

Management of organisational energy supported by QM system -the case of CCE

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Abstract

Purpose. To contribute the vision of actual furthering of the development of quality management process in the direction of its greater usefulness.

Methodology. Linking findings:

- analyses of the development of the ISO 9000 family standards and their role
- analysis of the ISO 9001 requirements scope dissemination
- analysis of the concrete approach in CCE
- proprietor's own analysis of CCE context in the period since its establishment to the present day
- analyses of the relations between organizational energy and the quality management system

Findings A communication framework for bringing quality management closer to employees is identified. It is necessary to gradually fuse the management system and the quality management system. The form should not prevail over content.

Practical implications. A concrete example, which can be useful for disseminating good practice, is presented.

Originality/value. An innovative interpretation of the ISO 9000 standards family role in supporting the learning process of humanity is presented. Visualization of the dissemination of quality management within the organization according to ISