go home" to Google Now, it directs you there. However, after this process

is complete, if you ask "How long do you think it will take me to get there?" without giving any other information, it can understand what you mean by "there." This sounds very simple, but it is a great step for machines. For another example, you can ask "What team does Arda Turan play for?" If you ask him "How tall is he?" or "How many goals did he score?" right after he gets his answer, he can give you the answer without having to repeat your question "Who scored how many goals?" This is a big step in real human-machine dialogue. Watson can analyze chaotic hospital records, discover logical patterns, and present you with the results it learns from this. Moreover, it can make diagnoses and recommendations by processing more data than doctors can foresee. It can even suggest ideas on how to best treat patients based on what it has seen before. In other words, Watson could be one of the doctors who will see you in hospitals in the future, make diagnoses, and treat you. Of course, just like the 3 software programs we mentioned before, it can easily enter into dialogue with you and have long conversations. Don't expect the doctor who looks after you when you go to the hospital in the future to be made of flesh and blood. It could also be made of metal and plastic!

So, while learning and decision-making machines seem so beneficial to humanity, are they also a development that will lead to the end of humanity? The famous Professor Stephen Hawking did not hold back from making very clear and frightening statements on this subject. Hawking said that artificial intelligence has developed a lot and is useful, but he is worried that it will reach a level where it can surpass human intelligence.

Hawking says, "A learning and decision-making machine can continue to improve itself and even reshape itself. Humans, who are limited to an extremely slow biological evolution, cannot compete with such power." Of course, time will tell whether he is right or not; but it is a fact that humanity is rapidly heading towards a life where artificial intelligence will be abundantly around us.

1.1. Institutional Memory: Archive

If you do not have a culture of storing information, you do not have the value of existence. The institutional memory should remember the past and transform the business processes used together with their values into experience. It should prevent being stuck in the past and not being able to adapt to change. Learning intelligence aims to contribute to the development of a common memory between the past and future of the information stack.

No matter how big and advanced they are, those who cannot manage information correctly are doomed to lose when they make a superficial evaluation mistake. The information stacks where information is stored are the archives of institutions. The stored information is the values that illuminate the past and future of institutions at the same time. Inadequate archiving destroys accumulations and causes confusion. Organizations suffer great losses due to information and documents that cannot be found or are lost.

In the servers where information is stored and stored, the issue of location, protection and security are ensured with database management. In the archiving of information produced in an electronic environment, the functions of content, structure, context, presentation and behavior should not be impaired in order to protect the information without deterioration and change and to transfer it to the next generations. Therefore, while collecting and archiving information, necessary precautions should be taken to prevent those without access authorization from seeing, knowing, and illegally obtaining the information.

The basic rule for the healthy operation of the system is that when information is needed in time, that information should be found quickly. Therefore, information should be classified and stored. If the right information is collected and archived at the right time, in the right place, from the right source, the position to be taken will also be determined correctly; dangers can be foreseen in advance, and events can be predicted before they happen.

Archives are values that shed light on the past of the organization and shape its future. Archive management is the recording, storage, and management of information regarding the assets of the organization in accordance with time, use, and purposes. Archives, which have undertaken the functions of documenting, protecting, and storing values, constitute the memory of an organization. The standardization of the correspondence and filing processes of organizations will greatly facilitate the sorting, classification, classification, placement, and provision of services for documents collected in archives. While archiving, the collected information is processed as a whole in groups or series. Information should be kept in at least three sections: incoming, outgoing, and embezzlement.

When the storage and classification of information in archiving is done properly, the brain of the organization combines information, evaluates it, makes predictions and turns into a learning

organism or structure. Rather than classifying information as important or unimportant, it is a more accurate strategy to look at which information is useful when and where. In order to avoid biased evaluations in analyses, predictions and inferences and to reveal hidden information, evaluations based on different analysis methods should be made. Therefore, all kinds of documents and papers should be classified and stored according to their importance and type of service. Necessary precautions should be taken in the archiving environment to prevent information and papers from being damaged, stolen and protected against all kinds of environmental effects and threats. What will be destroyed and when, where and how it will be destroyed should be determined in advance.

Archives are places where information that documents developments and experiences and protects the rights of the institution is stored. By creating a database in archiving, the issue of space, protection and security is ensured. **Information can be stored in standard forms with backups, and it is possible to reproduce information without any difficulty when desired.** Computer-controlled servers, cartridges, tapes, DVDs, external memories are archives where information is stored. Information such as databases, spreadsheets, web pages containing links only continue their existence in server memory environments. The main purpose of storing information is to obtain the original document from this information in the future. For these reasons, the concept of archiving goes far beyond the concept of backup. In the archiving of electronic documents, six basic components are taken into consideration in preserving the information produced from the document without being corrupted or changed and transferring it to the next generations. These are: content, structure, context, presentation, behavior and functionality.

For example, when information on the amount of water used in homes is collected, it can be estimated how much water will be used in the future. If more water is used in the house than the estimated amount, then either someone other than the people living in the house must have come to the house or there is a leak. In order to convert similar predictions into predictions, it is necessary to look at other expenditure amounts.

Those who measure, combine, compare and classify information should develop self-updating archiving codes while archiving intelligence information that finds not only threats but also opportunities. These codes should also be able to define the content, the environment in which it is collected, other files in the environment and the update steps.

The risk of losing the recorded information in the environments where data masses are stored is very high due to storing it in suitable climatic conditions, protecting it from disasters, wear and tear due to excessive use and manufacturing errors. Long-term solution alternatives such as recording the information on durable metals with an ion beam and optically have also been produced. However, their extremely high costs prevent them from being widely used.

Today, a computer is given an average lifespan of a few years. It is often impossible to reuse an old hardware without knowing how its operating system, password or compression algorithms work. Therefore, at every stage of technological change, it is of particular importance to keep user manuals and similar documents that provide information on how to operate and use the aging system. If these are not done, it may not be possible to access the original versions of documents created with the aging system. The most widely accepted solution to the problem of system obsolescence is to transfer documents and information to another format and migrate them between computers.

Electronic documents that need to be protected during archiving should be converted to a different format without any deterioration or loss of their basic components and kept under protection. The most widely accepted form of the migration concept is the conversion of electronic documents (text, picture, image, sound) to a common standard format. The method suggested as a solution to the problem of system obsolescence is the use of emulators. **An emulator is software that can do the work done by the software or hardware under a different system.** In this way, it is possible to access the original of electronic documents and run interactive objects and programs.

Archiving is not storing every piece of information you can find in its entirety. It is to protect information or documents that will be very important in the long term. If there are mandatory storage periods, the documents should be destroyed regularly after this period is completed. When determining the originality of traditional documents, signatures, stamps, tughras and seals are important. Whether a document is original or not can also be determined by scanning its internal consistency control and looking at its calligraphy, i.e. writing style. The style, language and presentation features used in the text, in other words, the physical structure, namely the chemical and physical structure of the paper and ink, the film, the originality of the document is determined by the examination of the manufacturer and date. In determining the originality in electronic documents, the sending of information from one person, system or application to another in communication and processing environments and the methods used in offline storage are the criteria that should be considered. If the hardware and software used for storage are updated or changed, the originality of electronic documents is threatened if they are transferred from one place to another.

Digital signature is a verification technology produced due to the need for an electronic object to be transmitted securely from one place to another over open communication environments such as the Internet. In digital signature, the information to be sent is first encrypted to ensure that the information sent has not been altered in any way on the way. A certification method has also been added to the process to make this system more secure. The password owner applies to a certificate authority and requests an intermediary to confirm that the password he/she uses belongs to him/her. Unfortunately, digital signatures are not sufficient to authenticate an electronic document or prove that its integrity has not been compromised in the long term. It is

not possible to migrate digitally signed documents over time or technological changes. The main reason for this is that the verification mechanism does not allow even a single bit in the digital documents to be changed after the signature is made. Therefore, when a digitally signed document is stored, an unencrypted copy will need to be archived in a secure storage. As is known, in digital signatures, notaries are replaced by certification authorities and archive institutions as third-party storage.

In order to ensure access control, it will be necessary to install software and hardware called very strong firewalls that prevent unauthorized entries and all data transfers, to encrypt file transfers and to take security measures in communication network technologies. As a precaution against the risk of the information under its custody being destroyed, the custodian must also keep a detailed record of the migration stages it has gone through. It is also useful to keep a copy of the first version of the document separately. In this way, both an original that can be used in the event of an emulation being developed in the future is preserved and a criterion that can be used to monitor changes that may occur after migration is preserved.

Today, in parallel with the spread of both e-commerce and e-government applications, many transactions have started to be carried out via electronic mail. Therefore, e-mails have become legal entities. For this reason, we no longer have the freedom to delete e-mails whenever we want, at least the ones related to work, as we are used to doing in daily life. If we try to do this, we will be held responsible for destroying documents that may legally qualify as evidence.

Another type of electronic document that is problematic in terms of archiving is databases. In parallel with the roles that computers have assumed in human life, an increasing proportion of the documents and information produced have come to exist only in electronic media. The methods used to determine the originality of electronic documents are conceptually parallel to the methods used in traditional environments. Here, digital signatures replace the means of verifying the identity of the authority that approves the validity or content of the document, such as signature, stamp, tughra and seal.

The areas or buildings where archiving will be done should be designed in accordance with the features they should have architecturally. In the event of a fire, automation systems should be installed to close the doors and windows to prevent air flow at the first moment and how the archive will be evacuated in accordance with the previously prepared plan should be determined. The actions to be taken during the time until the fire department intervenes should be perceived as an emergency and preparations should be constantly reviewed. Factors that will destroy documents exposed to the attack of environmental conditions are; heat, sunlight, humidity, dust and dirt. In addition, acidic gases and other gases in the air and chemical substances used during manufacturing also negatively affect the archiving life in which the information is stored.

Those who measure, combine, compare and classify information must continuously collect information to find not only threats but also opportunities. When archiving information, self-updating archiving codes must be developed. These codes must also be able to define the content, the environment in which it was collected, other files in the environment and the update steps.

1.2. Being Able to Exist

"The social memory that knows the value of creation can be created by educating your grandchildren from your perspective" Ckk. Because the value of creation is the process of consciousness that is created with the accumulation of knowledge, skills and experience, passed down from generation to generation. Being able to have the knowledge power to say I am ready to create is the continuity of the transfer of productivity based on knowledge and experience to generations. It is to make technological development and production continuous and sustainable. Productivity is the accumulation of knowledge, skill, experience, talent.

Intelligence is the totality of a person's abilities to comprehend, judge and draw conclusions. Intelligence is to think, learn, compare and understand. It is the ability to use memory. It is reasoning. Consciousness is to provide the mind with the ability to perceive, visualize and make sense.

When the storage and classification of information is done healthily while creating social memory, the brain of the society combines information, evaluates it, makes predictions and turns into intelligence that learns the value of creation and the solution of problem.

An intelligence that learns the value of existence classifies changes while remotely perceiving the traces of data. At this stage, the number of uncertainties and changes is quite high. While classifying uncertainties and changes, the intelligence for research should be developed in order to realize that more information is needed to increase accuracy and to notice missing information.

In order to find the gap in a large pile of data, the intelligence for being a team should be developed in order to know whether the sought after has been seen before. Those who wander through piles of information together develop the intelligence for managing the process by learning to divide the work while sharing the information they find.

When they start planning actions in foreseeing opportunities, they develop a participatory intelligence for problem solving. They start to act like an organ by specializing in being successful in the task they undertake and doing the best. Thus, organs are created by sharing the functions of the work for problem solving. Integrity, that is, the body, occurs from the joint action of the organs.

In order for the organs that form the body to feel each other, share tasks, monitor and manage, they need to form a leader brain.

It should not be forgotten that on the path to success, being a team and teams feeling and perceiving each other very well is possible with a goal-oriented participatory mind. The basic rule of being successful in being different or finding the difference is that when they learn to achieve excellence as a team, the mind that realizes the power of quality is developed. Organisms that feel that it is necessary to be different not only in threats but also in capturing opportunities should be able to focus on a single point at the same time in order to be a team.

Those who quickly collect their own information, integrate it and create a body, start to predict the reactions they will give by monitoring the behaviors of the sensors that are the source of the information. In order to quickly perceive the difference and intensity of the individual, it is necessary to establish a control mechanism similar to a neural network.

Smart sensors need to act like organisms and distinguish between friend and foe, and to perceive disasters, threats and attacks in advance. A sensor that is monitored disasters or attacks should have a black box to protect the information it has had up to that moment. I

Even if all critical infrastructure, including bridges and factories, is destroyed or damaged, if there is a consciousness of re-creation based on the power of knowledge, the entire critical infrastructure can be rebuilt. In order to create a consciousness that re-creates, it is necessary to train, specialize, provide skills and increase the performance of teams that will produce technology for 20 or maybe 50 years from now. When World War II ended, Germany was divided in two and the entire critical infrastructure collapsed. Immediately after the war, educated, technologically skilled and experienced teams in West Germany started working again. 20 years after the war, a workforce was needed in production. Millions of people from many countries, especially Turkey, flocked to Germany. Today's Germany is a world leader in heavy construction equipment, luxury cars, high-speed trains, chemical and pharmaceutical industries. Because the information experts who would re-create the critical infrastructure were ready to solve problems.

A factory in Germany is burning down. The owner of the factory comes running to the scene of the fire. There is silence. The man calls out: "Where are my engineers? Come to me quickly.." The news is released. The factory owner: "Are you all okay?" The answer is immediate: "Yes. The factory is burning down.." The factory owner: "You are alive. The important thing is that you are alive. Go home now. Come back in the morning, we will start building a bigger one tomorrow." It is not important that my factory burned down. What is important is that there are engineers who will rebuild it.

The best example of the value of existence is related to how Japan initiated the value of self-existence: In the 1630s, Lemitsu, the 3rd Shogun of the Tokugawa period, was particularly

concerned about Christianity entering Japan and spreading rapidly, and closed Japan's doors to the entire world. During this period, called Sakoku and lasting approximately 220 years, no foreigners were allowed to enter the country, and no Japanese were allowed to leave the country without special permission. During this period, foreign trade was conducted only by non-Christian Chinese and Protestant Dutch who were allowed to stay in the port of Nagasaki. Unfortunately, the period we were in was the period called new imperialism, when Western countries using developing technology set their sights on Africa and Asia. Thanks to the industrial revolution, there was a need for new markets where goods produced faster than they could be consumed in the local market could be sold, and new raw material sources to feed the industry. Japan could not escape the interest of Western countries during this period.

In 1853, Commodore Matthew C. Perry entered the port of Edo with 4 ships. When the Japanese saw Matthew C. Perry's "Black Ships", steamships, they were very surprised because they had not yet heard of steam-powered machines. During this period, no foreign ships were allowed to enter ports other than Nagasaki, but despite all the Japanese objections, Commodore Perry announced that he would not leave the port without delivering a letter from US President Millard Fillmore. As a result of the Japanese's submission, he delivered his letter to the Tokugawa administration and left Japan, saying that he would return to get an answer. When Commodore Perry came to Japan for the second time in 1854 with 10 ships and 1600 soldiers, he demanded that the gates be opened to the outside world.

During this period, the people were divided into two groups; the Kaikoku group, who said "Let's open the country", and the Joi group, who said "Barbarians out". The group that wanted to open the country was aware of the advanced military technology of the West and also knew Japan's weakness in this regard. They thought that Japan needed Western weapons and techniques to defend itself and that operations should be avoided until these were provided, and they saw opening the country as a defense strategy. The group that said “barbarians out” thought that Japan was a sacred country and that the presence of Westerners would pollute these lands, that trade would disrupt the balance in society and that Western thought would destroy Japanese culture.

It is known that in these years, in the Shogun palace in Edo, “discussions were held on which type of sword would be sharper and in what way, and that it would be more appropriate for the Emperor to be engaged in floriculture or gardening.”

The Shogun of the Tokugawa period at that time, Lesada, seeing that the naval power of the United States was far superior to theirs, decided that there was nothing to do but accept the demands of the Americans. Japan, breaking with its principles that had hardly changed for 250 years, agreed to open two of its important ports to American ships. In addition, the Japanese were forced to sign the peace agreement and trade agreement that Commodore Perry wanted, because Perry had stated when he presented his demands that he would use force if they were not

accepted. The Shogun did not stop with this agreement, and subsequently made forced agreements with five other European states. The unfair agreements made with foreign countries and the opening of the gates to foreigners had greatly shaken the Tokugawa administration, especially the Shogun, politically, socially and economically. The system, known as a kind of feudalism, was rapidly disintegrating and was drifting towards complete collapse.

From that moment on, they put disagreements aside and took action. They moved the center of the empire from Kyoto to Edo and changed the name of the city to Tokyo, meaning "Eastern capital", to cement the change. "When you start thinking about change, first you and then the world start changing" ckk. Thus, the Meiji era began in Japan with the Emperor coming from Kyoto and settling in the Tokyo Palace in 1868. Emperor Meiji was only 15 years old when he came to power on January 4, 1868.

With the efforts and suggestions of Prince Hirobumi Ito, who played a major role in Meiji's accession to the throne and later became one of the great statesmen of the period, the superiority of Western military power and the strength of their economy were understood by many people. In a short time, the motto "Barbarians out" was replaced by the motto "Civilization and science". Hirobumi was at the head of the group that wrote the Meiji Constitution in the 1880s and became the first Prime Minister of the Meiji era. He later served as Prime Minister in the 5th, 7th and 10th terms.

The young Emperor Meiji, who took over all authority and ascended to the throne, and the statesmen who assisted him chose to make Japan a rich and powerful state as their goal. They accepted industrialization as a method to achieve this goal. The most important building blocks of the program they prepared were as follows,

- The destruction of the feudal system. Feudalism was destroyed, and the names of feudalism became company names.
- The implementation of a widespread and high-quality education program
- The establishment of a national and modern army by introducing a compulsory military service
- The sending of students to Western countries with research delegations in order to learn the economy and technology of the West as soon as possible and the bringing of many well-educated and experts in almost every field from outside
- The establishment of modern industry

The majority of those who would carry out these steps were between the ages of 25-30 and very inexperienced, some even had very little contact with the outside world and had never left Japan. Despite this, they were aspiring to establish a modern state in a short time.

Until the Meiji period, the Japanese people were divided into four classes after the great lords: Samurai, peasants, artisans and merchants. Each class could only deal with its own business.

Military service was a profession that could only be done by the Samurai, and this situation posed an obstacle to the establishment of a modern and powerful army with the participation of a larger portion of the population. In order to ensure unity and solidarity in the country and to pave the way for planned reforms, this class distinction had to be eliminated.

As the first step on this path, feudal lords were destroyed. With a decree issued in 1871, the feudal lordship and large land ownership that remained from the old system were officially abolished. All feudal lords were taken from their lands and gathered under the administration of the central government, and administrators similar to governors directly affiliated to the center were appointed to the regions. Of the 278 feudal lords, large or small, 261 people gave up their rights, property and money willingly. They gave all their estates, wealth, armies and small-scale fleets to the young Emperor, and they themselves entered the Emperor's command without privilege or rank. Only 17 feudal lords caused trouble and were forced to obey. This situation beautifully shows the people's love for the Emperor and the respect felt for this position. After the collapse of the feudal system, classes among the people were also completely abolished and everyone was given the right to work in any job or profession they wanted. Later, the names of the models in Japanese products around the world are the names of these feudal lords.

The Japanese conducted extensive research while determining the changes they would make to the education and training system. As a result of this research, they found the system applied in Germany as the system that came closest to them at that time or that could be adapted most easily. The Germany of that period was the nationalist, disciplined and authoritarian Germany of Otto Von Bismark. The motto of this education system was formulated as "Obedience to authority, compliance with discipline and attention to hard work". The Japanese took such a system and adapted it to themselves.

A program was established in 1872 to strengthen education. School buildings were demolished in many places, teachers were beaten, and children were not sent to schools. Despite all this, the program was implemented seriously and without compromise. As early as the 1880s, this program was realized to a great extent, and the people learned the value of school and the benefits that studying would provide for them, and they embraced schools wholeheartedly. Thanks to these schools, talented young people were selected from among a wider audience, and they were provided with higher education and access to very good opportunities. The most striking feature of the education program implemented during this period was that, contrary to what was seen in many countries that wanted to develop, it was designed and prepared in accordance with the Japanese culture, national values, and national characteristics, and in a way that would fully meet the needs of the future modern Japan.

The Meiji administration brought in many qualified experts and teachers from abroad and sent many students, educators, and researchers abroad. In the fourth year of the Meiji period, 362 foreign academicians had started working in Japan. In 1874, the number of foreign experts

working at the Ministry of Technology alone for very high salaries was more than three hundred. A striking point here is that these foreign experts did not try to exploit the country and actually made great contributions to its progress. In order to achieve this, the Meiji government paid very high salaries to these experts, allowed them to work for 3-year periods, and did not allow them to stay in the country after their term ended, with some exceptions.

In the second year of the period, 446 scholarship students, 256 of whom were in the technical field, were sent to foreign countries. The number of students sent abroad gradually increased in the following years. All kinds of opportunities were provided for talented young people who were seen to have bright futures to be educated and trained in Japanese universities and schools. As a result of the students sent abroad and students trained in Japan quickly learning Western technology and knowledge and taking up jobs, the number of foreign experts, which began to decrease from the middle of the period, decreased significantly towards the end of the period, except for some very important fields.

The statesmen of the Meiji period, who thought that importing foreign capital would put the national economy under foreign control, were against this. The Meiji administration followed a path not seen in Western countries on the path to industrialization. The state established and started operating facilities that could not be established by private enterprise. Technicians were brought from foreign countries for these facilities and many people were sent abroad to learn these jobs, and then these facilities were transferred to private enterprise. It is extremely important that this transfer was cheap, long-term, and was made at a time when some of the facilities were profitable.

The facilities that were decided to be sold to private enterprise in 1880 were sold in a short time and transferred to individuals and companies. The purchasers of these facilities were brave and enterprising businessmen such as Mitoui, Mitsubishi, Furukawa, Asana, Kuhara and Sumitomo or the family companies they established. These businessmen and families would play a major role in the development of Japan in the following years.

If we consider what was done in the West during the years when Japan was closed to the world, namely the Renaissance, scientific revolution and industrial revolution, the magnitude of what was done during the 44-year Meiji period will be more easily understood. When Meiji died, instead of a small, isolated and feudal state, he left behind a Japan that had become an industrial and military power. Hungarian journalist and author Arthur Koestler, who lived between 1905-1983, saw Japan opening up to the West as “the breaking of the window of a pressurized cabin” and, referring to what was done during the Meiji period, said, “The Japanese hit the world with such pressure that they quickly devoured everything that had been thought of, done and achieved in the world during the long years of being closed.”

During the Meiji period, the Japanese, as seen several times before in their history, determined their goals well and named the work they were going to do correctly. They had taken steam, electricity, factories, weapons and shipbuilding, all kinds of technology, banking, journalism, even parliament and administrative systems from the West and adapted them to their own conditions. The Japanese called what they did wholesale industrialization, industrialization or development, and sometimes modernization, but they did not call it Westernization as in many Asian countries. What they did was to transform Japanese society from an agricultural society to an industrial or industrial society.

Notre Dame Cathedral:

The fire at Notre Dame Cathedral, one of the leading structures of the world heritage, on April 15, 2019 caused deep sorrow both in France and abroad. The image of the cathedral in the center of Paris, which is a prominent structure of Gothic architecture dating back to the 12th century and where renovation work is ongoing, was broadcast live on the evening of April 15, engulfed in flames, and the collapse of its roof, which has witnessed hundreds of years, and one of its 93-meter-high towers.

French President Emmanuel Macron went to the region after the incident was heard and received information from the authorities. Describing the incident as a "tragedy," he said, "Notre Dame is part of our history, our literature and our soul, the place of all our great events, our epidemics, our wars, our freedoms, the epicenter of our lives."

Macron said he was aware of the deep sorrow and said, "Let's be proud because we built this cathedral more than 800 years ago and have grown and developed it over the centuries. Now we will rebuild it together."

When the fire in Notre Dame Cathedral started, I said to myself, "The fire brigade will come soon, start spraying water and put out the fire." That didn't happen, I saw the firefighters spraying water almost an hour later. I got angry. I muttered, "How is this possible?" I later read that within the framework of the fire response protocol of the French fire brigade, first people and living beings, along with works of art, are saved. Then valuables and furniture are saved. Finally, the building is saved. The first item is very important because the things that cannot be recreated are people and works of art. Valuables and furniture can be partially renewed. If a historical building has the ability to be recreated, there is no problem; it can be repaired, renewed and even rebuilt in a much more aesthetic and durable way. The 150-year-old oaks in the garden of the Versailles Palace were planted to rebuild the roof in such a fire. Apparently, they were waiting for today.

1.3. Added Value

These are the added values added at every stage of production. Growth in the economy is achieved by increasing production capacity. What is important is the production of added value. The increase in production capacity is achieved through increases in production factors and technological developments. Production factors are listed as determining their sources and quantities, extracting, refining, transporting, and ensuring the continuity of the energy needed for production.

Added value is the total of profit, rent, interest and wages in the sales price of a "sold and paid for" product (information, goods or services). This total is the net added value. If depreciation is added to this, "gross added value" is found. The correct calculation in business is made by including depreciation.

"Smart Phone" is a product that is light in weight and heavy in value. If there is a higher "national added value" in the sales price, its export increases the national income more. If the production of a product creates jobs for “more people with higher wages” from the raw material supply to the end user, then its added value is high.

In an example of added value production, a Samsung or a Hyundai was created in South Korea. In the 1970s, millions of people from South Korea and Turkey left their countries at the same time for work, food, and their future. While the Turks concentrated in Germany, the Koreans attacked Japan. Starting in the 70s, the Turks invested what they earned in houses and land; local grooms and brides. In the mid-90s, they lost tens of billions of Euros worth of money to religious brokers who said they would build factories, without documents or banks. They did not use that money to educate their children, for the future of their children. On the other hand, the Koreans cared about their children’s education. On both sides. They ensured that their children received education at Japan’s best universities. In their country, they created the infrastructure of the Japanese education system. This was a price, and they paid the price for their gains in the future of their children. Koreans quickly realized their dreams of seeing their own children in management positions in the factories and critical infrastructure facilities they worked in Japan. When those children returned to their country, they created Samsung with their peers waiting for them.

South Korea is among the most successful countries in the world in terms of educational outcomes. South Korea also provided overseas education support focused on technological areas. Research engineers who received their education abroad were employed with satisfactory wages in competent research centers in areas such as transportation vehicles, nuclear energy, aviation, and electronics.

In South Korea, the public sector has been determined and successful in designing and directing industrial policies. For example, while the vision of large private sector companies remained mostly at the dealership or assembly industry level during the establishment of the automobile industry in Turkey, industrial entrepreneurs in South Korea, especially Hyundai, focused on technology acquisition, domestic production and branding. The fact that Hyundai and Samsung continued their efforts without giving up and learning from the failures they experienced when they started exporting automobiles and electric products is also an indicator of the capacity of the private sector in Korea.

Turkey, on the other hand, was not as successful as South Korea in transforming the industrial production and export pattern into high-priced/value-added products during the industrialization process. Although exports increased, the added value remained limited in terms of both input and foreign exchange. For example, unlike South Korea, since domestic branding and technology could not be obtained in the automobile sector, the added value production remained low.

When we say added value, we should think of the difference between input and output. In other words, the more money spent to produce a product and the more money obtained when that product is sold, the more added value this product has. It would be insufficient to look at this issue only in terms of money. Because, the return provided by value-added production is much more than money. Another important issue on the path to value-added product production is branding or, more accurately, creating brand value. Branding makes a great contribution to the sale of manufactured products. But its real contribution is the benefit gained by either low demand at high prices or selling many products at low prices. The development of the economy and gaining a solid structure is possible with production, and more importantly, with value-added production.

International contributions and collaborations should be considered instead of local contribution rates in value-added products. What is important here is the continuity of the flow of income to the country.

Added Value should not be considered as a phenomenon that only exists in industry. Value-added energy production has taken place in agriculture, animal husbandry, sports, construction, textile, in other words, in almost every field of the economy. The Netherlands, the world's second agricultural exporter, with a land the size of Konya, owes its success to the energy it has in producing value-added products.

High added value is achieved through high technology production. If sufficient resources are not allocated to R&D activities aimed at obtaining electrical energy and this issue is not taken seriously, technological development will not be achieved. The most strategic supporter of sustainable development goals in the economic and social development of a country is the energy sector. A sustainable energy policy must be established for a sustainable future. Energy is of critical importance for every country. While the demand for energy increases in today's areas such

as electrification, urbanization, and industry; threats such as climate change and decreasing natural resources are also radically changing the dynamics of the energy economy. At this point, basic indicators such as energy consumption per capita, energy density, which is an indicator of energy efficiency, and carbon density of energy supply reveal the difference between developed and developing countries. As a result, the development of each link in the energy value chain gains special importance.

The determining elements of the new global order are the digital transformation of industry, the power of knowledge, and energy. We have to produce more value-added products by consuming less energy. The sustainability of growth in the economy requires the sustainable growth of the energy sector.

In order to reduce our external dependency, the existing energy potential should be used to the maximum; the fight against climate change should be evaluated by taking environmental measures and energy efficiency should be encouraged. The improvement of the network infrastructure should be accelerated; the competence of human resources, digitalization opportunities, distributed energy, smart grids and energy storage technologies should be focused on.

The development and production of high technology should be encouraged in the transfer of investors from high value-added mines and energy production to transportation, from refinery facilities to the end user.

The main focal points in the production of added value in energy are efficiency, energy resources, R&D and technological development, as well as increasing social welfare and quality of life, high occupational health and safety standards, harmony with the environment and competent human resources perspectives, which are seen as a great need in the sector.

1.4. Uncertainty

According to Laplace's proposal, there must be a set of scientific laws such that if we know the state of the entire universe at a single moment, we can calculate everything that will happen in the universe. For example, if we know the speed and position of the sun and planets at one moment, we can calculate the state of the Solar System at other times using Newton's laws. In this context, determinism seems quite clear, but Laplace argued that there are similar laws that govern everything, including human behavior.

If we want to place a satellite around the Earth, we can place it in an orbit at any distance we want. The laws of classical physics give us precise prediction possibilities. For example, we can calculate the path a rocket will follow after it is fired and the point it will reach after a while. If we measure the variables that can affect the speed and path of the rocket more sensitively, our calculations will be more accurate. In reality, there is no limit to the accuracy we can achieve. In classical physics, nothing is left to chance, physical behaviors can be predicted in advance. However, in modern physics, physical behaviors can be predicted in terms of probabilities.

To describe the state of a physical system, its position, speed, acceleration, direction, and the forces acting on or affected by it must be known. The information is numerical and the initial conditions are important. If the current state of a dynamic system is known, it is also desired to know its state at a later or earlier time. If an equation represents a motion, the defined function is the trajectory of that motion. Different starting points choose different functions; in other words, different starting points determine different trajectories for motions. This phenomenon is closely related to the butterfly effect.

Schrödinger's Cat is known as a paradox related to quantum mechanics and the Copenhagen Interpretation, put forward by the Austrian physicist Erwin Schrödinger. Schrödinger's cat is left in a closed box with a cat, a small bottle of poison, and a radioactive source. Erwin Schrödinger, imagine a cat in a box, a glass hanging from the edge of the box containing poison, and a subatomic particle that will break that glass if it hits it. According to Einstein, the cat was of course either alive or dead. The observer just didn't know what state the cat was in yet. This form of explanation was called ‘epistemological explanation’.

The uncertainty principle was proposed by Werner Heisenberg in 1927. According to Heisenberg’s uncertainty principle in quantum physics, the momentum and position of a particle cannot be measured simultaneously with full accuracy (momentum change = mass change x velocity change). As the sensitivity in measuring one of the two interdependent quantities increases, the sensitivity in measuring the other decreases. “Heisenberg’s uncertainty principle showed that the state of a system cannot be measured exactly, so it is impossible to predict exactly what it will do in the future. All that can be done is to make predictions about the probabilities of different outcomes.

In the 1920s, Niels Bohr and Werner Heisenberg designed hypothetical experiments to see to what extent the behavior of particles smaller than atoms (subatomic) could be determined. To do this, two variables, the particle's position and momentum, had to be measured. Where is the particle or particle right now? What is the product of its mass and velocity? According to their conclusion, there must always be an uncertainty in the measurement, and the product of these uncertainties is a constant equal to or greater than Planck's constant divided by 4 pi.

According to this principle, known as the Heisenberg uncertainty principle: the position and momentum of a particle cannot be measured simultaneously with complete precision. For example, if we design an experiment to determine the position of a particle precisely, we cannot measure its momentum with precision; if the momentum can be determined, then we cannot determine the position of the particle. In simple terms, if we know exactly where a particle is, we cannot know exactly where the particle came from or where it is going at the same time. Similarly, if we know how a particle moves, we cannot determine where it is. There is no limit to the determination of the momentum or position of a particle separately. But there is a fundamental limit to the determination of momentum and position simultaneously, that is, for the same wave function. In the subatomic world, objects must always have uncertainties. Why should this be the case?

It predicts a number of possible outcomes for an observation, and can tell how likely each is. That is, when the same measurement is made for a whole bunch of similar systems with the same initial states, the result of the measurement is A for one part, B for another part, and so on. It can be calculated approximately what proportion of the result will be A or B, but the specific result of any measurement cannot be known in advance. Particle mechanics thus introduces an unavoidable element of unknowability or randomness into science. Einstein was strongly opposed to this, even though he played a major role in the development of this idea. Einstein was awarded the Nobel Prize for his contribution to particle theory. However, Einstein never accepted that the universe was ruled by chance; his feelings can be summed up in his famous saying: "God does not shoot craps." Most other scientists, however, were inclined to accept particle mechanics because it perfectly fit the experiments. In fact, it is a very successful theory and forms the basis of almost all of modern science and technology. We owe to it the functioning of transistors and integrated circuits, the basic elements of electronic devices such as televisions and computers, and the foundations of modern chemistry and biology. There are only two remaining areas of physics that have not yet been adequately incorporated into particle mechanics: gravity and the large-scale structure of the universe.

We want to "see" the electron in the hydrogen atom and "follow" its movements. We have to use a microscope. In order to see the smallest particle that we want to see in the microscope, the particle size and the light size have to be the same. The smallest size that can be seen in a normal microscope using visible light is about 1000 nm. The resolving power of an electron microscope is

about 1 nm. We cannot see the electron with visible light. Because when we send visible light to a hydrogen atom, the electron breaks away from the atom; in other words, the visible light ionizes the hydrogen atom. There is only one thing we can do: Choose a shorter wavelength light. The situation still does not change. Because the photons hitting the electron change the "position" and "speed" of the electron in the atom. And we can never see the electron in its real position in the atom. In addition, the photon hitting the electron changes the speed of the electron and accordingly its momentum (the product of mass and speed). We encounter this changed quantity.

It was this element of chance or randomness that made Einstein so uneasy. But, however they are expressed, there is every evidence that quantum phenomena and the uncertainty principle are inevitable and that they are encountered in every branch of physics." The full implications of the photoelectric effect were understood in 1925, when Werner Heisenberg explained it. The photoelectric effect made it possible to measure the position of a particle exactly. For example, it was believed that the motion of something does not affect its weight. If you spin a top and weigh it, and then weigh it when it is stopped, you will find that it weighs the same. This is the result of an observation. We now know that a spinning top weighs a few fractions of a billion more than a stationary top. Only if the top can spin at a speed close to 186,000 miles per second will the increase in weight of the top be noticeable. And someone predicted that the mass will never change. Every scientific law, every scientific principle, every statement of the results of an observation is a kind of summary that excludes the details. Because nothing can be expressed in all its details. The man in the top example simply forgot that he had to express the law as follows; "The mass of an object does not change much unless the speed of the object increases to very high levels."

The truth is that everything we say in science, all the conclusions reached, are only conclusions. They are predictions about what will happen in the future, and you cannot know what will happen. Because you have not done many complete experiments.

All scientific knowledge is uncertain. This experience with doubt and uncertainty is important. You have to allow for the possibility that you cannot predict exactly correctly. Otherwise, if you prepare your mind in advance, you may not be able to solve the problem.

Henri Poincaré showed in 1900 that the solution to the system of equations determining the motion of the solar system is sensitively dependent on the initial conditions, that the initial conditions can never be determined correctly, and therefore that it is not possible to determine whether the solar system is stable or not. He was also the first to use the term "chaos" for this unpredictable situation.

The meaning that physicists give to the term chaos: Sensitive dependence on the initial conditions. There is a beautiful saying that expresses this: “If a butterfly flaps its wings in the Amazon, there can be a tornado in Texas.” What is meant is that a very small change in the initial conditions can

make a huge difference in the behavior of the system. It is desired to know which butterfly with which wing flaps created or will create the tornado that occurred in Texas. If chaos is to become a science one day, mathematicians must find that butterfly.

Uncertainty types:

- Scientific uncertainty
- Bias
- Estimation uncertainty: Model uncertainty, Parameter uncertainty
- Parameter Uncertainty: Statistical (random), Systematic (bias)

Statistical Uncertainty: Random! Where possible, can be determined by repeated sampling and subsequent statistical analysis. For many parameters, it may not be possible to repeatedly sample or collect data under the same operating conditions. Statistical uncertainty is generally assumed to average out over time. Statistical uncertainty is the “noise” in the data. Statistical parameter uncertainty can be close to the nominal precision of the measuring equipment.

Systematic Uncertainty (Bias): Measured values are consistently higher (or lower) than the ‘true’ value. Biases cannot be detected through data sampling and statistical analysis. Biases can be identified by:

- Data quality reviews and other QA/QC measures
- Comparison of data with other independent data sets
- Biases do not average out over time, so they are a more serious problem than random uncertainties.
- If data quality deteriorates (or improves) and historical data cannot be revised, biases can increase (or decrease) over time.
- Changes in biases over time are particularly problematic because of their impact on emissions trends and projected emissions reductions.

Causes of Parameter Uncertainties: Random errors in measurement instruments (parallax error, temperature change, etc.) Measurement instruments can introduce systematic biases. Imprecise calibration, faulty measurement equipment, environmental factors, operator error, double counting, data exclusion, etc. Parameters can also be based on unrepresentative samples. Fuel deliveries are made weekly, while fuel samples are taken monthly. Data do not describe process start-up and shutdown conditions or irregular operating conditions.

Data may be incomplete, duplicate, or contain errors. The need for data cleaning will arise from problems with obtaining and storing data. Data cleaning is the process of preventing and correcting these errors. The tasks of data cleaning include record matching, determining the inaccuracy of data, the overall quality of existing data, deduplication and column partitioning. Such data problems can also be detected through various analytical techniques. Unusual amounts above or below certain threshold values can be examined. Quantitative - Numerical data methods

can be used to remove possible incorrectly entered data for outlier detection. For example, if the annual temperature change of a region is missing between July 15 and 20, it is possible to complete this missing data if I have at least 5 years of change. Missing data can be completed from arithmetic average, stochastic, and derivative changes.

The region of uncertainty should be defined within the dense information mass. Uncertainty is not knowing the cause, not being able to predict the results, not being able to understand the system, not being able to form any ideas, not being able to answer questions, not being satisfied with the answers given. When will the earthquake occur? When will the volcano become active? When will the world end?

2. Research Methods

One of the factors that triggered research-based awareness must be the weariness and depression caused by migrations, sudden disasters and long-lasting exhausting wars. These shocks must have led to radical changes. Therefore, the greatest invention of mankind cannot be fire, wheels, engines, energy or anything material; the greatest invention of mankind is his ability to research and to find solution of a problem.

A human is not an object, an organism, nor is he or she something suitable for formulas. No perception and no instinct can teach a person how to light a fire, how to weave a cloth, how to make tools, how to make a wheel, how to make a plane, how to perform an appendectomy, how to make an electric bulb or an electron tube or a box of matches. The research process or thought provides a continuous flow of information to mankind. Human behavior cannot be analyzed by ignoring research-based awareness. Research is an extremely complex recognition and integration process that only the mind can perform. One can learn from another, but research-based consciousness requires thinking alone or as a member of a team. People can cooperate in discovering new knowledge and solving a problem; yet such cooperation requires that each scientist use the rational faculty of man independently. Dante says: “The divine power that created me, the creator is in me (in my brain...), I am the created! Therefore, the truth is in me (in my consciousness).” Consciousness: is the ability gained by perceiving, interpreting, and visualizing.” CKK: “Miracles cannot be expected from the Creator, but miracles are expected from the Creator's creation.”

Note: Dante is making fun of the church. In the Middle Ages in Europe. There is danger. Because the church burns women as witches, and tries and destroys intellectuals who think differently in the courts of inquisition. Dante writes a religious book, the subject is hell. He tells the story of the hellish journeys of the priests, merchants, and sinners he is making fun of.

Research triggers technological developments. The most important feature that distinguishes people who do research from other people is their curiosity about their environment, their examination of the subjects they are curious about by considering them in a cause-effect relationship, and their service to humanity by presenting the information they obtain. The background of economic progress among societies is again the work done by people who do research. The fundamental basis of research is the power of knowledge.

What is the way to access knowledge? Those who learn to learn, share their knowledge and experiences, and gain access to knowledge by creating opportunities for themselves to acquire new knowledge.

One of the factors that triggered research-based awareness must be the weariness and depression caused by migrations, sudden disasters and long-lasting exhausting wars. These shocks must have led to radical changes. Therefore, the greatest invention of mankind cannot be fire, wheels, engines, energy or anything material; The greatest invention of mankind is his ability to research.

2.1. Institutional Memory and Knowledge in The Research

Institutional memory has been defined as "the stored knowledge within the organization." Within any organization, tools and techniques will need to be adapted to meet that organization's needs. These adaptations are developed over time and taught to new members of the group, keeping them from encountering the same problems and having to develop a solution that already exists. In this way, organizations save time and resources that might otherwise be wasted.

For example, repair machines might have differnet solutin methods. The written instructions for them are not identical. However, if one machine has a different solution than the other, its employees may know that . The current employees inform new employees of this workaround. They, in turn, inform future new employees, even if the person who originally discovered the problem no longer works there. Such information is in the repair company's institutional memory.

Institutional memory requires the ongoing transmission of memories between members of the group. As such, it relies on a continuity of group membership. If everyone at the aforementioned compnay quit at once, the employees hired to replace them would not be able to benefit from the previous group's experience. In such a case, the organization would have lost its institutional memory and operate less efficiently until the workarounds that composed it could be developed again.

Elements of institutional memory may be found in corporations, professional groups, government bodies, religious groups, academic collaborations, and by extension in entire cultures. There are different ideas about how institutional memory is transferred, whether it is between people or through written sources.

Institutional memory may be encouraged to preserve an ideology or way of work in such a group. Conversely, institutional memory may be ingrained to the point that it becomes hard to challenge, even the conditions that caused it to arise have changed. An example of this would be an organization continuing to submit a form, even after the law requiring that document has been repealed, for fear of legal consequences that no longer exist. Institutional memory may also have influence on organizational identity, choice of individuals, and actions of the individuals interacting with the institution.

Institutional knowledge is gained by organizations translating historical data into useful knowledge and wisdom. Memory depends upon the preservation of data and also the analytical skills necessary for its effective use within the organization.

Religion is one of the significant institutional forces acting on the collective memory attributed to humanity. Alternatively, the evolution of ideas in Marxist theory is that the mechanism whereby knowledge and wisdom are passed down through the generations is subject to economic determinism. In all instances, social systems, cultures, and organizations have an interest in controlling and using institutional memories.

Organizational structure determines the training requirements and expectations of behaviour associated with various roles. This is part of the implicit institutional knowledge. Progress to higher echelons requires assimilation of this, and when outsiders enter at a high level, effectiveness tends to deteriorate if this morale is unjustly ignored.

Examples of institutional memory

Intangible memory:

- **Anecdotes and stories:** That time a business deal fell through, what went wrong? And when an important machine broke, how was it fixed?
- **Personal relationships:** Who is related to who in the business? What client is a VIP because of their history with the MD?
- **Leadership styles:** When is the best time to ask the boss for budget? Are they unagreeable before lunch? What is the leaders' unique style, preference, and decision-making process?
- **Jargon**: What are all the acronyms in your business?
- **Comms:** Is using GIFs in the team slack frowned upon, or are memes and light banter encouraged?
- **Vendor preferences:** What kind of businesses does the business choose to work with and why?

- **Future plans:** What direction would the company like to take? What would be contrary to these plans?
- **General wisdom:** Including guidance provided by mentors and experienced colleagues on how to get the job done.
- **Training outcomes**: Sessions captured in a formal training session include tips and ideas.

Tangible memory:

- **Reports and records:** Documentation of past projects can include meeting minutes, and records of strategic decisions, such as contracts and terms.
- **Standard Operating Procedures (SOPs):** Detailed manuals and guidelines that capture the best practices and processes established over time.
- **Employee handbooks:** Outlining company policies, employee benefits, conduct guidelines, and other important information that guide employee behaviour and organisational practices.
- **Financial records:** Financial statements, budget reports, and audit records.
- **Development roadmaps:** Past and present.
- **Marketing and sales forecasts**
- **Brainstorming sessions:** Such as recordings/documents.

Why institutional memory matters

1. Improved efficiency: The longer people work in an organisation, the more of an asset they become. Imagine how great your business would be if all new employees could be up to speed without needing years to build up knowledge through experience. While formal training delivers useful insights, a report from OC Tanner found that only 43% of employees reported having an onboarding experience that was longer than a day.

2. Innovation: While you can have Standard Operating Procedures (SOPs), detailed manuals, and business guidelines that capture the best practices and processes established over time for employees to follow, institutional memory bridges the missing gaps, and it is by seeing what has been missed that drives innovation.

3. Identity through continuity: Institutional memory ensures that vital knowledge and practices are preserved, providing continuity during organisational change. People may be replaced or leave, but the knowledge from the past can live on. Having accessible institutional memory helps maintain your organisation's culture, values, and traditions, fostering employees' sense of identity and belonging and ensuring customers remain satisfied.

4. Don't repeat the problems of the past: As George Santayana says in The Life Of Reason, "Those who cannot remember the past are condemned to repeat it." Your team could be wasting time problem-solving issues that have already been addressed or developing a seemingly new

idea that was dismissed years ago. Institutional knowledge can ensure more strategic decision-making by drawing on past experiences or build on previous work, rather than starting from scratch.

How can you create a knowledge-sharing culture?

It can be hard to extract knowledge from people in your business when knowledge represents power. Knowledge has to be identified, tracked, and shared, so you need to promote an open communication environment where employees feel comfortable sharing their insights.

If you can foster a culture of knowledge sharing by encouraging employees to document their work and share insights with colleagues instead of hoarding it, you will start to gather true institutional memory and see the benefits.

Ways to create a culture of knowledge sharing:

- Help people see how other roles work by allowing them time to experience a day or even a few hours in a department as a job swap.
- Incentivise or reward continuous learning and sharing.

- Provide access to online courses, workshops, and other educational resources to bring in external knowledge.
- Facilitate knowledge transfer from experienced staff to newer employees, e.g., at a 'Lunch And Learn' or at other times.
- Extend your onboarding process to include more informal learning methods.
- Could you create a knowledge cascade in which a specialist shares information with a small group of people who are then responsible for teaching the next level down?
- Take information in new ways, for example, video/audio content and written documents.

Use knowledge repositories to preserve institutional memory

If you want to capture institutional memory, it's key that you have a place where you regularly update and maintain comprehensive records of all processes, projects, and decisions. But that doesn't have to mean you compile a thick dossier of dull information. Bring your organisation's information to life with an engaging, enticing way of showcasing knowledge.

Consider:

- Wikis, knowledge bases, or databases, where employees can document processes, best practices, and lessons learned.
- Blogs or forums/intranets to share information.
- Newsletters including tips and showcase articles.

- Create feedback mechanisms that allow employees to suggest improvements and share their experiences, fostering a culture of continuous improvement.

How Confluence can improve institutional memory

Confluence allows you to create dynamic wikis, knowledge bases, blogs, and more where employees can document processes, best practices, and lessons learned.

- Repositories are easily searchable, ensuring valuable information is at everyone's fingertips.
- The ability to create a Confluence blog allows employees to share information, insights, and updates, keeping everyone informed and encouraging knowledge-sharing and collaboration.
- Interactive newsletters can be distributed from the platform regularly.
- You can gather feedback in Confluence with forms, allowing employees to suggest improvements and share their experiences.
- Confluence supports real-time collaboration, letting teams work together on documents and projects simultaneously. This ensures that the latest knowledge and updates are captured immediately and accurately.
- Confluence templates mean neater captures! Standardising documentation and ensuring consistency across all records improves the experience for everyone.

2.2. Research

2.2.1. What is research

- Research is the collection of information, evaluation, interpretation and presentation of findings regarding the solution of the problem.
- Research is the process of systematically acquiring information.
- Research: Searching for information, learning, making the unknown known, Illuminating the darkness, in short, it is a process of enlightenment.
- Research is the process of finding reliable solutions to problems by regularly collecting, analyzing and interpreting data in accordance with the purpose and reporting the results. Research is a processual effort undertaken to find solutions to problems.
- Research is the most successful way to obtain the truth through experience and reasoning.
- Research is the questioning of the unknown.
- Research is awareness. Awareness is the functionalization of the abilities of perception, visualization and interpretation.
- Research is the production of information.

In the process of becoming conscious of research, mankind has turned to research, to seek solutions to their problems, to find the reasons for what is happening. Research is the effort that a person makes to find solutions to the problems they encounter and to make new discoveries and inventions. However, the complexity, diversity, multi-dimensionality, multi-causality, multi-consequences of the problems and the need for the answers sought to the questions to be healthier and more explanatory have also led to the diversification of research approaches. If you do not have statistical and research knowledge about a subject, if you cannot use numbers, you cannot explain your problem or convince.

A certain path must be followed in the research process. This path is formed by methods, models and techniques. Hiding weak points in the presentation, scaling them as if they are unimportant and showing a small increase as huge. Another example is that the number of cancer cases in Turkey is increasing. Instead of the sentence, it would be more meaningful to show that its size is increasing by comparing it with the statistical percentage in the world.

Research is often thought of as observing events, collecting information, data and statistical analysis. Thanks to today's technical, scientific and technological developments, research methods

and tools are getting stronger. In the research process, data is collected, organized, analyzed and synthesized, interpreted; evaluated; predictions are made and transformed into a meaningful body of information. Research methods are the development of strategies to be followed for the research to achieve its purpose. It is extremely important because it determines how the research is perceived, how the data will be collected, how it will be analyzed and how it will be interpreted. Which method to choose in a study depends on the researcher's theoretical perspective, the problem and purpose of the research, the resources that can be used in the research and the skills of the researcher.

It is essential to have some knowledge and skills to conduct research. In research, the ability to use computers is especially important in stages such as collecting information, analyzing the collected information, reporting and presenting the research results. Conducting research ensures the effective use of information. Individuals who constantly use research activities in their lives are expected to have high-level thinking skills such as critical thinking, developing different perspectives on events, empathizing, and being able to examine cause-effect relationships.

Although research culture can be acquired by individuals through education, it is not considered sufficient to have education alone to conduct research. Research performance is greatly affected by behavioral characteristics such as interest, desire, attitude, anxiety, and research self-efficacy belief of individuals. Propositions can be made regarding the character of a person's behavioral characteristics towards research. For example, comments can be made about their discipline and reliability. Individuals who receive research training increase their research self-efficacy belief and research competence. Research self-efficacy affects research productivity, attitudes and approaches towards research. Individuals who receive research training are relatively developed in terms of research competence and are more willing to cooperate in research.

Every research indicates the existence of a problem. In short, every situation where indecision and multiple solution possibilities are seen in research is a problem. Problems force research. For example, poor quality education in our country, personality development based on wrong behavior, inability to produce technology, traffic accidents and unemployment are all problems. The first condition of a problem is to perceive it and to be disturbed by it. Perceiving a problem does not mean understanding the problem clearly; researchers define the problem. Finding the right answer to a wrongly defined problem is impossible except for chance.

The problem statement in the research clearly reveals the researchability of the variables to be considered. The verbal expression of a mathematical problem and the problem statement in the research have the same meaning. The more complete and understandable the structure of the

problem is, the less mistakes the researcher makes in the stages and the more economical use of time is used. The concept of originality in the research problem emphasizes being the first or innovation. Experience, talent, ability to notice, and useful information are important in determining the research problem.

The problem statement should clearly state what is decided and what will be solved. The research problem should determine the boundaries of the research. The problem can be defined with a three-stage approach. These are Integration, Limitation, Definition. The balance between generality and specificity should be achieved in the problem statement. If the problem statement is too comprehensive, it is concluded that the researcher has not sufficiently limited the scope of the problem. It is more appropriate to give the problem statement in the form of a question sentence in the research. Does the problem statement affect? Does it have an effect; Is there a relationship? What is the relationship? It can be written as. Problem statements should clarify what the researcher (which variables) will obtain at what level (what type of data will be obtained) and what statistical techniques will be applied to the data as a result.

2.2.2. Research Sections

The research consists of seven sections:

1) In the first section, information is given about the importance of the subject, the purpose of the research, the problem and hypotheses, the field, data sources, the method used, the order and resources.

2) In the second section, information is given about collecting documents and information, creating standards for providing electronic documents, document providing organizations (Government: TÜİK,..; Internet: Facebook, google, ...), the relationship between providing documents and developing collections, Bradford Law, literature obsolescence. Then, the studies in the literature are evaluated.

3) In the third section, the concepts of cost, cost analysis, cost accounting are explained and the studies related to cost analysis are summarized. The cost is not only Money, but also time and others. For example, your brain is not a garbage collection center.

4) In the fourth section, the purpose and tasks of the study area, organizational structure, offered publication and citation scanning services, reference services, document provision services are determined.

5) The method and design of the study are explained in this section. Data collection, processing, evaluation and unit cost calculation are given in detail.

6) In the sixth section, the findings are evaluated. What will be the benefits of the solutions to be found? In which areas will it accelerate developments? Will it initiate change or transformation? All these questions are evaluated in detail.

7) In the seventh section, whether the hypotheses are proven or not, the results of the study and suggestions based on these results are given, and future studies are indicated. Hipothesis is an assumption or concession made for the sake of argument.It is an interpretation of a practical situation or condition taken as the ground for action. It is tentative assumption made in order to draw out and test its logical or empirical consequences. It is the antecedent clause of a conditional statement.

Bradford's Law: It is used to determine which journals are core journals in a subject. According to this law, journals are divided into three groups containing the same number of articles;

- In the first group, the number of journals is small but they contain 1/3 of the total articles. These are core journals.
- In the second group, the number of journals is larger and the articles they publish are again 1/3 of all articles.
- In the third group, the number of journals is much larger but they contain the same 1/3 of articles.

2.2.3. Objectives of the Research

- Discovery: A new area of interest or topic is investigated, whether a more comprehensive study can be conducted is tested, and methods are developed for subsequent research.
- Description: By making observations (measurements), situations and events are defined quantitatively (numerically).
- Explanation: Relationships between variables and differences between situations are explained by establishing a cause-effect relationship.

What might be good research questions:

- Why? Scientific or non-scientific questions seeking answers to examination, definition, explanation, feedback and testing.
- Questions aimed at measurement, comparison, and questioning.
- Questions seeking relationships between causes.
- What are the significant factors?
- What are the uncertainties, errors, mistakes, empty areas, manipulations?What are the variables? What are the relationships between variables?
- What are the datas to be collected?
- What are the thoughts of knowledgeable people?
- What are the limitations? Time, cost, access to resources, approval of authorities, ethical concerns, expertise. experts
- What are the methods for eliminating alternatives?
- What are the expectations from the result?

2.2.4. Theoretical Foundations of Research

Research is the effort that a person makes to find solutions to the problems person encounters and to make new discoveries and inventions. Research is a process aimed at solving problems. Research is the questioning of the unknown?

In research, what strategy behavior should be developed to achieve success? Research is the most successful way to obtain the truth by using experience and reasoning. The ethic or moral responsibilities of the researcher are protecting privacy, not being misled, not being harmed, ensuring security.

In characteristics of research, research is empirical. Research is a systematic and controlled data collection method. Research is self-correcting. Research is the most successful way to obtain the truth.

The purposes of research are discovery, identification, explanation. Data managers are those who develop consciousness towards research. The process that human beings develop based on research is called consciousness. Measures that include numerical values are called quantitative measures.

In determining the sample size in qualitative research, focus of the research, data amount, institutional sampling" should be taken into consideration.

In the interview, a positive atmosphere should be created regarding the interviewer, questions should not be asked as they come to mind at that moment, appropriate reactions should be obtained, biases should be avoided, exploratory questions should be asked.

Experimental, descriptive, content analysis and operations research are the quantitative methods. Statistical tests are used for analysis in quantitative research.

Field research, case studies, ethnographic research, narrative-based research are the qualitative research methods.

Induction is a logical thinking process that goes from individual facts to the whole, from the specific to the general.

Deduction is a thinking process that goes from the general to the specific in order to obtain information and realize the information obtained. Causal research determines the Cause – Effect relationship.

2.2.5. Planning in strategic research

There is a situation that research has many definitions. Not true. Research is research. The definition is about what kind of a researcher should be.

Planning defines and disciplines workflow processes. It defines how to find changes and uncertainties that create risks before they turn into crises. It points out the rules of transformation from extinction to existence when faced with a crisis or chaos for whatever reason. Strategic planning defines target orientation.

The most important thing to do before starting the research is to make a plan about what will be done. For the plan, the researcher should ask the following questions:

- How should the correct relationship be made between the titles and the hypothesis?
- What should be written in the introduction from general to specific?
- Is there a contradiction or error in the information collected?

Research is a process aimed at solving problems. The solution to the problem is to reach the targeted situation from the current situation. For this, the researcher investigates the reasons that create the problem and ensures that they are changed. The purpose is determined by question sentences or hypotheses.

Hypotheses allow the testing of certain relationships that are suggested to exist between variables. Question sentences and hypotheses should be functional, defining the collected data. Hypotheses are always established with present tense sentences. Because the hypothesis is a general judgment and is not dependent on the past.

The purpose of the researcher and the purpose of the research are separate things. The researcher collects data, the research describes the collected data. There are limitations that the researcher wants to do but cannot do for various reasons. The limitations may arise from the knowledge, skills and opportunities of the researcher, as well as the area of the problem, the aims of the research, the method and other practical difficulties. They are definitions that will provide a perspective to the research.

Strategic planning helps the institution answer four basic questions:

- The answer to the question "Where are we?" is sought with the situation analysis.
- The institution's goal is determined with the answer to the question "Where do we want to go?"
- The question "How will we get to where we want to go?" is answered for the methods to be used to reach the target.
- The question "How do we follow and evaluate our success?" is answered during the evaluation process. It supports the development and strengthening of institutional culture and identity.

When Mevlana said, "Believers do not die, perhaps they move from one house to another.", one of the people present at the meeting objected by saying, "The Creator says, 'Every soul tastes death.'" Thereupon, Mevlana said: "Yes, but the Creator says every soul; He does not say every heart. He says, "Make a place in people's hearts so that you do not die" (Eflaki II:65-66). The connection between this narrative and research methods is to explain the value of unity in teamwork.

Behind the victories won by the Great Hun Emperor Atilla lies the ability to think strategically. The following words of Atilla clearly reveal what we need to do: "We should never give up examining our past. While preparing for the future by leaving aside the mistakes of our past, undisciplined strategies and tactics, we should not forget the bones of the Huns who remained on the battlefields. We should establish the Hun unity with a well-defined goal and determine new principles and policies. We should plan once again and forever in order to be perfect against all enemies and obstacles." In this narrative, the definition of strategic thinking ability is made as "A well-defined goal, principles and policies illuminated by the past".

In tomorrow's institution, we can ensure the loyalty of employees to their institutions with mutual respect and transparency in decisions, not by thinking that we bought them. Atilla's clothing and lifestyle resembled the people. However, his black horse, William, and his stance with his sword; he made everyone realize that he was an elite, noble person who should be followed and respected. Excessively flashy appearances in public cause hatred, you are treated like a court jester.

As a leader, you must be determined and willing to overcome misfortunes, rejections and disappointments. You must be persistent in solving problems. Instead of thinking that your talented competitors or subordinates threaten your position, you should prefer to work with talented people. You should always be respectful of your opponents. You should understand their talents, influences and potentials. If you do not do these, you will be handing over the advantage to your own hands. Atilla is an organizer, manages by classifying. He is talented in persuading

people to do what he wants, and uses arguments that influence people very well. He constantly follows up, and attacks when he finds the opportunity.

It is claimed that when the Titanic sank, the survivors sang in their lifeboats in time to avoid hearing the screams of the drowning. When the crisis broke out, all of the organization, whether it was the management level or the workers, were on the deck of the sinking ship. Those who had the priority to get on the lifeboats, knowing very well that there were not enough lifeboats for the others, covered their ears to avoid hearing the screams of the others as the ship sank. This means that "the consciousness of empathy has not been created". It means that there is no humanity.

Sun Tzu's words in the Art of War: "The weaknesses that will be used by an intelligent enemy are; excessive eagerness for death, excessive eagerness for life, excessive anger and excessive emotionality. Those who are angry, greedy, furious and seeking revenge are always doomed to lose."

The basic condition of communication is listening and expressing oneself. Most mind games are in mutual interaction and competition. The way to increase quality is to prevent mistakes.

2.2.6. Research Stages

- The research topic is determined.
- The problem to be solved is presented.
- It is observed.
- Institutional memory is seeked, scaned, researched. Nowadays, if you have institutional memory, you exist, you are meaningful; if you do not have institutional memory, you do not exist, your place in the cemetery is reserved, waiting for you.
- Resources are scanned. How similar problems have been solved in the past is investigated.
- Collaborations that will support problem solving are determined. Experiences are shared.
- Processes are phased, plans are made.
- Scenarios are prepared regarding possible threats and opportunities.
- Hypotheses are created. Questions to be answered are determined.
- Research methods, models and methodologies are decided.
- Organization is created.
- Equipment to be used is provided.
- Production model is implemented from experiments and prototypes.
- Data is collected by placing meters and sensors in data collection environments. Information is created by analyzing the data.
- Process is monitored, deviations and risks are determined in advance. Observations regarding deviations and risks are made, monitored and limitations are imposed.
- Results are reported, comments and future suggestions are made.

A research consists of three main sections:

Introduction: This is the section where the subject, purpose (problem), importance, hypothesis of the research and the literature related to the subject are discussed. The introduction section includes the problem, importance, limitations, definitions and objectives.

Development: This is the section where the research method (sample, data collection and analysis methods) and findings are discussed.

Conclusion: This is the section where the results obtained in the research are evaluated, generalizations are made, the correctness/incorrectness of the hypothesis is revealed and future suggestions are discussed.

Methods that will allow another researcher to apply the same study should be given in a comprehensive and detailed manner. While brief definitions and explanations are sufficient for the techniques used, newly developed ones, that is, those specific to the research, are explained in more detail.

Subject, purpose and method:

The researcher asks himself questions when determining the subject, purpose and method,

1- What will I research? ---------> Subject

2- Why will I research? --------> Purpose

3- How will I research? --------> Method

Research applications:

- Developing a new product
- Production
- Scientific
- Market
- Accident
- Field feasibility studies
- Corruption
- Judicial events

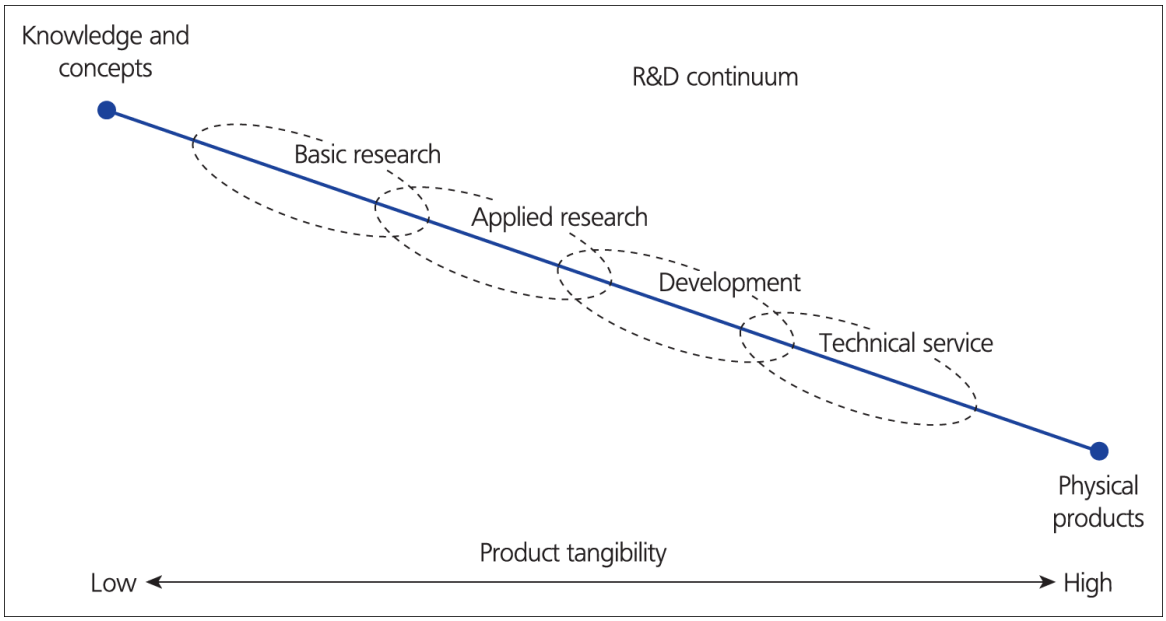
Researchers,

- define the problem.
- work together to solve the problem.
- develop and implement strategies for the solution.
- evaluate the success of their strategies.
- If researches are not positive, they do not develop new strategies.

2.3. Innovation

Technological developments and application areas are advancing at a dizzying pace. Especially information technologies are eliminating the borders of countries. Today's world is the sovereign area of knowledge and those who transform knowledge into technologies. Here, R&D and innovation are the most fundamental advantageous components of competitiveness. Entrepreneur: The one who directs society to work and produce by inventing, producing innovative ideas, transforming ideas into products and marketing them.

R&D: Creative studies carried out to support and encourage the production of technological knowledge in a competitive structure through innovation and design, innovation in products and production processes, increasing product quality and standards, increasing efficiency, reducing production costs, commercializing technological knowledge, developing pre-competitive collaborations, technology-intensive production, entrepreneurship and investments in these areas, and increasing the employment of R&D and design personnel and qualified labor.



Innovation: The implementation of a new or significantly changed product (good or service), or process; a new marketing method; or a new organizational method in business practices, workplace organization or external relations. The clear message given from the definition; It is to develop a new idea that will create change. It is to commercialize innovative ideas and to make changes valid in life.

Innovation cannot turn into profit if the entrepreneur is not respected as a talent and value. In the application, evaluation, referee system, project implementation, resource provision and monitoring steps of the innovation process, a system that will not drown innovative ideas in

details and where talented entrepreneurs can be supported should be designed. Rejected entrepreneurs should be analyzed healthily; “What are the deficiencies?” “How to win?” slogans should be at the forefront and priority. Consultancy support should be provided in guidance and elimination of deficiencies.

The price we pay for rapidly developing, constantly changing services, products and technologies and their negative impact on the current deficit are rapidly growing. Customer expectations and competitive conditions of the market are effective at the basis of the change in research activities. R&D investments and supports are also risk investments. In the international competitive environment, internal and protected, national context innovation should be considered important. Policies should be developed to attract high-tech international companies to scientific studies and production in our country. R&D activities and the power of knowledge create global imbalances in economic and social terms. Innovative, environmentally sensitive ideas should be supported.

Generating innovative ideas:

- Transformation from imitation to a structure that produces innovative ideas
- Commercialization process with inventions, roadmap from ideas to profit
- Behaviors shown to entrepreneurs should be guiding, solution-producing, facilitating, supportive, and embracing.
- Success stories of those who develop innovative ideas with high technological capacity; young talents who have managed to become a team
- Coordination between entrepreneurs and investors
- Elements that value collaborations; suppliers, laboratories, designers…
- Being open to constructive suggestions in solving problems
- Developing human resources
- Strengthening the competitive environment, increasing consumer interests
- The number of our international operators should be increased
- Growth and development of the electronic communications sector
- All kinds of cooperation with sector representatives and higher education institutions

2.4. Points to consider when conducting research

Originality: Research should bring innovation, provide solutions, and create a future. Research should contribute to the value of existence. It should be avoided to be a repetition of what is known. Research should be exploratory, produce solutions to problems, or develop what is known. As a result of the scan, it is determined whether the subject has been examined before, if it has been examined, from which aspects and dimensions it has been addressed, and the missing points. Thus, a subject that has been examined is not repeated, which is of great importance in terms of originality.

Interest: The organization that will conduct the research should be interested in the subject and excited about the results. Poorly planned processes and tricks will cause the interest to disappear. In addition, as time goes by, it will create weariness and may lead to abandonment**.**

Care and acceptance; motivation: The aspects of the subject to be researched, such as its contribution, necessity or solution to problems, add importance. Therefore, the research should be worthwhile in terms of not wasting time, not wasting financial expenses and not wasting the creative mental power of the team.

Additional qualifications: The need for additional equipment such as knowledge and foreign language, reading old texts, analysis programs, and technical infrastructure experience required by the subject to be researched should be determined in advance, and either those with additional qualifications should be included in the team or training should be planned and implemented. If the educational background, field of study, and scientific capacity do not have the informational qualification required by the subject, it is very difficult to conduct accurate and healthy research. Therefore, a team should be formed to cope with the difficulties. In other words, experts in the scientific and experiential fields required by the subject should take part and form a group. In this way, knowledge unity is ensured and the research is carried out healthily with the common intelligence solidarity.

Field research: If a solution is being sought and requires field research, there should be the opportunity to go to the field. If the field data collection tools are based on resources such as observation of the event, geography practice, and obtaining the opinions of relevant individuals or groups, there should be access to these. Topics such as transportation, energy, and security should be investigated in detail.

Source research: Not having too few sources, as well as having too many sources, makes research difficult. All direct and indirect sources should be collected and plans should be made.

Limiting the topic: Nowadays, conducting in-depth research has become more important. In order to conduct in-depth research, the boundaries or framework of the topic should be well defined. However, the framework of the topic may not be determined with clear lines at the beginning of the research. As the research progresses, the framework can be expanded or narrowed according to the data obtained.

Conducting a literature review on the subject:
Resources/documents related to the subject are identified and collected. All theses, books, articles, and catalogs related to the subject are collected in the internet environment that has become widespread today. From the information to be obtained from the literature review,

- What kind of direct and indirect research has been done on the subject before, conferences have been organized, what values have been produced,
- The previously processed and unprocessed, unnoticed or incomplete aspects of the subject,
- The importance of the problem related to the subject, future perspective, opportunities,
- Methods and scales used in previous research
- Findings and conclusions obtained in previous research
- Propositions made in previous research
- Sources used in previous research can be determined.

The sources to be used in the research should be classified as main sources and auxiliary sources. Research conducted for the solution of a problem is the main source. Research should be tried to be based on main sources as much as possible. Studies and compilations created by using main sources are secondary sources. For example; a report in which the researcher is personally involved in an event and conveys his/her observations is the main source. Or the main source is the experimental report in which the researcher publishes the data, findings and results obtained by conducting an experiment himself. Historical or descriptive reports prepared by quoting from these reports are auxiliary sources.

Sources? Books, bulletins, magazines, newspapers, statistics, reports, annuals, communiqués, archive documents, museum materials, TV-radio, internet

Sources can be individuals, authorized managers, officials, community leaders, group representatives, individuals with special information, experts, eyewitnesses, etc. In addition,

interviewing different people on the subject is useful in reflecting different perspectives and creating a healthier idea about the whole subject.

Collecting data and taking notes

In a quantitative - numerical research, the main data collection tools are; survey, experiment, source review, interview and observation. Data can be collected using several of these methods.

Whether or not a source contains information about the research topic can be learned by looking at the table of contents and index. After determining the sources from which data can be obtained, the collected sources are researched according to interest. The following should be taken into consideration during the research;

The research should be selective, and sections that are not relevant and will waste time should be examined superficially.

A simple structure should be created regarding the general framework (introduction-development-conclusion) during the research.

Attention should be paid to emphatic noun phrases and especially contrasting conjunctions in the documents.

The research process should be carried out by taking notes on paper and in computer environments. They should be written in files that are easily accessible and understandable on the computer. These are called "information slips".

2.5. Classification of Research

According to their characteristics, research is divided into various groups. These are;

1- In terms of their purposes; basic and applied

2- In terms of the environment in which they are conducted; book, laboratory and natural environment

3- In terms of their methods; experimental, situational, statistical, field

Research in terms of their purposes:

- Basic research
- Applied research
- Natural Environment and Laboratory Research
- Experimental Research

Research is divided into two as laboratory and field research according to the environment and research environment in which it is conducted:

- Laboratory research: A laboratory is an artificial environment. Behaviors in a controlled and artificial environment will be different from real life.
- Field research, on the other hand, is located in real life, there is no artificiality here.

In terms of their methods, research is divided into two as passive and active on-site experience.

- In the passive case, the researcher does not artificially add any factor to his experiment. For example, in elections, it is revealed how the votes of the voters differ according to gender, age, religion, economic and social level by an opinion poll to be conducted among the voters.
- Actively conducted on-site experiments are artificially adding a factor to the flow of processes (education, family, political, economic transmission etc. processes) and examining the results.

Such experiments have been conducted for purposes such as investigating the effects of propaganda made through cinema, determining the effect of lighting on productivity in the workplace, and examining how prejudices can be eliminated. The aim is to find theories, add new ones to existing knowledge, and explain and interpret the selected phenomenon from the compiled information. New theories are developed by reproducing previously processed information with different components. The main thing is not to solve the problem but to understand it better.

Applied research in terms of their purposes:

Applied research aims to solve an existing problem, improve or develop a situation. The researcher is directed towards a specific goal in solving the problem. In such research, the result is the actual solution of the problems. It is aimed to solve certain problems by using existing information. It is aimed to increase the benefits provided by developing information about the problem. Patent rights are often obtained for the information obtained. Producing information is expressed as the main purpose of basic research, but information can also be produced as a result of applied research. Experimental studies, studies aimed at determining certain problems and producing appropriate solutions, and studies aimed at producing concrete products for problems fall into this group.

Types of applied research: Case study, special case, action (action), ethnographic, developmental, phenomenographic, experimental, historical, grounded theory.

Case study studies:

It is a preliminary study conducted before applying data collection tools such as interviews and surveys. It is possible to study one aspect of the problem in depth and in a short time with the questions of how?, why? and what?.

Special case study:

A study that focuses on a current special issue in depth. The special nature of the issue is determined by survey and interview methods of the survey method. How? and why? questions are sought.

Characteristics of special case study:

- Rich and vivid description of events
- Chronological narration of events
- Establishment of an internal discussion between the description of events and their analysis
- Focusing on the perceptions of specific individual actors or groups of actors
- Focusing on specific events in the special case
- Participation of the researcher as a part of the special case
- A rich way of presenting the special case

Special case study designs: Holistic single case designs; It is a study of a single individual, an institution, a program, a school. Example: Researching a school as a whole and a single unit of analysis. Single case nested design; It is a study of more than one sub-layer or unit within a single case.

Example: Researching a school with its classes.

- Holistic multiple case design; It is a study of each case as a whole within itself.
- Example: Researching different schools according to their socio-economic levels (low, medium, high).
- Nested case design; It is the research of each case by dividing it into various sub-units. Example: Research on effective working of groups in schools with different socio-economic levels

Action Research

These are methods developed to solve a problem that arises at a specific moment in practice. These are the researches they conduct to solve the problems they encounter during the practices. Action research is done in 4 stages,

- Defining the problem
- Making a plan
- Implementing the plans
- Evaluating the effect of the practice

Ethnographic (Culture) Research

It is a branch of science that examines and interprets the lifestyles, behaviors and cultures of human communities in their natural environment. It is widely used in anthropology. Techniques:

- Participatory eyes. It is a research in which observation and interview are conducted without intervening in the environment where the researcher makes the observation.
- Non-participatory eyes. It is the research of topics such as small communities and human-object relations.
- It consists of interviewees keeping diaries on the subject being researched and talking about the experiences they recorded.

Developmental Research

It is the research of “What was. What is” of a subject. This research is done to define, compare, classify, analyze and interpret the results of individuals, groups, institutions, methods or materials. The development element is examined longitudinally, crosswise and in terms of tendency and prediction.

Phenomenographic research

Every subject that can be perceived, observed and consciously understood by the senses has been developed to answer a number of questions about thinking and learning in research. It seeks answers to two main questions:

What does it mean that some practices are better than others? Why are some practices better in performance than others?

Experimental research

This is a research that involves applying the factor to be measured under certain rules and conditions to the subjects, measuring the responses of the subjects to the factor and comparing the results obtained and reaching a decision. Techniques:

- Full experimental method; These are studies that reveal the differences between experimental and control groups.
- Quasi-experimental method; These are studies conducted by intervening in one of the experimental and control groups.

The control group strategy is particularly useful in measuring the effect in experimental research.

A researcher's moral responsibilities towards subjects:

- protecting the privacy of subjects
- not misleading subjects
- not harming subjects
- ensuring the safety of subjects

Historical research

A method used in researching the past and the process from past to present. It is usually used by historians and educators. Questions such as where?, why?, when?, what happened in the end are sought.

Grounded theory research

A modeling study that explains some previously unknown results in relation to each other according to the collected data. It is usually used in sociology. The aim of research conducted with this method is to prepare the ground for theory with application, experiment and observation and to discover or develop new theories, concepts and hypotheses.

Comparative Method:

In cases where experimentation is very difficult and limited, the comparative method is used in sciences to overcome this deficiency. Durkheim called this indirect experience. In this method, the situation of the same event in different places and over time is examined by comparing. For example, comparing the situation of Indian philosophy in ancient times with its current situation and comparing villages in India, Southeast Asia, Australia or the islands of the Indian Sea with each other in order to explain the differences and changes between them can be given as an example of this.

Explanatory Research:

This type of research provides the opportunity to make predictions, which is the ultimate goal of science. Explanatory research aims to establish a cause-effect relationship between events and variables using data collection tools and to explain events and facts by starting from a hypothesis.

Descriptive or Situational Research:

It is explained under the concepts of field research, scanning method, field research or survey. This is also called descriptive research. Field research includes people's opinions and evaluations on any subject.

The scientific nature of field research stems from the fact that it includes variables. These variables constitute independent variables; dependent variables.

With this type of research, we have systematic and regular information about the facts. In a descriptive research, the existence or absence of any relationship is investigated. We gain extensive information about the universe by starting from the sample. It becomes easier to formulate new hypotheses. Descriptive research does not explain to us why that fact is like that, why that relationship is established like that, instead they inform us what is in the facts, what is together with what. The results of descriptive studies are shown with percentage tables and graphs, and the existence or absence of correlation between variables is determined.

Descriptive studies (surveys) try to explain what some characteristics of events are individually or how two or more characteristics are at a relational level. In descriptive studies, unlike experimental research, there is no question of examining one variable as a function of another.

Our conceptual model is enriched with descriptive studies. In this type of studies, the stages of hypothesis, observation and interpretation are passed. The hypothesis may be based on a theory

or common sense, or there may not be a very close relationship between the theory and the hypothesis.

Descriptive or Counting Type Studies:
Scientific information cannot be obtained at the end of these studies. In descriptive studies, it is revealed how often certain characteristics are observed in a sample. These are counted and listed. It is not necessary to investigate whether there is a relationship between these numbers. In these, the characteristics of the universe are listed based on the sample.

These are mostly done to meet practical needs. For this reason, they are applied by social workers, advertisers and marketers rather than social scientists. Population, workplace and household counts, and censuses conducted by municipalities to determine infrastructure services in shantytowns are included in this type of research. The importance of descriptive research for science comes from providing clues for descriptive research.

2.6. Research Approaches

Research Methods:
• Quantitative - Numerical methods: Experimental method - Descriptive method - Content analysis - Operations research
The first thing to consider in quantitative - numerical research is which statistical tests will be used to analyze the data. The number of dependent/independent variables, variable types (continuous-discontinuous) and measurement levels (classification, ordinal, interval, ratio) determine the statistical tests that can be performed (parametric-nonparametric).
• Qualitative methods: Field studies - Case studies - Ethnographic studies - Narrative-based research
• Mixed methods

A research method based on numerical and source data, where quantitative (numerical) data collection methods such as source scanning, experiment, survey, archive documents are used.

Quantitative (numerical) research:
The experimental research approach is numerical research methods where observations and measurements can be repeated. Quantitative (numerical) research uses numerical data to define the relationships between events. Quantitative (numerical) research has a research problem. Numerical research mechanisms have a numerical origin and generally require the collection of

large numbers that can be evaluated with statistical analyses. Numerical research allows the determination of similarities, ratios or differences of various groups within a certain dimension.

The quantitative (numerical) approach is based on objective and realistic paradigms. In the objective (objective) understanding, the researcher who investigates a subject collects and analyzes data with observations or measurements. Personal judgments and interpretations should not be included in these stages. Mathematical models and statistical methods are used to find relationships between facts and the results are expressed numerically. The aim of the objectivist view is to explain human behavior within a deterministic framework by putting it in a system and mold.

The quantitative (numerical) research approach was first used and applied systematically in natural sciences. The main reason for this is the principle of objectivity attributed to natural sciences and the fact that it became a science in terms of system and method before social sciences. Since the 19th century, when social sciences gained scientific character, the quantitative (numerical) approach method used by natural sciences has also been adopted by social sciences.

Quantitative (numerical) research uses numerical data to define relationships between events. Quantitative (numerical) research has a research problem. Numerical research mechanisms are numerical in origin and generally require the collection of large amounts of numerical data that can be evaluated with statistical analyses. Numerical research allows the determination of similarities, ratios or differences of various groups within a certain dimension.

Quantitative (numerical) research models:

- Survey
- Experimental
- Meta-Analysis
- Correlational
- Single-subject research
- Design and Development

Qualitative (Inquiry-based narrative) research:

Qualitative research uses observations and experiences as narrative words. Qualitative research has a research question. Qualitative research designs are more abstract in origin. Qualitative approaches consider what a person writes, says or observed behaviors as the primary data source. Qualitative research is “the non-numerical examination and interpretation of observations to discover the meaning and type of relationships.”

2.7. Monitoring and evaluation indicators

Monitoring: It is the process of regularly and continuously collecting data/information, analyzing it and converting it into indicators and using the information obtained in order to determine and solve problems in practice in the shortest time possible and to accelerate the decision-making process.

Evaluation: It is the measurement of the impact, effectiveness, sustainability and validity of a program, project etc. planned practices at certain intervals in line with clear goals. It is the impartial evaluation of the previous implementation process, results, target-implementation-result consistency with indicators as input for the future decision-making process.

Monitoring and evaluation indicators:
Input indicators: Indicators related to the resources used for the realization of an activity/project: manpower, financing, time, tools-equipment etc.

Output indicators: Indicators related to the goods and services produced as a result of the realization of an activity/project: number of rugs woven, number of children vaccinated etc.

Process indicators: They are the methods of organizing and delivering inputs to create outputs: indicators related to issues such as in-house functioning, promotion, field organization etc.

Efficiency (performance) indicators: Indicators that measure the implementation performance of the activity/project by comparing output indicators with input indicators.

Impact indicators: Indicators related to the impact created on the target audience as a result of the implementation of the activity/project.

Indicator selection: It is necessary to pay attention to the features of validity, reliability, sensitivity and easy accessibility. These are, in short, the answers to the questions given below,

- Validity: Can an indicator really measure what it wants to measure?
- Reliability: Can data be obtained accurately?
- Sensitivity: Can it record large but significant changes in conditions?
- Easy accessibility: Does it save time and can the data be easily compiled?

It may be possible to choose the best indicator by searching for answers to these questions.

In addition, indicators:

- Should be universal, national, regional indicators,
- Should be widely used indicators,
- Should not be many indicators, but a small number of indicators that are suitable for their purpose and of high quality should be produced.

2.8. Hypothesis: Assumption

The important scientific tool of reflective thinking developed as a result of research and observation is the hypothesis based on hypothetical information. They are hypotheses with a deep-rooted and broad validity that shed light on scientific research. Hypotheses emerge with the verification of controlled experiments. Theories also provide people with the opportunity for prediction. They are hypotheses that have not been proven to be true, nor have they been refuted, and are constantly supported by new studies. A theory usually consists of two elements. a) Axiom b) Hypothesis

Axiom: They are general principles that are accepted as true and valid without being tested. In other words, they are statements that have strong beliefs about being true. This is more common in science. However, axioms are not used much in social sciences.

Hypotheses are generalizations that are assumed to be tested. Hypotheses may be true or false after the collection, analysis, measurement and evaluation of information. Hypotheses are temporary judgments and propositions that have not been tested, have not yet been verified or falsified. However, not every proposition is a hypothesis. In order for a proposition to be a hypothesis, it is not known whether it is true or not and there is no possibility of direct testing of the proposition.

Hypothesis constitutes the researcher's purpose and claim. It is tested repeatedly during the stages of the research. It plays a guiding role that leads the researcher to the purpose of the research, it is the researcher's compass. Hypotheses are answers given to the research problem in advance. It is a pre-judgment and a goal to be reached. In more scientific terms, it is an example of systematized skepticism of scientific knowledge. Whether or not there will definitely be a hypothesis in every research is a matter of debate, but in every research there is a belief that is desired to be realized, an idea that is tried to be verified, a piece of information and an expectation. Hypotheses are the eyes of the researcher. Scientific research is conducted according to the existing hypotheses. If a hypothesis that will guide a scientific research is not known for sure, the research will not be able to go further than unsystematic, random experiments. The

information obtained in this way will be useless and the studies conducted will not have a scientific feature.

Hypothesis is not a question sentence; it is a temporary answer given to question sentences. There are two types of hypotheses. 1. General hypothesis 2. Test hypotheses. General hypothesis is a hypothesis belonging to the whole. Test hypotheses are hypotheses belonging to the parts. The general entity (general subject) addressed in the research is separated into parts through analysis. The general hypothesis is obtained by combining the test hypotheses.

A correct hypothesis should not contradict known facts, it should allow new facts to be predicted. It should offer a solution to the problem, and it should be open to predictions, experiments and observations.

If there is no theoretical framework in a research, it will be difficult to establish a hypothesis. If the researcher does not know the methods and techniques related to the subject and does not have the necessary formation in this regard, it is not expected for the research to reach its goal. There is no definite number on how many hypotheses should be in a research. However, it is mandatory to determine at least one hypothesis for each sub-problem. We obtain a law by testing the hypotheses. However, law is not possible in social events. However, it is possible to talk about theory in sociology and psychology.

Qualities sought in a good hypothesis:

- should be based on a theoretical basis
- should be testable
- should be expressed in a clear, simple, understandable and functional way
- should define the relationship between variables

Scientific method: Ideas, rules, techniques and approaches used to produce and evaluate knowledge.

Deduction-Induction:

Testing hypotheses, that is, determining their scientific validity, is done in two ways. One of them is the inductive method and the other is the deductive method. Data with scientific validity should be functional. It should be sufficient. It should be reliable. It should be correct.

Deduction: It is a thinking process that goes from the general to the specific in order to obtain information and realize the information obtained.

Induction: It is a logical thinking process that goes from individual facts to the whole, from the specific to the general. In the deductive method, validity stems from the consistency of the results with the premises. This is a syllogistic method based on Aristotle's logic. For example; All people are intelligent. Ali is also human. Ali is also intelligent.

Induction: It is called deriving general propositions from individual facts, finding general principles and laws. Whether the event occurs spontaneously in nature or through experiments in a laboratory, it must be comprehended mentally. In this case, scientists resort to observation and experiment. However, experiments are generally used in science (physics, chemistry, biology, etc.), and observation is used in social sciences. Induction leads the scientist to systematized information. Systematized information is needed more in sociology than in other sciences. Because social systems are among the main subjects of sociology.

The scientist who applied the inductive method to sociology was Emile Durkheim. According to him, a social fact can only be explained by another social fact. In his work Suicides, he defended the idea that the reasons for suicides should be sought in social institutions, social order and social events that affect all people rather than the psychology of individuals, and he supported these ideas with the help of some analyses based on numbers. In these analyses, Durkheim took factors such as religion, language, nationality, village, city life, profession and gender as variables that affect suicide events and tried to reveal the relationship between these variables and suicide events in various professions and to find general results that are valid for all countries. According to the results he found, the fact that suicide rates in individual countries occur in a more or less constant manner showed that suicides are subject to social pressures that affect all people other than individual reasons. For example, in all countries, suicide rates for women and men are higher in cities than in villages. The reason for this is that social order has an effect on individual psychology. Thus, Durkheim, by examining different genders in different countries and many other factors, reaches general conclusions that can be valid for all of them by starting from the research of these special situations. Thus, just like a physicist who conducts experiments, he presents the cause-effect relationship shown by an event that he repeats under certain conditions as a physical law, and he uses the inductive method.

Hypothetical Method (Compound Method):

Charles Darwin (1809-1882) combined Aristotle's deductive and Bacon's inductive methods and created an inductive-deductive method from this. This is also called the compound method.

The researcher first creates experiments by starting from observations through induction. Then, by deductive means, he tries to determine which situations and facts (verifiers) should exist if the experiments are true. Then, the relevant evidence, facts, and data are collected and the test of the verifiers or experiments is started.

Since determinism prevails in science, it can be more or less predicted what will happen in the future. This is extremely difficult in social sciences. Because, as explained above, since humans are thinking, questioning and comparing beings, it is not possible to predict what they will do. Therefore, there have been those who have not accepted the scientific claims of social sciences and have argued that social life should be handled by doctrines (doctrines) rather than by science. If this is the case, then social philosophy, not science, will be done.

According to Lundberg, the understanding of determinism in physical sciences has changed significantly and has come closer to that in social sciences. In the beginning, sociological laws were thought of by taking physical laws as a model. Today, physical laws are trying to approach the laws of sociology.

Since social events are very complex and difficult to explain, sociology has gone through various stages in terms of method, and there have been intense method discussions in the history of sociology. For example, Max Weber said that the cause-effect relationship seen in natural sciences could not be the case for social sciences and that social effects and values were more dominant in social sciences. Karl Mannheim argued that the quality of certainty sought may be more valid in the natural sciences than in the social sciences, and that sociologists' perceptions and thoughts are necessarily influenced by sociocultural values. According to him, relationships can be found between seemingly unrelated facts and even coincidental facts. In addition, cause-effect relationships are subject to the influence of our value judgments and emotional reactions.

2.9. Methodology

Method: The path followed to achieve a goal.
Policy: Path, method.
The content or structure of the concept of methodology is divided into two as theory and research techniques.
Scientific Method: It is the systematic organization of techniques. In addition to the source of information, the accuracy of the information is also an important issue. Since science is constantly developing, there are no final truths. New information is added through learning.
Research technique: It refers to the special ways used to collect and organize data.
Let's try to explain it schematically as follows for a better understanding of methodology

Methodology is the strategy or general approach that reflects the organization, execution and conclusion of scientific research within a logical framework. In short, methodology is the logic of scientific research. The general principles of methodology are the same in all sciences. Every science has adopted experiment, observation, induction, deduction and induction-deduction (combined method) in its methodology.

Methodological Features:
Induction is the process that passes from the knowledge of facts to the knowledge of the laws that govern these facts. Understanding events as they really are is the basic feature of scientific thinking. Features that can be called methodological principles:

- Holism; is to grasp an event with all its reasons.
- The principle of objectivity is not to have any prejudices when considering an event. Preconceived ideas are false images that prevent the truth from being seen.
- The principle of evidence is that scientific information is based on concrete evidence that is accepted by everyone and has general validity.
- Being systematic; organizing the study without neglecting any stage allows access to the next information.

What Kind of Method Should Be Used?
The accuracy of observations and determinations made without considering the relationship of the parts to the whole, the connection of the parts to the whole and the structure of the formed whole will be low. It is possible to divide the discussions on methodology into two general parts: Quantitative methodology, Qualitative methodology.

Quantitative Methodology:

It is a control mechanism with the analysis and interpretation of measured values based on statistical measurement and evaluation; cause-effect-cause relationship. According to the quantitative methodology, a research project:

- Problem
- Theoretical Framework: Axiom (hypothesis, assumption), Hypothesis (test)
- Research plan
- Universe
- Sample
- Information collection techniques
- Analysis and interpretation of findings
- Conclusion and recommendations

Qualitative Methodology:

The researcher requires that he enters the field without adhering to the preconceived research plan and the measurement and evaluation analysis it requires, and that he finds and explains the meaning of the subject by conducting research.

According to the qualitative methodology, in a research project,

- Problem
- Reviewing sources and summarizing them briefly
- Plan
- Research permission
- Collection of information
- Combining information and data
- Classification of information and data

2.10. Ethics of Research

Research Ethics is about norms, values, right and wrong, good and bad, and what ought and ought not to be done in the context of research. Ethics of Research Involving Human Subjects is all of the above but with emphasis on the dignity, safety and well-being of the human subject

Research is a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. A living individual about whom an investigator conducting research obtains (a) data through intervention or interaction with the individual or (b) identifiable private information

Engineering ethics is the field of system of moral principles that apply to the practice of engineering. The field examines and sets the obligations by engineers to society, to their clients, and to the profession. As a scholarly discipline, it is closely related to subjects such as the philosophy of science, the philosophy of engineering, and the ethics of technology.

Who is responsible for research ethics? Should investigators be responsible for research ethics? A prisoner is submerged in cold tank ; goal of to determine how long German pilots would survive after parachuting into the cold north sea. Prisoners put into low-pressure tanks with little oxygen; goal to test how long pilots would survive after being ejected.

Unethical scientific studies:

- Experimental surgeries without anesthesia
- Effectiveness of weapons – conventional, biological, chemical
- Course of untreated diseases
- Subjects incinerated after studies

The Belmont Report 1979 introduced 3 fundamental ethical principles that is now widely accepted:

- Respect for person
- Beneficence and non-malfeasance
- Justice

In research, beneficence is understood in a stronger sense, as an obligation. Two general complementary rules (Commission) :

- Do not harm
- Maximize possible benefits and minimize possible harms.

“In research …. one should not injure one person regardless of the benefits that might come to others” Claude Bernard

Tüm bireylere adil davranılmalıdır. Araştırmada, dağıtım adaleti, yani faydaların veya yüklerin dağıtımı söz konusudur. Araştırma, araştırmanın sonraki uygulamalarının yararlanıcıları arasında olma olasılığı düşük gruplardan kişileri gereksiz yere içermemelidir.

Seven requirements for Ethical research:

1) Societal/Scientific value
2) Scientific validity
3) Fair subject selection
4) Favorable risk-benefit ratio
5) Respect for subjects
6) Informed consent
7) Independent review

1. Social or Scientific Value: Each study must have social or scientific significance. The treatment or hypotheses being tested should improve health and well being or increase knowledge about the research area. Basic reason why Value is ethically important: Human subjects should not be exposed to unnecessary harm or placed at risk of potential harm without some possible social or scientific benefit from the research.

2. Scientific Validity: Clinical research should be well designed not only to ensure its scientific quality but also its ethical propriety. Two reasons why Validity is ethically important:
   - Avoidance of exploitation: "Scientifically unsound research on human subjects is ipso facto unethical in that it may expose subjects to risks or inconvenience to no purpose.“ CIOMS 2002
   - Accuracy of outcomes / findings: Scientifically valid design ensures research outcomes are accurate and reproducible.

3. Fair subject selection: Fair subject selection means that vulnerable individuals or "convenient" sample are not unfairly targeted for risky research; and the rich and socially powerful are not favored for potentially beneficial research. Subjects should not be selected that can cause biased or inaccurate outcomes. Fair selection of subject for research entails:
    - Decisions about who will be included through the development of specific inclusion and exclusion criteria.
    - Strategy for recruiting subjects, such as which communities and individuals to be approached.

    Fair subject selection: Important vulnerable (NOT to be unfairly targeted) or underrepresented (NOT to be unfairly excluded) groups:
    1) Children
    2) Women
    3) Emergency patients
    4) Populations of developing countries
    5) Minority populations
    6) Institutionalized populations (vulnerable only)
    7) Members of a group with a hierarchical structure, e.g.. students, employees, subordinates, armed forces, prisoners ICH GCP 1.61 (vulnerable only)
    8) Fetus and embryo (Vulnerable only)

4. Favorable risk benefit ratio:
    - There is always an element of risk in Clinical research.
    - The assessment of risks and benefits is therefore arguably the most important responsibility of an IRB/IEC
    - Clinical research can be justified only if, consistent with the scientific aims of the study and the relevant standards of clinical practice, and:
        - Risks to individual subjects are minimized
        - Benefits to individual subjects are enhanced
        - Benefits to individual subjects and society are proportionate to or outweigh the risks

5. Respect for research subjects:

   Individuals must continue to be treated with respect from the time they are enrolled, throughout their participation and even after their participation ends.

   Respecting subjects means doing the following:

   1) Protect subject's confidentiality & privacy
   2) Provide opportunity to withdraw early, without penalty
   3) Monitor subject's well-being. Have procedures to manage:
      - Adverse reactions, emergencies, change in clinical status
      - Pregnancy: discontinuation ? Monitor till outcome
   4) Inform subject of new information, and re-consent if necessary
   5) Inform subject of study results, in recognition of contribution to research
   6) Compensate subject for research injury

6. Informed Consent:

   ICH-GCP 4.8:

   - Should be revised when new information becomes available relevant to subject's consent.
   - Text should not coerce or induce participation or continued participation.
   - Should not contain statements that cause subject to waive any legal rights, or appears to release investigator, institution or sponsor from liability of negligence.
   - Language used should be as non-technical as practical and should be understandable to the subject
   - Should provide subject with ample time and opportunity to enquire about details of study and to make decision
   - Informed consent form must be signed and dated by subject before participation

   MREC Guidelines on Research Involving Minors:

   - Assent of Minors is required in research involving subjects of age 7 to <18 yrs
   - Assent must be respected in most situations
   - Agreement of parents or legal guardians is required before assent of minor is obtained
   - Assent information sheet must be in a language easily understood by the relevant age group

7. Independent Review:

   A fundamental requirement for ethical research for 2 reasons:

   - Independent review by unaffiliated individuals minimize the impact of conflicts of interest (of investigators, sponsors, institutions).
   - Independent review is important for social accountability; assures the public that human subjects who enroll in trials will be treated ethically.

   An independent body constituted of medical, scientific, and non-scientific members, whose responsibility is to ensure the protection of the rights, safety and well-being of human subjects involved in a trial by, among other things, reviewing, approving, and providing continuing review of trial protocol and amendments and of the methods and material to be used in obtaining and documenting informed consent of the trial subjects.

3. Scientific Research Methods

3.1. Scientific Research Methods

Research begins by "asking questions". The main reason behind asking questions is curiosity. The aim of a person who asks questions out of curiosity is to gain in-depth knowledge on a certain subject and to find a solution to the problem related to the question he asks.

The ultimate goal of scientific research is to produce knowledge. Scientists who conduct scientific research usually use the inductive method to reach new knowledge, that is, generalizations such as laws and theories. For this purpose, they make observations about the problem, collect data and analyze the data, and then propose an explanatory and/or solution-providing hypothesis.

A hypothesis is an assumption regarding explanation/solution; therefore, it must be tested and shown to be valid or not. The scientific research approach or method is a process. In order for the process to be completed, that is, for the findings to be accepted as scientific knowledge, they must be evaluated by other scientists (referees) who are experts in the subject and sorted out for wider audiences.

The scientific knowledge produced remains in the evaluation process until it is falsified after it is published. The scientific knowledge produced is in the continuous evaluation process.

Science enables new information to emerge. It is to find the reasons and wherefores of events that occur, their connections with each other; to generalize and theorize them, and to determine how and when future events will occur with the help of this theoretical information. Science is always seeing what others see but thinking that no one is aware of.

Science,

- It is a word derived from the Latin root to know (Scire), meaning the known (scientia) or knowledge.
- Science in the modern sense emerged as a "way of thinking" that replaced tradition and religion in the enlightenment age in understanding and explaining nature and society as a result of significant social and political changes in the West in the 16th-17th centuries.
- "All efforts to investigate the truth"
- "A set of systematic information whose validity is accepted"
- "The common name for mental activities based on impartial observation and systematic experimentation regarding the objective world and the facts in this world"

Science: The process of gaining systematic information while thinking. According to Albert Einstein, being able to formulate a problem is much more important than solving it by using mathematical or experimental skills. Asking questions about problems, answering the questions asked and presenting alternatives requires creative imagination; and this approach is a sign of real progress in science.

Science:

1. It is not a mathematical concept; it is a complex method.
2. It is not static (unchangeable); it is dynamic (living, active, variable).
3. Its existence has been proven by experiment (factual); it is based on observable facts.
4. It is logical; scientific judgments are consistent and non-contradictory.
5. It is a method of verifying hypotheses (assumptions) with its explanatory feature according to the results of controlled observations.
6. It is a human activity that transforms the unknowns into reality before they are discovered.
7. It is a body of systematic knowledge whose validity has been proven.
8. According to rationalism, the source of human knowledge is “reason”
9. According to empiricism, the source of human knowledge is personal experiences
10. The basic functions of science are understanding, explanation and prediction – control; awareness.
11. The scientific method is a synthesis of inductive-deductive approaches

In engineering, a problem is defined. Solution suggestions are investigated. Options are evaluated. The most appropriate choice is determined.
In science, a problem is defined. Observations are made. Hypothesis is suggested. Experiments are made. Hypothesis is accepted or rejected.

The stages in the problem solving process can be summarized as follows:

1. The emergence of a need or the feeling of a problem
2. Determining the location of the difficulty and the problem
3. Proposing some solutions hypotheses (tests)
4. Determining the confirmators
5. Testing the hypotheses

The purposes and functions of science:

- Understanding - description: perception, meaning, animation.
- explanation
- interpretation
- control

Scientific Knowledge:

A conscious and intelligent being, a human being wants to know the objects and events he encounters or will encounter in the world and the universe with the types of knowledge he has. The product that emerges as a result of the interaction process with what is encountered is called knowledge.

The two most basic criteria that distinguish scientific knowledge from other types of knowledge such as magic, fortune telling, religion, literature, art are that the subject of science is questionable, experimental and acceptable to everyone.

Criteria of Scientificity: Observability, Measurability, Transmissibility, Repeatability, Availability

Scientific knowledge has some specific features:

1- Principle of impartiality (Public benefit)
2- Correct measurement
3- Proving quality
4- Generalizing quality
5- Science studies what is, not what should be.

The purpose of scientific activity is

• to define the facts in the subject under study,

• to establish a causal relationship between the facts and to generalize them,

• to gather them in theories and reach laws.

All of the things that need to be known about the existing systematic relationships are science. It is information obtained through a certain scientific method as a result of observation and experiments**.**

Basic assumptions on which science is based:

• There is a cause-effect relationship between events

• Information can be collected through induction

• Information can be collected through deduction

Branches of science:

• Natural sciences

• Engineering and technology

• Medical sciences

• Agricultural sciences

• Social sciences

• Humanities

Nature of Science:

Science starts with observation, continues with experimentation, and is eventually given meaning by laws or propositions. Scientists carefully observe what is happening; classify and interpret the data they collect, create theories to explain the reasons for the findings, test theories, if the tested theory is consistent with the facts, it is accepted as correct, if it is not correct, it is corrected or a new explanatory theory is created.

Scientists:

A set of informal rules, principles, and values that govern how scientists conduct their research:

• Universality

• Organized skepticism

• Objectivity

• Sharing

• Honesty

Scientists check each other to see if norms are being followed

Approaches of scientists:

- Authoritarian Approach: Views of people who are considered experts in their field and are considered authorities
- Mystical Approach: Using clergy, mediums, fortune tellers to find solutions to problems
- Rational Approach: Obtaining information through logical thinking. There are two types; induction (Aristocrat), deduction (Bacon)
- Scientific Approach (Research): Studies that are systematic, planned, and sometimes controlled.

What criteria should a person with scientific behavior meet?

He is an open-minded person, stubborn in achieving his goal, self-critical, able to use all kinds of sources to gather information, methodical skeptic, seeking information for every claim, able to distinguish between fact and opinion or hearsay, logical, constantly willing to learn and understand, postponing his decision until he has obtained sufficient information, preferring the data when there is a conflict between his own opinions and the conclusions he has reached, and accepting that there may be a margin of error in every decision.

Question Bank for Scientific Research:

- The ultimate goal of scientific research is to produce knowledge.
- Scientific knowledge is in a continuous evaluation process.
- Science: The process of acquiring systematic knowledge while thinking.
- Criteria for scientificity: Observability, Measurability, Transmissibility, Repeatability, Availability
- The meaning of the word “plagiarism” is copying, plagiarism, academic theft, appropriation of someone else's work
- A partially verified conceptual system theory that explains facts and relationships between facts.
- The ideas, rules, techniques and approaches used to produce and evaluate knowledge are defined by the name of scientific method?
- All efforts to investigate the truth are called science?
- The most basic criterion that distinguishes scientific knowledge from other types of knowledge such as magic, fortune telling, religion, literature, art is that the subject of science is experimental, questionable and acceptable to everyone.
- Scientific studies presented at congresses and symposiums are called Announcements.
- Scientific studies published in journals etc. are called Articles.
- The scientific study prepared to complete the Master's and Doctorate degrees is Thesis.

- Stages of Scientific Research Method: Defining the problem; Estimating the solution; Conducting experiments and evaluations; Reporting
- The path to be followed to reach information in a scientific research is called method.
- Judgments that are largely certain of their accuracy are called assumptions.
- Basic Characteristics of Scientific Method: It can be checked; It is critical and corrective; It is experimental; It is reasonable;
- The situation of not being able to obtain any information from the selected sampling units is called missing data.
- Since money brings distinction and success, collecting information has strategic importance in the struggle for power and dominance.
- Inadequacy of archiving where information is stored, especially destroys the accumulations?
- Findings are obtained by processing the collected raw data with various techniques and analyzing it?
- Induction is called deriving general propositions from individual facts and finding general principles and laws.
- General principles that are accepted as true and valid but not tested are called axioms.
- Generalizations that have not yet been verified or falsified and are designed to be tested are called hypotheses.

Propositions or expected actions that have been proven to be true are called facts. The whole consisting of facts is called an event. Theory is the name given to abstract information and all thoughts concerning a problem. Unchangeable generalizations that have been proven to be true are called laws. A perspective that is free from prejudices, above personal thoughts, and outside the influence of emotions is called Objectivity. Consistency is the absence of contradictions in the results reached. The fact that what is written is true and complies with the standards, rules and principles is called accuracy. Criticism is the name given to examining, testing and judging the foundations of knowledge and its accuracy. The state of knowing the next one or the one after that is called prediction.

The specific characteristics of scientific knowledge: The principle of impartiality, The quality of correct measurement and proof, The quality of generalization, Being science.

In the scientific approach: Hypothesis is developed in line with the preliminary data collected. Hypotheses are tested. At this stage, there is a comprehensive data collection activity. It determines the necessary suggestions, laws and rules for reaching a conclusion and solution. Data is collected through experiments and observations to determine the problem.

- A person with scientific behavior; Open-minded, Tolerant, patient, Stubborn in reaching the goal, Self-critical, impartial, methodical skeptic.
- A person with scientific behavior is someone who can benefit from all kinds of sources to collect information, Asks for information for every claim, Can distinguish between truth and opinion or rumor, Logical, and has a desire to constantly learn and understand.
- Behaviors that are not in accordance with scientific ethics: Plagiarism/Plagiarism, Use without attribution, Fabrication, Distortion.

- Scientific ethics is to adopt and apply ethical behavior patterns and rules in scientific studies and activities.
- Reasons for unethical behavior: Ease of use, Lack of education, Hastiness, Disregard for ethical values.

Stages of scientific research:

- Planning
- Data
- Collection
- Data Evaluation
- Presentation-Interpretation
- Publication

3.2. Scientific Publication

A scientific article is a written and published report that describes original research results. A scientific experiment, no matter how dazzling the results are, is unknown until it is published.

It is mandatory to grant the publication, printing, reproduction, etc. rights of the work submitted to the article to the relevant journal. Therefore, the Copyright form must be filled out with the article, signed by each author or the responsible author, and submitted to the relevant journal together with the article documents. Articles are not evaluated without sending this form, or they are not published even if they are accepted.

The editorial decision is one of the forms of direct rejection, correction or review.

If your article is rejected, if the referee/editor is right in their justifications, you should not insist. If the author does not agree with the criticisms, they can respond with their reasons, request a re-evaluation, or even request a change of referee.

If there are very serious scientific deficiencies/errors in the article that is published or in the printing stage, if additional experiments are needed for verification, if duplications have been made knowingly or unknowingly, the article must be withdrawn. The journal processes this on the PDF of the article in its online edition, and shares it with the reader in a new issue since it cannot do this in the printed version.

The font size should be 12 points, the font type is Times New Roman, 1.5 line spacing in paragraphs, and one character space should be left after punctuation marks in the text. In the text, the top space in the paper layout should be 3 cm, the bottom space should be 3 cm, the left space should be 4 cm, and the right space should be 2 cm. Page numbers should be written in the middle section at the bottom of the page, and all pages except the inside cover should be numbered.

All figures and tables should have their own numbers. The numbers should be independent of each other and separately within each section.

Selecting the Research Topic

Original topics should be selected. A good literature review should be done and the literature follow-up should be kept up to date.

Results and observations should be noted well. After the initial findings, article writing should be started while the study is ongoing. Rapid publication and, if necessary, short publication should always be in mind.

Data Collection and Literature Research – Observations

Many of the problems encountered in daily life are noticed because they show symptoms. Behaviors (deviations) outside the normal functioning of a system usually indicate the existence of a problem. In order to define the problem and understand the conditions of its emergence, observations should be made regarding the system under various conditions and these observations should be reported.

Data Analysis:

- Statistical Inference
- Computer Use and Programming

Regulations:

- Questions and answers while preparing the publication
- How did this design come about?
- Simulation and implementation stages while designing
- The dimensions of the designed product should be presented together with a technical discussion including its scientific benefits.
- What are the main advantages of this product (in terms of electrical performance) compared to similar product topologies? It should be detailed.
- What will be done after this design?
- What did this product design contribute to?

Sections in scientific research:

Title
Prepared by
Abstract
1. Introduction
2. Theoretical Framework
3. Current Data
4. Literature Review
5. Analysis
6. Conclusion and Evaluations
REFERENCES

Title: A title that is understandable and as short as possible is used to express the content of the subject. The title is written at the top of the page, in all capital letters and centered. A bad title is a sign of a bad ending. The title will be read by thousands of people, it should be carefully selected and eye-catching. It should fully reflect the content of the study. The title should be thought of as a label, it should not be a sentence. The title should neither be too short to express the content of the study nor too long to summarize the study. The best title is usually less than 10 words. Abbreviations, chemical formulas or patented names should not be used in the title.

Preparers: This section should include the name, surname and introductory information of the person who prepared the study “without writing the preparer”. This information can be placed under the title, centered or right-aligned. The name of the person who contributed scientifically should be included in the article, and those who provided financial and physical support should be thanked. Priority should be given in the order of names in proportion to the contribution. In joint studies, before starting the study, the most rational way is to share the work, determine the number and order of names in the possible article in advance.

Abstract: The main purpose of the study, which questions are being answered, which data set and methods are being used for which period, and what information was obtained as a result of this research should be briefly stated.

The abstract is a short form of the article. Therefore, it should briefly reflect the content of the article. Unnecessary embellishment and waste of words (jargon) should be avoided in the abstract. It should be a summary of the main parts of the article and should not exceed 250 words. The short abstract should enable the reader to determine its relevance to their own field of interest and to decide whether they need to read it in its entirety. Crucial points should definitely be given in this section. The abstract should never provide new information or a result not stated in the article.

There should be no abbreviations, figures, tables, sources or references. In other words, it should be a whole on its own. The short summary should be written in the past tense.

Address:
Author addresses should be given very clearly in an article. This is important in two respects; the reader should be able to easily reach the correct address when they want to contact the author. In determining the scientific performance of institutions, only articles written with the correct addresses can reach the correct data.

Keywords:
A few words or phrases that best express the theme of the article are placed in the keywords section. Since keywords will also be used by various abstract journals and secondary sources and many people will reach this article using keywords, keywords should be chosen carefully. The author should ask himself/herself, "If I were a researcher, what keywords would I use to search for such a study?"

Introduction:
The basic definitions of the study, its place on the agenda, why it is necessary and the systematic structuring of the following sections can be given here. It mentions studies in the literature related to the subject. If there is a previous connection from the same research study on this subject, it

mentions it. The gap in the literature and the connection of this gap with the current study are explained. The logic and method of the current study are briefly explained.

Literature review: A brief summary of the studies conducted on the subject can be presented here. The similarities and differences of the study with these studies can be revealed here.

Theoretical framework:
Theoretical information, graphs and equations related to the research field can be presented here if any. The findings obtained in a scientific article should be conveyed in a clear and concise language. The explanation of concepts, methods and methods should not be too detailed or too simple, but it should not be superficial enough to leave question marks in the mind of the reader. Since it constitutes the largest section of the article, subheadings can be used if necessary. If there is no experimental section, the type of material used, its source, the way it is obtained, the degree of purity, etc. concepts should be given in this section.

Experimental:
Recent data on the subject included in the analysis can be presented with graphs and tables, and their interpretations can be made.
Empirical analysis: If an empirical analysis will be made in the study, it can be included in this section.

It is very important that the results presented in a scientific article are repeatable. In other words, the same study should give the same results when done by someone else. The source and properties of the devices and materials used should be specified. For example, if the material used is a chemical, the degree of purity should be given. If a study was conducted on a cell, the source, type, gender, subspecies, race, age of the donor, etc. characteristics of the cell should be specified.

Scientific notation should be used in measurements. A pinch, a tablespoon, a little, a little, a very little, a small amount, etc. measurements cannot be scientific measurements. Weighable, measurable values must be given. This is also important for the reproducibility of the study.

1 gr, 1.0 gr and 1.00 gr are very different concepts. These must be in accordance with the format requested by the journal and must be compatible with each other.

Conclusion, discussion and recommendations:
The findings obtained from the study can be briefly summarized here and what kind of policy recommendations can be developed based on these findings can be included here. What did this article contribute to the literature? Which ambiguous concept in the literature has been clarified and which concept continues to be ambiguous? What are the recommendations for the future?

Acknowledgement:

Those who contributed to the study as ideas and physical labor should be thanked. The units that provided financial support (laboratory support, scholarship, etc.) in the conduct of the study should be thanked. “The reason for the thanks can be clearly stated, but the expression of thanks should not be in a way that holds people responsible for the mistakes in the article.

Sources:

Sources are documents and references used in research and examination. The entirety of writings or works written in any branch of science, literature.

All sources used in the study should be given here alphabetically by surname. First impressions are important. Some referees may make a preliminary judgment by looking at the sources first. The ideas and results used during the preparation of the article should definitely be included in the sources section. Taking and using the thoughts and opinions of others, consciously or unknowingly, without stating and citing the source of information and presenting them as your own opinion is called “Plagiarism” and is considered unethical, i.e. a scientific crime. Do not give unnecessary sources.

Scientific articles should be given as sources whenever possible. If the web address is to be given in the sources, the date the information was taken from the web must be stated. The list of sources should not be created from the list of sources of another document, and should be added to the list of sources after the entire original article has been reviewed.

Journal name abbreviations cannot be made arbitrarily while creating the sources. Scientific rules should be followed in abbreviations.

3.3. Scientific Ethics and Reference

It is to adopt and apply scientific ethical rules in scientific studies and activities. Types of scientific ethics:

- Professional (Engineering) Ethics
- Research Ethics
- Publication Ethics

Instead of defining scientific ethics, it would be more appropriate to define behaviors that are not in accordance with scientific ethics.

What are behaviors that are not in accordance with scientific ethics?

- Plagiarism: Using other people's methods, data, writings and figures without citing their owners.
- Fabrication: Producing data that is not in the research, reporting or publishing them.
- Falsification: Making changes to research materials, devices, processes and research records in a way that may give different results or changing the results.

One of the most important signs of the competence of an academic study is the author's ability to cite. Various problems encountered in this regard are mentioned below:

- Incorrect Citation: When writing citations, it should be checked at least three times whether they are fully and correctly transferred.
- Inaccurate Quoting: Finding the quotable part of a source shows the author's analytical thinking skills. Most of the time, it is sufficient to quote a part of the sentence instead of the whole sentence.
- Over-Quoting: Quotations from the same source or different sources should not be presented one after the other, long sections based solely on quotations (or quotations) should be avoided, and transitions between quotations should be provided with the words and sentences of the author of the study.

Insufficient Quoting: Care should be taken to identify and include in the text the original sentences that express the idea to be discussed in the most complete and concise way in the source.

Inadequacy of Quoting Technique: Another important problem in quoting is that quotations cannot be presented in a simple method that encourages reading. It is not necessary to put three dots at the beginning or end of quotations to indicate that there is a sentence before or after; because the quotation mark indicating the quotation already shows that the "cutting" process has been done.

Reasons for unethical scientific behaviors:

- Ease of use
- Lack of education
- Haste.

Countries apply legal sanctions to prevent unethical behavior and plagiarism. According to innovations regarding intellectual and artistic works, those who name someone else's work as their own, those who distribute and publish it, those who quote a work without citing the source, and those who make a public statement about the content of a work that has not been made public without the permission of the rights holders are sentenced to imprisonment or a judicial fine.

In addition, in Turkey, "Presenting someone else's scientific work or study in whole or in part as one's own work without citing the source" is stated as a reason for suspension for academic scientific theft.

It is mandatory to cite the source in all kinds of quotations. Page numbers must also be given in direct quotations. As in the rest of the world, works of art are protected by the Law on Intellectual and Artistic Works No. 5846 in our country.

Points to consider when quoting:

- Indirect Quotation is the transfer of information from sources that are read in the author's own language and expression without changing the main idea. Quotation marks or compressed paragraphs are not used. Reference is given at the end of the sentence or paragraph. In Direct Quotation, the text, word, punctuation, paragraph, etc. is the transfer of the text in the main source as is.
- The page number of the quotation is given in the parentheses after the space following the quotation. If the quotation is in the middle of the sentence, the original dot should not be used, and there should be a single dot at the end of the sentence. If the sentence ends with a quotation, the dot should come after the parenthesis indicating the page number. Instead of ending the sentence with expressions such as "der", "declare" after a long quotation, the method of presenting the quotation first should be adopted.
- In the blocking method used for quotations exceeding four lines, quotations should be presented with two dots as much as possible and the sentence should be completed when the quotation ends.
- In block quotations, if the quoted part is at the beginning of a paragraph in the source, this paragraph indentation should be reflected in the block. In block quotes, quoting from different pages one under the other makes the text mechanical, so this practice should be avoided.
- In-text references are made entirely within the text.
- In a single-authored study, the author's surname and the date the work was published are given.

- In a Multi-Authored Single Study, if there are two authors, both surnames are given. When citing studies with more than two authors, all surnames are given where the author's names are first mentioned. If the citation is to be made after this, the surname of the first author is given and the word "et al." is added.
- If there are two or more authors with the same surname in the bibliography, they are used with their first names.
- In the same parentheses, two or more studies are listed according to the year of publication, and a semicolon is placed between them.
- In studies conducted by the same author in the same year, the letters a, b, c are used after the year of publication.
- In citing legal documents, it is written as in the example "Teachers are responsible for … (National Education Fundamental Law, 1739)".
- Personal Conversations, letters, correspondence, telephone conversations are not referenced as much as possible.
- Author surname, name (or only the first letter of the name) of articles (Publication Date), “Article Name,” Journal Name, Journal Volume and Issue: Page Numbers are given as follows.
- Book titles are written without quotation marks and in bold, publisher and city of publication are indicated.
- Author name of theses, (Publication date), “Thesis title”, Thesis type (MA, PhD, Proficiency in Arts), University and Institute where it was presented, Place name.
- Author surname, name of Internet Resources (Date of original source). Article title. Original source of the article, page numbers. (Source name, place of publication: publisher name.) URL address [visit date]

Research Structure

- Paper: Scientific studies presented in congresses and symposiums.
- Article: Scientific study published in journals etc.
- Thesis: Scientific study prepared to complete Master's and Doctorate degrees.

3.4. Write a Paper for Publication

Engaging in the scientific publication process can be for both altruistic and egotistical reasons; publication advances the state of scientific knowledge while advancing your institution and your career. Writing for publication means setting aside a location and time dedicated entirely to the process of planning and writing. It is easiest to begin with the Methods section, then the Results, followed by the Discussion, which is the most challenging part of a paper. A realistic assessment of the value of the article will determine the level of journal into which it is likely to gain acceptance. If your article is rejected by a journal, be consoled by the fact that 50% of articles that are initially rejected are eventually published. Following the steps outlined here can reduce the daunting task of writing to one of manageable proportions and can help overcome the mental block and procrastination that all of us have experienced when we set out to write a scientific paper.

3.5. Research Integrity and Publishing Ethics

Publishing ethics and research integrity exist to ensure high-quality publications, public trust in research findings, and that people receive credit for their work.

Ethical guidance for journal editors, authors, and reviewers

At their core, publishing ethics are guidelines for publishers, authors, editors, and reviewers. Everyone involved in the publication process should promote fairness and equality, avoid bias and discrimination, protect the integrity of the academic record, respect the confidentiality of others, and be open about competing interests.

We operate a robust and well-regarded peer review process to ensure that content is always of the highest standard, and we're committed to upholding the integrity of the work we publish. We also provide detailed guidance on ethics for journal editors, authors and reviewers.

Editors. Journal editors must impartially evaluate each paper submitted for publication and keep the peer review process confidential. If you receive a credible allegation of misconduct, you are responsible for investigating the matter with the publishing organization. Journal editors are required to adhere to principles to ensure the integrity of research.

Authors. Publishing a book or an article in a peer-reviewed journal is an important part of any academic or researcher's career. The benefits for you as an author and for your institution come

from the work that goes into ensuring that each paper meets certain standards. For example, researchers must report their work accurately so that others can benefit from it and apply it.

Reviewers must impartially evaluate each paper submitted, disclose any conflicts of interest, and keep the peer review process confidential. While the number of journals using electronic peer review has been steadily increasing, there has unfortunately also been an increase in ethical concerns about the peer review process. See the guidelines for peer review ethics and the ethical guidelines for peer reviewers .

3.6. Project Managenment

A project is a business process that shows the desired goal and how to reach it. A process is the stages of bringing together and integrating activities that will create value. The aim of process management is to implement plans step by step and observe changes and deviations. Risks such as inadequate planning, weak resources, logistics and integration management, and unhealthy surveillance cause the project to fail. In order to complete the project on time, the priority should be to determine the goal and time relationship and to perform the inspection in accordance with the time schedule.

When I started reading the report prepared with the crashed plane, the summary section said, “the plane crashed because the pilot forgot his main purpose.” In the rest of the article, in summary; the engines of a plane flying in the air suddenly stop. The pilot takes the documents that contain the instructions and possible malfunctions and starts reading. He tries to investigate why the engines stop in the air and tries to restart the engine according to the instructions written there. He struggles, cannot start it, and tries again. Suddenly the plane crashes to the ground. The pilot’s primary goal is to try to land the plane by gliding to the nearest airport when the engines stop. Others are also important but are secondary and tertiary in priority. Ways and methods may change; no matter what, it should never be forgotten that the real goal is to reach the determined goal.

When a crisis occurs during the project implementation phase, the solutions developed cause panic and pessimism, accompanied by a lack of solution. Mutual accusations and applications are developed without informing each other. Instead of coming face to face and listening to each other, everyone starts to look for solutions to their own problems. Gossip among employees increases and changes in attitude begin to show themselves. Discrimination is created between my men and my men. In the management level that starts to exclude each other, all logical explanations and applications lose their validity.

Managing the return

After the project is completed, it is necessary to manage the return in order to monitor the processes, find the problems; develop, produce and implement solutions.

Here is an example of this:
“My name is Danny Troatman. I live in New Jersey. Every evening, before watching a movie with my wife and children, I go to the market in the city center to buy ice cream. Of course, with my Porsche brand car that I bought a month ago… But interestingly, whenever I buy chocolate or fruit ice cream and return to my car, the car does not start. However, when I buy vanilla, my car starts easily. I have tried this a few times and I get the same result every time. Thank you in advance for your help.”

The Porsche company officials immediately send an engineer to the said area and have him stay there until they find out the reason. The next day, the engineer arrives in New Jersey and immediately contacts Mr. Troatman. Starting from the same evening, every evening, our engineer and Mr. Troatman go to the market to buy ice cream. Indeed, when chocolate and fruit ice cream are bought, the car does not start, and when vanilla is bought, it starts easily. The engineer is initially surprised by this event, but tries not to stray from the scientific approach. About a month passes. The engineer, who goes to the market every day with Mr. Troatman, finally solves the problem.

The cooling system used in new model Porsche cars is activated immediately after the vehicle is stopped and locks the engine until the engine cools down to a certain temperature. The most sold ice cream in the market is vanilla. That is why there is a continuous line in front of the vanilla ice cream stand. The time it takes for Mr. Troatman to get in line and get his ice cream is enough for the engine to cool down. However, since there is no line in front of the chocolate or fruit ice cream stand, he immediately gets the ice cream and returns to his vehicle. The vehicle does not start because the engine is locked. The engineer presents his report to the management. The vehicles in the market are collected back, the necessary adjustments are made and they are delivered to the customers in their new condition.

3.7. Planning

Planning defines and disciplines workflow processes. It defines how to find changes and uncertainties that create risks before they turn into crises. It points out the rules of transformation from being dragged into annihilation to existence when faced with a crisis or chaos for whatever reason. Strategic planning defines target orientation. In business processes, it is possible to determine opportunities and threats related to internal and external competitors by examining them and comparing their strengths and weaknesses with strategic planning. The works defined from raw material to production, from sales to monitoring customer satisfaction of the values to be produced as goods, services, ideas or culture are called business processes. The works carried out to monitor and review the performances of planned activities in business processes, to find potential risks and to reduce the possibility of repetition by reducing their effects are called business process management.

While developing strategic planning; focus should be provided on processes and the results to be obtained. Processes should be reviewed regularly, changes should be sought and risks should be found. A realistic future that can be realized should be depicted. The institution should prioritize discipline in the quality management process while defining itself, evaluating and shaping what it does and why, and producing basic decisions and actions. Accountability should be established in monitoring, evaluation and auditing. A participatory approach should be exhibited with the joint effort and support of all stakeholders. A flexible management approach should be created, not a template that adapts to the structure and needs of the institution.

Strategic planning helps the institution answer four basic questions:

- The question of “Where are we?” is sought with the situation analysis.
- The goal of the institution is determined with the answer to the question of “Where do we want to go?”
- The question of “How will we get to where we want to go?” is answered for the methods to be used to reach the goal.
- The question of “How do we follow and evaluate our success?” is answered during the evaluation process.

Strategic planning supports the development and strengthening of corporate culture and identity.

In order to make a new investment decision and expand or renew an existing facility, it is necessary to see whether the work is feasible. For this purpose, information is collected about components such as raw materials, markets, energy, fuel, water, labor, climate, and transportation that give meaning to the values to be produced, and preliminary research is conducted.

While conducting preliminary research,

a. The characteristics, types, possible sales prices, market segments, sales periods, export, employment, and added value economic benefits of the goods, services, ideas, and cultures to be produced are determined through detailed market research.
b. The most rational - reasonable - establishment location is tried to be determined by considering raw materials, energy, labor, proximity to the market, natural conditions, transportation opportunities, development potential, and many other economic and social factors.
c. Financial reviews are conducted on issues such as the total cost of the investment, fixed and variable expenses, capital needs, cash flows and financing program in months and years, cash flows after starting production, break-even production amounts, and the time it takes for the investment to turn a profit.
d. Technical issues such as the technologies to be used in production, alternative production techniques and the raw and auxiliary material needs that will arise according to each technique, the machinery and equipment required by them, their input-output analyses, the layout plan, how construction and assembly works will be carried out, supply sources, the quantity and characteristics of the personnel to be employed are investigated.
e. Legal investigations are initiated for the laws, statutes and regulations that must be complied with from the preparation phase of the investment project to the selection of the establishment location, the implementation of the investment, the commencement of the operation of the business and the marketing of the goods, the possible effects it will have on the investment and the opportunities it will bring.

When investigating the location factors, attention should be paid to transportation, raw materials, market area, labor, water and water resources, climate conditions, social and cultural conditions, behavior of city and regional administrators, taxes, duties and fees, incentive measures, energy resources and geological conditions. The effect of all factors on the cost should be examined in detail.

- Investment type should be determined:
- New investment, Expansion investment,
- Renovation - modernization investment,
- Quality improvement,
- Acquisition of other businesses - partnership - merger -
- Strategic cooperation.

A preliminary project should be prepared to decide on the establishment of the business and start the project, determine its establishment and location, determine its size, determine internal and external financing needs and banks and credit institutions that will meet these needs, and benefit from incentive opportunities regarding investment discounts. The technical requirements and difficulties that the project will require, whether there are any legal obstacles for its realization,

and the difficulties that may be encountered during the implementation period should be determined and the necessary precautions should be taken.

Business plan; It is a research study conducted to determine the potential earning level of the business idea, market and demand structure, production processes, machinery - equipment, business inputs, labor factors, start-up capital and the idea. The entrepreneur should question all questions about the business idea, research all alternative answers, and examine all factors that will affect the success of his business. He will reach the most applicable model of his business by bringing together the most suitable factors he has examined in every aspect. The Business Plan is to describe the applicable business model. In the feasibility study, different machine types, different input sources, different payment plans, different investment sizes, different customer groups, and different sales prices should be examined in detail. The entrepreneur, who tries to understand the effects of these examinations on the business idea, should evaluate and compare this information in the business plan, and try to describe how to establish and run the chosen business model with a certain capacity, certain customers, certain input suppliers, and certain sales prices. Those who do not know where they want to go cannot describe how to get there.

A business plan is a file that contains the entrepreneur's thoughts and goals about his business, and this file is the entrepreneur's guide during the period of establishing and operating a business. The entrepreneur lists his/her goals as short, medium and long term. A business plan helps the entrepreneur reach the point he/she aims. After the establishment, it is a tool that allows the management activities and realizations in the businesses to be controlled according to the goals.

Contributions of preparing a business plan to the business development process:

- It determines the duties, authorities or responsibilities of the workforce.
- It puts the determined goals of the organization in writing.
- The customer base, demands and characteristics are determined.
- It creates a marketing policy.
- Coordination is provided with sales, production and supply planning.
- It defines how to monitor workplace efficiency, costs, order times and labor usage.
- It attaches importance to the responsibilities of the organization other than its technical activities.
- It determines the reasons for the existence of the stakeholders.
- The business has a realistic budget system,
- It defines the establishment purpose of the financial management infrastructure.
- It monitors profitability.
- It creates the infrastructure of the management principle.

Business plan sections:

a) Business plan summary, which briefly describes the entrepreneur, business idea and business establishment process,
b) Entrepreneur, whose personal characteristics, reasons for choosing the business idea and goals are defined,
c) Basic characteristics of the business and establishment period plan, which describes the legal status, partnership structure, permissions, licenses and other official document preparation methods,
d) Market research results regarding the sector, workforce, customer base demand characteristics, competitor characteristics and factors to be used as a basis for promoting the values to be produced,
e) Estimated sales plan of the values to be produced, sales prices, delivery methods to the target audience, promotion methods to the target audience, sales and marketing studies,
f) Workflow and production plan regarding the production of values; Production plan describing the machinery, equipment requirements, raw materials and other inputs, workforce, establishment location and workplace characteristics,
g) Organization and management plan regarding external service procurement, which includes production support processes to be purchased from outside to give meaning to the values to be produced by the organization and workforce characteristics, organization charts, management staff and duties of non-production activities,
h) Business finance plan, which defines the investment and working capital needs required for the establishment of the business, total investment needs and potential resources, credit needs of the business, estimated cash flow of the business and profitability indicators.

Action Plan:

An action plan should be prepared in which responsibilities are detailed in the time planning during the stages of realizing business processes. Responsibilities cover the organisms of the organization that form the whole from planning to studies, from raw materials to production, from production to sales, from quality control to customer satisfaction, from employees to management. The action plan includes the activities and projects to be implemented during the stages of realizing business processes in order to ensure that the organization reaches the determined strategic goals and objectives. Priority in the action plan should be arranged in parallel with the objectives. Explanations regarding actions to be carried out in planned time periods, information regarding employees and dates and durations of work processes are included. Priority is given to organizing employees with work ethics, environmental protection awareness, first aid knowledge, manual skills and professional knowledge while preparing an action plan.

While preparing action plans regarding occupational safety and worker health; Work clothes suitable for work and worker safety should be selected, first aid materials should be available. Measures should be taken to prevent environmental pollution. Wastes should be classified as

recyclable occupational waste and non-recyclable hazardous occupational waste and should be stored.

Employees should be honest, hardworking, sensitive to environmental protection and careful with their attitudes and behaviors within the scope of work discipline and in accordance with workplace working conditions and norms. Working methods and hours should be organized. Employees should be attentive to details and be responsible. They should be cheerful, attentive to human relations, patient and calm, careful to be clean and open to innovations. Employees should be equipped with skills such as research, working in a team, manual dexterity, persuasion, communication, decision-making, teaching, learning, problem-solving, listening and record keeping. They should pay attention to quality, be determined, planned and organized and use their time well.

When determining the area (Reconnaissance), attention should be paid to the physical details of the area. The energy supply points of the area should be determined according to the project. The system's layout plan should be verified according to the communication installation working principles. The material transfer points of the area should be determined. While preparing the materials, the material list should be examined, materials should be supplied by paying attention to quality, and the final check of the materials should be made according to the list.

The understanding of being a team should be developed for risks and risk response methods. Risks that may arise from installations such as electricity, water, gas should be constantly reviewed and changes should be monitored. Employees should be warned against the dangers that risks will cause. In order to develop organizational skills against risks and crises when they occur, coordination should be provided within the work team and safety equipment should be used according to the work done. A problem-free working environment and appropriate lighting conditions should be provided.
Documentation, service forms, product delivery or product delivery documents, system test reports, how to fill out warranty documents should be known very well. System diagrams and system configurations, maps, channels and cable routes, projects related to infrastructure such as underground rooms should be prepared. Supply and tender documents, regulations and laws, legal regulations related to the profession, publications and catalogs should be obtained.

Financial analysis should be made based on the unit price of the materials and services in line with the prepared list and the senior management should be informed about the cost. Planning, tools and equipment to be used according to the material catalogs should be made according to the priority order of the works. Senior management should be convinced and their approval should be obtained correctly. The services to be purchased should be defined. Budgets and costs of the activities should be calculated, and financial cycle tables should be prepared.

In logistics and transportation works, transportation routes should be prepared using the city layout plan, and the necessary permits should be obtained. Safety precautions should be taken while transporting the material, materials should be loaded onto vehicles systematically, and a delivery note should be prepared.

Estimated work completion time and assembly changes should be reported to the top management. Contents, resources, relationships between activities, programs and start-end time estimates should be defined in the implementation stages of business processes. Work plan and time schedule, activity duration estimates should be prepared. Resource planning, logistics, supply, order, supply and delivery dates, and delivery note arrangement should be learned.

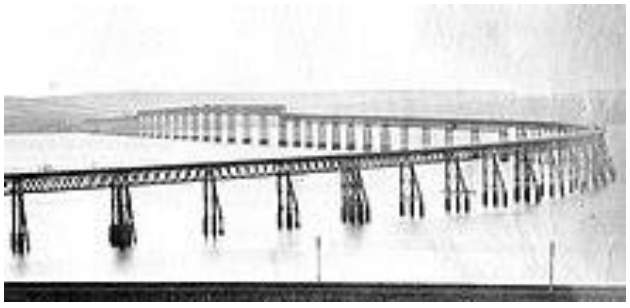
Team responsibilities and authorizations should be organized very well. Criteria for control, monitoring and reporting should be determined. Tools, tools and equipment belonging to the workplace should be used carefully. Expenses such as labor (salary, insurance, withholding tax), transportation, accommodation and meal expenses, taxes should be detailed. Training should be organized. Effective communication should be established with the customer. A database should be prepared for all business processes. Contracts should be signed with contractors, subcontractors, administration or employer, equipment and material providers, and consultants.

Basic professional knowledge should be learned; Computer, electronics, electricity, electrical installations and electrical materials, heat and light, professional terms; Physics, chemistry, mathematics; Measurement; Foreign language; Technical drawing; Standards; Error and alarm messages; Malfunctions; Tests; Cooling and heating systems; Spare material; Grounding; Lightning rod. Support information such as waste storage, environmental protection and regulation, first aid, work safety measures, occupational health and safety measures should be considered important.

3.8. Engineering ethics

Engineering ethics is the field of system of moral principles that apply to the practice of engineering. The field examines and sets the obligations by engineers to society, to their clients, and to the profession. As a scholarly discipline, it is closely related to subjects such as the philosophy of science, the philosophy of engineering, and the ethics of technology.

Up to the 19th century and growing concerns



The first Tay Bridge collapsed in 1879. At least sixty were killed.

As engineering rose as a distinct profession during the 19th century, engineers saw themselves as either independent professional practitioners or technical employees of large enterprises. There was considerable tension between the two sides as large industrial employers fought to maintain control of their employees.

In the United States growing professionalism gave rise to the development of four founding engineering societies: The American Society of Civil Engineers (ASCE) (1851), the American Institute of Electrical Engineers (AIEE) (1884), the American Society of Mechanical Engineers (ASME) (1880), and the American Institute of Mining Engineers (AIME) (1871). ASCE and AIEE were more closely identified with the engineer as learned professional, where ASME, to an extent, and AIME almost entirely, identified with the view that the engineer is a technical employee.

Even so, at that time ethics was viewed as a personal rather than a broad professional concern.

Turn of the 20th century and turning point

The Boston molasses disaster provided a strong impetus for the establishment of professional licensing and codes of ethics in the United States.

When the 19th century drew to a close and the 20th century began, there had been series of significant structural failures, including some spectacular bridge failures, notably the Ashtabula River Railroad Disaster (1876), Tay Bridge Disaster (1879), and the Quebec Bridge collapse (1907). These had a profound effect on engineers and forced the profession to confront shortcomings in technical and construction practice, as well as ethical standards.
One response was the development of formal codes of ethics by three of the four founding engineering societies. AIEE adopted theirs in 1912. ASCE and ASME did so in 1914. AIME did not adopt a code of ethics in its history.

Concerns for professional practice and protecting the public highlighted by these bridge failures, as well as the Boston molasses disaster (1919), provided impetus for another movement that had been underway for some time: to require formal credentials (Professional Engineering licensure in the US) as a requirement to practice. This involves meeting some combination of educational, experience, and testing requirements.

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Up to the 19th century and increasing concerns

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In the United States, increasing professionalism led to the development of four founding engineering societies: the American Society of Civil Engineers (ASCE) (1851), the American Institute of Electrical Engineers (AIEE) (1884), the American Society of Mechanical Engineers (ASME) (1880), and the American Institute of Mining Engineers (AIME) (1871). While ASCE and AIEE are more closely associated with the definition of the engineer as an educated professional, ASME is somewhat and AIME is almost entirely identified with the view of the engineer as a technical worker.

At that time, however, ethics was viewed as a personal rather than a broad professional concern.

The beginning and turning point of the 20th century, The Boston Molasses Disaster provided a powerful impetus for the establishment of professional licensing and codes of ethics in the United States.

As the 19th century ended and the 20th century began, a series of major structural failures, including some spectacular bridge failures, had occurred; notably the Ashtabula River Railroad Disaster (1876), the Tay Bridge Disaster (1879), and the Quebec Bridge collapse (1907). These had a profound impact on engineers and forced the profession to confront deficiencies in technical and construction practices and ethical standards.

One response was for three of the four founding engineering societies to develop formal codes of ethics. The AIEE adopted its own code in 1912. ASCE and ASME did so in 1914. AIME has not adopted a code of ethics in its history.

The concerns about professional practice and public protection highlighted by these bridge failures and the Boston Molasses Disaster (1919) provided the impetus for another movement that had been underway for some time: the mandating of official credentials (in the US, a Professional Engineering license) as a requirement for practice. This requires meeting a combination of education, experience, and testing requirements.

In 1950, the Association of German Engineers developed an oath for all its members titled 'The Confession of the Engineers', directly hinting at the role of engineers in the atrocities committed during World War II.

Over the following decades most American states and Canadian provinces either required engineers to be licensed, or passed special legislation reserving title rights to organization of professional engineers. The Canadian model is to require all persons working in fields of

engineering that posed a risk to life, health, property, the public welfare and the environment to be licensed, and all provinces required licensing by the 1950s.

The US model has generally been only to require the practicing engineers offering engineering services that impact the public welfare, safety, safeguarding of life, health, or property to be licensed, while engineers working in private industry without a direct offering of engineering services to the public or other businesses, education, and government need not be licensed. This has perpetuated the split between professional engineers and those in private industry. Professional societies have adopted generally uniform codes of ethics.

Recent developments

William LeMessurier's response to design deficiencies uncovered after construction of the Citigroup Center is often cited as an example of ethical conduct.

Efforts to promote ethical practice continue. In addition to the professional societies and chartering organizations efforts with their members, the Canadian Iron Ring and American Order of the Engineer trace their roots to the 1907 Quebec Bridge collapse. Both require members to swear an oath to uphold ethical practice and wear a symbolic ring as a reminder.

In the United States, the National Society of Professional Engineers released in 1946 its Canons of Ethics for Engineers and Rules of Professional Conduct, which evolved to the current Code of Ethics, adopted in 1964. These requests ultimately led to the creation of the Board of Ethical Review in 1954. Ethics cases rarely have easy answers, but the BER's nearly 500 advisory opinions have helped bring clarity to the ethical issues engineers face daily.[16]

Currently, bribery and political corruption is being addressed very directly by several professional societies and business groups around the world. However, new issues have arisen, such

as offshoring, sustainable development, and environmental protection, that the profession is having to consider and address.

General principles

Engineers, in the fulfillment of their professional duties, shall hold paramount the safety, health, and welfare of the public

— *National Society of Professional Engineers,*

A practitioner shall regard the practitioner's duty to public welfare as paramount."

— *Professional Engineers Ontario,*

Codes of engineering ethics identify a specific precedence with respect to the engineer's consideration for the public, clients, employers, and the profession.

Many engineering professional societies have prepared codes of ethics. Some date to the early decades of the twentieth century. These have been incorporated to a greater or lesser degree into the regulatory laws of several jurisdictions. While these statements of general principles served as a guide, engineers still require sound judgment to interpret how the code would apply to specific circumstances.

The general principles of the codes of ethics are largely similar across the various engineering societies and chartering authorities of the world, which further extend the code and publish specific guidance. The following is an example from the American Society of Civil Engineers:

1. Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties.[
2. Engineers shall perform services only in areas of their competence.
3. Engineers shall issue public statements only in an objective and truthful manner.
4. Engineers shall act in professional matters for each employer or client as faithful agents or trustees, and shall avoid conflicts of interest.
5. Engineers shall build their professional reputation on the merit of their services and shall not compete unfairly with others.
6. Engineers shall act in such a manner as to uphold and enhance the honor, integrity, and dignity of the engineering profession and shall act with zero-tolerance for bribery, fraud, and corruption.
7. Engineers shall continue their professional development throughout their careers, and shall provide opportunities for the professional development of those engineers under their supervision.
8. Engineers shall, in all matters related to their profession, treat all persons fairly and encourage equitable participation without regard to gender or gender identity, race, national origin, ethnicity, religion, age, sexual orientation, disability, political affiliation, or family, marital, or economic status.

In 1990, EPFL students elaborated the **Archimedean Oath**, which is an ethical code of practice for engineers and technicians, similar to the Hippocratic Oath used in the medical world.

Obligation to society

The paramount value recognized by engineers is the safety and welfare of the public. As demonstrated by the following selected excerpts, this is the case for professional engineering organizations in nearly every jurisdiction and engineering discipline:

- **Institute of Electrical and Electronics Engineers**: "We, the members of the IEEE, … do hereby commit ourselves to the highest ethical and professional conduct and agree: 1. to accept responsibility in making decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;"
- **Institution of Civil Engineers**: "Members of the ICE should always be aware of their overriding responsibility to the public good. A member's obligations to the client can never override this, and members of the ICE should not enter undertakings which compromise this responsibility. The 'public good' encompasses care and respect for the environment, and for humanity's cultural, historical and archaeological heritage, as well as the primary responsibility members have to protect the health and well-being of present and future generations."
- **Professional Engineers Ontario**: "A practitioner shall, regard the practitioner's duty to public welfare as paramount."
- **National Society of Professional Engineers**: "Engineers, in the fulfillment of their professional duties, shall: Hold paramount the safety, health, and welfare of the public."
- **American Society of Mechanical Engineers**: "Engineers shall hold paramount the safety, health and welfare of the public in the performance of their professional duties."
- **Institute of Industrial Engineers**: "Engineers uphold and advance the integrity, honor and dignity of the engineering profession by: 2. Being honest and impartial, and serving with fidelity the public, their employers and clients."
- **American Institute of Chemical Engineers**: "To achieve these goals, members shall hold paramount the safety, health and welfare of the public and protect the environment in performance of their professional duties."
- **American Nuclear Society**: "ANS members uphold and advance the integrity and honor of their professions by using their knowledge and skill for the enhancement of human welfare and the environment; being honest and impartial; serving with fidelity the public, their employers, and their clients; and striving to continuously improve the competence and prestige of their various professions."
- **Society of Fire Protection Engineers**: "In the practice of their profession, fire protection engineers must maintain and constantly improve their competence and perform under a standard of professional behavior which requires adherence to the highest principles of

ethical conduct with balanced regard for the interests of the public, clients, employers, colleagues, and the profession."

Responsibility of engineers

The engineers recognize that the greatest merit is the work and exercise their profession committed to serving society, attending to the welfare and progress of the majority. By transforming nature for the benefit of mankind, engineers must increase their awareness of the world as the abode of humanity, their interest in the universe as a guarantee of overcoming their spirit, and knowledge of reality to make the world fairer and happier. The engineer should reject any paper that is intended to harm the general interest, thus avoiding a situation that might be hazardous or threatening to the environment, life, health, or other rights of human beings. It is an inescapable duty of the engineer to uphold the prestige of the profession, to ensure its proper discharge, and to maintain a professional demeanor rooted in ability, honesty, fortitude, temperance, magnanimity, modesty, honesty, and justice; with the consciousness of individual well-being subordinate to the social good. The engineers and their employers must ensure the continuous improvement of their knowledge, particularly of their profession, disseminate their knowledge, share their experience, provide opportunities for education and training of workers, provide recognition, moral and material support to the schools where they studied, thus returning the benefits and opportunities they and their employers have received. It is the responsibility of the engineers to carry out their work efficiently and to support the law. In particular, they must ensure compliance with the standards of worker protection as provided by the law. As professionals, the engineers are expected to commit themselves to high standards of conduct (NSPE).

Duty to Report (Whistleblowing)

The Space Shuttle Challenger disaster is used as a case study of whistleblowing and organizational behavior including groupthink.

A basic ethical dilemma is that an engineer has the duty to report to the appropriate authority a possible risk to others from a client or employer failing to follow the engineer's directions. According to first principles, this duty overrides the duty to a client and/or employer. An engineer may be disciplined, or have their license revoked, even if the failure to report such a danger does not result in the loss of life or health.

If an engineer is overruled by a non-technical authority or a technical authority they must inform the authority, in writing, the reasons for their advice and the consequences of the deviation from the advice.

In many cases, this duty can be discharged by advising the client of the consequences in a forthright matter, and ensuring the client takes the engineer's advice. In very rare cases, where even a governmental authority may not take appropriate action, the engineer can only discharge the duty by making the situation public. As a result, whistleblowing by professional engineers is not an unusual event, and courts have often sided with engineers in such cases, overruling duties to employers and confidentiality considerations that otherwise would have prevented the engineer from speaking out.

Conduct

There are several other ethical issues that engineers may face. Some have to do with technical practice, but many others have to do with broader considerations of business conduct. These include:

- Relationships with clients, consultants, competitors, and contractors
- Ensuring legal compliance by clients, client's contractors, and others
- Conflict of interest
- Bribery and kickbacks, which also may include:
- Gifts, meals, services, and entertainment
- Treatment of confidential or proprietary information
- Consideration of the employer's assets
- Outside employment/activities (Moonlighting)

Some engineering societies are addressing environmental protection as a stand-alone question of ethics. The field of business ethics often overlaps and informs ethical decision making for engineers.

Case studies and key individuals

Petroski notes that most engineering failures are much more involved than simple technical mis-calculations and involve the failure of the design process or management culture. However, not all engineering failures involve ethical issues. The infamous collapse of the first Tacoma Narrows Bridge, and the losses of the Mars Polar Lander and Mars Climate Orbiter were technical and

design process failures. Nor are all engineering ethics issues necessary engineering failures per se - Northwestern University instructor Sheldon Epstein cited The Holocaust as an example of a breach in engineering ethics despite (and because of) the engineers' creations being successful at carrying out the Nazis' mission of genocide. There is the ethics issue of whether engineers considered vulnerability to hostile intent, such as governmental buildings or industrial sites, in the same way weather is considered regardless of the project specifications. Lysenkoism is a specific form of ethical failure, which when engineers (or scientists) allow political agendas take precedent over professional ethics.

These episodes of engineering failure include ethical as well as technical issues.

- Titan submersible implosion (2023)
- General Motors ignition switch recalls (2014)
- Deepwater Horizon oil spill (2010)
- Space Shuttle Columbia disaster (2003)
- Space Shuttle Challenger disaster (1986)
- Therac-25 accidents (1985 to 1987)
- Chernobyl disaster (1986)
- Bhopal disaster (1984)
- Kansas City Hyatt Regency walkway collapse (1981)
- Love Canal (1980), Lois Gibbs
- Three Mile Island accident (1979)
- Citigroup Center (1978),
- Ford Pinto safety problems (1970s)
- Minamata disease (1908–1973)
- Aberfan disaster (1966)
- Chevrolet Corvair safety problems (1960s), Ralph Nader, and *Unsafe at Any Speed*
- Boston molasses disaster (1919)
- Quebec Bridge collapse (1907), Theodore Cooper
- Johnstown Flood (1889), South Fork Fishing and Hunting Club
- Tay Bridge Disaster (1879), Thomas Bouch, William Henry Barlow, and William Yolland
- Ashtabula River Railroad Disaster (1876), Amasa Stone

***Titan* submersible implosion**

MV *Polar Prince* departed St. John's, Newfoundland (1), on 16 June 2023, and arrived at the dive site (2) on 17 June 2023, where *Titan* was deployed and began its descent the next day.

On 18 June 2023, *Titan*, a submersible operated by the American tourism and expeditions company OceanGate, imploded during an expedition to view the wreck of the *Titanic* in the North Atlantic Ocean off the coast of Newfoundland, Canada. Aboard the submersible were Stockton Rush, the American chief executive officer of OceanGate; Paul-Henri Nargeolet, a French deep-sea explorer and *Titanic* expert; Hamish Harding, a British businessman; Shahzada Dawood, a Pakistani-British businessman; and Dawood's son, Suleman.

Communication between *Titan* and its mother ship, MV *Polar Prince*, was lost 1 hour and 33 minutes into the dive. Authorities were alerted when it failed to resurface at the scheduled time later that day. After the submersible had been missing for four days, a remotely operated underwater vehicle (ROV) discovered a debris field containing parts of *Titan*, about 500 metres (1,600 ft) from the bow of the *Titanic*. The search area was informed by the United States Navy's (USN) sonar detection of an acoustic signature consistent with an implosion around the time communications with the submersible ceased, suggesting the pressure hull had imploded while *Titan* was descending, resulting in the instantaneous deaths of all five occupants.

The search and rescue operation was performed by an international team organized by the United States Coast Guard (USCG), USN, and Canadian Coast Guard.[1] Support was provided by aircraft from the Royal Canadian Air Force and United States Air National Guard, a Royal Canadian Navy ship, as well as several commercial and research vessels and ROVs.

Numerous industry experts had stated concerns about the safety of the vessel. OceanGate executives, including Rush, had not sought certification for *Titan*, arguing that excessive safety protocols and regulations hindered innovation.

OceanGate was a private company, initiated in 2009 by Stockton Rush and Guillermo Söhnlein. From 2010 until the loss of the *Titan* submersible, OceanGate transported paying customers in leased commercial submersibles off the coast of California, in the Gulf of Mexico, and in the Atlantic Ocean. The company was based in Everett, Washington, US.

Rush realised that visiting shipwreck sites was a method of getting media attention. OceanGate had previously conducted voyages to other shipwrecks, including its 2016 dive to the wreck of *Andrea Doria* aboard their other submersible *Cyclops 1*. (A near disaster on that expedition was recounted in *Vanity Fair* in 2023.) In 2019, Rush told *Smithsonian* magazine: "There's only one wreck that everyone knows ... If you ask people to name something underwater, it's going to be sharks, whales, *Titanic*".

Titanic

Main article: Wreck of the Titanic

The *Titanic* was a British ocean liner that sank in the North Atlantic Ocean on 15 April 1912, after colliding with an iceberg. More than 1,500 people died, making it the deadliest sinking of a single ship at the time. In 1985, Robert Ballard located the wreck of the *Titanic* 320 nautical miles (590 km; 370 mi) from the coast of Newfoundland. The wreck lies at a depth of about 3,810 metres (12,500 feet; 2,080 fathoms). Since its discovery, it has been a destination for research expeditions and tourism. By 2012, a century after its sinking, 140 people had visited the wreck site.

Submersible *Titan*

Formerly known as *Cyclops 2*, *Titan* was a five-person submersible vessel operated by OceanGate Inc. The 6.7-metre-long (22 ft), 10,432 kg (23,000 lb) vessel was constructed from carbon fibre and titanium. The entire pressure vessel consisted of two titanium hemispheres (domes) with matching titanium interface rings bonded to the 142 cm (56 in) internal diameter, 2.4-metre-long (7.9 ft) carbon fibre-wound cylinder. One of the titanium hemispherical end caps could be detached to provide the hatchand was fitted with a 380 mm-diameter (15 in) acrylic window. In 2020, Rush said that the hull, originally designed to reach 4,000 m (13,000 ft) below sea level, had been downgraded to a depth rating of 3,000 m (9,800 ft) after demonstrating signs of cyclic fatigue. In 2020 and 2021, the hull was repaired or rebuilt. Rush told the *Travel Weekly* editor-in-chief that the carbon fibre had been sourced at a discount from Boeing because it was too old for use in the company's airplanes. Boeing stated they have no records of any sale to Rush or to OceanGate. OceanGate had initially not sought certification for *Titan*, arguing that excessive safety protocols hindered innovation. Lloyd's Register, a ship classification society, refused OceanGate's request to class the vessel in 2019.

Titan could move at as much as 3 knots (5.6 km/h; 3.5 mph) using four electric thrusters, arrayed two horizontal and two vertical.[20] Its steering controls consisted of a Logitech F710 wireless game controller with modified longer analogue sticks resembling traditional joysticks. The University of Washington's Applied Physics Laboratory assisted with the control design on the *Cyclops 1* using a DualShock 3 video game controller, which was carried over to *Titan*, substituting with the Logitech controller. The use of commercial off-the-shelf game controllers is common for remote-controlled vehicles such as unmanned aerial vehicles or bomb disposal robots,[22][23][24] whilst the United States Navy uses Xbox 360 controllers to control periscopes in *Virginia*-class submarines.

OceanGate claimed on its website as of 2023 that *Titan* was "designed and engineered by OceanGate Inc. in collaboration [with] experts from NASA, Boeing, and the University of Washington" (UW).[26] A ⅓-scale model of the *Cyclops 2* pressure vessel was built and tested at the Applied Physics Laboratory (APL) at UW; the model was able to sustain a pressure of 4,285 psi (29.54 MPa; 291.6 atm), corresponding to a depth of about 3,000 m (9,800 ft). After the disappearance of *Titan* in 2023, these earlier associates disclaimed involvement with the Titan

project. UW claimed the APL had no involvement in the "design, engineering, or testing of the *Titan* submersible". A Boeing spokesperson also claimed Boeing "was not a partner on *Titan* and did not design or build it". A NASA spokesperson said that NASA's Marshall Space Flight Center had a Space Act Agreement with OceanGate, but "did not conduct testing and manufacturing via its workforce or facilities".It was designed and developed originally in partnership with UW and Boeing, both of which put forth numerous design recommendations and rigorous testing requirements, which Rush ignored, despite prior tests at lower depths resulting in implosions at UW's lab. The partnerships dissolved as Rush refused to work within quality standards.

According to OceanGate, the vessel contained monitoring systems to continuously monitor the strength of the hull. The vessel had life support for five people for 96 hours. There is no GPS underwater; the support ship, which monitored the position of *Titan* relative to its target, sent text messages to *Titan* providing distances and directions.

According to OceanGate, *Titan* had several backup systems intended to return the vessel to the surface in case of emergency, including ballasts that could be dropped, a balloon, thrusters, and sandbags held by hooks that dissolved after a certain number of hours in saltwater. Ideally, this would release the sandbags, allowing the vessel to float to the surface. An OceanGate investor explained that if the vessel did not ascend automatically after the elapsed time, those inside could help release the ballast either by tilting the ship back and forth to dislodge it or by using a pneumatic pump to loosen the weights.

Dives to wreck of *Titanic*

Dives by *Titan* to the wreck of the *Titanic* occurred as part of multi-day excursions organized by OceanGate, which the company referred to as "missions". Five missions occurred in the middle of 2021 and 2022. *Titan* imploded during the fifth mission of 2023; it was the first mission of the year in which a dive came close to *Titanic*, due to poor weather during previous attempts.

Passengers would sail to and from the wreckage site aboard a support ship and spend approximately five days in the ocean above the *Titanic* wreckage site. Two dives were usually attempted during each excursion, though dives were often cancelled or aborted due to weather or technical malfunctions.

Each dive typically had a pilot, a guide, and three paying passengers aboard. Once inside the submersible, the hatch would be bolted shut and could only be reopened from the outside. The descent from the surface to the *Titanic* wreck typically took two hours, with the full dive taking about eight hours. Throughout the journey, the submersible was expected to emit a safety ping every 15 minutes to be monitored by the above-water crew. The vessel and surface crew were also able to communicate via brief text messages.

Customers who travelled to the wreck with OceanGate, referred to as "mission specialists" by the company, paid US$250,000 each for the eight-day expedition.

OceanGate intended to perform multiple dives to the *Titanic*'s wreck in 2023, but the dive in which *Titan* was destroyed was the only one the company had launched that year.

Safety

Because *Titan* operated in international waters and did not carry passengers from a port, it was not subject to safety regulations. The vessel was not certified as seaworthy by any regulatory agency or third-party organization. Reporter David Pogue, who completed the expedition in 2022 as part of a *CBS News Sunday Morning* feature,[43] said that all passengers who enter *Titan* sign a waiver confirming their knowledge that it is an "experimental" vessel "that has not been approved or certified by any regulatory body, and could result in physical injury, disability, emotional trauma or death".Television producer Mike Reiss, who also completed the expedition, said the waiver "mention[s] death three times on page one".A 2019 article published in *Smithsonian* magazine referred to Rush as a "daredevil inventor". In the article, Rush is described as having said that the U.S. Passenger Vessel Safety Act of 1993 "needlessly prioritized passenger safety over commercial innovation". In a 2022 interview, Rush told *CBS News*, "At some point, safety just is pure waste. I mean, if you just want to be safe, don't get out of bed. Don't get in your car. Don't do anything." Rush said in a 2021 interview, "I've broken some rules to make [*Titan*]. I think I've broken them with logic and good engineering behind me. The carbon fibre and titanium, there's a rule you don't do that. Well, I did."

OceanGate claimed that *Titan* was the only crewed submersible that used an integrated real-time monitoring system (RTM) for safety. The proprietary system, patented by Rush in 2021, used acoustic sensors and strain gauges at the pressure boundary to analyse the effects of increasing pressure as the watercraft ventured deeper into the ocean and to monitor the hull's integrity in real time. This would supposedly give early warning of problems and allow enough time to abort the descent and return to the surface.

Prior concerns

In 2018, OceanGate's director of marine operations, David Lochridge, composed a report documenting safety concerns he had about *Titan*. In court documents, Lochridge said that he had urged the company to have *Titan* assessed and certified by the American Bureau of Shipping, but OceanGate had refused to do so, instead seeking classification from Lloyd's Register.[52] He also said that the transparent viewport on its forward end, due to its nonstandard and therefore experimental design, was only certified to a depth of 1,300 m (4,300 ft), only a third of the depth required to reach the *Titanic*'s wreck. According to Lochridge, RTM would "only show when a component is about to fail – often milliseconds before an implosion" and could not detect existing flaws in the hull before it was too late. Lochridge was also concerned that OceanGate would not perform nondestructive testing on the vessel's hull before undertaking crewed dives and alleged

that he was "repeatedly told that no scan of the hull or Bond Line could be done to check for delaminations, porosity and voids of sufficient adhesion of the glue being used due to the thickness of the hull".[53][16][55] The viewport was rated to only 650 m (2,130 ft), and the engineer of the viewport also prepared an analysis from an independent expert that concluded the design would fail after only a few 4,000 m dives.

OceanGate said that Lochridge, who was not an engineer, had refused to accept safety approvals from OceanGate's engineering team and that the company's evaluation of *Titan*'s hull was stronger than any kind of third-party evaluation Lochridge thought necessary. OceanGate sued Lochridge for allegedly breaching his confidentiality contract and making fraudulent statements. Lochridge counter-sued, stating that he had been terminated wrongfully as a whistleblower for stating concerns about *Titan*'s ability to operate safely. The two parties settled the case a few months later, before it came to court. He filed a whistleblower complaint with Occupational Safety and Health Administration, but withdrew it after the lawsuit was filed.[28]

Later in 2018, a group organized by William Kohnen, the chair of the Submarine Group of the *Marine Technology Society*, drafted a letter, to Rush expressing "unanimous concern regarding the development of 'TITAN' and the planned *Titanic* Expedition", indicating that the "current experimental approach ... could result in negative outcomes (from minor to catastrophic) that would have serious consequences for everyone in the industry". The letter said that OceanGate's marketing of the Titan was misleading because it claimed that the submersible would meet or exceed the safety standards of classification society DNV, even though the company had no plans to have the craft certified formally by the society. While the letter was never sent officially by the Marine Technology Society, it did result in a conversation with OceanGate that resulted in some changes, but in the end Rush "agreed to disagree" with the rest of the civilian submarine community. Kohnen told the *New York Times* that Rush had telephoned him after reading it to tell him that he believed industry standards were stifling innovation.

Another signatory, engineer Bart Kemper, agreed to sign the letter because of OceanGate's decision not to use established engineering standards like ASME Pressure Vessels for Human Occupancy (PVHO) or design validation. Kemper said the submersible was "experimental, with no oversight". Kohnen and Kemper stated OceanGate's methods were not representative of the industry. Kohnen and Kemper are both members of the ASME Codes and Standards committee for PVHOs, which develops and maintains the engineering safety standards for submarines, commercial diving systems, hyperbaric systems, and related equipment. Kemper is an engineering researcher who has published a number of technical papers on submarine windows, including the need to innovate.

In March 2018, one of Boeing's engineers involved in the preliminary designs, Mark Negley, carried out an analysis of the hull and emailed Rush directly stating, "We think you are at high risk of a significant failure at or before you reach 4,000 meters. We do not think you have any safety

margin." He included a graph of the strain of the design with a skull and crossbones at a red line of 4,000 meters.

Also in March 2018, Rob McCallum, a major deep sea exploration specialist, emailed Rush to warn him he was potentially risking his clients' safety and advised against the submersible's use for commercial purposes until it had been tested independently and classified: "I implore you to take every care in your testing and sea trials and to be very, very conservative." Rush replied that he was "tired of industry players who try to use a safety argument to stop innovation ... We have heard the baseless cries of 'you are going to kill someone' way too often. I take this as a serious personal insult". McCallum then sent Rush another email in which he said: "I think you are potentially placing yourself and your clients in a dangerous dynamic. In your race to *Titanic* you are mirroring that famous catch cry: 'She is unsinkable'". This prompted OceanGate's lawyers to threaten McCallum with legal action.

In 2022, the British actor and television presenter Ross Kemp, who had participated previously with deep sea dives for the television channel Sky History, had planned to mark the 110th anniversary of the sinking of the *Titanic* by recording a documentary in which he would undertake a dive to the wreck using *Titan*. Kemp's agent Jonathan Shalit said that the project was cancelled after checks by production company Atlantic Productions deemed the submersible to be unsafe and not "fit for purpose".

3.9. Report and Presentation

Report:

Wrong, incomplete, incorrectly written exaggerated reports and articles bring disaster. Mao trusted the rice stocks and started exporting by looking at the reports presented to him, then the biggest famine in world history occurred, millions died of starvation. The truth cannot be told in order not to wear down morale, motivation and psychology.

Presenting a quality report is as important as preparing it. Presenters generally appeal to their own feelings and emotions. However, what needs to be done is to play on the feelings and emotions of the person in front of you. Messages should be conveyed to the expectations of the audience being presented. Teachers who give lessons should also act in a way that will direct the spirits, emotions and feelings of their students.

If the data is analyzed after obtaining it, the results can be reported in many formats so that the analysis meets the needs of the users. Users may have feedback, which may result in additional analyses. Most of the analytical cycle is iterative. The analyst can use data visualization techniques to convey the result to the audience clearly and effectively. Data visualization uses information displays such as tables and charts to help convey the important messages contained in the data. Tables help a user looking for specific numbers, while charts can help explain the numerical messages contained in the data. How can you write successful and interestingly read reports? Or where are the people waiting to be successful and interestingly read? Does anyone see or know?

Reporting is confrontation. It is answering the questions to be asked. Reporting is not about punishing or finding the guilty party. Reporting is about preventing the same crime or incident from happening again.

The question of why is especially important. Informing stakeholders about social, environmental and economic impact areas in a transparent and accountable manner should be seen as a responsibility.

Reports should not only be seen as our communication tool, but should also be considered as a governance tool that presents sustainability policies, practices, performance and targets to stakeholders and helps them follow up on targets. Performance data should be the basis for organizational operations. The basic content of the reports, which also benefit from project, application and performance data, is determined in line with the results of the prioritization studies conducted during the reporting period, while the issues identified as priority should be given priority, and other indicators monitored throughout the organization should be specified in the “Performance Data” section.

The G4 Reporting Guidelines published by the Global Reporting Initiative (GRI) should be used as core application level principles. The data included in the reporting scope should be subject to independent review by an audit.

Why is a report needed?

- Risk management
- Corporate governance
- Talent management
- Priority determination
- Initiatives
- Dialogue with stakeholders
- Respectful of human and employee rights
- Occupational health and safety
- Environmental and energy management, energy efficiency
- Natural resource and waste management; recycling, recovery and disposal
- Raw materials and supplies
- Product distribution and storage
- Customer satisfaction
- Strategy and analysis
- Identified priority elements
- Ethics and integrity
- Economic performance
- Products and services
- Complaints
- Education, equal opportunities
- Prevention of discrimination
- Fight against corruption
- Privacy and confidentiality of information

Report types:

- Work and activity reports,
- Review and research reports,
- Statistical reports,
- Training reports,
- Work/task reports,
- Status reports,
- General audit/inspection reports,
- Investigation/investigation reports,
- Technical reports (feasibility reports, financial analysis reports, health reports, expert reports)
- Periodic/periodical reports.

Monitoring Report: It is a report prepared by the monitor in order to evaluate the periodic technical achievements, activities, project progress, interim outputs, deviations from the planned time/cost/scope, the effect of these deviations on project development, the compliance of periodic expenses with the activities.

Technical Report: It is a report that includes the work done within the scope of the project, project progress, technical achievements, time/cost/scope realizations, deviations from the project plan and their reasons, requests for scope, budget or duration changes for the next period.

Project Results Report: Document showing the added value and national gains of the project results and outputs and including the updated project results implementation plan.

Financial Report: Document consisting of Budget Tables, project expenditure evaluation and approval report and supplementary documents.

Scientific research report:

Report content (Unordered)

- Summary
- Introduction
- Historical background and past studies
- Methodology
- Experiment - analysis results
- Conclusion
- Bibliography
- Appendixes
- Figures and tables
- References

Presentation:

The selection and organization of important and interesting information considering the audience determines the success of the presentation. The aim of the presentation is to look at yourself through the eyes of the audience. After the presentation, the audience's thoughts and perspectives should change. Your role as a speaker in the presentation is to guide the audience so that they can understand your presentation more easily and quickly. Therefore, you are the leading actor, your actors are the audience, you should know them well. If you are making a presentation, it means that you have a purpose other than just informing the audience.

Do not fall into the speaker disease, transfer all the information you have to the presentation, talk for hours, test people's patience and gain their hatred. Therefore, you should remove all the

information that you believe is very important for you but is not meaningful for the audience from the presentation.

You should express your presentation in a language that almost all of the audience can understand. In cases where you need to use a term, you should explain it with familiar everyday concepts.

Presentation flow:

- Presentation name
- Content
- Summary
- Problem
- Why is the problem important
- Comparison with previous studies; (Comparison should not belittle or ignore)
- Steps in solving the problem
- Your contribution or awareness; why are you interested?
- Technologies you have developed or are being developed, innovations: Methods
- Future predictions and suggestions
- Conclusion
- Resources you use, supports

A template presentation is the most comprehensive presentation consisting of information, visuals and promotional films about the project. The points to be revised in this presentation should be constantly updated. Because the most risky aspect of using a template presentation is forgetting outdated and outdated information in presentations.

Striking statistics, stories and anecdotes related to the subject explained in the presentation should be included as notes in the presentation file. Thus, when the time comes to prepare, all you need to do is to organize the materials you have according to the subject, duration and audience you will present. In order not to miss an important point, a “checklist” should be prepared. Your list may include the topics that challenge you the most when preparing or performing a presentation and that you are likely to forget.

To cope with presentation anxiety,

- Try to get to know the environment by chatting with the audience before the presentation.
- Express your feelings with positive emotions, excitement and tension are different things and it is quite normal to be excited before the presentation.
- Get rid of your prejudices about how a good presentation should be (a good presentation should have a conversational tone, should include anecdotes, etc.).
- Rehearse your presentation, presentations that have been sufficiently rehearsed give an improvised effect. If possible, have people you trust watch your rehearsal and determine the points they recommend to be improved.
- Do not rehearse in front of a mirror; you may lose interest in the presentation by focusing on your facial expressions and body posture.
- In the first few minutes when excitement is intense, you can memorize what you will say and your final messages, which are usually forgotten due to the relaxation effect.
- Check the presentation area, lighting and sound system in advance. Check that your presentation (especially presentations that include images such as videos or movies) also works on other computers.
- Consider the time allocated to you while preparing your presentation and during the presentation.
- Check your presentation with “spell check” to make sure there are no spelling or grammar errors.
- A slide should contain no more than 60 words and 6 items. The font should not be too large or too small.
- Numerical data should be rounded so as not to tire the audience (approximately 16 thousand instead of 15,982).
- Between slides, the flow of the presentation and where you are in the presentation at that moment should be reminded.

People learn 75% of what they learn by seeing and 13% by hearing. In other words, the visuality of your slides is very effective in conveying your message. However, visual elements should only be used when really necessary and there should be a purpose to their use.

- Text and visuals should be used in balance on your slides.
- Your visuals should be related to the message you want to convey.
- Among the graphic types, you should choose the graphic that will best convey your message.
- Graphics should not only convey data, they should be able to explain themselves.

Your tone of voice and communication with the audience during the presentation are more important than you think. The speech should be structured in a way that keeps the audience's interest alive. The audience's interest decreases rapidly after 10 minutes. The most effective way

to attract attention is to create an "emotional impact". You can achieve emotional impact by making the audience laugh, encouraging them to use their imagination, giving striking comparisons, interesting anecdotes and showing that you enjoyed your presentation.

Make constant eye contact with the audience. Make eye contact with the audience, do not constantly look at your notes, computer screen or slides. When you feel your attention drifting, choose a listener and focus on them until they smile or nod (5-6 seconds).

55% of the message is conveyed by body language and 35% by tone of voice; the remaining 10% is what is being said. To use your tone of voice most effectively, speak loudly and distinctly, at your natural speaking tone and pace. Excitement often causes our voice to tremble and sound less than normal. You can do breathing exercises (diaphragmatic breathing) before the presentation to calm your excitement or calm your excitement by thinking of someone you love very much.

When using your body language; pay attention to closed body postures such as folding your arms in front or behind, putting your hands in your pockets, locking your wrists; they indicate insecurity and a desire not to communicate. Open body postures such as opening your hands to the sides indicate that you are relaxed and open to communication; for example, folding your hands in front of you in a roof shape or keeping your hands on your waist indicates dominance over the subject and the listener.

You may not have an impressive tone of voice or body language, but sincerity is more important than natural talents. Don't try to imitate. Establish your natural communication style, be yourself. Remember that "natural" is loved and accepted.

Your position on stage is important. Stand at a point on stage where the audience can easily see you and you can easily see the audience. Don't hide behind the podium or in the corner of the stage. When you have something important to say, take a few steps closer to a part of the audience; when you change the subject or when you will be silent, take a few steps back.

Prepare for the Q&A section in advance. Think about the questions that may come in the Q&A section and your answers before the presentation. When a question comes, do not get defensive and first make sure you understand the question. Ask questions to elaborate on the question. Think about the question, not your answer. For questions you do not know the answer to, you can politely state that you do not know instead of trying to give political answers. For questions you cannot answer, get the audience's contact information after the presentation and share the answer with the audience later. The best time to take questions is at the end of the presentation;

This way, you won't be distracted during the presentation and you can adjust yourself to the presentation flow and duration more easily.

Common mistakes:

- Reading from the screen or from notes in hand.
- Using unnecessarily long slides full of text and visuals.
- Blocking the screen, turning your back to the audience.
- Not paying attention to the time.
- Going off topic.
- Copying what you are going to say on the slides verbatim.
- Showing information-heavy slides for less than 10 seconds.
- Being too personal in anecdotes and memories, making unnecessary jokes.
- Too much text and different levels of text should not be used. Different font sizes, lack of visuals and dark backgrounds make reading difficult. Using too much information, color and visuals distracts attention.
- Using underlined text makes reading difficult. Colors and visuals should not be used independently of the subject and purpose.
- Visuals and text should not be used in a size that is unreadable. The relationship between the visuals should be understandable. Using too many colors pushes the audience away.

Theoretical Foundations in Reporting and Presentation:

- Not reporting findings that do not meet the expectations of the researcher refers to the unethical behavior called concealment.

- A written and published report that describes original research results is called a Scientific Article.
- The content organization of a research report is made in the form of Title, Abstract, Introduction, Method, Findings, Discussion and Conclusion, Notes, Bibliography and Appendixes.
- Presenting a quality report is as important as preparing it. Presenters should focus on the feelings and thoughts of the people they are talking to.
- Reporting is Confrontation, Answering the questions asked, Informing, Accounting
- The purpose of presentation is to change the perspectives of the audience
- Presenters usually make the mistake of appealing to their own feelings and emotions. However, what should be done is to play on the feelings and emotions of the person you are talking to. Messages should be conveyed to the expectations of the audience you are presenting to.

4. Systems

4.1. Deterministic Systems

The doctrine that claims that all objects and events are predetermined, where the principle of causality is accepted as the basic principle, is determinism. Systems that contain randomness are called stochastic. The sudden manifestation of the destructive effects of complexity, disorder and uncertainty means chaos.

Deterministic and stochastic systems constitute the two main categories of models used in scientific fields such as mathematics, physics, chemistry and social sciences.

There are natural events that have troubled humanity a lot throughout history. Movement and time are at the forefront of these. The purpose of mechanics is to explain the universe. Explaining the universe means explaining the movement of distant celestial bodies (solar systems, galaxies) on the one hand, the movement of subatomic particles on the other, and the movement of objects next to us on the other hand. When we talk about movement, the concept of time will inevitably come into play. Unfortunately, there is no (single) mechanical theory that can explain all movements in the universe, nor is there a concept of time that everyone can accept. We are trying to explain the movements in our immediate surroundings with Newtonian Mechanics, the movements of subatomic particles with Quantum Mechanics and the movements of galaxies with the Theory of Relativity. The emergence of a (single) mechanical theory that explains all of these has always been the dream of every researcher.

In 300 BC, Aristotle (384-322 BC), as he did in many other areas, established rules for movement based on his observations. The two that are relevant to our subject are as follows:
1. Objects fall to the ground with an acceleration proportional to their weight.
2. In order for an object to move, a constant force must act on it.

Aristotle's (wrong) mechanical rules are conclusions that even today, every person who does not know physics reaches intuitively. It is difficult for a worker carrying materials to construction with a wheelbarrow or a farmer plowing his field with oxen attached to his plow to perceive movement in any other way. Aristotle’s rules are so suitable for our daily lives and perceptions that the average person hasn’t even doubted them for 1800 years. But scientists’ work begins with doubt, questioning and observation. If a constant force needs to be applied to an object for it to move,

who pushes or pulls the celestial bodies? What pushes or pulls the apple that falls from its branch to the ground? When the rules set by Claudius Ptolemy (90-168 AD) for the movement of celestial bodies in 150 AD were compatible with the official view of the Catholic Church, our earth had the honor of being the center of the universe (geocentric universe) until the 16th century. One day, a Polish man named Nicolaus Copernicus (1473-1543) appeared and after long observations with the naked eye, he made us face the truth. From that moment on, our earth lost its title to the sun. Now, the center of the universe is not the earth, but the sun (heliocentric universe). This revolutionary idea was put into its geometric model by Johann Kepler (1571-1630):

1. The orbit of a planet is an ellipse with the sun at one focus.

2. The line connecting the planet to the sun sweeps out equal areas in equal times.

3. The square of the planet's period is proportional to the cube of its average distance from the sun. (T2 = R3 for the Earth.)

Kepler's perfect geometric model, which is still valid today, explained the movements of the planets in the solar system perfectly, but it was not enough to explain all the movements in the universe and most importantly, the reason for the movements. Therefore, scientists had to ask themselves many more questions about movement. Galileo Galilei (1564-1642) asked himself this question and while he was observing celestial bodies with a telescope and confirming Copernicus' heliocentric theory, his experiments on gravity were also deeply shaking Aristotle's 2000-year-old empire: All objects fall to the ground with the same acceleration.

This rule stated that heavy objects fall to the ground with the same acceleration as light objects, and refuted Aristotle's first law mentioned above. History has shown that when great empires are deeply shaken, their collapse is inevitable. Isaac Newton (1642-1727) would deal the final blow to Aristotle's empire, which was shaken by Galileo. The following rules, called Newton's Laws of Motion, not only destroyed Aristotle's empire, but also became the basis of physical sciences for 400 years and created the technology of our age:

i. A moving object continues its uniform linear motion forever if it is not affected by an external force.
ii. There is a relation F=ma between the force F applied to an object with a mass m and the acceleration a.
iii. There is an equal reaction to every action.

Unpredictable relationships emerge in the production of knowledge. Kepler relied on the work Conics written by Apollonius of Perga (262-190 BC) 1800 years ago to create the geometric model explaining the motions of the planets. Apollonius, while discovering and revealing the secrets of

conics like a passionate artist, probably did not even think that he would pave the way for a great civilization 18 centuries later. Without Apollonius, there would be no Kepler, and without Kepler, there would be no Newton.

Newton began to search for the mystery behind Kepler's perfect geometric model and Galileo's astonishing observation about gravity. Why do the planets move according to Kepler's model? Why do heavy and light objects fall to the ground with the same acceleration? There must be a mathematical formula that answers these questions. He finally found what he was looking for. Newton's laws of motion are the basis of the concept of determinism, which we will discuss in a moment. After Newton, until the beginning of the 20th century, it would be believed that everything related to motion emerged from Newton's laws of motion.

Dynamic Systems:

Differential equations or equation systems representing simple movements are usually linear. Their general solution is a space consisting of analytic functions. We call this space the solution space of the system. Finding an analytic solution means knowing the physical system in question completely. On the other hand, as the physical system becomes more complex, the number of variables (dimensions) in the differential equations representing it increases; in other words, the system becomes multivariable. In addition, the degrees of the terms in the equation increase; in other words, the system becomes nonlinear. Generally, such equations do not have an analytic solution space. This fact is the main reason why we cannot explain the phenomena called chaos with the usual mathematical language.

While we know the position, speed, direction and forces acting on a dynamic system at a moment, we also want to know its state at a later or earlier time. The solution of a linear differential equation or equation system is a space consisting of analytic functions. We use the values that determine a desired function from the solution space. We call these values initial conditions or boundary conditions. When an analytical solution exists, well-defined boundary conditions select a single function from the solution space. If our system of equations represents a motion, the function we select is the trajectory of that motion. Different starting points select different functions; that is, different starting points determine different trajectories for motions. This phenomenon is closely related to the butterfly effect.

If we define it from a slightly philosophical perspective, the essence of Classical Mechanics (Newtonian Mechanics) is determinism. Determinism states that “the current state of a physical system is the result of its previous state.” Therefore, it is possible to predict every event and motion in advance. After the emergence of the idea of causality (cause-effect) in 1500 AD, the

three fundamental laws of motion put forward by Isaac Newton (1642–1727) made modern science entirely based on determinism. These laws see determinism as a solid tool that works not only forward but also backward. Indeed, according to Newton's laws of motion, just as the current event and motion follows from the previous event and motion, the next event or motion will be the result of the current event or motion. From the perspective of the classical physicist, being able to predict with certainty that Halley's Comet will visit the Earth again in 2061, or being able to calculate with certainty when the next solar eclipse will occur and from where on Earth it will be best visible, is an undeniable triumph of determinism. This view, which is the basis of modern science and has been effective for 400 years, has created the science, technology and civilization we find ourselves in today.

The mathematical language of determinism is very clear. We said that once we know the initial conditions, we can choose the unique analytical solution that fits it from the solution space. Let's call this solution f. If we know the state of the system at any time t, we know the function f. Now it is possible to calculate the values of f(t+a) and f(t-a) for each a. From a mathematical perspective, this phenomenon, which occurs on the graph of the solution function, means that from a physical perspective, the dynamic system in question can be moved forward or backward from a certain place on its own orbit. Therefore, in order for determinism to be applied, an analytical solution of the system and well-defined initial conditions are needed. This task, which seems very easy, is actually impossible for many systems. This impossibility creates the phenomena called chaos.

Deterministic models are systems in which there is no randomness in determining the future states of the system. In other words, for a well-modeled deterministic system, the system will always give the same result under the same conditions and for the same initial states. For example, an object that we drop from 100 meters above will fall to the ground in 4.5 seconds, no matter how many times we repeat it, and its speed when it falls to the ground will be 44.1 m/s. Or, the reason why weapons that can accurately hit a target a few hundred kilometers away are developed today is that these systems are deterministic. Systems that can be calculated in advance from a dynamic model of how the system will behave at a point in time are called deterministic systems.

Abraham De Moivre, a statistician who lived in London in the early 1700s, argued that there is no such thing as luck, that it is just an illusion, and that what we describe as luck actually occurs thanks to the laws of physics that we know. For example, we can easily(!) find out whether a coin we throw in the air will land heads or tails if we calculate physical factors such as air current, angle of the hand, height of the hand, force applied to the coin, alloy of the coin, and shape of the ground (assuming that the coin lands on the ground). It is quite difficult to calculate this, even

impossible; but this does not mean that it depends on luck. We need to see this subtle difference, just because we can't calculate it doesn't mean it can't be calculated. This system of thought is called Determinism, "nothing is uncertain; everything is a result of a cause that preceded it, whether we know this cause or not..." De Moivre confirmed this seemingly impossible theory with his death. In the last years of his life, he noticed that he was sleeping 15 minutes more each night. If his sleep was getting 15 minutes longer each night, he would die on the day he slept for 24 hours, De Moivre calculated this day as November 27, 1754 and died that day. Of course, this doesn't fully prove his theory; but it does show that it is possible to predict everything when the right measurements are made. De Moivre's 52-page work called "The Doctrines of Chance" (which is mathematically important because it is the first work on probability theory) laid the foundation for Laplace's work. Laplace's importance is that he was the first person to use probability theory in mathematics. He was also the first person to use the system we call the bell curve functionally.

4.2. Stochastic Systems

Stochastic models, on the other hand, are systems that contain randomness. This randomness can be in the system parameters, dynamics, and inputs. Therefore, the output of the system will have a similar randomness. In such systems, even if the same experiment is repeated under the same conditions, the same results may not be obtained, but it can be calculated in which range or distribution the results will be, and what the probability of which result will occur. In stochastic models, instead of knowing the future position of the system, it is predicted and probabilized. Examples include systems such as lottery draws, dice rolls, exchange rates, and stock exchanges.

There are views that some systems known as stochastic are not actually stochastic, but simply cannot be modeled well enough. For example, there are sources that state that throwing dice or tossing a coin is not a matter of probability as is thought. There is an approach that a model in which many details such as how much force we apply when throwing a dice, at what speed, in what direction, from what height, at what angle, the air resistance the dice encounters, the weight of its different surfaces, etc. are actually taken into account will be deterministic, that is, it will be possible to know what the outcome will be. Chaotic systems are also often discussed as stochastic systems. However, many chaotic systems have a deterministic structure. A chaotic system is when the slightest change in the input causes a very large deviation in the output.

While Newtonian physics was at its peak, two new theories emerged in the studies carried out to complete its deficiencies in the 20th century: Quantum Mechanics and Theory of Relativity. Due to its close relationship with the probabilistic aspect of chaos, in Quantum Mechanics, in order to

explain the structure of the atom, it was necessary to determine the movements of subatomic particles. In order to apply the principle of determinism to these particles, their positions, speeds and directions at a certain moment had to be known. However, it was not possible to measure their positions and speeds at the same time; If the speed was known, the position was unknown, and if the position was known, the speed was unknown. The theory of "probability" was used as a solution to this. The speeds or positions of particles were determined with certain probabilities. Albert Einstein, one of the most colorful people of the period, would oppose this view and say, "I can't believe God plays dice!" However, there is a very convincing aspect to the event. The prediction made is not for one particle, but for millions of them. If you toss a coin and predict that it will come up heads, you will either be 100% right or 100% wrong. However, if you toss 1,000,000 million coins and predict that 500,000 of them will come up heads, your margin of error is greatly reduced. The use of probability is a deviation from determinism. However, even the glorious birth of Quantum Physics could not eliminate the importance of determinism. However, it placed the concept of "Uncertainty of Measurements" at the top of the agenda.

In 1898, French mathematician Jacques Hadamard stated that if an error is made in the initial condition, the system will be unpredictable in the long term. In 1906, Pierre Duhem came to a similar conclusion. The famous French mathematician and thinker Henri Poincaré showed in 1900 that it could not be proven whether the solar system was stable or not. In 1908, he dealt with the subject in detail in his famous work Science et Méthode.

Uncertainty in Measurement:

How do we determine the numbers we call initial conditions? In experimental sciences, the only way to do this is through observation and measurement. But observations, experiments, and measurements cannot give real numerical values; we can only find them with a certain approximation, that is, with a certain error. Even if we put aside the inevitable instrument and human errors in every measurement, theoretically no instrument can always give real values. Because the decimal representations of real numbers require infinite digits. Just as a measuring instrument with infinite digits cannot be made, operations cannot be performed with infinite digit numbers. Even in a simple addition operation involving an irrational number, we use a finite-digit approximate value (rational number) instead of that number. This phenomenon, which we call Uncertainty of Measurements, means that the initial conditions of a physical system cannot be determined with certainty. The first person to identify the negativity created by this phenomenon in the principle of determinism was Henri Poincaré (1854-1912). Now we can move on to its interesting story.

4.3. Chaotic Systems

Newton's laws perfectly fit the motion of two celestial bodies, but when there are more than two bodies, an analytical solution cannot be obtained. The solution to this problem, known as the Three-Body Problem, became a popular topic in astronomy at the turn of the 20th century. The King of Norway, Oscar II, announced that he would give a prize to the person who could prove whether the solar system was stable or not. In 1900, Henri Poincaré showed that the solution to the system of equations determining the motion of the solar system was sensitively dependent on the initial conditions, but that the initial conditions could never be determined correctly, and therefore it was impossible to determine whether the solar system was stable or not. He was also the first to use the term "chaos" for this unpredictable situation. Thus, Poincaré won the prize without solving the desired problem. But it should not be forgotten that proving that a problem cannot be solved is sometimes much more difficult than solving the problem.

Now we can give a simple mathematical explanation of Poincaré's great finding. If a dynamical system has an analytical solution, the function (orbit) values are also close to each other for values near a certain initial value (continuity). Determinism derives its real power from this. Even if the initial conditions cannot be determined with certainty in these systems, taking values close to the real initial values does not create significant differences in the result.

When there is no analytical solution, linear approximations are used at local points instead of solutions; numerical solutions are obtained from them. Those numerical solutions form the phases. The phases are taken as initial conditions. Therefore, the phase space replaces the solution space. Linear approximations are called tangent lines, tangent planes, and hyperplanes according to the number of dimensions. Since the solution is not analytical, tangents at very close points can be very far from each other. In other words, since the regularity (continuity) conditions that arise in analytical solutions are not provided, they can take values very far from each other even at very close initial points. After this brief explanation, we can reveal the meaning that physicists interested in the subject give to the term chaos: Sensitive dependence on initial conditions. Physicists have a beautiful saying expressing this: “If a butterfly flaps its wings in China, there can be a hurricane in Texas.” It goes without saying that there is no political implication in this saying. What they are trying to say is that a very small change in the initial conditions can make a huge difference in the behavior of the system.

Feeling the great power of determinism, which has landed a man on the moon, sent a satellite to Mars, and predicted every second of these movements, gives us all peace. However, facts such as

not being able to calculate where a billiard ball will hit the table, not being able to correctly predict the weather three days later, or not being able to predict the results of a world war, are disappointing enough to cast a shadow over the peace that determinism provides, even if they are not alarming. In colloquial terms, we describe dynamic systems whose behavior is unpredictable or their behavior as chaos. The meaning that physicists give to the term chaos is very different from the meaning that the man on the street, and especially politicians, gives to the term chaos. If we express what physicists say in mathematical terms, we can define chaos better.

There are three reasons that prevent prediction for most nonlinear dynamical systems:

i. The system does not have an analytical solution.
ii. We cannot determine any initial conditions with certainty (Uncertainty Principle in Measurement).
iii. Very small changes in the initial conditions can cause very large differences in the results (Sensitive dependence on initial conditions - Butterfly effect).

In fact, we can reduce these three reasons to a single reason, namely the first reason. Because if the solution of the system is analytical, the butterfly effect disappears. When the butterfly effect disappears, the effect of uncertainty in measurement disappears; in other words, function values close to each other are obtained for close initial conditions. Conversely, if the system does not have an analytical solution, the last two naturally become effective, for the reasons explained above.

What is desired in dynamical systems is to find the solution of the differential equation (or system of equations) that we call the dynamic rule. In mathematics, we call this the inverse problem. Our algebra, analysis and differential equation theories mostly deal with inverse problems. Because it gives what determinism wants. On the other hand, there is no inversion rule that solves all problems. For this reason, problems are divided into similar classes and separate solution methods are developed for each class. For example, there is no single method that solves all differential equations. Instead, separate solution methods are sought for each class of differential equations. Something similar should be the case for chaotic systems. The principle of “divide and rule” is a golden rule that is valid not only in politics but also in the production of scientific knowledge.

Mathematicians want to know which butterfly in China created the tornado in Texas with which wing flaps, rather than the mathematical model that explains how a butterfly flapping its wings in China will create a tornado in Texas. If chaos is to become a science one day, mathematicians have to find that butterfly.

4.4. Process Management

Monitoring the performance of planned activities to produce goods, services, ideas or cultural values, finding potential risks and changes and reducing the possibility of recurrence by reducing their effects is called business process management. In business process management, in order to see the changes, the changing values of the problems and deviations that may occur should be monitored and constantly analyzed. When faced with insurmountable obstacles while advancing towards the goal, instead of insisting on not deviating from the route or resisting the changes, it should be considered important to transform and turn to opportunities.

Factors causing changes in the implementation phase of business processes:
- Inability to analyze competition in detail,
- Transforming cultural differences into discrimination,
- Lack of management support,
- Incorrectly defined goals and needs,
- Deficiencies in participation,
- Inadequate and ineffective planning,
- Failure to plan risk management.

Factors causing deviations in the implementation phase of business processes:
- Deviations in cost planning,
- Disruptions in the process control and monitoring phase,
- Problems within the team,
- Forgotten information in the feasibility and evaluation phase,
- Blockages in the information system,
- Problems in capacity adjustment,
- Negativities in the economic conjuncture (especially inflation),
- Unrealistic targets,
- Limited resources,
- Insufficient stocks,
- Bureaucratic obstacles.

In order to cope with the changes and deviations to be encountered in the implementation phase of business processes, creative managements with control and supervision authority should be established. The leader responsible for the team should guide, motivate and guide the team rather than being a manager. Every member of the team should be equipped with up-to-date information about the work they do. Training should not only ensure that individuals have the necessary and sufficient information, but also that they speak the same language.

When a problem occurs during the implementation phase of business processes, a meeting should be held with the leader, brainstorming should be held, and everyone should express their thoughts without hesitation on the basis of generating common sense. It should be considered important that the entire team produces solutions in consensus. Employees should believe in the necessity of sharing information and establishing healthy communication. Sharing experiences and knowledge will strengthen the team. It should be kept in mind that rapid transformation of relations between employees into warm rapprochement will cause wrong answers to be obtained in questioning and research. The team should be monitored and incompatible and problem-causing individuals should be eliminated. Dismissal or firing from work should not be the first priority in punishment, and it should be considered important that the person learns a lesson. It should not be forgotten that being appreciated provides high motivation to employees. A task list should be prepared in team management, resources should be planned, and activities should be monitored. Job descriptions should be made correctly depending on the limits of conflict and authorization to be allowed among employees. If the feeling of support from the management is not created in employees, excitement is lost and a feeling of not being cared about is formed. If the goal is unclear, the path to be followed also disappears.

Along with environmental and occupational safety, employees' food, transportation and accommodation services must be provided in high quality and without discrimination. In addition to control, audit and monitoring, information collected regarding all processes must be compared, analyzed and violations and threats must be investigated. When violations or threats are detected, risk and then crisis management must be initiated in early warning and emergency response processes. Functions such as violation, deviation, crime element, finding forensic evidence have strategic importance in the control of workflow. In order to be able to detect crises and risks before they occur, reporting and statistical database must be created.

Cost, technical performance and work must be monitored together in time period. While searching for answers to questions such as how the current status of the activities that need to be completed affects future activities, what are the rights, wrongs, needs, a work program must be developed. Start/end dates of planned and realized activities, deviations from the planned program and their effects on the project must be determined. Quality indicators coming from the stages must be monitored with the help of the work program. Planned works and realized works must be compared with cost, start and end dates. The necessary budget estimate must be made from the realized expenses to complete the project. It is necessary to make predictions about how any deviation will affect other tasks. When there is a delay or deviation from the plan, the pending tasks should be reviewed and the impact it will have on other tasks in the processes should be determined. It should be decided whether additional adjustments are necessary.

When business processes reach the implementation stage, information should be collected correctly. Status reports, updates, financial analyses, measurements of planned costs and actuals and differences between them should be made continuously. The aim in business process

management is to monitor performance, time, cost and scope components and to determine risks in advance.

When planning business processes, the business or institution should be defined as processes instead of departments. While determining the requests in the process steps, suggestions that will raise awareness of expectations should be given.

Process: It is a chain of interactive (improvement, ownership, measurement, comparison) activities that transform inputs into outputs. Success stories should be considered important when creating a questioning cycle in processes.

- Investment is made in the person.
- In institutionalization; Destructive factors that negatively affect productivity.
- Missing the mistake, not noticing it
- Copying is not shameful; copy, see the problems and solve them!
- Keeping creativity alive and making it continuous
- How does a success story occur after realizing a mistake?
- Paying the price, how to act after a momentary shock and how will the team be formed?
- Story: Keeping the system alive; Shark on the Japanese fishing boat
- Preventing mistakes with the spiral cycle; take precautions, apply, control, plan.
- Process: apply, measure, improve, make sustainable, report, generate alarm; overcome the shock

Efficiency, efficiency, productivity:
Efficiency is to recover the cost of doing the same job in production, product, process, material, and to gain wasted energy.

Efficiency: On-time delivery. Realized, planned service delivery time, customer complaint rate.

Time – Money – Energy:

Measurement of process performance:

- Developing leadership behavior in project development management.
- Creating a sense of success
- Observing development
- Being decisive
- Finding the causes of errors
- Measuring the distance to the target
- Holding on tighter
- Quantity and duration

How to ensure that processes are complete and error-free? Starting work processes in maintenance and services, authorization, increasing the authority level from alarms. Determining, eliminating, and restructuring faulty and inefficient processes. Updating probability and forecast values, obtaining healthy data based on interpretation, and reducing error possibilities

Early warning processes

Early warning system based on deviation analysis in increasing quality in business continuity
Increasing quality in business continuity with early warning system through deviation analysis
If you measure processes, you manage them!
Remote sensing, Remote control, monitoring, management
Smart decision making
Electromagnetic sensing; finding surface stress and strain; Atmosphere, Surface reflection, Seismic

In order to improve a process, that process must first be measured. Measuring enables the emergence of successes and failures and the development of the ability to comment based on concrete data. The main principle of the quality concept is to determine precautions to prevent problems and to receive warnings before they occur and to develop business processes instead of reacting to possible errors in a service. While providing service, eliminating defective service processes as a result of control increases the cost. The ideal thing is to prevent the formation of defective services by taking various precautions during and before the service delivery phase.

Eliminating defective functions in processes as a result of control increases the cost. The ideal thing is to prevent the formation of defective services by taking various precautions during and before the service delivery phase. The reasons are irregularities in the distribution of the area, constant movement of customers, and providing service under the pressure of factors such as environmental effects.

Established systems always appear as efforts to work more efficiently and effectively. Measuring and evaluating the business processes of services, statistically analyzing the data, and making comments with graphics will make significant contributions to the total process efficiency. In order to achieve the best performance, it is necessary for all stakeholders to share their knowledge and establish relationships based on integration and mutual benefit.

The healthy operation and continuous development of each process will contribute to the efficient and healthy life of the systems and the services provided. The analysis of processes constitutes an important dimension of development and efficiency studies. In order for the processes to be complete and error-free and to produce useful results, processes must be analyzed. Of course, process analysis should be used not only to find errors, but also to determine ineffective and unnecessary activities. Process analysis includes determining the critical processes that have a

direct and higher impact on the success of the services to be provided, separating them from each other, and making the necessary corrections and redesigns

The probability of error in the estimates to be made and the results to be reached will be evaluated based on mathematical probability and by induction. Quantitative (numerical) data and information will be collected and classified, and the most effective management methods will be developed thanks to the developed algorithms. By observing the events under the influence of random factors and collecting and examining information about these events in a regular manner with the help of certain theories, tools, methods and techniques, it will be possible to make estimates and comments with a certain sensitivity. Situations that play a very important role in ensuring that the service is established and carried out under normal conditions, and that will cause the service to go out of control or be interrupted due to a malfunction or special reason, will be revealed immediately, warned in advance and the necessary measures will be taken in a timely manner. Special algorithms that ensure the conformity of the service to the predetermined quality specifications, target adherence to standards and minimize defective service production will be developed.

Analytical control of all processes is a part of critical business processes. Thus, quality in service will increase as a result of detailed analysis of process activities and problems that arise during the path followed in understanding the process activities will be documented. As a result of the developed simulations and risk scenarios; alternative processes will be designed, cost and efficiency indicators will be analyzed and workflows that will create optimum benefit will be determined. Analysis reports including improvement suggestions will be prepared. In determining risks in performance analysis and risk-based efficiency analysis, the following data will be collected, analyzed and self-updating mathematical models will be developed.

The aim of this study is to reduce costs, increase efficiency, improve coordination between business processes, increase efficiency in resource use and convert these improvements into profitability. The most frequently encountered problem types will be determined in order to contribute to quality development in service provision. These determined problem types, possible reasons for the occurrence of problems and the relationships between their components will be examined with the help of analysis software. As a result, the necessary reports will be prepared graphically so that the understandable, easily interpretable, visually based graphical results of the analysis can be evaluated by managers and all employees, especially those working in the service process, and can be helpful and effective in the decision-making phase.

Purpose: To achieve maximum efficiency and maximum potential in the equipment by performing deviation analysis in the processes, to transform automation, management and optimization processes from the data of the active equipment, to ensure accountability and transparency, to ensure continuous traceability of the process, to monitor, measure and analyze the processes.

Controlling and Monitoring Processes:

Measurement is comparison. Learning is possible with ambition, determination and work motivation. The moment you decide to learn, your horizons expand. People only progress as much as their horizons. It is a very difficult process to finish the job you started as a leader as a leader. The moment you lose control, you find yourself as a clown in the chaotic environment in the job you started as a leader. What makes a leader a leader in project management is working with a good team. Working with a good team should not only mean working with smart and intelligent experts in knowledge and skills, they should also be honest and reliable with the same value. No one can be a leader alone. Instead of "I did it, they couldn't have done it without me", the strategy of "Everyone was good, that's why we did it" should be developed and implemented. When things go bad, the leader should look in the mirror and when things go well, the leader should look out the window. It should never be forgotten that the fish starts to rot from the head. If you are aware of the role you play, the work you do will speak for you.

Instead of monitoring and questioning, observation is required, finding violations by comparing the information collected and correctly diagnosing the sources of negative behaviors. Threats can be managed if they are measured. Therefore, threats should be measured by constantly questioning and comparing. Especially manipulations that can cause sudden and excessive outbursts alienate the concept of the other and turn someone into an enemy in the minds of others and awaken aggressive impulses.

There is a classless relationship in folk children, it shows itself immediately. There is no such thing as measuring the other, determining the distance, or giving fancy treats.

If there are administrative errors during the audit:

- A determined and consistent goal has not been established
- Priority and importance has been given to short-term profits
- Risk monitoring and review has not been done
- Errors have been made in planning
- Failure to accept failure, failure to realize that there are deficiencies
- Employees have been discriminated against
- Frequent changes have been made in management, the concept of leadership has been eliminated
- The company has been managed with numbers
- Payments for losses have been inflated, excessive expenses have been hidden

- Continuous improvement efforts have not been adopted
- Quality improvement efforts have been initiated without creating strategies
- Management has cut off communication with employees or has not established any
- Collaboration with suppliers has not been developed, supplier risks and capabilities have been ignored
- A team has not been formed or has not been considered important
- All authorities have been transferred to a certain group, employees have not been given initiative or authorities have not been shared

If no answers have been found to the problems during the audit:

- Lack of sense of duty, insufficiently developed, insufficient
- Experience and no respect for expertise
- There is a tendency for centralized management
- Extreme bureaucratic tendency
- Errors, uncertainties, inability to notice changes and developments
- Not wanting change, resisting changes
- Inability to transform from an individual organism to a group organ
- Inability to be disciplined
- Having problems communicating with the environment
- No statistical habit
- Does not benefit sufficiently from information technologies.
- Inability to control the weakness of chat rooms, playing games and surfing social networking sites in the virtual environment
- Obsession with the fear of audit and inspection
- Inadequacy in self-improvement
- Unbearable level of dissatisfaction in internal customers.

5. Ethical Values in Leadership

According to Ralph Waldo Emerson, success is: Gaining the respect of intelligent people and the love of children; gaining the approval of honest critics; enduring the backstabbing of false friends; loving beauty. Finding the best in everyone; giving spontaneously without expecting anything in return; leaving behind a healthy child, a saved soul, a patch of green garden, or a healing social situation, contributing to the betterment of the world. Having fun and laughing to your heart's content; singing songs with abandon. Knowing that someone, even if it's just one person, breathes easier because of your presence. Being able to look at life from a different perspective. The moments when you feel successful should not be the moments when others accept you as successful; it should be the moments when you control your anger. Being able to say what you think without offending anyone. It is very difficult to do these things in life. So be proud of yourself when you manage your anger. Say, "We finally did it." [Ralph Waldo Emerson, May 25, 1803 - April 27, 1882, American thinker, writer.]

Protecting physical and mental health is essential. In order to protect mental health, one should not surrender to exhausting, nerve-wracking games. If you have an idea, you will be noticed when you express it without fear, hesitation and properly. If you see how the work develops in the big picture from production to source, you will notice it. In order to notice, one must be questioning and curious. If you both do the job well and present it in style, you will gain confidence. Luck is being able to be in the right place at the right time. It should not be forgotten that coincidences are also effective. Being able to notice in the right place at the right time is possible with awareness. This is creating awareness. Awareness is gaining the ability to do / have the job done. Being able to turn changes into success by noticing them. It is choosing the leader. It is developing the power of determination in decision making. It is being able to overcome, wear down and wear out every obstacle that comes across. It is making one feel that you value and care.

Awareness is success:

- Success is possible with ambition, determination and motivation to work.
- When you aim to succeed, your horizons expand. People only progress as much as their horizons.
- It is a very difficult process to finish the job you started as a leader. When you lose control, you find yourself as a clown in a chaotic environment.
- What makes a leader a leader in project management is working with a good team.
- Working with a good team should not only mean working with smart and intelligent experts with knowledge and skills, they should also be honest and reliable with the same value.
- No one can be a leader alone. Instead of “I did it, they couldn’t have done it without me”, everyone was good, so we did it strategy should be developed and implemented.
- When things go bad, a leader should look in the mirror, and when things go well, he should look out the window.
- It should never be forgotten that the fish starts to rot from the head.
- If you are aware of the role you play, the work you do will speak for you.

Awareness is gaining the ability to do the job and get it done:

Managers who deceive themselves about how well their institutions are managed behave like mothers and fathers who try to believe that their children are above average. Because their institutions have talented staff and inspiring visions. They work with the best consultants. When you step through the door of the institution, you are greeted by huge screens that start with our vision and mission. Why do institutions fail to produce the desired results despite all this? When asked why you could not succeed, the most frequent explanation is that the management strategy is wrong. Competition is tougher than it is, change is very fast, investors have become ruthless. The leader and management team of the institution are so eager to succeed, but no one thinks about whether the structure created by the institution wants to be successful. Everyone talks about change. Change does not mean anything unless it turns into action. Failure drains energy and destroys repetition.

Management reaches a consensus on a project or a new initiative very quickly, and then nothing comes out. Because it is not followed up, questioned, or monitored. When sentences start with the word strategic, the literature produced is endless. What is the job is explained in great detail, pages of reports are prepared, and when it comes to how the job is done, commands start flying in the air. The answer to the questions of how the product will be marketed, what formal behaviors will be given to the product, starts with the sentences of don't worry, and turns into the leader's self-definition. He was created for this job. As long as he is there, there is no need to worry about anything. You start to think that the man has a magic wand in his hand. How to deal with the problems that will be encountered in the processes, what will be changed and how, what will be transformed into how, all start with the leader himself. So what will others do?

Thoughts such as the leader will be at the top, exempt from details cause many people to yearn for leadership. Thinking this way is a mistake, and a mistake that will cause serious damage. The leader is the person who will ask the questions that everyone should answer; initiate the discussion process, manage it correctly, make balances and end it healthily. The leader must have the knowledge to ask intelligent questions. The leader who spends a certain part of his time with his employees gets the chance to see the gaps better. A leader who is closely and intensively interested in his employees and operations communicates, knows the facts, is well-versed in details, is excited about his work, and is passionate about getting results. Those who look for deviations from the specified tolerances are in search of a ruthless truth in processes that aim for continuous development. The ability to detect the gap between what is desired and the results that will emerge must be a part of the culture in the organization. It requires intense focus, constant questioning, and intelligent thinking.

If the employees, operational processes, infrastructure, and strategies of the organization gain integrity, the organizational structure begins to work like a heart. Can success be achieved without the employees of the organization, without their sweat? Sweat is being able to capture the pleasure of doing the job, understanding the other person, mutual interaction, and taking on an obligation.

Awareness is noticing the changes:

The approach of “first movers are ahead” in dominating the market has lost its meaning today. In gaining competitive advantage, making predictions about the future carries the signals of change. This change requires developing business concepts that will meet the needs of the customer’s dreams outside of the usual ways, beyond focusing on the real needs of the customer. The current competitive environment, which is called destructive and predatory and constantly changes its dimension and meaning, has made it difficult for businesses to gain sustainable superiority in the markets. The spread of the internet, which is called the virtual environment and has uncertain rules and boundaries, forces businesses to compete with migratory products. The concept of the internet, which fundamentally affects all variables of the marketing concept, has eliminated the concept of space. The virtual environment is used intensively in the promotion, sale and distribution of goods, services, ideas and cultural values. Developments in information technologies have reduced the distance between the competitor and the competitor to the time it takes to touch a button. Since the internet has rapidly made any store in the world a competitor, the protective walls of the institutions have turned into traps that strangle them. In such a virtual environment, being successful in a competitive race with many competitors is possible by noticing changes and being different, beyond being good.

In the business world where competition is very fierce and customer loyalty is decreasing, businesses no longer have the opportunity to survive in a simple and stable environment. While some become very rapidly rising values, the main reason why others lose all their advantages at an

unexpected moment is the uncertainty environments created by sudden changes. In these uncertain environments, it is becoming increasingly difficult to achieve the desired results with classical management initiatives. In an environment where they believe they are their own and determined, the possibilities of business organizations to sustain their existence and gain competitive advantage have decreased.

Awareness is the power of determination in decision making:

Since the power of determination in decision making is the responsibility of the management level, it is necessary to examine in detail the factors that prevent the formation of strategic awareness in managers. Personality conflicts are increasingly gaining more complex dimensions due to the conflicts in the competitive environment where it is unpredictable where and how they will react. Ignoring ethical values triggers feelings of betrayal and alienation. Those who pursue ambition and desire become slaves to greed and possessiveness that feed their aggressive instincts. Especially in the business world, uncontrollable wrong behaviors cause irreversible destruction. Leaders who do not internalize the meaning of the power they have change very quickly and turn into tyrants who never accept that what they do is wrong. Since the emotional cost of the employee's commitment to their organization is much higher than it is thought, the employee who leaves their job actually leaves their leader, not their organization. Leaving should not be defined as simply leaving the organization. How can a leader who is unaware of their employees who have lost their desire to work be successful?

On the other hand, it is seen that the environment, families and schools are deteriorating and inadequate in the formation of healthy behaviors. Who are the leaders who exhibit aggressive behavior with obsessive prejudice without researching and understanding? They did not come from space, can they exhibit behaviors different from the characteristics of the source they came from? What drives them to satisfy their inner egos that they cannot control by treating leaders as narcissistic? Discrimination is made and talents that have developed themselves are excluded. Managers should use the cunning and immoral games they play and the energy they spend to plan the future and discover opportunities by caring about ethical values.

The authority that manages the business, selects and hires suitable people, and controls the processes with their decisions is the management. They should also be the ones who ensure that employees are trained, motivate them, measure and supervise their performance, and ensure their loyalty to the institution. Therefore, if something does not change or gets worse, the responsibility for this should not be sought in the employees, but in the managers themselves. Employees who cannot speak out for fear of losing their jobs and managers who try to discipline them by scaring them have established their own empires of fear. Is it expected from an employee who is afraid of losing his job to express his views and thoughts honestly? Can changes be noticed and transformation be achieved with employees who hide their feelings and hatred? The aim of the empire of fear is a secret intimidation and purge operation. It is a transformation into an organization where sycophants and thieves run rampant and where all kinds of cunning and

immoral games are played. This is an unethical game played by those who love the game of power and authority so that inadequacies are not noticed. Managers with insufficient education and personality traits naturally want everyone to be afraid of them and do whatever is asked of them.

Awareness is being able to be a member of the team and being able to choose the leader:
If your answer to the question “Has the ability to organize, choose the leader, bring together the available resources and quickly re-establish a well-functioning order after the instant shock caused by disasters been developed?” is yes, then this is more important than the crisis. In order to be a team, it is necessary to predict the future, make predictions and have an open mind in the balance game. Ambition should be considered important in order to overcome insurmountable problems or to aim for bigger goals while moving towards the goal. Instead of being unfairly beaten up for a person to be violent, they should be appreciated when they succeed and encouraged to start. Human quality expresses itself in the behavioral changes they will show while defending or attacking. In his book “The Art of War”, Sun Tzu says; “Water knows how to overcome, wear down and wear down every obstacle it encounters.”

Leaders who cannot predict changes and uncertainties create fear, doubt and anxiety in themselves. In fact, leaders are lonely people. They mostly believe that there is no one they can trust in their environment. However, they are the key people in establishing organizational trust. They are afraid that their importance will decrease and their authority will be shaken. They are suspicious of everything. They are paranoid about authority. They constantly fear that someone is plotting against them. If they perceive every behavior and every move as a threat to themselves, they start to apply pressure. They look for hostility towards themselves under every rock, and if they can't find it (which is usually not the case), it's no problem. They create it on their own with conspiracy theories.

The best leader should know that the responsibility of a job given to the employee will provide satisfaction. The effort and success will develop the individual's sense of self-confidence and be more motivated for his job. Trust is the feeling of believing and committing without fear, hesitation or doubt. The moment that employees need the most is whether they will trust the word of their manager, and it depends on how much the management stands behind its promise. The message that the leader wants to give should be conveyed to the employees correctly. Instead of communicating with their employees indirectly and gradually, the leader should communicate directly, especially when the collapse process begins.

The leader and his team should be able to be incomprehensible in order to see opportunities that others do not see and surprise the opponent, and to gain the ability to protect their own energy while the opponent's energy is running out. Knowing what others do not know is superior intelligence, and seeing what others do not see is brilliant intelligence. The first winners are superior and brilliant intelligences. Intelligence, trust, humanity, courage and discipline should be applied together in team management,

- Intelligence is the ability to notice uncertainty and change.
- Trust is motivating emotion.
- Humanity is developing tolerance by knowing people's weaknesses.
- Courage is seizing opportunities that will lead to success.
- Discipline prevents chaos and focuses on the goal.

Only intelligence is rebellion. Only acting humanely is weakness. Only trust is stupidity. Only courage is violence. Only excessive discipline is cruelty. Those who pursue prejudices, weaknesses and obsessions lead themselves to disaster. It should not be forgotten that people become victims of their uncontrollable weaknesses and weaknesses.

Knowing very well how to direct in order to get more efficiency is emotional management. Understanding what kind of emotions people will be directed with is of great benefit to those who want to use this power as well as those who want to avoid it. The management of differences and changes should be considered important. In a world where everyone can copy everything, the only real superiority is the ability to develop creative thoughts. For innovation, it is necessary to tear down the protective walls and mindsets built in the past and change them. Disciplined, controlled environments created with fear will not allow creativity to flourish even if the most modern research and development centers are established. Those who can transform themselves to changing conditions will survive, while those who resist will be disabled.

Process refers to activities that will create value when they come together. While looking for what is efficient in processes, it is aimed to make a difference for quality in all components that produce the product, from raw materials to production, from labor to all purchased and manufactured parts.

Being a team is being able to focus on a single point at the same time. Think for a moment, you are on the peaks of different mountains. If you have no communication devices or flags in your hands, where would you look if you had to walk in the same direction? This is what being a team is. Being able to look at the same point on the peaks of different mountains is the very essence of focus. What is important in encountering situations where it is impossible to win is to focus on success and to show the courage to face the difficult. However, while people side by side are looking in different directions today, how will it be ensured that people on different peaks focus on the same point?

Awareness is internalizing ethical values:

When people are given the opportunity to take responsibility and demonstrate their knowledge and skills, they become more effective and controlled in their duties. When people know that they have an impact on the results, they feel important and necessary. Ultimately, individual problems become the common problem that the team will solve. They want leaders who respect the talents and contributions of employees in creating commitment to work, who deeply believe in human values, and who will create an environment that develops excellence, risk-taking and creativity. The most important aspect of being a team is the principle of healthy communication, which ensures a healthy approach to others. This means putting someone else in their place and putting yourself in someone else's place (empathy) in order to reveal the awareness of your own existence. It is important in terms of showing that interpersonal relationships and communication do not only include sharing information, but also include higher goals such as individuals understanding each other better, providing solidarity and cooperation. Ineffective and negative messages can cause problems among employees. In an open communication environment, such problems can be easily resolved. The leader collects information that is indispensable for the organization, processes it and transmits it to the employees.

Trust has a binding function and although it is gained in a long time, it shows a feature that can be lost in a short time. Trust can be defined as the belief in a person's character, ability and strength or in the reality of something. The existence of an environment of trust in teams also has a direction that encourages loyalty and commitment to achieve the goals and objectives of the organization. When the concept of trust and motivation is evaluated in terms of leadership, it will start with employees seeing their leaders as open, fair, honest and ready to listen to them. In this sense, leaders must be determined and people who stand up for their ideas even in the most difficult situations. The sensitivity created in this process will also increase individuals' trust in the leader and will make significant contributions to the development of the concept of trust among employees.

One of the most important characteristics of the important institution of the Ottoman period, Ahilik, has been defined as business ethics, and the famous sociologist Weber also linked the development of capitalism to the Protestant ethic as a certain worldview. All of these show that the discussion of ethics has a deep history as an answer to the question of "what is right?" as well as the question of "how to do the right thing."

When ethical rules are mentioned, we see that moral rules of conduct such as not lying, respecting the rights of others, keeping promises and remaining faithful to contracts, protecting others from danger, helping those in need, and being fair come to mind. The answers given to the question of what ethics are are categorized as natural, religious, and contract-based approaches. Although not acting in accordance with ethical rules may seem more attractive in the short term, since it is important to protect reputation in the medium and long term, stakeholders must have intuitively realized that they will be negatively affected by this.

Behavior in accordance with ethical rules is left to the internal accounting of individuals and if the rules are not followed, they foresee that the person who does not follow them will be punished by legal authorities or God in this world or after death. Therefore, people will act in accordance with ethical rules because they want to be good people or because they are afraid of being punished. People will act in accordance with ethical rules because if they do not behave, the punishment they will face will be too severe to be compared to the benefits of not behaving ethically. On the other hand, there are other individuals in society and none of us know what the others will decide. Therefore, the situation is a typical Prisoner's Dilemma situation and the individual will not follow the ethical rules assuming that the others will not follow the ethical rules either. Since the benefits of following the ethical rules are low and it is uncertain whether the others will follow them or not, no one will show any desire to follow the rules. If you are doing business with someone and you realize that the person is lying to you, you either will not do business a second time or you will be careful while doing business. If this spoilsport approach of the actor in question is repeated every time you do business, after a while you will not be sensitive about acting in accordance with the rules when doing business with this actor. If we generalize the situation even more, if this actor follows a “spoiler” strategy with everyone he does business with, naturally after a certain number of jobs he will become a player that no one wants to “cooperate” with. Because people learn and the profits he initially makes by “spoilering” will melt away in the medium and long term, and at the end of the game the “spoiler” player will see that he is not very profitable when compared to other players who follow mixed strategies. If we approach the issue with the problem of complying with ethical rules, the player who does not comply with ethical rules will lose the benefits of not complying in the medium and long term. When approached from the perspective of the Evolution of Cooperation, complying with ethical rules is not a moral obligation, but in the interest of strategic research.

According to experts who state that individuals in today's societies are disconnected from society, their interactions with their neighbors, religious or social communities are gradually decreasing and this causes the "social capital", which is a very important factor, to melt away, the way to prevent this melting in social capital is to ensure that individuals interact with each other. Defined as a concept that will provide cooperation and coordination for mutual profitability such as norms and trust, social capital guides creativity and economic power. The stakeholders that an institution should consider during its commercial activities are listed as; stockholders, employees, customers, business partners, local communities, and the environment. When determining research strategies, it is useful to answer the questions "who are my stakeholders, how will these stakeholders be affected by the actions I will take, and what are my stakeholders' expectations from me?" After providing these answers, the ethical rules of the research or, in Kantian terms, the principles based on achieving higher profits will be determined.

Information can be manipulated. Who you collect the data from, how you collect it, how you process it and how you report it are also important. When drawing the boundaries of ethical

principles in strategic research, the cost of deception for the gain it will bring to stakeholders should be calculated very well. If we consider that manipulating is not complying with ethical rules, the return of not complying with ethical rules will be extremely attractive from a utilitarian perspective. When institutions spoil the game to protect their short-term interests, the strategic point that should not be forgotten is that almost everyone knows that the game is not played once. When it is heard that manipulation has been done, customers will be suspicious about the data. Considering the speed of information spreading, it will not take long for your corporate reputation to be destroyed in the eyes of customers. When conducting strategic research; It is extremely important that the source persons with whom cooperation is made give correct answers to the questions asked. During the research, compliance with ethical rules should be determined and documented as a norm at the beginning. Instead of foreseeing in advance what ethical problems may be encountered during the research, a list of what to do and principles should be created. While preparing the list of principles, in addition to the necessity of being a virtuous person, who the stakeholders are, what they expect and their priorities within the framework of the “cooperation” norm should be determined. Thus, an idea will be formed about the consequences of actions, whether good or bad. Since it is known that establishing a better control mechanism than the good will of people is possible, ethical rules can be carried out not only by impositions, but also by the voluntary cooperation of the people subject to the rules.

5.1. Leadership

In today's world where disseminating and accessing information has become universal, instead of herding or being guided, we should aim together and instead of monitoring, deviations should be determined by comparison. Today, expecting employees, who are qualified and combative workforce, to act like cogs in a machine has lost its importance and meaning. In order to ensure the health and life safety of an organization, business processes aimed at measuring threats need to be developed. The purpose of the functions to be developed to protect the structure against all kinds of threats;

- To find violations,
- To track deviations,
- To provide coordination in intervention,
- To find forensic evidence if a crime has been committed, to focus on the victims and provide support to those who will intervene urgently and effectively,
- To collect the necessary information through electronic data collection and communication systems and analyze it to provide support for deviations.

It should not be forgotten that,

- Constantly complaining and gossiping makes a person low-quality.
- Demagogy (a lot of talk) or constantly selling oneself low (praising, showing oneself as indispensable) makes one lose face.
- Indecisiveness and lack of courage hold one back.
- Focusing on disaster with excess (exaggeration, exaggeration, overdoing) prevents development.
- Changing perspective, being able to put yourself in the other person's shoes solves seemingly unsolvable problems.
- Smiling (smile) and silence (silence) bring solutions.
- The secret of success is to learn mastery from masters and update yourself.
- Purity of intention, spiritual awareness achieves success together with happiness.
- Filtering people and events through the mind and heart and not taking advantage of others prevents you from making mistakes.
- Controlling your will and being in harmony makes you a qualified person.
- Receiving oratory and diction training, learning to read quickly with understanding add extra value.
- A qualified environment and a little madness make a person an explorer.
- Being part of the solution, not the problem, and being able to approach life and everything with a new (original, original, different) perspective makes you different from others.
- The time that passes and the words spoken cannot be taken back.
- Love and knowledge are the most valuable treasures to be discovered.
- For everything important in life, you must first learn to breathe in and breathe out.

Work-Out:

Identifying and eliminating unnecessary work steps. This is done by employees as participants. Don't complicate things! Make it easy! You can't believe how hard it is for people to be lean, how afraid they are of being lean. Clear realists are the leanest. Simplify complicated notes and documents.

Hold a meeting to find out why we are doing this. Invite your colleagues from your department to come up with ideas to change something important in the company. Don't be afraid to contradict traditional philosophy.

Don't set modest goals! Set flexible goals! Confident people know that this is a feature of their own efforts to achieve the ultimate power, the 'impossible'.

Sell the solution!

Aim to take into account changing consumer needs and priorities. The target should be shifted from purchasing units to senior managers. High-profit, non-manufacturing activities are targeted.

Employees and bosses should brainstorm. Occasional informal meetings should be taken into account. Don't let numbers be your priority! Let values be your priority. Lead by example. Let values prevail.

Develop alternative plans and options. Expect the unexpected.

Academy looking for leaders:
The way should be opened for the needed staff and new leaders to be raised from them. It should always be worked with staff who are smarter than the boss. The aim is to develop business models and have them learned quickly and correctly by the employees.

Don't let others stay in the shadow! Motivate others to perform! Giving people self-confidence is the most important thing you can do.

Never bully or intimidate people. Use all the intelligence you have. Make sure everyone knows that the best idea wins.

What you are looking for. Leaders at all levels who can energize, excite and inspire, rather than weaken, depress and control. Don't manage every detail that tires you. Include everyone and keep your door open to great ideas from everywhere.

Change and confrontation:

Don’t see change as a threat! See change as an opportunity! The game will change, and it will definitely change drastically. Know that change is here to stay. Expect the least expected and act faster to stay one step ahead. Prepare those around you for the change that will affect their lives.

Don’t bother respecting boundaries! Break boundaries! Behaviors without boundaries measure ideas based on their value, not the person who came up with the idea’s place in the hierarchy.

Don’t think that change will end! Change never ends/should never end. The wisdom may lie in changing the organization while it is still winning – re-empowering the company while it is actually winning more than anyone ever imagined it could.

Don’t assume that everything is going well! Face the truth! How do you move people through a change process? Start with the truth… When everyone sees the same facts, everyone will generally agree on the same conclusion. Look at things with fresh eyes. Don’t fall into the trap of the wrong scenario. Have several options (i.e. a plan B).

Face the truth and know that change is here for the good. Suggest an informal 'change meeting'. Think about long-term and short-term changes.

Seek input from everyone. Make sure you look outside the company for good ideas. Never stop pushing boundaries. Don't just look for good ideas within the company! Look for good ideas everywhere!...
It's an honor to learn, regardless of where it comes from.

Authority and bureaucracy:
Don't lead by authority! Lead by energizing others! Productivity—real and unlimited productivity—comes from challenged, empowered, excited, and rewarded teamwork. Never lead by intimidation. Keep others fully informed about how their work benefits the organization. Send handwritten "Thank you" notes to your colleagues and customers. The days of doing business respectfully are over. Challenge tradition! Avoid incrementalism and take a leap forward.

Don't tolerate bureaucracy! Blow up bureaucracy! The way to use these people's power is not to protect them… but to loosen them up and remove the layers of management from their backs, the shackles of bureaucracy from their feet, and the functional barriers from their path. Cut out unnecessary work. Work with your colleagues to streamline decision-making. Make your workspace more informal.

Don't let hierarchy rule! Make intelligence the manager! A company's desire and ability to continuously learn from any source, anywhere—and to quickly translate that knowledge into action—is its core competitive advantage.

Stop moving slowly! Speed is everything. It's the essential ingredient in competition. Don't get caught up in decisions. Communicate faster. Incorporate speed into every activity/process.

Competition:
Spend an hour a week learning what your competitors are doing. Work for organizations that are dedicated to education and learning. Don't think you and your company have all the answers. Study your competitors. Let everyone around you know that you are interested in all ideas, regardless of where they come from. Don't be lazy! Take one step at a time! You can guarantee that anyone sitting still will have their legs crushed under them.

Manage:
Don't manage everything! Manage less! You can't manage people's self-confidence. Don't get bogged down in meaningless details. Don't just focus on the big players! Involve everyone! Business is 'all about getting the smarts out of everybody. The more people you can get them out of, the better the smarts.' Get more involved. Make everyone feel free to be heard. Offer an informal brainstorming session.

Don't stick to your agenda! Reorganize your agenda! Jack Welch says, "We want to be a company that is constantly renewing itself, erasing its past, adapting to change. Don't be ruled by worry! Instill confidence! Simplicity is built on confidence, as is the certainty that speed comes from simplicity. Let people know that you value ideas first. Simplify your workspace. Focus on training.

Don't make it a 'style' to be serious all the time. Have fun, make work fun. It means never letting the company take itself too seriously and constantly reminding it that yesterday's newspapers are mostly used to package things today.

Make informality your way of life. Find a job that challenges you. Don't stay in the same job forever. Reach the unattainable. Forget the decimal point. Don't punish yourself—or anyone else—for falling short of a stretch goal.

Quality:
Quality is not just management's job. Quality is 'your' job. 'Six Sigma' is the most important training we have ever had. Take pride in your work. Never think that quality is someone else's job.

The secret to success
"The soul of an organization is management. Organization is as important as management. You should be an example to your employees. Educate yourself well. You can't be a good manager or employee with just professional knowledge. Read. Be interested in art. Look at life. Be a thinker. The leader should always keep an eye on the organization! In order to head towards success, the soul and brain of employees should be trained by lovingly instilling knowledge and equipping them with experience. Mistakes in duty are not and should not be forgiven. Management should be an example to its employees. You cannot be a good manager or employee with just professional knowledge; read, be interested in art, look at life, be a thinker.

Don't act according to what everyone says and does.
You may be inclined to spend the money you earn. Don't do it. Turn your earnings into investments. A small investment can turn into a fortune. Chase undervalued investments.

Gather all the information you need to make a decision in advance. Since the deadline is important, negotiate with your friend or relative. Stopping and thinking unnecessarily creates excessive fatigue.
Your bargaining power is the state you were in before you started the job. Talk about prices and figures. You can only attract the other party's attention at this stage. Determine the details of the agreement in advance.

- Pay attention to the smallest expenses. Examine and question all expenses in detail.
- Limit your debts. You will get stuck in debt while managing the debts you have taken. Negotiate for the amount of debt you can pay. Try to save money while paying your debts.
- You can deal with more experienced problems thanks to determination and skill. Sell cheap goods to wealthy people, bargain relentlessly.
- When you are losing, know that you are losing, do not let anxiety drive you to do stupid things.

If the risk of staying in the job is higher than the potential gain, quit the job. The question of what will happen now, seeing all the possible outcomes that you have difficulty in making a decision, can help you decide on the best choice.The world does not like people who donate. Avoid helping people who you want to love you. This will test how you live.

The secret of success:
Find, respect and protect your historical or cultural characteristics. It will create your own uniqueness. Introduce your values. Make yourself heard. Ask them to talk about you. Give gifts that are unique to you.

Be united. If you help each other, you exist.
In order to fully understand the leader's point of view, from which aspect should we consider him? Has he managed to stand out from his peers with his diligence? Is he one of the most ardent advocates of different, changeful ideas? Does he stand out with his good organization?

He has been quite effective in organizing. His personal weight in the movement is also quite high. He has managed to maintain his current position due to his considerable administrative and political skills and determination. He is the only person who has never spent money in his own name.

He is a skilled politician with a fluent style of speech. His speeches, which he probably prepares himself, clearly reflect his ability to direct the masses and all kinds of situations to success. Although he has an extremely flamboyant and authoritarian appearance, he is extremely patriotic

and honest. The proof of a person's greatness and extraordinary vision can only be measured by his goodness. The rest is a matter of detail.

His dynamic energy and the irresistible power of this energy have taken place on an important page. It was his innate, perhaps unconscious, ability to separate the useless from the useful - just like the tools that immediately separate the cream from the milk. His alleged ruthlessness; as those who know him know very well, does not match his love for his citizens.

He does not like the style known as 'yes sir'; he despises such people. He has no tolerance for fools and sycophants. In fact, perhaps he disliked exploiters the most and despised the greedy. He did not like the idea of a person working for him. He already lived for his country and his people, thought for them and worked for them. He believed that if others did not act in this way, they were not fulfilling their duties.

He had shown that his point of view was correct, that his judgments were intelligent and that he did not make mistakes. Therefore, it was not surprising to see that his ideas were frequently sought and that these ideas were happily implemented. There was something superior about his not caring about small things or not being sneaky; his power of concentration was extraordinary; the impressive aspect of his subconscious mind that demanded compassion and attention was perhaps another part of the icy upright stance of his conscious purpose.

He loved righteousness and hated sin. He was a skilled soldier who knew his job well, and he hated war. He never gave up on doing what he believed in without fear. Even when he was very close to death in the moments when his illness was severe, fear never managed to settle in either his heart or his mind.

The secret of success:

- They were undoubtedly smart; realistic. He also knew how to improve himself.
- They researched “The Basic Principles and Process Management of Risks in Project Implementation” very well.
- They understood that success is important along with elements such as intelligence, logic and reason.
- They learned about war with risks by taking tactics lessons.
- They continued his indispensable intellectual development. He never put down books and newspapers.
- He especially thought about how the weak won wars. He did research on military history.
- When They analyzed the situation and saw the collapse, he examined studies on training for being a team.
- They wrote reports analyzing the functioning of processes.
- They observed the changes abroad and examined the practices. He wrote the clues of change.
- They read works on management, employee and social psychology.

- They wanted everyone around him to read and research.
- They especially asked the managers to write about their experiences regarding the solution of the problem.

He developed strategic tactics. He buried his fist right in the target. He swings his fists regardless of where he lands. He is a podium speaker. A controlled mind acts with an uncontrolled intelligence.

Leaders with a grandiose self fall into two general categories:
A destructive leader who tries to ensure the consistency of his grandiose self by making others seem worthless in his own eyes and thus feeling superior. He constantly says he knows the facts. He poses a significant destructive danger to the future.

The restorative leader is representative of this category. The restorative leader wants to gain the admiration of his valued followers and attempts to glorify them in order to gain as much impressive support as possible. The mental designs of the leader and his country are intertwined with the leader's grandiose self and make his spiritual world more coherent. He always seeks the truth.

In both categories of leaders, followers are important; the first strives to maintain the support of the followers in order to ensure his own continuity, while the other strives to glorify his followers. The destructive leader deals with people and the restorative leader deals with ideas!

It should not be forgotten that after every crisis, new formations emerge and try to replace the one that has disappeared. The aftermath of a crisis should not be perceived as a resurrection but as a rebirth. Do you remember a resurrected civilization? Something that is dead cannot be resurrected, but a new formation can be born and renewed. The continuity of this new formation depends on the successes it will be based on. Dreaming is a means to analyze the past before the future. However, if it creates disappointment, the ties that connect the processes to each other begin to weaken more or less quickly and those who benefit from it never realize it. In order for systems not to lose their reason for existence, managers need to gain the self-confidence of employees and stakeholders and focus on the planned future as a whole. A leader is someone whose struggle is the same as their employees, who does not try to settle accounts with others, who eliminates discrimination, and who does not follow their own inclinations. The biggest problem of leaders is their inability to grasp what belongs to the present. When they see the present as an enemy and live the moment with its positive aspect, the framework that surrounds them becomes completely useless.

5.2. Leadership Examples

Bill Gates' leadership secrets:
Bill Gates has understood the importance of computers and the place they will occupy in human life very well since he was young. He and his close friend and Microsoft co-founder Paul Allen frequently discussed the development of computers and developed various ideas. As a result of these discussions, they predicted that in the future, everyone will have their own computer at home and at work. Their aim in the company they founded is to develop products that will make it easier for people to do their jobs and improve themselves in line with this prediction.

Bill Gates thinks that intelligence alone will not be enough, that hard work is required, and he works very hard. The reason he broke up with a girlfriend he had before marriage was that he only spent 7 hours of his time outside of work (including sleep). He expects the same from the people he works with.

Working with smart people. Software is one of the most technologically advanced sectors. He thinks that ordinary people cannot be worked with in such a sector, that smart people should be worked with, and he always tries to hire the smartest people for his company. He answers the questions of who is a smart person and how can one tell if they are smart as follows: A smart person is someone who does not need to be told everything one by one. A smart person searches, finds, develops, thinks about new things, and can put their ideas into practice. Microsoft does a lot of research to find smart people to employ. They do not hire someone just to hire someone. They often keep a position vacant for a long time until they find the right person for them.

Giving stock to employees. Bill Gates does not pay his employees, including himself, high, astronomical salaries. None of Microsoft's employees can make it to the list of the highest paid employees in the world. Instead, he gives them stock to attract smart people. For example, Bill Gates gave a lot of stock to Steve Ballmer, the current president of Microsoft, to convince him to work. Thanks to these stocks, Ballmer now has a great fortune (more than $10 billion). Approximately ten people in Microsoft are dollar billionaires. One third of Microsoft employees are dollar millionaires (a total of 37 thousand employees). When Bill Gates founded his company with his friend Paul Allen, his stock ratio was 66 percent. Currently, the share ratio is 11.5 percent. In other words, Bill Gates has found a way to get richer by giving away. Giving shares to employees is a common practice in America, but no other company distributes shares to this extent.

Value the employees. Microsoft wants to work with the smartest people and does not want to lose them. Bill Gates said in an article that he asks the questions “why did he leave, why could we not satisfy him, where did we go wrong” after every employee who leaves. Employees are Microsoft’s most valuable assets. Employees are aware of this. They feel this at every moment of their work. As a result, employee turnover at Microsoft is twice as low as the US average.

Follow the development of the market. Falling behind in a rapidly developing sector means disappearing. Bill Gates does not want to fall behind the market in any field. When he falls behind, he quickly realizes his mistake and takes the necessary precautions. For example, Apple released the Macintosh in 1984. This graphic-based system was far superior to Microsoft’s operating systems. Microsoft’s response came a year later. This new operating system called Windows was

unsuccessful, but Gates did not give up, the 3.0 he released in 1990 was a huge success. Another example was experienced in the Internet. Bill Gates could not follow the development of the Internet enough, could not develop products suitable for the Internet, fell behind and as a result, for the first time in its history, Microsoft stocks were removed from the list of "stocks that always win". But Gates realized his mistake and within a year, he turned his company into the company that absorbed the Internet the most and adapted its products to the Internet the most.

Not only following the development of the market, but also shaping it. Bill Gates and Microsoft's slogan is We set the standards. Microsoft's history is full of examples that fit this slogan. For example, Microsoft's Basic product was a standard in the programming language used in personal computers. The DOS operating system and later the Windows operating system it produced became the most widespread products on the market. When it thought that the environment for integrated products was not yet mature, it produced products that worked separately and defeated its competitors' integrated products with them. Then, when the conditions matured, it produced integrated products like Office and defeated its competitors' products that worked individually and could not work together once again.

Focus. Microsoft is a company that works in the software sector. More than ninety percent of its turnover comes from software. In addition to software, it also produces hardware such as mice, game controllers, and sound cards, but these are mainly produced to support Microsoft's software technologies. Bill Gates does not divide his fields of activity as other companies do, he focuses on the field he is best at.

Living a modest life. While almost all of his competitors have private jets, private yachts, etc., Bill Gates lives a very simple life. He can be called stingy. There are many anecdotes about this: For example, when he found the parking fee of the hotel he went to expensive, he searched for a free parking space for a long time. He tried to make use of the car he rented by renting it out to others for the periods he was not using it. For a long time, he always traveled in economy class on planes. The most expensive thing in Bill Gates' life is his house, which costs approximately $60 million. The reason he spent so much money on this house is not so much his desire to live in a luxurious house as it is to create a discussion about what the house of the future should be, to develop concepts, and to test Microsoft's products. In contrast, his competitor, Oracle's chairman Larry Ellison, has a yacht, a plane, and even a fighter jet that he cannot fly in America. Another example is his friend Paul Allen, with whom he founded Microsoft. Paul Allen has a plane, a yacht, lovers from the jet set, and is known for his expensive parties. Allen spent $10 million for a party he threw in the past years. When Bill Gates was asked why he doesn't have the luxury of a plane, yacht, etc., he replied: "If I lived like that, I would start to think like that and I would have a very different personality than I have now. I wouldn't be able to work enough, I wouldn't be able to produce enough."

Jose Mourinho's Leadership Secrets
"We need to focus on the future, not failure"

Technical Director Jose Mourinho stated that his profession has taught him a lot. Stating that the events he has experienced so far have led him to be "balanced", Mourinho spoke about his last championship, saying, "This is not my last championship, so I don't need to celebrate." Expressing that when things do not go well, we need to focus on the future, not the result, Mourinho said, "Being foresighted instead of learning from failure saves time."

Football is my habitat"

Describing himself as socially shy, Mourinho said, "The place where I feel most comfortable is my home and football. Football is my habitat. It is where I develop and grow. There is no room for emotions during the match. I try to be a man who eats the match at that moment. I watch the match from the outside. I try to help my players with their performance. I learn what is happening around me after the match." Mourinho, who said that there are many ways to be a leader, said the following: “I cannot say that my leadership is the most correct leadership. I think there are many ways to reach the leadership level depending on the situation. I always listen to my team, but the decision is my decision. I trust my knowledge of the subject and my teammates. However, every game has an unknown. It is necessary to foresee situations that may develop beyond your control.

Focus on the big picture instead of getting hung up on a single win or loss
Mourinho, who stated that he often uses the words unknown and unpredictable in his work, said, “Yes, everything ends in 90 minutes, but on the other side of the competition, you play 40 matches for 10 months. Our goal is to be the team that wins the most games or gets the most points. But there is no use crying when you lose. When I lose, I lose well. I was very upset in the Bayern Munich match that we lost on penalties. When I returned to the locker room, I went to the Bayern Munich team's locker room and was happy with their joy. Then I turned around and told my team that they should do the same.”

Leadership messages from Jose Mourinho:
- Be prepared for the conditions of the situation you are in. Being foresight is the basis of leadership.
- Success brings with it more work, but at the end of the day, you also need to have a life of your own. For this, a good plan means a good life.
- There is no such thing as free time. Even in my free time, I read, watch old matches and videos of us, and take notes to improve myself.
- It is not possible for a person who is not happy at home to be successful at work. Happiness at home is the first rule of success.
- Use your successes to show yourself. If you are successful, you don't need anything else to make a name for yourself.
- You only waste time by waiting to fail to learn a lesson. It is necessary to take into account that failures will always exist in life. Foresight is important for this.
- I don't like being second anyway, no one remembers the second ones.

5.3. Solution-Focused Perspective

Covey: In changing the perspective (paradigm) created by the mind map for unsolved problems, he summarizes it as “A different perspective on the same reality determines the judgment”.

Einstein says in one of his words: “Problems encountered cannot be solved by remaining in the plane of thought and behavior that created those problems”. Instead of getting lost in the problems, when you manage to change your perspective and approach the problems differently, you also have the chance to solve them. One of the reasons why problems are shared with others is the search for opening the door to be able to act differently from a different perspective.

Behavioral goals:

- Developing a solution-oriented perspective.
- Defining problems or opportunities, producing and developing solutions with a problem-solving attitude.
- Being able to make appropriate, timely and effective decisions while taking responsibility.
- Demonstrating the ability to use problem-solving and decision-making tools and techniques at the right place and time.
- Developing proactive behavior skills by questioning the mental obstacles to the solution.
- Gaining the ability to create alternative solutions in the face of problems.
- Being able to create alternative solutions.
- To be able to gain the ability to eliminate obstacles to creativity.

To know the techniques to be used when choosing the right one from alternatives.

Solution-oriented approach to problem solving:

- Solution-oriented perspective and obstacles in front of it
- Solution-oriented attitudes and behaviors
- What to do to eliminate obstacles to solution-oriented perspective and motivation
- “Creativity and Innovation”
- Thinking styles
- Different mental approaches to the problem
- Brainstorming
- Creative thinking and obstacles in front of it
- Making choices
- Implementing, following up, correcting the solution

Communication problems constitute an important reason for interpersonal difficulties. Misunderstanding of many problems is due to the angry and furious communication of thoughts and desires. Using empathy and respect effectively, being able to convey feelings and thoughts to

the other person without wearing a mask with ‘I language’; active listening should be considered important.

In order for problem-solving-oriented decision-making behavior to emerge, the existence of a problem or difficulty must be felt, there must be solution options and the freedom to turn to one of the options must be possessed. Decision making is the act of finding solutions to problems encountered. In the case of logical decision making, the individual thinks rationally and rationally, gathers information about possible options, considers the advantages and disadvantages of each option and, as a result of the evaluations he makes, turns to the most suitable option for himself. Wrong decisions negatively affect life orientation. In fact, a wrong decision can sometimes lead to threatening consequences for the individual's environment or the organization he is in.
Individuals who make effective decisions have healthy personalities, can act rationally in accordance with the purpose, use time well, make the most appropriate choice in their actions, evaluate data, be objective, carefully measure the positive and negative consequences of each option, research new information and make plans for their decisions.

A problem is basically a conflict situation in which an individual encounters obstacles in reaching a goal. Problem solving, on the other hand, is a process that has cognitive and psychological dimensions and includes a series of efforts aimed at eliminating the difficulties encountered in reaching a certain goal. The problem solving process includes recognizing and defining the problem, determining the goal, creating solution options, evaluating solution options, making decisions and evaluating.

The first step in solving a problem is recognizing the problem. After recognizing the problem, it is very important to define the problem correctly. Then, it is necessary to have sufficient information about the subject by collecting possible solutions, thoughts, plans or suggestions. This situation increases the effectiveness of the possible solutions to be found. After sufficient information is collected, realistic and accessible solutions that can solve the problem are determined and selected. Starting from the option that is thought to lead to the most appropriate choice, the determined options are put into practice and evaluated in line with the purpose. If there is failure in solving the problem, other options are worked on.

Problem solving skills are important for effective management and quality. An important reason for many failures that occur is due to lack of problem solving skills. As a result, managers who can communicate effectively, make logical decisions and solve the problems they encounter are effective and successful. Developing the ability to make decisions focused on problem solving in business life increases work efficiency and increases quality.

Individuals who can establish effective communication are also people who can display assertive behavior. Assertive individuals act in line with their goals. Unlike a shy person, they make an effort to solve the problems they encounter.

One of the important factors affecting the decision-making process is effective communication. If there is effective communication between the individuals involved in the decision, the probability of success in making the decision, putting it into practice and solving the problems encountered will be high.

Women can make more careful and logical decisions because they are sensitive to the expectations of the environment and take responsibility in this direction. Women are expected to behave more emotionally, to establish close relationships more easily in society, to be selfless and more tolerant.

Decision making, which is a requirement of the managerial role, is a process included in the problem-solving process. Managers constantly encounter different problems. Problem solving is a skill, and managers who do not have this skill can react according to their own inner worlds when they encounter a problem. This situation can cause new problems to arise. When faced with a problem, it is a rational way to try to solve the problem by making logical decisions. However, acting rashly without thinking, allowing others to guide them, or not making an effort to solve the problem and leaving it to time can bring about many other problems in the process.

When the studies conducted to develop communication skills, logical decision-making and problem-solving skills are examined, it is seen that the skills can be acquired and developed later.

As a result, in a structure focused on quality, efficiency and success, it is possible for the entire team to establish organizational communication, interact, cooperate, and make logical decisions and solve problems.

“Creativity and wisdom are only possible when stakeholders create awareness. Those who create awareness should be respected. “

In decision making, the perspective of the individual or the mass that plays a triggering role is called a paradigm. In other words, a paradigm is a behavioral prediction program consisting of algorithms managed by the mental memory. The deviations that show themselves in behavioral predictions can be listed as habits, weaknesses, ambitions and suggestions.

In order to better understand the algorithms managed by the mental memory, the working principle of the computer processor should be examined. The computer processor is the central processing unit that writes, reads and processes data to the memories and peripherals depending on the program written. The processor behaves according to the commands given to it by the software while writing and reading data to the memory. In computer systems, this software, called the operating system, has a memory management map. The processor does not mean anything without the software related to the algorithms and mathematical models that form the memory

management map. Similarly, the perspective of a person is formed by the mathematical models and algorithms related to the mental memory where the learned information that creates intellectual and behavioral changes in him is recorded.

Our own behaviors determine our lives, our success and our happiness. What happens to us and our reactions to them are related to our perspective. Therefore, in order to understand the perspective created by the mental map, the reactions given to the encountered events must be analyzed without prejudice.

Covey: In changing the perspective (paradigm) created by the mind map for unresolved problems, he summarizes it as “A different view of the same truth determines the judgment”.

Einstein says in one of his words: “The problems encountered cannot be solved by remaining in the plane of thought and behavior that created those problems”. Instead of getting lost in the problems, when you manage to change your perspective and approach the problems differently, you also have the chance to solve them. One of the reasons why problems are shared with others is the search for a door to act differently from a different perspective.

The words of the seventeenth-century philosopher René Descartes; “I know that I have a mind and I know that I have a body. And I know that both are completely separate. I am my own mind. I have a body” and Descartes’ words, “There is also a spiritual part in the human memory. This part is part of the Creator and constitutes the soul. The soul directs and manages the body”, not only contribute to this approach but also provide a very good example in explaining his perspective.

Isaac Newton took this distinction as the basis of the new physics; he excluded everything mental or psychological from the new physical laws of the universe. The “mechanistic culture” that Newton’s physics gave rise to and that still dominates the thinking of most of us today, applies Newtonian machine categories to humans and human organizations.

Sigmund Freud investigated the laws and dynamics that govern the soul and insisted that human behavior is completely determined by the laws and their interactions at an early age.

Adam Smith investigated the laws and principles that guide the market economy and suggested that we can predict and control behaviors in the market based on them.

Karl Marx analyzed the political economy of capitalism, developed theses on the formation of capital and surplus value, and assumed that the transition to socialism was inevitable.

In management theory, engineer Frederick Taylor insisted that the basis of every organization is limited by laws and principles and argued that people in organizations behave according to these laws. In short, in the more modern language of our computer culture, everything is programmed.

When performing response and reaction analysis, we can assume that behaviors are programmed with past experiences. Laws, prediction, assumption, control, programs... These concepts are the concepts that make up the vocabulary of Newtonian physics and "mechanical culture". And again, these concepts are also the key words of Newtonian physics management thought. So, how much can these explain today's world or how much can they meet the needs of today's organizations? It is difficult to answer this question positively. So what should we do? Newtonian physics serial thinking; It was an explosion of logical, rational, rule-based thinking. Our century is a century of continuity, ambiguity and unpredictable surprises… In such a century, creative thinking will develop only when it is enriched with new voices, new dialogues, new passions, new attitudes, new perspectives, new experiences and when a pluralistic, participatory understanding is adopted.

Contradictions in perspective are determined by facts and opinions. Fact and opinion are different from each other. Fact is definite information that has no serious debate. Opinion is information that has some debates. The personality of an individual who develops his/her ability to understand by learning and to gain experience expresses itself with his/her thoughts and behaviors. An individual or a mass needs to be convinced while adopting the truths, and in order to be convinced, they need internal or external suggestions. For this reason, the clues in the person's reactive behavior show us how to seize the mental memory. While investigating the cause of the reaction, it is assumed that the mental memory is programmed with past experiences. In order to change the perspective of the individual or the mass and direct them, these people are motivated with persuasion and suggestion.

The human brain, which gains skill by learning how to do a job, also develops the ability to understand and conceptualize by gaining experience. This learning is continuous, and will continue to learn as life goes on. Human beings who learn to recognize and make sense of objects also find differences and changes by making comparisons.

People always adopt and protect inner truths more easily, and are suspicious of outer truths. An individual who gains the ability to realize a job by learning how to do it also develops the ability to understand and conceptualize by gaining experience and experience. He also finds differences and changes by making comparisons to recognize and make sense of the objects he sees. This learning is continuous, and learning continues as life goes on. The mental memory where the learned information that creates intellectual and behavioral changes is recorded forms the perspective. Therefore, the reason for a behavior is hidden in the meaning of thought. The answer to how the faculties will be controlled remotely and how the perspective will be changed or directed is hidden in the reactive behaviors of the individual or the mass. The aim is for the mental map consisting of what the person has learned throughout his life to be captured by others and changed or destroyed and a new one uploaded. In order to obtain the mental map, the behaviors of the individual or the mass must be analyzed very well. When analyzing behaviors, the data at hand is often not sufficient. In fact, if behaviors are not analyzed correctly, wrong judgments can be made.

Remote behavioral change is possible by analyzing and solving the mental map that forms the perspective. The answer to how to change mental algorithms is hidden in the reactive behavior and habits of the individual or the mass. The aim is to capture and change the algorithms that form the mental map learned throughout life or genetically transmitted, or to destroy and upload a new one. Behaviors must be analyzed very well when capturing the mental map. When analyzing behaviors, the available data is often not sufficient. In fact, if behaviors are not analyzed correctly, incorrect judgments can be reached.

The most critical feature that determines the perspective is prejudice. Prejudice is a conflicting or biased view. The views of an individual or a mass are generally prejudiced when they tend to any subject. What is meant by prejudice is having a biased perspective that leans towards a particular perspective or ideology. Taking sides or being prejudiced means that a person bases their acceptance of the truth or falsity of a claim on whether it conforms to their own ideas rather than its validity and soundness. When evaluating a focused perspective to see who believes what and why, an examination should be made with a calculated, analytical eye, away from emotion.

Factors such as prejudice, doubt, fear, ego desires, moral values and feelings of conscience play an important role in reactive behavior change. Internal and external factors are effective in responding, which is a reflection of a person's mood. Triggers and influences coming from the inner or outer world should be managed with will and mind; they should be measured, questioned and compared. If awareness is not developed, if there is no production, the brain forgets to measure over time, does not question and does not compare. Lost empathy, lost listening and lost problem solving also destroy awareness.

When determining the target audience or individual whose perspective will be changed, habits, customs, traditions and beliefs are found by investigating how they react or respond to which events. When it is determined which thought the reactive behaviors originate from and what they react to, the necessary clues are obtained to take control of the individual or the mass. For example, when you are stressed or angry through provocation, you can react directly without weighing what is right and wrong; if someone you think is like you is waiting for you at that moment, if you attack, harm, die or kill in their ranks and under their control without questioning; it means that the brain you have has fallen into someone else's hands.

5.4. Healthfull Communication

Expressing yourself: making eye contact, speaking willingly at the same volume, defining the preliminary summary of the topic and the conclusion proposal completely correctly.

Sanity:

In a communication environment dominated by conflicting characters, mental health is negatively affected. Mental health is being able to hold on to life against unstoppable changes, hurtful experiences and painful losses. Instead of trying to suppress conflicts and sorrows, it is necessary to learn to understand them and cope with the stress caused by them. The basic condition of communication is listening and expressing oneself. Healthy behavior cannot be expected from people who feel misunderstood. Communication is a mutual agreement. What is important in an agreement is the sharing of the cost or gain. The only way to resolve a disagreement is to step back. It is not how much someone will step back, but whether they do or not is important. Problems cannot be solved with those who insist on what they say, and even if they are solved, they cannot be permanent.

Always being polite is not the solution. Hoping to prevent possible harm by following a polite discussion path, making suggestions to reach an agreement by seeing the other party as a friend, making concessions, trusting the other party and withdrawing when necessary to avoid confrontation can put you in a very dangerous situation. You may lose everything. First of all, your mental health!

The biggest problem is trying to establish mutual communication in a conflicting environment. Threatening commands that start with “Listen to me!”, distressing requests that start with “You are not listening to me!”, prejudiced sentences are traps prepared to tense up the environment. Without understanding the other party’s problem, beyond that, their identity, talents, experiences, culture, and knowledge; an attempt is made to give them direction with fixed ideas that are directly held; thus, conflicting communication is initiated.

If someone shouts “Listen to me!”, I get startled. I say, “I will not listen to you.” Because,

- Your style is bad, your narration is bad
- What you say and tell is bad
- Your intention is bad
- Your understanding is bad, your listening is bad
- What you understand is bad
- What you are going to tell is bad, your intention is bad, and you are producing evil.

The other party does not care, they want to continue talking. They have found my open and weak points according to themselves. They think they have found an openness by filling in the gaps from

what they hear. For this reason, I do not attack, I do not create stress, I do not get tense. If he is guilty and he realizes it, his face will already blush, and you will understand that he is embarrassed the moment you look at his face. I will definitely not ask for an account from someone who continues to shout and insult, I will not accuse him, and at the same time I will not listen to the stories he tells about his innocence. I know that if I start listening, he will first tell his own innocence, then accuse me, then list the commands I should do as orders, and finally insult and threaten me.

If someone is shouting rudely, they have committed a crime and are covering it up. Here, it is necessary to be able to distinguish between someone who has been wronged and someone shouting in a rebellious manner.

The basic problems experienced in today's communication World,

- Unnoticed personality and behavioral disorders,
- Deterioration of the quality of teaching sources,
- Attacking those who are different without questioning and questioning.

Interrupting the other party while listening harms both parties. It is easier to convince those who believe in things that are not true. Mud gets smeared on those who lie in mud. Learning a language in which a couple of words that are wanted to be said to people are conveyed in the most beautiful way is possible with listening, understanding, imagination and social observation. The basic principle in employees being well-educated is that when solutions are found for their vital problems, they will also find solutions for your vital problems. Today, people are turning into global participants. It is no longer possible to create a personality through what we have. People have started to care about looking for innovative solutions to their problems. Therefore, it is desired to establish deeper, more realistic and energetic commitment. Now everyone wants to work with good children and feel good, not with great children.

The display of your skills in the virtual environment is waiting for your finger to touch the keys of the keyboard for people all over the world to discover you. When you want to show your talents, all those who hinder you are gathered in the dustpan, and the will to destroy forever is at your fingertips. Don't try to create a brand, be a brand!

Toxic communication:

Toxic communication includes verbal expressions such as gossip and rumors, as well as negative and destructive behaviors that people carry out against each other. Toxic communication is the words and behaviors that aim to harm each other rather than to do work for employees in an organization. Toxic communication is an institutional cancer that kills employees' trust, respect, cooperation and performance.

There are many internal and external factors that cause gossip and rumor to spread. A sense of hostility based on certain reasons is revealed through gossip, and a destructive harm is intended to be done to the other person or people.

The gossiper may want to get rid of them by putting their own feelings and thoughts on someone else's behalf. Due to internal reactions such as jealousy, they use a co-worker they do not like at all in a gossip game, and then they pretend to love him/her very much. The general acceptance of such behaviors is often enough to create a toxic environment. Criticizing co-workers who are more organized or take their jobs more seriously than themselves paves the way for the development of toxic behaviors.

Employees who constantly gossip or who create a toxic work environment by exhibiting negative attitudes towards their colleagues are ignored by other colleagues and managers, which can often be a sign of an institutional culture that is established and built on toxic relationships.

In a toxic institution, employees spend most of their time with real or unreal rumors about others rather than work. However, it is seen that relationships based on interests are established in the institution, moving away from team spirit and cooperation. Toxic leaders negatively affect the institutional climate by exhibiting behaviors that are focused on themselves and extremely disinterested in their employees and institutions. They want to have control at all stages of the organization, They look for someone to blame or someone to blame when problems arise, They never make mistakes themselves, mistakes are always made by those around them, They cannot see the real conditions and reasons, ? They do not express their feelings unless they are positive, They never ask questions, do not listen, and speak on their own, They do not trust anyone.

However, one of the most important reasons why an institution has a toxic climate is that both leaders and managers enjoy toxic communication and allow such communication. However, many leaders and managers contribute to the functioning of toxic messages without realizing it and without being aware of it. This weakens the healthy communication between the management mechanism and employees and between employees themselves, leading to an increase in toxic communication throughout the organization.

To listen:

Our biggest problem is that we do not listen to understand. We do not think; what does he mean, could he be right? We only listen to respond. Behaviors of someone who does not listen:

- Those who appear to be listening, their own world is in a completely different place.
- Those who only hear what is said that concerns them, do not hear what is said.
- Those who consider what is said as an attack on them, go on a counter-attack or defense.
- Those who listen superficially, look for trap opportunities.
- Those who try to prove themselves rather than listen, constantly interrupt the speaker.
- Those who act as if they know the speaker's intentions and what they want to say very well, make diagnoses and diagnoses, and push the speaker to defend themselves.

They constantly give advice, judge and criticize while talking, thus creating a sense of pressure and guilt in the listener. Those who listen with prejudiced criticism force the speaker to answer irrelevant questions.

The other party is affected by your behavior as well as your words while talking. Before you even open your mouth, assumptions are made about you, personal experiences and prejudices; you are already classified with plus and minus points. Therefore, the first impression is very important, you will never have a second chance. The best way to show friendship is to smile. The messages given with body language while talking are important. The expression on your face, the position of your hands and body, and eye contact play an important role in communication. Facial expressions are easy to read, but usually difficult to control.

Listening is not sitting and listening to what is being said while the other person is talking. If the other person is constantly shouting listen, listen, they need to listen more than you do. If the other person defends the lack of a solution, threatens, wants what is said to be done; they start talking by saying you are not listening to me. They are aware that they are meaningless. Listening is not talking all the time so that the other person can hear. It is understanding and feeling the other person. Talking is declaring that they are ready to make mutual concessions and sacrifices in solving the problem. When I encounter someone who says listen, listen or you are not listening to me, I ask, are you aware of my troubles? If you are aware of my troubles, I am ready to understand you, not listen to you. If you are not aware of my troubles, you will listen first, you will try to understand me and my troubles, the moment I realize that you are doing this, I will have listened to you.

He does not listen, he tries to intervene. He starts his speech with the sentence, “It is not right, no, there is no ....”. He loads negative energy. He is curious about the result in the meeting environment. He constantly tries to learn the sentence, “How did you get this job?” with different questions. Those who use conjunctions while speaking in the meeting, in order not to be interrupted, say because as soon as they finish their sentence, take a breath and continue their speech. They usually start again after the third sentence.

Trolls who try to prove themselves in the meeting should be dealt with by changing the subject. The meeting is paused when necessary.

While speaking in the meeting, one should try to prove perfectly. Trolling should not be done. If it is done, one should troll against it.

The basic strategy in the meeting should aim to determine the strong and weak points.
While speaking;

- Repeating sentences
- Extending
- Creating swellings; deviating from the main topic, difficulty in returning
- Bifurcations

In effective communication, it is not what you say but how you say it that is important. The purpose of the communication process is to be understood. In interpersonal relationships, the most important factor is listening skills. In communication, a lively, cheerful, energetic tone of voice, fluency of speech and smiling face have a positive effect on people. In face-to-face relationships, body language is more important than words and tone of voice.

If you talk about where you come from, instead of talking about where you want to reach, you will protect your interests better.

The meeting aims to determine strong and weak points. The participants in the meeting should be aware of this situation. The reason for unhealthy communication in meetings may be that the participants do not care about the message, get carried away, do not listen to each other and interrupt each other, become tense in the environment, or want to show themselves. Effective communication between the team and the leader is essential in the meeting. There is a certain amount of repetition in the message exchange between the leader and the team members. A successful meeting depends on correct and effective communication between the leader and the team. Developing nonverbal communication between the leader and the team, examining the communication messages given to the audience in advertisements, between air control and pilots, between coaches and athletes in sports competitions, between stock exchange employees, and in advertisements will benefit the team.

Meetings are held to exchange information, solve problems, share responsibility and continue all activities in a harmonious manner and develop cooperation. The meeting is also an area to show oneself on stage.

The roles in the meeting should be analyzed very well, the role that prevents the meeting; It opposes, criticizes and belittles the thoughts of others with an aggressive attitude without listening and comparing. It stubbornly objects and rejects. It reveals its personal experiences that are not related to the subject. It speaks by putting pressure on them and tries to take control of the meeting. It is indifferent, cold-blooded and sneaky. It makes people feel uncomfortable and takes sides just for the sake of the discussion in order to ignore them.

The role that supports the meeting: It puts forward new or different ideas for discussions. It approaches problems positively. Listens to others' thoughts and suggestions on the subject. Looks for meaning and logic. Reviews the discussion. Wraps up the topic. Roles that unite the meeting: Requests a break in order to eliminate negativity. Makes jokes to reduce tension. Mediates to eliminate differences and disagreements. Praises and supports others. Acts friendly and encourages. Encourages everyone to participate in the discussion.

Various games called psychological games are played by the participants in the meeting, what a wonderful person I am game: It is the person's expression that he works day and night without stopping to be seen as always good, successful and flawless. The person presents the work he does as an extraordinary success, as a miracle. It is explained how all the difficulties and dangers were successfully overcome. It is as if he says, "There is no one better than me." On the other hand, he successfully pushes the problems under the rug and hides them.

Blame games: It is destructive and risky. It criticizes so minutely that nothing positive is seen. Just like a jackal watching a wounded person, it tries to catch mistakes.
• Games of pity: Those who play the poor game in meetings are no different than a fox. In order to protect themselves, they show that they are in a pitiful state, and it would be inhumane to attack or hit them. But when they get the chance, they vent all their anger.

Before holding a meeting, determine the purpose of the meeting well and prepare the meeting agenda and distribute it to the relevant people in advance. Let the participants know when the meeting will end. If you want to minimize conflicts, discussions and reduce interest in the meeting, hold a meeting in a large area. Always attend meetings with people who will support you. In particular, take your expert or consultant or assistant with you who will provide you with the necessary information and documents during the meeting. Always come to meetings prepared. When you attend a meeting, find out who will be attending in advance. In order to choose your seat well and make a positive impression, come early, but do not be the first to arrive. If the chairman of the meeting is your superior, sit close to him. If not, do not get too close. If there is no official chairman of the meeting, sit somewhere that will take control. The middle of the table is always the dominant point. If you are the chairman of the meeting, always sit high and in front to be effective, powerful and dominant. When others arrive, be ready and lively.

Do not stray from the agenda during the meeting. Do not have a report read during the meeting, no one will be interested, listen or be affected. Present the important points in a summary of at most two pages and allocate time for discussion. Distribute the report to the participants in advance. Listen carefully to what is being said in the meeting, and make it clear that you are listening by taking notes. Prevent the meeting from straying into side issues, bringing up other issues and making interruptions. Pay attention to the games played in the meeting and the roles of the participants. Avoid being rude, because everyone supports the victim. Get the opinions and suggestions of the participants in the meeting and make your assessment. The implementation of the decisions taken should be monitored and controlled.

The art of cutting the speech short:

You need to prepare for at least a month for a fifteen-minute speech and at least fifteen days for a half-hour speech. But if you want a speech that will last a few hours, I can start right away. If you ask me what I remember from the long speeches I listen to, I cannot find much. However, I understand better that every sentence, even every word, of the so-called short speeches and conversations carries deep and thought-provoking meanings.

Also, when I listen to conversations and speeches that do not have scientific depth and intellectual sophistication, I often see that they do not have much effect and are not very useful. Even if there are a few useful sentences and concepts in them, it is inevitable that they get lost in the wordiness. It is narrated that when Nasreddin Hodja was offered carob, he refused with the reasoning: “I will not chew a piece of wood for a dirham of honey.” This story seems to have been told exactly for this subject...

There is no need or benefit to talk at length to explain a few beautiful points. Therefore, especially those who are trying to give a message to people and who have the mission of telling and teaching should be very careful in this regard. While fulfilling their duties, it is probably best to explain the message they want to give in a short and concise manner, without drowning it in long words and unnecessary verbiage. According to those who are experts in this field, the time that any person can concentrate on a subject and pay attention does not reach “twenty minutes”. In that case, the word that is intended to be said and the desired message must be delivered to the target within this period. “Many words cannot be true.” The expression should be kept in mind and it should not be forgotten that too much talk and conversation will have an adverse effect on reaching the goal. When the answer is too long, the truth is hidden.

Of course, it will be more convincing in terms of the sincerity of those who will speak if they exhibit an attitude, behavior and lifestyle that is appropriate for what they say. The best way to convey a message is to appeal to the mind and people's eyes by living in accordance with the message to be given. In that case, the words to be spoken will decrease and attitude and behavior

will take their place. In the words of Mevlana: "Either appear as you are, or be as you appear." The principle will be the best way.

Body Language:

Communication is the transmission of a thought with symbols such as messages, words, hand, face and body movements, pictures and diagrams. What is done with the face and body is called nonverbal communication language. Nonverbal communication is the nonverbal transmission of information, thoughts, attitudes and feelings with body language.

In the hidden personality, the real or masked perspective is called the black box in body language. A person lies very easily with his tongue but very difficult with his body. It is claimed that a person who lies avoids eye contact after a certain period of time and noticeable changes occur in his tone of voice. The movements that define body language give messages that define personality. If you apply body language together with a sense of sincerity, you can achieve a personality that attracts attention in society. Otherwise, you will grin and become funny. If behavior, speech, smile and body language start to act separately from each other, you will look like a clown.

The moment you start speaking, your listeners also start evaluating you. Before you even open your mouth, predictions are made about you, and plus and minus points are already given with their personal experiences and prejudices. The first impression is very important in communication, you will never get a second chance. A very simple way for a person to show their friendship is to smile. By smiling, the message that I am very happy to be with you here is given. Controlling your body language will give the other party a self-confident, conscious image. If the panic inside you shows itself in your feet and hands, your listeners will be uncomfortable with this situation and from that moment on, they will lose confidence in your opinions. They will not believe you, they will not listen well and they will easily forget what you say. If you appear confident and believe in yourself, you will inspire confidence in your listeners and they will eagerly wait for what you have to say. The listener senses the confidence of the speaker from his facial features, gaze and movements. The slightest weakness that can be seen and sensed in the speaker will break the bond between the listener and the speaker. Eye contact is very important in communication with the listener. Eye contact also demonstrates authority. Powerful people make eye contact. We show our interest, love, dissatisfaction, distress, arrogance and even anger with eye contact. In short, we express our feelings with our eyes. Avoid pouting, remember that feeling nervous is not the other person's fault. Do not play with any accessories on your hands, do not touch your face, hair, pockets, desk, or table. Do not hold on to the back of the chair, notes, or the side of the speech platform. Your hands should not scratch any part of your body. Your hands should not be hidden behind your body, in your pockets, on your legs, by folding your arms or sitting on them. Your hands should not point at the audience.

If you want to be a good speaker, you must learn to stand in front of your audience in a way that is completely visible with your position and body posture. Always stand in front of all obstacles that will limit your visibility. Standing gives you authority; it allows you to breathe properly, use your voice, and establish better eye contact. You have more room to make hand and arm movements. Sitting reduces your eye contact, increases your tendency to look at your notes, your audience may not see you, and encourages you to play with the materials on the table.

Identify your concerns and fears before you start speaking and do not close your thoughts to them. Spend some time with these feelings. When you think about how you will feel in the face of such a terrible experience, how bad you will be, what you can do, what you can say, how you can live, you will have gone a long way in controlling your nerves. One way to overcome fear and excitement is for the speaker to have self-confidence. In order for the speaker to have a sense of confidence, he/she must have structured his/her speech well, prepared about the subject, and have visual aids, a speech outline or flashcards well prepared.

Those who hide things while talking usually touch their eyes, ears and lips more often. Those who cover their faces with their hands are usually those who are not sure of what they are saying. A person standing with their hands on their hips is ready to start a fight, even if it is for no reason. If someone is in front of you with their legs crossed and shaking their upper leg, this shows that they are about to die of boredom. Start cracking jokes immediately. Holding their head between their hands and looking down are also signs of boredom. Change the subject immediately. You can understand that the person with their arms folded at chest level is defenseless. Take action immediately on whatever you want them to accept. A person holding their chin is most likely making different evaluations in their mind. Since they will not be able to listen to you carefully in this situation, do not talk to them about very important issues. A light touch or light rubbing of the nose means rejection, suspicion, lying. The person rubbing their hands in front of you has an expectation from you. It will not be difficult to guess this expectation. If you cannot give a positive answer, get out of the situation immediately. A person who is sitting slightly slouched, with their hands behind their head and legs crossed shows that they are confident and superior to the other person. If they are someone you find annoying, you can instantly eliminate this self-confidence with clever teasing. A slightly tilted head indicates interest in what is being said. Evaluate this situation well, continue your conversation and enjoy the environment. You can understand that someone who taps their chin lightly is in the process of making a decision. If it will not be good for you, make distracting movements to distract them from these thoughts.

Unintentional facial and body expressions are called emotional expressions. A sudden appearance of fear or surprise on people's faces is an example of emotional facial expressions. Since such expressions are made without intention, they are different from verbal expression. The expression on our face, the position of our hands and body, and our eye contact play an important role in nonverbal communication. Shaking the head to indicate "yes, no" and raising the eyebrows to indicate "no" carry meanings just like verbal expressions. Physical contacts such as holding the

other person's shoulder, shaking their hand, or taking their arm also send messages to the other person. People communicate by using space in their own environment. We send messages by adjusting our distance from other people, by standing far or close to them. While we prefer to stay close to our loved ones, we pay attention to keeping a little more distance from those we are less close to, and we stay further away from those we do not know.

There are four basic parts of the hands; fingers, palm, side and top. Showing the palm is a friendly, peaceful approach. The palm side contains sharp and rapid expressions. In cases of rejection or non-acceptance, the side of the hand is used like a sword or karate chop. The back of the hand shows liveliness. It can sometimes be aggressive and hostile. The Both Hands Behind the Head gesture is a gesture specific to people who feel confident or dominant or superior in a subject. This gesture is also used by know-it-alls, and most people find this gesture annoying. Readiness gestures that indicate a desire to end a conversation or meeting include leaning forward with both hands on the knees or leaning forward with both hands gripping the chair. If you encounter one of these gestures during a conversation, it may be wiser to take the lead and end the conversation yourself.

In the area of sovereignty, people also communicate through the distances they create in their own environment. The distance between people talking to each other shows the level of sincerity of the people talking. What would you do if someone you don't know approached you 5 cm. while walking on the street and asked you for directions? The distance we put between ourselves and others is related to our feelings towards them and shows some things about our relationships with them. This distance is called the area of sovereignty. It has four main areas; private, personal, social and public area (common area). The private area is used for actions such as loving, consoling, protecting and celebrating. It is an acquired area. Generally, those who have the right to be close to us can enter. It requires emotional closeness. In some cases, closeness is mandatory without physical closeness (in the elevator). This makes people nervous. Only those who have earned the right can enter the private area.

Personal area is usually the distance two friends keep while talking. Those who know each other at a cocktail party keep this distance. The social area is the chief protector of the social area in business life, the desk. Two people sitting opposite each other are placed at a distance of approximately 2 meters. The guests at the party create a circular social area. The distance between people gives different messages. The general area covers an area of more than 3 meters. It is a space that we put between ourselves and strangers we do not want to deal with. The distance that people waiting for the elevator in the lobby and the people at the stop put between themselves are examples of this.

Sign language is a visual language formed by the use of hand movements and facial expressions. The message to be given is given not only with hand movements but also with head, body movements and facial expressions. Lifting the head up once or nodding from side to side is a

movement that we often use in daily life instead of saying no, it is not possible. It is done by extending the head forward and raising the eyebrows, and the face becomes a questioning position as if expecting an answer from the other person. A sad facial expression is made by puckering the lips. We use it to approve by nodding up and down without any facial expression. A smile does not include a head movement, the facial expression takes the form of a laugh. The sign language alphabet is used to communicate between people using fingers, face, lips, body movements and combinations of these. It was first developed by the Italian doctor Jerome Cardan in the 16th century, and has undergone great changes until today and has been put into the service of humanity. The sign language alphabet is completely different from the spoken language alphabet.

Activities aimed at developing lip reading skills are activities carried out to enable a hearing impaired person to understand what is being said by looking at the speaker's lips, face and facial expressions during verbal communication. During lip reading, the sense of hearing is used along with the sense of sight. The speaker (source), the receiver (message), the lip reader (receiver) and the environment factors are effective variables in the lip reading process. The sign language interpreter had the most interesting memory with the Prime Minister at the rally in Eskişehir. Noticing a hearing impaired group waving at the Prime Minister during the rally, the interpreter reminded the Prime Minister, "The hearing impaired are waving at you. They would be very happy if you waved back." When the Prime Minister turned to the group in the crowd and said I love you in sign language, the hearing impaired applauded the Prime Minister for a long time. In addition to the hearing impaired, divers, stock exchange employees and sports trainers also use sign language to communicate underwater.

MORSE CODE and PHONETIC ALPHABET

A - alpha	• -	J - juliett	• - - -	S - sierra	• • •	1	• - - - -
B - bravo	- • • •	K - kilo	- • -	T - tango	-	2	• • - - -
C - charlie	- • - •	L - lima	• - • •	U - uniform	• • -	3	• • • - -
D - delta	- • •	M - mike	- -	V - victor	• • • -	4	• • • • -
E - echo	•	N - november	- •	W - whiskey	• - -	5	• • • • •
F - foxtrot	• • - •	O - oscar	- - -	X - x-ray	- • • -	6	- • • • •
G - golf	- - •	P - papa	• - - •	Y - yankee	- • - -	7	- - • • •
H - hotel	• • • •	Q - quebec	- - • -	Z - zulu	- - • •	8	- - - • •
I - india	• •	R - romeo	• - •	0	- - - - -	9	- - - - •

Confrontation

Either you confront your mistakes or you become shameless with your mistakes. Being ignorant is one thing, being a jerk is another. “Dostoevsky”

If you are going to realize that you have been deceived or lied to and dare to leave or terminate, you will know how to confront. Seeing people differently should not mean that they are different or have changed. The phenomenon is entirely your perspective. Our ancestors say, “Do not take a donkey that you cannot bring down to the roof”. The main reason for a confrontation ending unsuccessfully or ending with a fight and hurtful is because one of the parties starts to dictate the commands.

Warm-blooded societies like Turkey are more emotional than the West, so it is difficult to establish a calm, professional, logical relationship in relationships. Employees develop warm personal interest with each other beyond professional relationships. Management expects loyalty and sacrifice beyond professionalism. The fact that an employee who is restless and leaves and moves to another institution is not understood; and perceives them as having sold us out is a result of emotionality. Just as spouses who cannot get along cannot divorce civilly, employees in institutions cannot easily manage to part ways professionally. It is observed that fewer problems occur in foreign institutions operating in Turkey - despite the fact that most of the managers and employees are Turkish. It is seen that the administrative culture of the institution is as effective as the social culture in intra-institutional relations. Mutual emotional expectations beyond professionalism can cause disappointment and resentment. Those who cannot empathize cannot understand each other. Both parties think that their value is not appreciated and that the other party is being unfair to them. In order to create a healthy structure, management should analyze itself with an impartial and scientific eye. They are in great need of the creation of professional management theories and original models.

People should be told about their negativities, and if they are bad, they should be made to feel that they are bad. No praise should be given for the effort that has not been made. “Self-confidence is believing that the difficult can be achieved.” Balance should be achieved in judgment, discipline, questioning and authority. Prohibitions should be implemented and supervised. Punishment is the price of the crime. Instead of punishment, supervision and warning should be considered important from the beginning. Intelligence, in other words, gathering information, should be obtained through questioning. Questioning should not turn into slander, lies and mistakes. Impositions should be avoided. An environment where smiles are never lacking should be created. Of course, there will be discussions, anger and even fights. Healthy communication rules should be considered important in the tone of voice. Making concessions should not be perceived as losing, but as winning the future.

Confrontation is paying the bill or making the bill paid. Paying the bill, making the bill paid is a price. When it is completed, the first thing to do should be to heal the wounds and relieve the pain. Psychological therapy should be considered important. It should be convinced to those around you that the situation is under control and protected by power. The team's attitude when faced with a disaster is decisive. You learn whether you can stand tall or not when you look at the team. In confrontation, the truth is learned by questioning. The moment you are afraid is the moment you lose. Panic destroys all communication channels, turns all solutions into deadlocks, and locks all exit routes. You need to show the right stance with your team without blaming anyone.

Freeze

A football player is transferred to a club. What is expected from him is to score a goal. Weeks go by and neither the expected goal nor the performance is achieved. As the goalposts for the football player get smaller and smaller, the technical director loses faith in him and the fans start booing. In order for athletes to overcome their concerns and trust themselves, they need to know that they are being watched. Football players are always under the microscope and they are young people. The secret lies in natural talents. In order to regain this, they need to go back to the days when they acquired those talents and remember the days when they had fun. Messi scores successful goals in every game environment? Instead of being devastated by criticism, talents that will motivate them should be acquired. In such cases, deep thought is not the right approach.

Correcting the subconscious mistake

In life, no matter what happens to us, we become obsessed with whether we are responsible or not. We find excuses, make excuses, put the blame on someone else and run away. When we argue with someone and cannot solve the problem, we reach a dead end. How will we erase these problems from our brain? Because everything is recorded in our brain, it is impossible to forget, thousands of images and sounds are flying around us to remind us. The records keep looking for an excuse to remind themselves. Constantly repeated reminders. For this, Dr. Hew Len wants the following sentences to be repeated for repeated reminders: “I apologize, whatever happened is because of me, I love you, thank you, forgive me.” “I know or do not know which memory in my subconscious caused me to experience this, thank you for reminding me and making me experience these, and I ask for my forgiveness.” Thus, Dr. Hew Len claims that apologizing to both the brain and the creator will prevent the reminders that make a person feel uneasy. By doing this, we accept that we are responsible for the reminders that happen to us and make us feel uneasy. It reminds us that we should not resist. Because if we resist, the reminders that will be repeated are waiting in line, they can’t wait to come. When we remember, when we say it’s my fault, we calm down. Calming down is a sign that things will be fine, the problem will be solved. We need to convince ourselves that we need to live in peace with our mistakes. Constant repetition is the most important method of guiding the brain. It is the basic theory of changing perspective.

When a person starts to think that something terrible or something they don't want will happen very soon, even though there is nothing negative going on, it starts emotional stress in them. Thinking that they will fail or thinking that someone they love will die are also sources of stress. There is a possibility that the thought may or may not happen. Intuitions can also cause emotional stress.

If a person is given an excessive role, this occurs when they feel that they are being forced qualitatively and quantitatively. If the individual cannot use their abilities sufficiently, this stresses them.

Kızgınlıklarını, öfkelerini, hayal kırıklıklarını biriktirenler içleri çöp dolu kamyon gibi dolaşırlar. Doldukça çöplerini boşaltacak bir yerlere ihtiyaç duyarlar. Çöp kamyonlarındaki çöpleri alıp evinize, işyerinize veya sokaktaki diğer insanlara dağıtmayın. Günümüz insanları farklı olanları, kendileri gibi düşünmeyenleri hiç çekinmeden darağacına gönderen yargıç gibi davranmayı alışkanlık haline getirmişlerdir. Çekişmelerin veya kazanmak için verilen mücadelelerin, yok etmeye dönüşmesi, emek sarf etmeden kazanılan başarı hikayelerinin efsaneleşerek artmasından kaynaklanmaktadır. Bunları görüp de öfkelenmemek mümkün mü? Böyle bir çöp kamyonu ile karşılaşıldığında, durumu kişiselleştirmemek. Sadece gülümsemek, onlar için iyi şeyler temenni etmek ve yolunuza bir şey olmamış gibi devam etmek mümkün mü?

Those who accumulate their anger, rage, and disappointment drive around like a truck full of garbage. They need a place to empty their garbage as it fills up. Do not take the garbage in garbage trucks and distribute it to your home, workplace, or other people on the street. Today's people have made it a habit to act like judges who send those who are different and do not think like them to the gallows without hesitation. The fact that conflicts or struggles to win turn into destruction is due to the fact that success stories gained without putting in effort have become legendary and increased. Is it possible not to get angry when you see these? When you come across such a garbage truck, is it possible not to personalize the situation. Is it possible to just smile, wish them good things, and continue on your way as if nothing happened?

5.5. Emotion Management

In today's society, the understanding of individuals listening to each other, understanding each other and solving problems by compromising has disappeared. Personality conflicts are turning into increasingly complex conflicts. Those who pursue ambition and desire enslave their aggressive instincts to the process of taking revenge. Betrayal and alienation arise from the lack of healthy communication. Personalities who are captive to whims and passion, who ignite those around them with their eyes, who excite nerves with their tone of voice and hand movements, perceive those they see as rivals as enemies and make it a habit to turn the conflict they enter into into war. Those who lose themselves in dreams, who think that their dreams are real and their thoughts are miracles, act like judges who send to the gallows without hesitation those whose only crime is not thinking like them. What kind of hostility is it that makes people so irritable and rude? What kind of spitefulness is it that privileges are used to destroy the self-esteem of people who are seen as rivals and unwanted? Unfortunately, people who do not have the courage to go back always take their revenge by fighting for some reason. They think that by doing so, they have extinguished the fire inside them and they cannot understand that what they have done is the destruction that occurs under their own control.

Those who are angry, greedy, furious and seeking revenge; exhibit personality traits based on ignoring the other person with behaviors of contempt and exclusion. In today's world where hidden competition is intense, examples of wrong behaviors that start with ignoring and destroying by applying psychological pressure are frequently seen. The reasons are that unsolvable problems, unhealthy communication and discrimination, as negative aspects, create emotional obsessions in the person in the process. The basic characteristic of behaviors that start with ignoring and destroying is that they start to see all kinds of unethical behaviors that they will do to eliminate the other person as a right. It seems very easy for an individual or a group that always looks from a focused window and always blames the other party to seize the memory of mental abilities.

How will we deal with hostilities and conflicts based on the increasingly widespread distorted understanding of personality? How will we gain continuity of life without fighting and conflict? The answer to all these questions is through a good analysis of the psychology of emotional attack. The greatest mastery is to see the reasons before entering into conflict with those who perceive the person in front of them as an enemy and see them as an enemy, and to destroy them before they are revealed. Instead of seeing the opponent as an enemy and attacking, it is necessary to seize and disrupt their strategies and plans with deceptions before the conflict begins. Instead of resisting conditions that cannot be overcome, changing when faced with the impassable makes the impassable passable. What wins is unforeseen rationality and unnoticeable behaviors. In order to see opportunities that others do not see and surprise the other person, it is necessary to be incomprehensible, and to gain the ability to protect one's own energy, it is necessary to be unknown. Knowing what others do not know is superior intelligence, and seeing what others do

not see is brilliant intelligence. The first winners are superior and brilliant intelligences. Because only they retreat and defend in situations that are impossible to win. They create situations that are impossible for their opponents to resist and go on the attack.

It is the highest virtue to be in a position where the opponent cannot attack, rather than to think that he will not attack. The second best virtue is to prevent the joining of the opponent's forces. The third is to attack the opponent. The worst virtue is to surround and attack the protected area. Only those who know when to fight and when not to fight can win a war. Power without mental preparation is not enough to guarantee victory. If you know yourself and your opponent well, victory is never in danger. When making plans to enter a conflict, the first thing to consider should be the consequences of the dangers and the possibility of annihilation. The disadvantages should be examined first, then the advantages can be understood more easily. If you receive information and make preliminary preparations in advance while monitoring the opponent, luck is on your side. When the opponent's strategic plans are captured, the spies should be well organized. Those selected from among the people in the opponent's region are called local spies, those selected from within the opponent's location are called internal spies, those who are employed by the opponent's spies who are caught in two-way positions are called recruited spies, and those who leak false information to the opponent are called dead spies. Therefore, the opponent's strategic plans and goals should be investigated in detail.

In achieving success, the factors of harmony, position, environment, leadership and discipline should be examined in detail and responsibilities should be analyzed very well. A successful leader in management is the one who follows the changes and has the team that knows his job best.

Intelligence, trust, humanism, courage and discipline should be applied together in team management. Intelligence develops planning and change skills. Trust provides confidence in the punishment and reward to be applied. Humanism develops the passion to love by knowing the weaknesses of people. Courage ensures that opportunities that will lead to victory are seized. Discipline prevents chaos. Only intelligence is rebellion. Only acting humanely is weakness. Only trust is stupidity. Only courage is violence. Only excessive discipline is cruelty. The opponent himself provides protection from defeat and the opportunity to win. Energy is the bow drawn, and determination is the shooting of the arrow. Studied disorder is the preparation of discipline, studied fear is the preparation of courage, and studied weakness is the preparation of strength. The intelligent warrior imposes his own decision on the opponent, does not allow the opponent to force his own decision. Five mistakes in emotional management lead to disaster; careless courage leads to destruction, cowardice to capture, hastiness to be insulted, excessive pride to shame, excessive weaknesses to anxiety and hesitation. Too much reward indicates that the opponent's resources are exhausted, too much punishment indicates the existence of extreme distress conditions. If you know yourself as well as you know your opponent, you should have no doubt about victory.

The strategic characteristics of the positions where the conflict will take place should be examined very well. A mixed position is an area where power is gained. A close position is the borders where the enemy has power. A contested position is an area that will provide superiority or advantage to the side to be captured. An open position is an area where the conflicting parties use in common. A key position is an area where more than one opponent plays. A difficult or serious position is an area that is defended. A deadly or hopeless position is an area where danger is surrounded and ambushed. The mastery of the other party is destroyed by preventing the unification of their forces. Secret-keeping and misdirection tactics should be developed in order to learn to be incomprehensible and unknown with cunning and secrecy and to keep the opponent's fate in hand. Those who pursue prejudices, weaknesses and obsessions lead themselves to disaster. It should not be forgotten that people become victims of their weaknesses and vulnerabilities that they cannot control. Weaknesses that will be used by a smart opponent are; lack of self-confidence, obsessive disorder, excessive desire, excessive anger and excessive emotionality.

If it is necessary to enter into conflict, the opponent's power, goals and environmental conditions should be analyzed well first. The opponent should be heated up and his power and mobility should be tested, he should be forced to attack and his reactions should be revealed, his strong and weak points should be determined. The real situation should be hidden from the opponent. He should be positioned where it is impossible to be defeated, he should not go to the opponent's feet, he should be forced to fight in a prepared environment and conditions. The necessary arrangements and adjustments should be planned very well when encountered. Openings should be sought to strike from areas that have been neglected to be protected. He should be shy like a new bride until the enemy finds a gap, and he should attack like a tiger when he finds a gap. He should try to resemble a rattlesnake in conflict areas. The opponent's psychology should be affected by maneuvers, conformity and tactical changes in order to come to a position where he can be easily hit. A good master does not leave a trace. Planning should be secret and attack should be fast. When the stance is uncertain and the moves are unpredictable, it becomes impossible to prepare for the move. Maneuvers should be hidden from the opponent. It should not be forgotten that victory will come thanks to the wrong tactics of the opponent who does not know what is being done. Tactics should be constantly reviewed and necessary changes should be implemented quickly. In conflict, feelings, actions and goals should be hidden from the opponent in order to open the door to winning. Waiting calmly for the disorder and chaos in the opponent is the art of using initiative. The proverb “Sweet words draw the snake out of its hole” should be heeded and when strategic plans are put into practice, the opponent should be approached with sweet words and favors should be done. In situations where the strongest is for conflict, the weakness should be shown with surprises and deceptions, and while the forces are being mobilized, the opponent should be kept as if inactive. When the opponent is approached, the impression should be given that you are far away, and when you are far away, the opponent should be convinced that you are right under the opponent’s nose. The opponent should not be allowed to understand the situation, otherwise he will definitely start preparing for a tactic. The opponent, who sees that you are unprepared and weak, will attack without feeling the need to

prepare much. When the opponent’s order is disrupted, discord should be sown between him and his men and the attack should be launched immediately. When dealing with people who create chaos within themselves, the opponent is captured without even realizing what is happening. If the opponent's resources and men are stolen, there will be no trouble in long-term conflicts.

Those who do not have self-confidence and do not care about ethical values are inadequate and think that they are constantly under the threat of being attacked. They exhibit preventive aggression by directly attacking with the feeling that they will attack anyway, let me attack first. Since they are fed and developed by feelings of inferiority, loneliness and exclusion, although they may seem constructive and naive, they perceive every criticism as a personal attack and declare the critics as traitors and attack. If the opponent exhibits preventive aggression, he should be made to ignore everything and everyone by making him angry. "People eventually become the person they are thought to be," says Caesar. Rather than directly attacking and trying to prevail, the balance between the opponent's wings should be disrupted with planned retreat methods, and his anger and resentment should be directed towards himself. The opponent who is made angry becomes angry, acts hastily and abandons his original strategy. If the opponent who starts to get angry and is angered by being humiliated and made even more angry and his morale is completely broken, he will attack in an irregular manner. In order for the opponent who is angered and made angry not to fight to the death, he should be driven towards the points where escape is possible and should be faced like a raging bull. The overwhelmed opponent should not be forced. No matter how impatient one is about the attack, an opponent who is preparing to cross a river or is being dragged into a swamp should never be attacked. There is nothing that a soldier who is facing death cannot do. By nature, a person cannot use his abilities to the fullest unless he is forced. If the opponent has no weaknesses, is harmonious and strong, changes should be followed and avoided. If the opponent's desire to fight is very strong, the attack should be postponed.

Long-term conflicts or waiting on the alert do not bring any benefit as they cause people to relax without focusing, from high alert to coma. The human body is not designed to work under constant stress. Constant overstimulation results in fatigue. It increases the risk of being caught unaware and unprepared. Since the uncontrolled flow of adrenaline creates stress, waiting on the alert is not healthy for the body and mind. Tactics should be developed during a planning process while monitoring the enemy. Necessary measures should be taken to observe, identify and prevent potential threats. When a threat is detected, the alarm should be switched to, checked and evaluated, and when it is understood that it is a false alarm, the normal state should be switched to. In order not to be caught unprepared due to panic and shock when faced with a sudden attack, sensitivity levels based on focused awareness should be developed. Situational awareness aimed at identifying the threat should be considered important by the entire team. Situational awareness developed based on experience notices subtle signs of danger in the subconscious. The level of awareness in certain areas should be increased in cautious times. In order to notice signs related to threats with situational awareness, the organized and adjusted familiar environment and the comfortable and at the same time defensive environment that looks

for possible dangers in the surrounding behaviors should be considered important. In order not to turn the awareness level into a paranoid state, extremely tiring and stressful focused environment, stimulating environment containing high adrenaline and comatose environments that trigger panic should not be continuous. Controls should be considered important. A philosophy should be developed where the whole team integrates by controlling each other based on trust. Remember, if you control and do not control, you will rot. In order for people's trust in each other not to be lost and for unrest and chaos to not arise within the team, control should not be allowed to turn into finding holes or denigrating.

Emotional management; It is knowing very well who will get more efficiency from which point you hit. Understanding what kind of emotions people will be guided by is of great benefit to those who want to use this power as well as those who want to avoid it. Sun Tzu, who says "I only go to war with men I trust", summarizes his words in The Art of War as follows; "If you see your soldiers as your children, they will follow you even in the deepest valleys. If you watch them as your only children, they will be with you even when you are going to death" and continues "Weaknesses that will be used by an intelligent enemy; excessive desire for death, excessive desire for life, excessive anger and excessive emotionality. Those who are angry, greedy, furious and seek revenge are always doomed to lose.”

Knowing very well how to direct in order to get more efficiency is emotional management. Understanding what kind of emotions people will be directed with is of great benefit to those who want to use this power as well as those who want to avoid it. Succeeding after great efforts is not considered success; feeling and understanding after the movement is formed is not considered understanding; knowing after seeing is not considered knowing. Those who celebrate victory are blinded by blood and such people are of no use to anyone. Those who are angry, greedy, furious and seek revenge are doomed to lose. The master of conflict is the one who does not get angry. The intelligent wins, the ignorant fight to win. The successful is like flowing water; it overcomes, wears out and wears out every obstacle. Those who use the power in their hands unwisely, who disrupt the order, who create chaos, prepare the trap that will destroy them for themselves.

Defeating the enemy without fighting is the greatest mastery. In order to be able to exhibit a rational approach rather than an emotional one, the psychology and causes of conflict should be known very well, every movement of the opponent should be perceived immediately and a maneuver should be developed for every possibility. The management of differences and changes should be considered important. The body should be trained before being forced by the body by exhibiting strong behavior, the mind should be prepared before being managed by the mind, traps should be thwarted without falling into traps, tasks should be fulfilled without being under the pressure of tasks. With deep knowledge, trouble should be turned into order, danger into trust, destruction into existence, trouble into success.

5.6. Responding to attacks from competitors

How to eliminate attacking opponents with political intelligence and sarcastic attitude. It is normal for opponents to spread gossip and rumors and attack you. First of all, you should have the ability to control yourself emotionally and keep your cool in such situations. Even if it is not acceptable for you, you should think carefully before making a decision and not act with your emotions. Try to understand the reason why your opponent is attacking you and what he is trying to do. If you are going to respond to him, respond based on this, never personalize it. Focus on his agenda. Be aware of the trap he is trying to put you in and stay away from the argument.

One of Goebbels' communication tactics is the Transference Principle, which suggests drowning your opponent in mistakes with attacks. One of the most common communication mistakes is responding to the other party's moves without thinking. The reaction you will give to attacks from your opponent is a risky area.

Because everyone should see that you are right, and even some of your opponents should agree that you should be given your rights.

Leader Commander Hannibal (248 BC – 183 BC)

A Carthaginian politician and general of Semitic origin, Hannibal is one of the greatest military geniuses of all time. He was born in Carthage in 248 BC. He is the son of the famous hero of the First Punic War, the Carthaginian commander Hamilcar Barca. He participated in wars with his father at a young age. He became a soldier after his father's death.

The Roman General of his time, Scipio, considers him the greatest war genius and general who ever lived. Military historian Theodore Ayrault Dodge describes Hannibal as the "Father of Strategy" and states that even his greatest enemy, Rome, defeated him with his own tactics. With his decision, the Carthaginian commander Hannibal was the person who prevented the destruction of the Roman Empire, which he had almost brought to its knees in the Second Punic Wars.

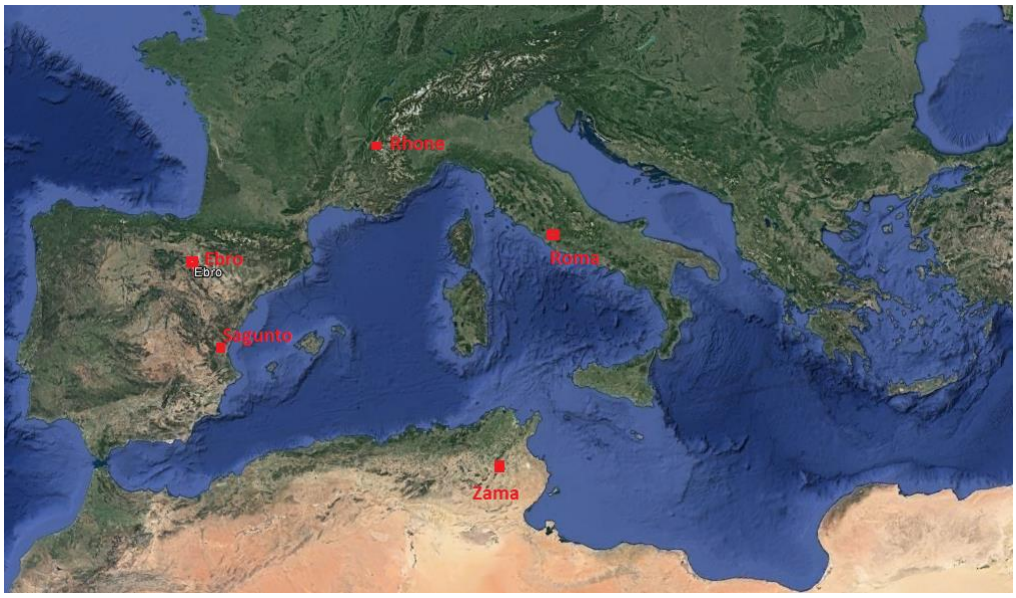
The reason for the outbreak of the Punic Wars:

The main reason for the Punic Wars (264 BC - 146 BC) was the conflict of interests between the growing Roman Republic and the Carthaginian Empire, which had been ruling for years. At the beginning of the Punic Wars, Carthage was the dominant power in the Western Mediterranean with its extensive maritime empire. It controlled almost all of the maritime trade and a great deal of wealth flowed to Carthage from this trade. The Roman Republic, on the other hand, was a rapidly expanding and spreading power in the Italian Peninsula, but it did not have the naval power of Carthage. Therefore, it was deprived of the profits of maritime trade. The Punic Wars were essentially a market war between Carthaginian merchants and Roman merchants.

The First Punic War shed blood in the Mediterranean and resulted in the deaths of hundreds of thousands of soldiers on both sides. At the end of the war, neither state was victorious and the war ended in a draw. However, the peace agreement contained important elements that were not in favor of the Carthaginians. It was not easy to accept that a country engaged in maritime trade like Carthage would have a fleet of at most 100 ships.

Hannibal's military life:
Hanibal had watched his father, whom he took as an example, fight in violent and bloody wars. He learned how his father and officers led the soldiers. Hannibal knew that he needed an army with perfect discipline. Therefore, military discipline was very important; he also knew that he had to punish his soldiers from time to time. Officers who caused military failures were punished by being crucified in the squares. He motivated his soldiers by eating with them, sleeping with them and fighting with them. In 221 BC, he became the commander of the army in Spain, which belonged to Carthage. From 221 to 219 BC, he dominated the communities west of the Ebro.

Hannibal knew that a second war with Rome was inevitable after the First Punic War, and he wanted to strike the first blow. After two years of consolidating his position in Spain, he laid siege to the city of Saguntum (today's Sagunto), which was an ally of Rome, in 219 BC and captured it eight months later. This incident, known as the Siege of Saguntum, is one of the most well-known battles in history. After the Carthaginian army breached the city walls, they began a fierce hunt by going through every house in Saguntum. They killed almost all the men and enslaved the women and children. The Carthaginian parliament also approved the Siege of Saguntum and the Second Punic War began with Rome declaring war. Hannibal left his brother, Commander Hasdrubal, in Spain and marched on Italy.



The route Hannibal followed during his campaign from Spain to Italy:
Hannibal's army had one hundred thousand soldiers and 37 armored elephants. The main striking force of Hannibal's army, an armored elephant, was as heavy and unstoppable as today's tanks. Marching north with his army, Hannibal crossed the Pyrenees Mountains fighting with the Celtiber tribes and reached the Rhône Valley before the Roman army that came to meet them. Saying "We will either find a new road or build a new road" to bypass the Romans and their allies in the region, Hannibal drew an arc from above the valley and crossed the Alps covered with freezing glaciers. It is estimated that the Montegnevre Pass or the Little St. Bernard Passes were used for this passage. This journey, made with a large army and elephants on ancient runs, is considered a great success.

Hannibal had the ability to get along perfectly with people from many different civilizations. Almost all of his armies were mercenaries with different languages and cultures. Hannibal crossed the Alps into Italy with his army and war elephants in 218 BC. More than half of the army perished while crossing the Alps. However, Hannibal managed to recruit soldiers wherever he went with his diplomatic skills.

The tribes in northern Italy began to join him. 14 thousand warriors of the Celts also joined his army. Hannibal's forces destroyed a 20,000-man Roman army that came to stop them at Trebbia, south of Milan (218 BC) and continued on their march. Father Scipio was saved from death by his son.

In 217 BC, the Carthaginian army, advancing towards the city of Rome by crossing the Apennine Mountains, defeated the main Roman army at the Battle of Lake Trasimene. Before the Roman army had a chance to fight, a force came before them, and by breaking through the fog, they trapped the army in the lake. Almost all of the 15,000-man army was destroyed. Most of them had drowned in the lake. A shadow coming from the Apennine mountains, Hannibal. That shadow was advancing towards Rome.

Hannibal's army had come within 160 km of Rome. A military dictator, Fabius Maximus, was in power in Rome. Everyone in Rome wanted war despite the defeat at Trebia. They were talking about the honor and dignity of Rome. Fabius Maximus did not want war, because if they came face to face with Hannibal, Rome would be destroyed. Fabius said: "Now is the time to be cruel. Not only to the enemy, but also to ourselves! First of all, we must realize our mistakes, reconsider our strategies. Let's take away from them what will win him the war. War! The best way to fight Hannibal is not to fight him. Even if his army is large, let's harass his supply routes, in short, let's hit them in the stomach. An army that realizes that it will starve, an army that sees that the supply routes behind it are cut off, is the weakest army. Let's not give in to provocations."

Hannibal's advance was slowed by the Romans' hit-and-run warfare. Instead of laying siege to Rome, Hannibal planned to advance south and incite the Latin cities to revolt. He lost one of his eyes to illness.

The Battle of Cannea and Hanibal's Strategy:

"Do you know what it means to be a Roman? It means whoever you are, wherever you go. When you are attacked or mistreated, those people know that all of Rome will be against them. This is a unique privilege." His son Scipio was loyal to Fabius. However, he believed that Fabius' tactics made Rome look weak. After a while, Fabius was removed from power. The policy of refusing to fight Hannibal directly was eliminated from practice. Scipio was promoted to the rank of protector of the people.

In 216 BC, Scipio marched against Hannibal with an army of 85,000. Hannibal's army was half that size. The upcoming battle would be one of the bloodiest in history. The Romans relied on their infantry and discipline. Hannibal believed that discipline was a virtue, but it could also be surprising. If discipline was perceived as educated; They must have known what to expect.

August 1, 216 BC, Hannibal, who realized this, gave his army the ability to move very quickly, “forward and backward” and “right and left” like a bow, and to be flexible. He gave his troops a curved formation like a bow; strong and flexible. His cavalrymen were the arrows of this bow. The Romans' self-confidence stemmed from their great superiority in numbers. That's why they underestimated Hannibal's half-moon army, which was squeezed together. Hannibal especially allowed them to believe this. As can be seen, "The greatest strength is also the greatest weakness."

Hannibal sent his cavalry against the Roman cavalry without waiting for the Romans to attack. The Romans responded to the attack, and despite suffering heavy losses, Hannibal's cavalry did not retreat. The Romans led their infantry into battle. Hannibal's army did not move. They waited until the infantry came to them. The middle of Hannibal's army, where he had gathered, suddenly opened up. It had been deliberately broken. At the same time, the middle of the half-moon opened up as a corridor. The Romans were confused, they thought Hannibal's army had dispersed and they sent all their infantry forward. The middle of the half-moon army had been deliberately broken. The Romans attacked that point. They concentrated all their forces on the broken area. Suddenly, the wings of Hannibal's army opened up and they began to draw the Roman army in like an ambush. The Romans thought they had won a victory. The Romans were enjoying their victory. At the fiercest moment of the battle, Hanibal's infantry did not surround them, but squeezed them and opened their wings. The Roman army was surrounded from three sides. The Romans had nowhere to go but to retreat. It was a fierce battle. The cavalry and elephants at the bottom of the anophore turned like arrows and began to split them. No mercy was shown. It was a great victory. Rome was now Hannibal's.

Rome had lost three consecutive battles. They were finished. It was Hannibal's third victory on Roman soil. Hannibal, who came very close to Rome with his victory in the summer of 216 BC, destroyed the Roman army in the Battle of Cannae and eliminated all obstacles between the city walls. Hannibal refused to siege Rome, which would last for years, despite the reactions of his commanders, and believed that they would surrender. Hanibal gave up advancing on Rome.

Rome did not accept either defeat or surrender. Fabius regained power. He said that Rome would continue to exist. He lowered the age of military service to 17 for a new army to protect Rome, and collected all the weapons in the temple. He said to those who objected, “The gods do not need those weapons, we do.” “From now on, there will be no settled wars, we will grind Hannibal little by little until he is dust. Arrogance and pride have made us lose wars. This is a war to the death for Rome to survive.”

After the victory at Cannae, he joined Hannibal in Southern Italy. Hannibal needed soldiers. However, Hannibal’s increasing prestige frightened the Carthaginian senate and they did not send him enough support. He fought as if he was isolated in Italy for 7 years. Rome, which he expected to surrender, grew stronger. Plans were being made to deal the final blow to Hannibal. Rome had created a shield to protect itself. The city of Capua, which was separated from Rome in the Battle of Cannae, was recaptured by Rome, which had established a new army and begun to gather its forces, in 211 BC. Hannibal's raid on Rome in 207 BC was repelled. His brother Hasdrubal was killed in Northern Italy while trying to come with a relief army through Spain.

Retreating to the mountains in southern Italy, Hannibal was called to Carthage in 203 BC to protect the capital after the Roman army under the command of Scipio Africanus landed in Africa.

Scipio set up camp at Zama. Hannibal returned and took command of his army.

Before the battle, Scipio and Hannibal met face to face. Hannibal did not want war. Hannibal said to Scipio: "If it were not for me, would you be commanding an army right now? I made you a commander."

Scipio said: "You only caused it, it is not the same thing. You opened the gates of Rome. If you had taken Rome. We would not be standing here right now. You left the job unfinished. Now I will finish it."

The battle was fought in Zama, 160 km south of Carthage. Hannibal had never lost a battle in his 16-year campaign against Rome. Hannibal had gathered 50,000 men against Scipio's army of 30,000. 80 war elephants and Roman infantry would play an important role in the attack. This time Hannibal made the mistake, so much so that Rome hit him with the tactic he developed.

Hannibal sent his elephants against the Roman infantry. Scipio was prepared. Just as the elephants were about to attack the infantry, the Roman infantry opened a corridor for the elephants. In this way, the monsters were drawn into the corridors of death. Some of them were destroyed, while the rest were sent back angry, provoked and wounded. The elephants came upon Hannibal's army, angry and destructive. The army panicked. Chaos broke out. Scipio had figured out Hannibal's strategy and copied his tactics. He understood Hannibal very well. Hannibal was defeated in the Battle of Zama with the Roman army. Hannibal, who was defeated by Scipio Africanus in the Battle of Zama in 206 BC, started the road to his end.

Carthage had to make a very harsh peace agreement with Rome. Hannibal, who elected "suffes" (the equivalent of "consul" in Rome) after the war, managed to improve the cost and economy. However, under pressure from the Romans, the Carthaginian senate dismissed him.

Exile and death

As long as Hannibal was alive, there was no life for Rome. Hannibal, who went into voluntary exile due to rising opposition against him, first went to the Seleucid Empire, then to Armenia and Bithynia, where he served as a military consultant in the palaces there.

In many sources, the establishment of the city of Bursa is associated with Hannibal. It is thought that while he was with the King of Bithynia, Prusias, he advised Prusias to establish a city where Bursa is today and that he established the first drinking water network in the city.

When he realized that he would be handed over to the Romans by the Bithynian authorities in 183 or 182 BC, he committed suicide by drinking the poison known to have been carried in his ring. Although his grave is unknown, there is a monument built in his memory in the Tübitak settlement in Gebze, where he died. The Hannibal Monument was built in 1981, accepting Atatürk's request

to find Hannibal's grave and build a monument as his will. It is believed that a grave found during the water supply works to the Gebze settlement later belonged to Hannibal.

The Kingdom of Bithynia or Bithynia was a state founded by the Thracian Bithyns, who ruled the region between the Gulf of Izmit, Istanbul, Sakarya and Bursa, with the capital at Nicaea (Iznik) between 377 BC and 64 BC.

Sun Tzu's teachings on the art of war:

- He was a Chinese commander who lived in 500 BC. Sun Tzu, who is considered a military genius, is still considered a great master with his genius ideas in the field of psychological warfare in his work called 'The Art of War', which was written in 500 BC.
- There are levels of commanders. The most skillful commander thwarts the enemy's traps; the less skillful destroys the enemy's supporters; the one who comes later attacks the enemy's military forces; the worst commander attempts to besiege cities surrounded by walls.
- The warrior who wins the war is a cold-blooded, determined warrior. The warrior who is angry, furious, and seeks revenge is doomed to lose.
- The intelligent warrior wins the war in advance, whereas the ignorant soldier has to fight to win.
- One should focus on understanding social psychology rather than bloodshed. Understanding which emotions people can be guided by is of great benefit to those who want to use this power as well as those who want to avoid it.
- The greatest skill is to appear weak and incompetent.
- Fighting tooth and nail is the last resort for the intelligent warrior.
- In order to reduce the cost of war on the country and the people, instead of using own resources, the resources of the country being raided should be used to the extent possible.
- If you know yourself and the other person well, there is no danger for you. If you know yourself well but do not know the other person well enough, you still have a chance to win. However, if you do not know yourself or the other person, then you are facing great danger in every war.
- When you encounter the impassable, you change, when you change, the impassable becomes impassable.
- When you are at your strongest for war, show yourself weak; when you mobilize your forces, stand still; when you approach the enemy, give the impression that you are far away; when you are far away, give the impression that you are right under his nose. All wars are deception.
- If the enemy is stingy, be generous; if the enemy is harsh, be soft.
- The most useful concept of the art of war is to capture the enemy's country completely, without causing any damage. Destroying and burning it is of no use to anyone.
- Superior success is to break the enemy's resistance without fighting.
- War games will finish the enemy off rather than long-lasting battles on the battlefield.

- If the army loses its peace and confidence, it is certain that the princes will try to take advantage of this situation. This will bring anarchy to the army.Usta savaşçı kendisi için yenilginin olanaksız olacağı pozisyonu hazırlar,düşmanı yenme fırsatı doğduğunda bunu kaçırmaz.
- The control of a great power and the control of a few people are subject to the same principles. Only the numbers need to be divided.
- Skillfully applied indirect tactics do not run out like air and earth; they do not stop like the flow of rivers or streams; they set to rise again like the sun or the moon; they go back to return like the four seasons. Although there are only seven notes, many melodies are produced from their mixture; although there are only four tastes (bitter, salty, sour, sweet), unlimited tastes are obtained from their mixture; although there are only five primary colors (yellow, white, black, blue, red), unlimited colors are obtained from the mixture of these colors.
- Studied disorder is the preparatory factor for discipline; studied fear is the preparatory factor for courage; studied weakness is the preparatory factor for strength.
- When we do not desire war, we can surprise the enemy by playing with the traces we leave, even if the traces of our camp are obvious.
- The anxiety of being ready for possible clashes at any moment will weaken the enemy units.
- We can deter the enemy from fighting us even when they are numerically superior to us. This is achieved by knowing their plans.
- Victory will come thanks to the wrong tactics of the enemy who cannot understand what you are doing.
- Do not repeat a tactic that brought you victory. However, you can continue your methods by making the necessary changes according to the conditions.
- Military tactics are like the flow of water. As you know, water naturally flows from high to low. Thus, the effective way to be applied in war is to stay away from the strong and attack the weak. Just as water flows according to the slope of the land, soldiers also flow to victory according to the enemy's situation. Just as water has no fixed shape, there are no fixed conditions in war. The commander who manages to change his tactics according to the enemy will achieve victory.
- When the enemy surrounds his army, leave an open point, do not push the overwhelmed enemy too hard.
- Peace proposals that do not come with a clear agreement are a sign of a trap.
- Look after your soldiers like your children, they will follow you to the deepest valleys. Look at them like your grown children, they will prefer to die next to you to anything. However, if you cannot establish authority over your soldiers, then they are naughty children, then they are useless.
- If you know yourself as well as you know the enemy, you should have no doubt about victory.
- A master warrior is like a rattlesnake. If you attack its head, it attacks with the poison in its tail. If you attack its tail, it sinks its teeth. If you attack its body, it attacks with both its tail and teeth.
- Human nature does not use its abilities to the fullest unless it is in difficulty.
- No commander should go to war for his own ambition.

- A wise commander should be careful, a good commander should be cautious.
- Achieving victory easily depends on intelligence.
- Spies cannot be governed without kindness and honesty.
- It is necessary to have a subtle intelligence to understand the reports of spies and to be sure of their accuracy.
- The only purpose of using spies is to gather information about the enemy.
- The best ruler who uses the espionage wing of the army is the wise ruler, and the commander who evaluates it best is the master commander.

In the art of war, the incomprehensibility of strategy is the most important element. When the stance is uncertain, the moves are uncertain and unpredictable, it is impossible to prepare for the move. What keeps a commander from defeat in war and brings victory is his unpredictable rationality and undetectable style of action.

Only the unknown cannot be affected. Wise men hide in the cloak of unpredictability, so their emotions cannot be perceived; they act in uncertainty, then their path cannot be cut off.

Military operations involve deception. Show yourself weak when you have power. Be ineffective when you are effective. The greatest mastery is to appear incompetent and weak. The surprise factor, which is the only cure for efficiency and victory in war, depends on having full information about the other side while being unknown. Therefore, the skills of keeping secrets and misleading the enemy are among the main arts.

Rather than trying to prevail by attacking the enemy directly, Sun Tzu emphasizes disrupting the balance between the enemy's wings with retreat methods, and using the enemy's anger and resentment against him by playing with his morale.

The main idea is the ability to conserve one's own energy while exhausting the enemy's. Good warriors do not go to the enemy's feet, they make the enemy come to them.

Physical strength without mental preparation cannot be sufficient to guarantee victory.

Only act if you see that it will benefit you, otherwise abandon the action. Anger can turn into joy, rage into joy. But a destroyed country can never regain its existence, the dead cannot be revived.

The perfection in the establishment of an army's structure is completed by the army being structureless. Then no one can come to you with a strategy.

A commander can bring disaster upon his army with three mistakes.

- Not realizing that the army will not be able to carry out this order when he gives the army an order to advance or retreat. This is also called limping the army.
- Trying to rule the army as if he were ruling his kingdom without considering the conditions in the army. This creates unrest in the soldier's mind.

- Choosing officers without considering the military principle of adaptation to difficult conditions. This shakes the soldier's confidence.

It is in our hands to protect ourselves from defeat. However, the enemy gives us the opportunity to defeat the enemy. Everyone can see the tactics I use during victory, but what no one can see are the strategies that pave the way to victory. Too much reward shows that the enemy's resources are depleted, too much punishment shows that there are extremely difficult conditions. The master war tactician is like a rattlesnake. If you attack its head, it attacks with the poison in its tail; if you attack its tail, it sinks its teeth; if you attack its body, it attacks with both its teeth and its tail.

Tell your soldiers the mission, not the plan. If the result is bright, show it. If the situation is difficult, do not say anything.

Until you find the enemy's gap, be shy like a new bride; when you find the gap, jump like a hare. It is too late for the enemy. A successful commander in attack attacks an enemy who does not know what he is defending; a successful commander in defense defends his positions against an enemy who does not know what he is attacking.

Excerpts from the comments of 11 war philosophers in the same work,

- A commander cannot be controlled by heaven, earth, or the humanity in between. This is why military service is the prophecy of death. The commander is the officer of death. - Du Mu -
- Those who know how to delegate authority appoint the intelligent, the brave, the greedy, and the stupid. The intelligent are happy to show off their skills, while the brave reveal their ambition. The greedy seek profit, while the stupid defy death. - Haung Shigong -
- What everyone knows has already happened. What the true sage knows has not yet happened. - Zhang Yu -
- Ordinary people know the meaning of victory, but they do not know the conditions that will bring it. - Wang Xi -
- It is difficult to expect individual strength from ordinary people, but it is easier to mobilize people with momentum. The leader's job is to choose the right people and wait for momentum to do the work. - Mei Yaochen -
- Show the enemy a way of life so that he will not fight to the death against you. Then it will be easy to defeat the enemy. - Du Mu -
- Successful commanders are different: they neither run to death nor expect to live. They change themselves according to events, do not get angry, never feel insulted. Whether they take action or remain on the defensive is all a matter of strategy, never satisfied, never angry. - Chen Hao -
- When you are strong, be weak. When you are brave, pretend to be scared. When you are organized, show yourself scattered, when you are well-equipped, show yourself in need. Let the enemy think you are stupid, not intelligent. - Wang Xi -

- An army should not have a clear form, just as water has no clear structure. Attack by adapting to the conditions without giving the enemy a chance to understand what you are going to do in advance. In short, the enemy's movement scenario is in your head, and the monitoring of the situation is in your eyes. - Chao Chao –

5.7. Managing Risks

Herodotus says, “Great things have often been done under great risks.” Risks are not the negativities that occur, when they do, they are already crises, chaos, and trouble. When trouble happens, the focus should be on preventing further damage and urgently accessing and saving data. Risks should not be perceived as evils that may happen to us at a time of vulnerability, but it should also be known that they are discovering opportunities if managed well. If predictions come true and are managed well, they are opportunities, turning into power.

Encountered risks:

- Memory space swelling
- Loss of stored data
- Blocking or interrupting access to data
- Dullness
- Panic and emergency
- Power outage
- Suspicious behaviors: Virus, Data theft
- Clustering, interaction

Possible incidents that will negatively affect the components and the business processes where their activities are detailed are called risks. Risks should be managed in order to search for signs, symptoms or traces to find changes and errors. In order to manage risks effectively, necessary precautions should be taken to protect assets. Uncertainties and risks are related to the future. It is difficult to make predictions. What is important is to have ready responses when they occur. Insufficient or incomplete information and document-based response processes are very dangerous.

Possible Risks:

a) When risks that have been identified and have ready responses when symptoms begin to emerge, solutions prepared in advance should be implemented. The reactions of components contributing to business processes to applications should be carefully monitored, and efforts should be made to control potential negativities by producing quick solutions.

b) While dealing with risks that have been identified and have ready responses when symptoms begin to be identified, the remaining risks that emerge without being noticed

become a nuisance because they are not taken seriously. Since everyone focuses on the identified risk, they emerge by being overlooked in the vulnerability gap. Attention should be paid to weaknesses in internal control systems in preventing remaining risks.

c) In risks that may arise in the business process, it is also necessary to be prepared against risks such as not specifying technical specifications in detail.
d) Accidents and natural disasters, errors, negligence, delays, corruption, and productivity losses that will be encountered in the operation to achieve the target are defined as risks that will disrupt the achievement of the target. e) Behavioral risks such as poor working conditions and environment, harassment, discrimination, sabotage, violence, theft, accidents, lawsuits, weaknesses, addictive habits, and absenteeism cause productivity loss.

In managing risks, the distinction between risks and uncertainties must be defined very well. If the possibility of occurrence in components contributing to business processes has been identified or the ability to sense based on signs has been developed, there is risk, and uncertainty in unknown situations. It is a right to expect the best decision to be made considering the information collected. Catching the chance of success depends on when, where and how risks are perceived and what the response will be. In order to increase the chance of success, the quality and behavior of the components that contribute to business processes and give them meaning should be constantly questioned. Changes, errors or uncertainties in processes should be sought and responses to be given should be prepared.

Questions that should be constantly asked when questioning business processes and components contributing to processes:

- What are the most sensitive or weakest business processes and components contributing to these processes?
- Do we have alternative assets when the risk turns into a crisis?
- What are uncontrolled and unsupervised business processes and components?
- Which risks damage reputation?

The risks contained in business processes are hidden somewhere, insidious, waiting for a weak moment. When questioned carefully, there is a high probability that they can be found. When something goes wrong or signs start to appear, the source of the problems should be investigated from multiple perspectives. If risks are not to turn into crises, a healthy communication environment should be created.

Monitoring and observing triggering events, changes, and errors in the risk management process is the most important element of risk control. Findings should be recorded and shared on the basis of healthy communication.

Measurement practices should be developed and implemented by comparing changes in business processes and functions contributing to the processes. The sources of change that should be

considered in determining and measuring risks are; change in project scope, failure to implement the prudent action plan, and faulty processes suggested by the project team. In change monitoring processes; the changes to be encountered should be defined. The expected effects of the changes to be encountered on the project schedule and budget should be listed.

Chaos means that complexity, disorder, and uncertainty manifest themselves in the data pile. In today's business world, where information dissemination and access to information have accelerated regardless of location, competition is very fierce and customer loyalty has decreased due to developments in information and communication technologies, data organizations no longer have the opportunity to survive in a simple and static memory environment.

A tiny irregularity or confusion that is ignored or disregarded in the data mass causes such large and undesirable results that its effects create very large results at an unexpected moment. The "butterfly effect", which is expressed with sensitive dependence on the initial state, has been called the waves that will form in the air when a butterfly flaps its wings in the Amazon causing a hurricane on the other side of the world. All chaotic structures have an irregularity within themselves. When parts that seem to be orderly but have an internal chaotic structure come together, they create uncontrollable and unsupervised chaos.

In the traditional order, memory management focuses more on analysis, prediction and control. According to traditional management methodology, chaos is a bad and undesirable situation. It is desired for the organized system to function like a machine gear and for the data activities to be kept under control and for efficiency to be increased. It is intolerable for data that is constantly under control to exhibit different behaviors. For example, it is desired for it to remain unchanged where it is left and to be read, changed or deleted when desired. If there is a violation or a crime committed, there is no need to investigate the cause in detail. According to the administrators, since the smallest mistake or violation will cause confusion, it should be punished in the most severe way without the need for investigation, so that no one should think, question or object.

In today's world where access to information has become easier and more widespread, the increase in computer-controlled machines continues unabated. In this case, data packages have begun to reflect creative thinking based on the comprehension of information in their behaviors rather than being machine gears. Data that is just waiting in the data pile has begun to be replaced by data that thinks out of necessity and need. The assumption of controllability underlying all traditional database management ideas has lost its validity today. Rigidity brings with it frozen structures, hierarchical management, and lack of diversity. Such data organizations cannot succeed in adapting to changes within the stack. On the other hand, there is no life in a place where there is a completely disordered structure.

Life in the stack always requires a certain level of balance. Since neither excessive order nor excessive disorder alone is suitable for data organizations, the most suitable point between the

two must be found in order to sustain existence. While managing chaos, one must be free to produce innovative ideas and develop new models in order to establish and save the future. In chaos management, a strong connection must be established between data, and channels for accessing and sharing information must be open. In focused teamwork, data packages in different groups must be brought together or informed of each other; instead of laws based on control, diversity must be allowed, and innovative and creative strong basic values must be formed.

Even if the data packages and groups in interaction do not act together, each element affects or is affected by the other. If we consider that probabilities are derived from the past, new possibilities and opportunities will emerge within the system itself in the future. Everything within the system is constantly in a process of change. Chaos management in data organization is based on the constant change of data behavior. In this case, the organization is in a position to change its behavior continuously and rapidly. Chaos always emerges through mutual action and reaction. In order to know in advance what may occur after certain fluctuations, the organizational structure needs to acquire new skills to adapt to each new situation. With healthy communication between data, changes will organize themselves and reach a new balance point.

Today, the information mass has become chaotic and in order to survive in the environment, the organization must be strengthened and its participation and organizational flexibility must be ensured. Effective leadership should be developed in a style that tolerates confusion at an optimal level, including control, guidance, leadership and change. Control should be provided through simple main support systems that measure the right things. It is more accurate to update innovations by all units and the data in these units within the data mass. A strategy should be created to benefit from success and failure experiences.

In the film Three Days of the Condor by director Sydney Pollack, the most famous, most strategic, most experienced, most organized agents and hired men could not account for a rookie. One of the agents in the film explains this failure as follows at one point in the film. “We can’t get hold of the man. Because if he acted according to our rules, we would know what we can and cannot do. However, this man does not follow any rules. It is never clear what he will do and when, he does unlikely things in unlikely places.” If you cannot solve a small problem, make the problem bigger and create chaos yourself, rest assured that a solution to the problem will definitely be found.

The important thing is not to forget the main task in a crisis. The best example of this is hidden in the last sentence written in the report of experts investigating why a passenger plane crashed. “The plane crashed because the pilot forgot his main task and purpose.” When a plane breaks down in the air, the pilot’s aim is to continue flying the plane and his main duty is to land the plane at the nearest airport. If the pilot instead of doing these things tries to investigate the cause of the malfunction and find and repair the malfunction, he will crash the plane in a panic.

We can see crises as moments of decision. If the correct data cannot be reached, it is necessary not to confuse people by talking about hypothetical data. The language of communication should not create outrage. Crisis management means reaching the peak in the art of persuasion. The essence is simple; it is important not to lose touch with people. The memory of the players who make up the system is very strong in times of crisis. They do not forget the good or the bad. Unprejudiced communication always brings benefits.

Uncertainties and changes create dangers or opportunities. Continuing existence depends on the ability to protect from dangers or to evaluate opportunities. Unexpected and unforeseen events can turn into crises. Opportunities and dangers encountered play a decisive role in crisis management. Whether it is fear or opportunity, it requires systems that will manage change and develop new functions. The necessity to respond manifests itself with the ability to define the purpose and measure where it is going. The flexibility to respond under a crisis depends on being able to predict the future situation and its importance well and being ready to make decisions. The crisis avoidance approach includes avoidance strategies such as mitigating or preparing for undesirable situations or monitoring deviations. It is a prerequisite for defining the problem and finding effective and efficient solutions and responding back. It may also be beneficial to develop scales that can measure what the current situation is and where it is going in the analysis of the problem. Crisis is an undesirable situation. However, the pressure of the problems encountered during change and development and the emergence of weaknesses also reveal the benefits of the crisis. The ideal is to be able to turn the crisis into success. The crisis solving approach depends on both estimating the pre-crisis situation and the mentality to be developed for solving the problems. Crisis sends early warning signals before it becomes fully manifested. It is necessary to be extremely sensitive to these signals. In order to prevent the crisis signals from being followed and to be able to catch the crisis signals, it is necessary to establish and operate early warning systems.

During the crisis period, the connections between the systems weaken and the order is disrupted. The system should be restructured and made suitable for the changing conditions, and the resulting negative effects should be eliminated. Decisions taken with learning and evaluation, constantly reviewed precautions and practices, and lessons learned from the crisis period should be considered important.

Crisis management:

- Early warning,
- Continuous threat analysis,
- Dynamic planning,
- Flexible and organic structure,
- Attitude research and feedback,
- Self-development

What is greater than a crisis is being able to be a team. In the context of a learning organization, from the moment you feel like you are a team, when a crisis occurs, after a short-term shock and panic, you organize and choose your leader, come together and establish your own order that works well. A crisis can occur unnoticed and out of control, grow and gain dimensions that are difficult to control, and can lead to serious consequences.

When a crisis begins, the relevant stakeholders of the business must be in communication. In a crisis environment, it is of great importance to provide accurate, up-to-date and detailed information to stakeholders. In this case, if the communication channels cannot be filled with correct and detailed information, others can fill them in your place, which will cause the crisis to get out of control and become unmanageable. Employees should be fully and accurately informed about the current situation during a crisis. Again, it is necessary to be prepared for the possible decrease in motivation and consequently the decrease in production during these periods. It is also very important for employees to work together to save the institution and to look for ways to get out of the crisis together. The first thing to do during a crisis is to quickly assess the damage. Assessing the damage that the crisis has caused and may cause will ensure that the resources to be allocated to the management of the crisis in the form of time, money and human resources are planned in the most effective and efficient way. Remaining silent or acting slowly during a crisis may be perceived negatively and cause loss of reputation.

If someone acts before the management and reports the crisis, the institution's communication policy will fail and the crisis has now escaped from its hands. In order to manage such a communication operation, the institution must quickly reveal whether it has control over the source of the crisis. Another alternative is to say "We could not understand it either, we are investigating" if the source of the crisis is unknown. Trying to change the direction of the crisis, diverting the subject, launching a counter-attack and implying that the crisis is in the opponent's interest gives the impression that you are unable to manage the crisis.

Reasons for not being able to cope with the crisis:

- Resistance to developments, staying within a narrow framework, being closed to changes.
- Lack of preparation, recklessness, lack of scenario
- Lack of experience of employees, inability to analyze the past
- Lack of infrastructure, limited opportunities, lack of support
- Problem of scaling or not being able to find the strength to cope
- Inability to follow the speed of changes and developments.

Types of Crisis:

- Economic Crises; crises caused by exchange rate changes in the determination of sales-cost prices, changes in loans and interests, crises caused by receivables in the follow-up of maturity differences, crises caused by debts.
- Raw material, product and service problems; supply, inspection and storage, quality.
- Energy insufficiency; power outages in cases where there are no different energy sources such as generators, UPS, solar, wind. Fuel shortage due to storage problems.
- Crises caused by employees; organizational changes, poor quality, career planning. Deficiencies in communication and sharing of responsibilities. Strikes, production in another institution outside, failure to organize employees who have left or retired in advance.
- Natural disasters and accidents; natural disasters, inadequate training in first aid teams, lack of periodic checks, lack of insurance, lack of backup for strategic employees.
- Lack of firewalls for system crashes and viruses in information technologies, lack of storage and backup.
- Competition; Lack of due importance given to research, development and education in monitoring technological changes. Lack of authorization, limitation and confidentiality agreements against information theft. Lack of combating unfair competition in quality and price changes. Lack of media relations and legal affairs against slander.
- Political crises
- Lack of relations with security forces and private security against terrorism.

Proactive employees are the people that new leaders need, who adopt their jobs as their own, are ready to exceed the limits of their job descriptions, force change in order to do their jobs better and create added value. Since the human factor will be important in crisis management, reactive and proactive personality traits should be analyzed very well when selecting personnel for the team that will struggle. Reactive people try to get enough information before taking action. They only take action when help is asked of them. They slow things down because they analyze too much and expect others to take responsibility. Proactive people take initiative, are men of action, and make plans for the future. They act first and ask questions later. They may make mistakes because they do not give much importance to the analysis and planning stages. They have developed decision-making and initiative skills.

5.8. Status Quo – Resistance and Barriers

Status means the continuation of the current situation. Change in business processes is a fact that should not be ignored. Failure to notice changes in order to continue the current situation represents all kinds of destructive games.

The purpose of the status quo is clear; to manage with methods determined by interests, to create a system closed to change, and to make the order in which interests are constructed indispensable. Because the status quo has trained and specialized its own men according to the truths constructed on interests. It is to resist change at the cost of extinction. While the status quo structure is being created; the self-interested system and the constructed and functioning order are sanctified. The ideology that the functioning order is superior to everything is dictated. Those who feed on the established structure become stronger, their unfair economic income increases, and a mafia-like organization is created over time. The fundamental logic of the operation is to intimidate and eliminate those who oppose and object.

The status quo is based on the compromise of interests. A network of interests is institutionalized around a power mechanism, and since the continuity of interests depends on the continuation and functioning of this power mechanism, they try to maintain the status quo with all their might. This network of interests that lives on rent, now exists in an environment where the law has completely disappeared.

We can find the most explanatory example of the status quo in the self-interested behaviors of the site and cooperative management. You live in a site or are a member of a cooperative. In the collection of the money that is overdue, the site and cooperative managements, and their lawyers aim to bring you to the right path with the most severe punishment. You are not the target, in fact you may even be a player in their game. They declare that they aim to punish malicious people who delay payment. There are laws and regulations that they are based on. Their real duty? While they are to call the members whose livelihood they sustain from their dues, to question why they do not pay, to remind them, to search for ways to help them with their troubles; they do not even think of doing this, they punish them when they do not pay. They do not let the members approach the administration building. Suddenly, something starts to go wrong in your life, you could not make payments for 6 months, you are ruined. The payments you have made for so many years are counted as your debt, you are evaporated. There are those around them waiting to seize the cheap price, they will make money from them too.

The execution games initiated with the lie that the unpaid electricity bill was collected twice and we could not reach you are also based on status quo games.

The year is 1849, Dotoyevski is arrested on the grounds that he was involved in an action against the state, and is tried with a request for death penalty. While waiting in his prison cell for the decision to be given the next day, he is taken by two armed soldiers after midnight, and the death sentence is read to his face. The priest makes him confess. Before his eyes are tied, he sees the pole on which he will be lined up and the soldiers with their rifles in their hands, he feels that the handcuffs on his hands have been removed but this time he is tied to a pole, he is only 28 years old, his body and soul are trembling with fear of death. The order to fire will be given at any moment, his body will be riddled with holes from the bullets that will be fired from the soldiers' rifles. At that moment, he feels a pair of hands reaching for his eyes and a hot breath on his face, cold sweat pours from his body. When the cloth covering his eyes is pulled back, he sees the eyes of an officer hissing like a snake, his dead fish-like gaze and his eyes trying to smile. "You will not be executed, Fyodor Mikhailovich Dostoyevsky. The court sentenced you to 8 years in prison, but our great Tsar reduced your sentence to 4 years." Dostoyevsky, who listens to these words silently, looks with curiosity and a little suspicion, as if to say, "Why?" "Because," says the officer, "because we wanted to scare you by making you experience the fear of death. We hope that from now on you will not disobey our great Tsar." And Dostoyevsky never disobeyed the Tsar again...

Resistance and Barriers:

The basis of creating barriers in management, in other words, obstruction, is deception based on lies, suspicion and fear. Why barriers? Economic limits, habits, job security, fear of the unknown, confusion of perception. There is no skilled manager who lies. But they lie a lot. The truth should be determined from the questioning, survey and the visible picture. If the answer to the first question is a lie, do not worry, the truth will come out in the next question. How open the institution is should be analyzed well. Barriers are removed with dreams. Emotionality is important when removing barriers. Talent and capacity should be measured. Are the measured capacity and talent sufficient for growth?

Resistance: It is caused by restrictions, troubles, lack of support, unrealistic expectations, inadequacies, insufficient talents, lack of team formation, and lack of full knowledge of the subject. If the decision maker and the person doing the job are not on the same page, if the person doing the job does not undertake and does not believe in their job, the project will not work. Organizational resistance stems from changes: change of power centers, market and technological changes, not forming a team, not focusing on change, structural formations, change in old relationships.

Resistance starts with denial and continues with I don't need it.

- While change is taking place, resistance is in an effort to gain continuity; it is constantly repeated that nothing has changed, it does not listen to suggestions and information.
- When it is stuck, it says okay, then it constantly makes excuses; it gets sick frequently, tests you, plays the role of the injured and the loser.
- It lists excuses; no money, no team, no time...

- Then it starts to question the question of can it be done slowly. (It creates its own chaos.) At this stage, it is necessary to start the work by holding on to the future.

If change is to be created, resistance must be broken. Resistance and denial are focused on the past. When resistance is broken, the environment becomes energetic and alternatives are sought. This situation manifests itself as lack of focus and chaos. Then cooperation and balances begin to settle and the team is formed. Ways to overcome resistance: education, communication, support, facilitation, support, discussion, guidance and coercion.

Employees resist change for economic, sociological, psychological and rational reasons. Resistance to change prevents effective and efficient management of processes and leads to failure of change management. Organizational change can only be achieved with the participation and support of employees. If organizational resistance is not eliminated in a short time; the organization is forced to spend a large part of its energy on the problems caused by resistance instead of organizational change. Thus, organizational change management fails.

People's behaviors are influenced by their previously acquired habits. Therefore, continuing their accustomed life gives people a sense of psychological comfort and security. Changing these habits can upset all the balances of employees; therefore, they may resist change. In psychological resistance, anger towards change should be considered important. Factors that trigger anger can be listed as: uncertainty and lack of information, alienation, habits, insecurity, indifference, prejudice, perception style, personal hostility, belief that change is wrong, different evaluations and goals, dissatisfaction with imposed change, anger towards new rules and increased control brought by change.

Employees who are worried about losing their career, status, prestige, authority and other social opportunities naturally resist change. On the other hand, commitment to the group is one of the reasons for resisting change. Employees resist because they believe that social ties are broken with change and that it will be very difficult to re-establish them. In addition, the negative attitude of the group they belong to towards change can cause the individual to resist change. The structure of the group forces the individual to think within certain patterns and to behave in accordance with group norms. In addition, the management's lack of importance to communication, participation, style and value judgments, and its lack of respect for the personality and experience of employees can initiate or increase resistance to change.

Resistance to technological changes is quite common due to various concerns. Employees may fear being laid off and losing their economic security. On the other hand, changes that will provide employees with economic power and limit opportunities for promotion and career advancement are also met with resistance. In addition, people are careful not to lose the status quo that they believe protects their working conditions and interests. Groups that control the distribution of resources and power within the organization may perceive change as a threat to themselves. In

particular, individuals or groups that receive the largest share of resource distribution show the greatest reaction due to the fear of their resources being cut off.

If the cost of change to the individual is greater than its benefit, rational opposition to change may occur. If the individual thinks that the change will force him/her to make additional physical and mental efforts to learn and adapt and will disturb his/her comfort, he/she resists change. Sometimes individuals or groups may oppose and resist organizational change, thinking that those who manage change do not think or care about them and only prioritize the interests of the organization. Organizational change can make individual expertise unusable or useless at once. In this case, resistance occurs. Employees resist change by foreseeing the dangers that change will bring. They think that such a change may lead to losing their jobs and act with this foresight and resist change.

Methods and analysis that can prevent resistance:
Having open communication channels helps to establish mutual trust between management and subordinates and also helps to reduce anxiety and resistance to change. An effective communication system reduces gossip, anxiety and mistakes in the organization. Individuals or groups whose knowledge, skills and abilities are developed through training have less resistance to change. In other words, employees who have the new knowledge and skills required by change become more willing to accept change rather than resisting it.

The participation of those who are subject to change and will be affected by change in the planning and implementation stages of change reduces resistance. What is important here is not that the ideas of the participants are accepted, but that the individuals feel that they are involved in a change event that will affect them and that they are not excluded. Support is more effective in eliminating resistance, especially due to fears of insecurity and the unknown. Change managers should support employees to develop themselves. If employees have difficulty adapting to new techniques and practices, management can provide additional training, emotional support, and even temporary leave to individuals to help them adapt to the new system.

In order to gain the group's approval and support on the proposed change program, management discussing the problem with the group and both parties making an effort to reach a compromise through bargaining is effective in breaking the resistance. Compromise requires the parties to make some sacrifices. This method is used when employees have a certain amount of power. With the concession method, some demands of the people who resist change are met and their participation in the change process is ensured. By assigning important tasks to the people who resist, it is possible to benefit from them in change applications. The environment of conflict and strife can be eliminated with this method.

Threat and pressure are advantageous because they allow for quick and immediate implementation. However, the commitment of the employees is low and the degree of resistance

is high. Resistance to change can be broken for a while by using legal or formal power. However, when there is a suitable environment against change that is accepted and seems to be complied with under unequal conditions, resistance may occur again.

Manipulation refers to presenting any event to people by changing it in one way or another; making people perceive it differently by showing it as different than it is. Such a method can reduce resistance at first, but if the person realizes that they are being manipulated, bigger problems may arise in the future. Such a method can only be used in very special cases and in very special situations. Cooptation means making those who are against any issue a part of the problems and solutions related to that issue. Therefore, instead of playing a role that is outside the event and only criticizing, the individual is drawn into the problem and is directed to play a role that thinks about it and seeks solutions.

In order for any change action not to encounter resistance, it must be put forward at the most appropriate time and all its stages must be planned. In this way, resistances that may occur in the change process carried out in a conscious and disciplined manner can be prevented.
A trial application is the testing of radical and general changes in a unit or a small region before implementation. Such a method ensures that possible change process errors and resistance areas that are likely to cause irreparable damage in the general application are seen and the necessary precautions are taken.

It is based on predicting areas of resistance and eliminating their causes. If an individual has doubts about losing their job, becoming incompetent in terms of their profession, or losing their position due to change, they choose the path of resistance. If such a development is not possible, the situation should be clearly stated to the employees. In this way, resistance that may arise as a result of ignorance, lack of communication, or guidance is prevented.

Since a significant part of resistance to change is based on economic reasons, economic incentive measures should be used first to keep resistance to a minimum in such cases. It is easier for employees who do not have economic losses to adopt change. Therefore, all their gains should be protected and necessary measures should be taken to prevent them from suffering economic losses due to change. Individuals who are economically satisfied support change instead of resisting it.

Resisting injustice:
Sometimes resisting change can also benefit the organization. Employees who realize that incorrectly developed practices will negatively affect processes show justified resistance.

When relationships become unsustainable, employees prefer to separate from each other and start a new life. This preference not only affects the individual's social, economic and psychological life, but also causes the resistance of values and norms to weaken. During transition periods, as

the ties to expectations that hold the processes and components that make up the organization together weaken, the importance of the commitment contract begins to disappear. Similarly, spiritual relationships begin to dissolve. These changes that occur create a typology of individuals who lose their sense of loyalty and do not trust the other person over time. As a result, the damage to the trust relationship fuels employees' abandonment of their jobs. It is observed that those who leave their jobs encounter serious problems in getting used to and adapting to their new lives, experience financial problems, and fail in their attempts to find new jobs.

Asking for employees' opinions on issues related to change and giving them the opportunity to be effective in decisions to be taken on this issue can change their perspective on change. Informing employees who panic during the change process and explaining the change process well often yields positive results. Sometimes, resistance to change can be due to unspoken reasons other than the obvious ones.

5.9. Strengths and Weaknesses

If the strengths and weaknesses of the business are determined correctly, the opportunities and threats that may arise are also quickly noticed. Strengths indicate success in reaching the goal, while weaknesses indicate obstacles that need to be overcome. The strengths to be determined shed light on the goals, while weaknesses shed light on the measures. First, strengths and weaknesses should be revealed, then deviations should be determined by comparing the situation with competitors.

While determining strengths and weaknesses;

a) Authority conflicts that will be caused by personnel changes are determined.
b) Competencies and experiences of stakeholders that will contribute to the organizational culture are determined.
c) The culture level of the organization is determined.
d) Technology index is obtained from technological infrastructure and the level of technology use of employees.
e) Financial status is defined from financial resources, budget, material inventory and other assets.
f) The effects of economic, political, environmental and technological developments on competition are determined.
g) How and in what direction changes, developments, trends and critical issues in the world and the country will affect the institution is constantly monitored.
h) Risks and uncertainties that the organization may encounter are regularly monitored and reports are prepared.
i) When the implementation stages in business processes are completed, the consistency and compliance of the results with the goals and objectives are evaluated.

Opportunities and threats in the market should be identified correctly. SWOT Analysis is used in the evaluation of internal and external situations in the organization. SWOT is formed by combining the first letters of the words Strength, Weakness, Opportunity, Threat. The existing plan is reviewed using the information obtained as a result of monitoring and evaluation activities. Accountability should be established by comparing the targeted and achieved results.

In order to obtain accurate, consistent information suitable for the purpose in measuring and evaluating success performance;

a) The sources from which all needs such as raw materials, products, spare parts, energy, water, fuel will be provided and their transportation, storage locations, delivery times and costs, whether the source to be provided will be domestic or foreign,
b) Alternative technologies, production processes, delivery dates and possible future developments in technology and engineering selection,
c) Spare parts of machines, equipment and service vehicles, maintenance and repair tools and equipment, environmental protection equipment,
d) Environmental effects in site selection and the effect of environmental protection measures on project cost,
e) Construction works in land preparation, construction materials to be used in landscaping and construction works,
f) Security measures to be taken against risks that will cause work accidents,
g) Additional burdens together with wages and salaries when calculating manpower requirements, qualification levels to be provided and annual human resources costs,
h) Facility, financial, production, sales and administrative organizations,
i) Study programs prepared when determining the methods of realizing the business processes in the suggested timing and costs during the implementation stages,
j) Financing tables, financial resources, capital structure, financing planning and financial rates,
k) While making financial evaluation in the project workflow, initial investment, operation-maintenance-repair-renewal expenses should be determined, analyzed and defined.

Expenses that will negatively affect the implementation stages of business processes should be determined, and a cash flow table should be created by calculating the differences (benefit-expense) by listing the economic analyses in time periods from the beginning to the end of the investment. In order to interpret the cash flow analysis correctly, the net present value should be calculated by reducing the cash flow spent during the budget analysis period to the initial start date of the investment according to the determined rates and taking their totals. In the commercial analysis preparation studies of the project, basic calculations such as net present value, internal profitability rate, benefit-cost rate, payback period, simple profitability rate, break-even point, sensitivity analysis, value added effect, net foreign exchange earnings, employment effect should be made and operating period expense-income reports should be prepared. While conducting studies to calculate the total investment amount, fixed capital investment, working

capital and the distribution of investment over time should be calculated. Fixed and monthly expenses required to obtain capital inputs should be calculated.

5.10. Ability to Make Decisions

Deciding is taking risks. When choosing one of the alternatives, the decision maker chooses among the solution alternatives for the problems. Therefore, decision making is mostly related to problem solving.

What happens during the decision making process:

- The awareness process called perception, interpretation, visualization (consciousness)
- Monitoring and evaluation
- Reasoning
- Trying to exist in a sea of clarity, uncertainty, ambiguity
- Being able to estimate the benefits and harms with probability percentages
- Taking risks
- Whether to regret the result

While comments are made about possible changes, traps and uncertainties to be encountered in the future, questions based on past experiences are made. On the other hand, the effort to make a decision under the intense pressure of guidance causes the person to drown in a sea of indecision and to cling to the snake. In daily life, you see social media, bosses, lovers, mothers, fathers or those who run the country trying to guide you in making decisions. According to them, one of the options they suggest is definitely the one that looks brighter for you. When you decide on one of the options, sequential games begin and somewhere in the process you realize that the decision you made takes you to a place you never wanted and traps you. Naturally, decision making should be done in accordance with a certain probability strategy.

The decision maker will prefer the one with the highest expectation and benefit among the alternatives. In today's competitive conditions, knowing the game does not guarantee winning in making effective decisions, it only provides a different thinking structure when making a choice or interacting. When making a decision, principles should be developed in three stages as planning, transformation from indecisiveness to determined attitude and execution: Planning, managing the process, managing the decision. Deciding is managing.

Planning decision making:

Before authorizing decision making, it should be clearly stated who and why should comply with the decision to be made. The stages that the decisions will go through should be visualized in the mind and the target or goal to be achieved should be determined. Two basic parameters should not be ignored here; the first is discipline; hold the reins of the horse so that you dominate the

horse, and the second is confusing decision making with bullying; Don't force the horse you ride to obey by saying "I am your master", if you do, it will show you who is the master when the time and place comes. The discretionary power should be determined in detail in advance. Before implementing a possible solution, it should be examined whether the resources are sufficient in all processes.

Efforts that will cause time and energy to be wasted should be determined and avoided in advance. The accuracy and adequacy of all available data should be checked and analyzed. How appropriate are the data to the priorities and in what ways and to what extent will they affect the priority issues? When selecting a management candidate, talents are investigated in time-cost elements.

Inability to analyze opportunities in decision making, not being a sharer, not sharing power. Example: Let's say two jobs. The completion time of the job is one year. In the first one, you are the boss, your net income is 90%, you earn a thousand dollars every month. Everything is under your control. In the second job, your net income is 10%, you are in the kitchen, 70% of the income belongs to the capitalist and the organizer, and 10 people, including you, have a share. Your right to speak is limited. The entire burden of the work is on your back, and the total amount of money you will receive at the end of a year is one hundred thousand dollars. Which one will you decide on?

In decision making,

1) In the first stage, all stakeholders are sharing, boundaries in relationships are removed, friendships are established very quickly... Family members get along with each other...
2) In the second stage, suspicions begin. Evidence is sought, exaggerated, collaborative partnerships are established.
3) Why is my share small, all the workload is on me, what does he do?
4) Fighting, informing begins
5) Collapse

When the capitalist systems of Rome, Ottoman, Europe and the USA are analyzed in terms of capital management;

1) There is no slavery in Rome, no individual capital in Europe, kingdom and feudalism. Everything is the property of the land.
2) Individual capital is at the forefront in the Ottoman Empire, justice is widespread. It is for everyone. Two events are important in the collapse of the Ottoman Empire. The rights granted to the French by Suleiman the Magnificent - Capitulations; Europe's extremely rapid enrichment.
3) Those who created European capitalism; discoveries, enlightenment, exploitation, inventions. Capital accumulation that even they could not have foreseen has been concentrated in the

hands of a certain group. In Europe, individual rights were given importance during the Soviet period.

4) In the USA, there are capitalist barons.

Every decision-making process and those who will be affected fall under someone's area of responsibility at the beginning. It should be determined and explained who will make the initial and final decisions. It should be clearly stated at the beginning of the process who will make the decisions and any pressures that the content of the decision will affect (i.e. personnel, budget and time) should be determined. If there are any, it should be clearly stated why the principles that are intended to be protected are non-negotiable. It should be clearly stated why the red lines are drawn, why they are important and why they cannot be given up. Red lines based on bullying will not work.

Decision-making process:

The effects or results of the decision should be determined and the effects of these results on business processes should be tested periodically; the test results should be reported to all relevant individuals and groups. Failures in decision-making and processes leave managers open to accusations such as “You didn’t listen to me”, “You didn’t tell me I had to do this and that” and “You didn’t tell me this would affect my situation”. I watched a movie. Irreversible crises begin during the climb to the top; although the team leader foresees what will happen, he cannot convince the financier boss in the team to make a change in behavior. When the team leader constantly repeats the sentence “I told you, you didn’t listen to me” to the boss when the process of destruction begins; when the boss replies: “You should have made me do it, if you can’t afford it, you should have gone back”, I realized that the consistency of decision-makers is important.

Being a team means that the entire team can focus on a single point at the same time. Imagine for a moment that you are on the summit of different mountains. There is nothing planned beforehand. If you had to walk in the same direction with no communication device or flag in your hand, which way would you walk? When a father told his children, "If I die, plant a pomegranate tree at my grave. Gather around the pomegranate tree on the morning of the first day of the holiday, you will feel me"; the family members cared about what was said. No matter where they were in the world, when they remembered which direction the pomegranate tree was, even if they could not go to the grave, they created unity. This is what being a team is. Being able to look at the same point on the tops of different mountains is the essence of focus. It is showing the courage to face the difficult in situations where it is impossible to win. However, today, while people are dreaming different dreams by looking in different directions side by side, they become victims of their own sea of destruction. So how will people on different peaks focus on the same point?

In crisis management, the art of persuasion, making decisions means reaching the top. The memory of the players who make up the system is very strong in times of crisis. They do not forget the good or the bad. Unprejudiced communication always brings benefits.

All stakeholders who will be affected by the outcome of the decision should be included in the decision-making process to the extent possible. Stakeholders should be firm about the implementation of the decision; however, the important issues should be preserved. The reasons for a stakeholder who chooses not to participate in the decision-making should be investigated in detail. It should be emphasized that the decision of the others is also required to be accepted in decisions that are accepted by all the stakeholders in the team. The concerns of the participants should be listened to and their views should be taken into account in the decision-making process.

Since stakeholders are responsible decision-makers and the target of compliance with the decisions made, it is important to inform the stakeholders who will be affected by the decision about the decisions that have not yet been made so that they have the opportunity to contribute. However, be careful about the traps that turn this opportunity into confusion. Stakeholders do not need or want to be included in every decision. In fact, if the issue is one that they know little about and the decision has limited impact on them, many people prefer not to participate in the decision-making process. Being able to say something intelligent about many suggestions requires a lot of reading, knowledge and discussion on the topics suggested.

Those who choose not to participate in the decision lose the right to complain later. It is very valuable to include the statement that “not accepting implies an obligation to comply with the decision of others” when making decisions or contributing to decisions that will be made later. Similarly, when participants sit silently in meetings while decisions are being discussed, it is very important for leaders to emphasize that silence means acceptance of the decision, if not wholehearted approval, at least a willingness to live with it and implement it with conviction in practice. Both of these behaviors encourage people to speak honestly and to openly own their views. Often, the group gains new and important perspectives by listening to the ideas and possible doubts of its silent members. On the other hand, such attitudes counter the passive-aggressive behavior of members in an organization who say nothing and then resist or sabotage the decisions. Such behaviors are much less likely to occur when members are held accountable for their silence.

In trying to make stakeholders responsible decision makers, time limits must be set for making and implementing decisions. So, make your decision. Make a definitive statement summarizing all the main points about the decision or recommendation. This step is often neglected. Do not get caught up in the idea that the decision-making process is rigid and indispensable in order to review or improve or update decisions made at specific stages in the business process.

Implementation after decision making:
Once a decision is made, explain the reasons clearly and completely to all people and groups affected by the decision.

Asking people for their views on the decision first gives them the feeling that they are “valued.” When the opinions of group members are not reflected in the decision or its implementation plan, it is easy for stakeholders to conclude, sometimes rightly or wrongly, that their opinions were taken for granted and that the decision has already been made. Under these circumstances, stakeholders may feel that their opinions are not being taken into account and that they are being “used.” In reality, their opinions may have been carefully considered but ultimately rejected for some valid reason. If they do not know what these reasons are, they may naturally think the worst case scenario is that their ideas are not taken into account at all. Letting people know that their ideas are taken into account and how they are taken into account against other ideas and compelling reasons establishes a sense of the legitimacy of the decision, and people feel that the process is fair and that their ideas are truly listened to. Even if they do not agree, they are much more likely to comply with the decision.

It is necessary to plan how the day-to-day implementation of the decision will be controlled and supported, and these plans should be explained to everyone involved. However, there are some steps to be taken after these stages. The most important of these is that the decisions taken should be carried out in accordance with the action plans. Otherwise, even the most rational decisions may be fruitless.

Organizational culture, which is the most important factor affecting a good decision-making process, is largely based on informal communication patterns. It is only possible to cope with these potential problems through honest and open communication. The focus of effective decision-making is honest and effective communication between stakeholders. However, honest and effective communication tends not to exist in reality, and people tend not to speak openly to those in authority. For leaders, overcoming this tendency requires special effort and special skills. It is essential to develop such skills and to constantly warn stakeholders during decision-making processes.

The team should have individuals who can apply creative thinking and problem-solving strategies to the problems they will encounter and who can produce appropriate solution alternatives.

A decision can be reached by making an instant decision in the case of the urgency of the problem, the presence of external pressure on the solution of the problem, or in some routine decisions. The results of instant decisions are affected by the organizational culture and high employee morale. In some conditions, unanimity and open participation are absolutely necessary to be successful.

Making everyone in the institution a responsible decision maker is a goal that depends on creating a strong organizational culture. Because, the efforts of the members who produce rational policies for the institution with all their energy and the broad participation in the decision process in the institution are the means of creating a strong corporate culture.

If everyone is a responsible decision maker, the following messages will indirectly be given to the employees at every level of the institution and to their surroundings: "Here, people freely talk about what needs to be done and prioritize not only their own interests but also the interests of the entire institution. We encourage participants at every level to discuss the issues that are important to them and to put forward their ideas. We do not expect everyone to participate in every decision or to take them into consideration. However, we do not ignore the fact that decisions made with broad participation will be more effective." One of the most important benefits of decision making is that it mobilizes all employees in the institution.

Competition – Cooperation:

In the decision-making process, conflict is usually classified as interpersonal, intergroup and intragroup conflicts. In addition, the internal conflict within the person, which is at least as important as other conflicts, is also important. While organizational effectiveness and efficiency are increased and goals are achieved, units and employees must cooperate. While individuals contribute to the organization by doing their jobs; they also strive to achieve their individual goals. If individual goals and institutional goals are compatible, the possibility of conflict in the organizational environment decreases. The employee's need to compete affects the person's relationships with others. This effect sometimes has positive and sometimes negative results. The institutional culture and the personalities of the members determine which is more dominant in the organization: competition or cooperation.

Competition is a struggle to gain advantage, profit or success. In a competitive situation; the parties try to do the best for themselves while at the same time trying to do better than others. Cooperation is both protecting their own goals and interests and working together by paying attention to the interests and goals of others. Cooperation expresses a situation opposite to competition and has a feature that increases mutual trust.

Dilemma is being indecisive when forced to choose between two options, and deciding on the unwanted one. If one of the alternatives is more attractive, making a choice becomes easier. The most important dilemma is the answer to the question; are personal interests or organizational interests more important? When a competitive dilemma is experienced and a result is reached by comparison, either both parties gain something. Or one of the parties loses and the other gains.

People behave in three ways in interpersonal relationships:

1) Cooperative: He thinks about both his own and others' interests. In this type of relationship, there is mutual trust and friendship.
2) Individualistic: He tries to maximize his own interests without caring about others. The losses or gains of others are not important.
3) Competitive: He thinks about his own interests and at the same time tries to do better than others.

If the parties in the competitive game have some powers, they tend to block and conflict instead of cooperation. Factors and processes that result in conflict:

- Multiple competing needs and roles,
- Multiple ways in which impulses and roles can be expressed,
- Existence of multiple factors that prevent reaching the goal,
- Positive and negative aspects of the desired goal.

Three types of conflict situations can be mentioned:

- A person is undecided about two things he likes;
- A person is undecided about two things he dislikes;
- Fear of approaching something he likes.

Whether it is easy or difficult to reach the desired thing; the amount of what is to be achieved; the intensity of the person's motivation and similar experiences in the past determine the strength of the person's reactions, such as approach or avoidance. In addition to the person's beliefs and judgments being consistent with each other, they should not contradict the person's behavior. If the person feels inconsistency and contradiction between their own values, beliefs and behaviors; and if there is no justified reason for this, this situation will cause internal conflict.

Role is to develop appropriate behavior patterns in social life. In order for the individual to fulfill the behaviors expected of them, they need to learn these roles. In the learning process, roles will affect personality, and personality will affect roles. Again, roles will interact with each other. Therefore, learning appropriate roles and the relationship between the roles realized are important. If the personality and the roles realized do not match or if the relationship between the roles is not balanced, role conflict occurs.

The ego feeling threatened is one of the most important causes of conflict. The ego is constantly faced with three types of dangers, and these dangers cause anxiety in the person:

1) Objective Anxiety: It is the fear felt due to a real danger, and the other two types arise from this.
2) Neurotic Anxiety: It is the fear of punishment as a result of the disclosure of instincts. The ego is seized by the fear of not being able to control instincts, and this type of anxiety is experienced unconsciously.

3) Moral Anxiety: Counteractions made or thought to be made against moral values cause a sense of guilt.

Factors causing conflict: Goal conflict, role conflict, frustration, and relative deprivation. In the case of choosing between two positive goals, if the value of one of the goals is high, the conflict is easily resolved. The conflict of a positive and a negative goal is the most difficult type of conflict to solve, and is important in terms of the competition-cooperation dilemma. Avoidance-avoidance is the situation of choosing between two negative goals. Approach-avoidance type of conflict is very important in terms of ensuring that organizational goals and individual goals work in harmony. Since organizational goals and individual goals do not always coincide, people experience this type of conflict very often. Although approach-avoidance type of conflict is mostly seen, approach-approach type is also of secondary importance. Since people perform many roles and the expectations for each role are different, role conflict is frequently seen.

If an impulse is blocked before reaching the goal, frustration occurs. People who are frustrated mostly use four mechanisms. These mechanisms are: aggression, withdrawal, fixation and compromise. Frustration defense mechanisms; aggression, withdrawal, fixation, compromise.

A person looks at those who are at the same level as him and wants to have what they have. If he does not have it, the person is deprived of some things compared to others. This deprivation results in internal conflict in the person.

6. Conclusion

My claim is that in the very distant future, the world will definitely be destroyed, and perhaps the universe beyond the galaxy where the world is located will also be destroyed, but people will continue to live! During this period until this destruction, people will continue to live somewhere; perhaps they will transform into nanoorganisms, continue to reproduce and adapt to environmental conditions. In order to be able to perform these functions, they have to be in constant communication, continue to become conscious in order to reproduce and produce. They will search for the appropriate sun on the appropriate planet to recreate their own world. Perhaps when they find the appropriate sun, they will place their own world in the appropriate orbit. They will transform from organisms to organs and from organs to bodies. Just like they did in the past! Because life means reproduction, adapting to changing environmental conditions and communicating. Being able to struggle with difficulties, trying, experiencing, in short, constantly learning will be enough. The most critical point is the transfer of what is learned, experiences and knowledge to future generations.

The communication environments determined so far in the universe are grouped into 3;

• Communication in the environment we live in; vibration, sound, heat, image, smell, taste, touch, electricity, electromagnetic waves, gravitational forces, chemicals, gases, quantum particles, ...
• Communication in our bodies; sensory, nervous, respiratory, digestive, vascular networks ending in capillaries, hormones, genetics, …
• Communication in the space outside the Earth's atmosphere; gravitational forces, nuclear gravitational forces, changes in ambient energy, black holes, dark energy, …

How will organs be created from organisms that are in communication, that are questioning and being questioned, and how will bodies be created from organs? How will tiny dust organisms organize and act like organs and create a body that feels from organs?

The environment will change, life will become difficult, despite all the negativities that will occur, human beings will always perceive the changes in order to live and adapt to living in the environment. Until the next thousand years, people will be ready to discover the universe and the mysteries of the universe and the teachings about the philosophies of creation. It will be prepared and have the necessary equipment to operate until the danger comes.

Thermodynamics led the 19th century and the industrial revolution. Thanks to this, the steam engine was developed, followed by electric motors and other machines. The scientific

developments that left their mark on the 20th century are quantum mechanics, nuclear and transistor. Thanks to this, the information age was experienced and continues to be experienced. Today, the time difference between the proof of scientific discoveries and theories and their transformation into technology has disappeared.

Steam, electricity, transistor, quantum, computer, what will be the sixth? In order to analyze the situation well, it is necessary to estimate very well where the computer will take things and what it will transform into.

The most important element in shaping the existence of people at all times is information. To exist is to survive; to be free in one's development, thought and behavior.

7. Resources

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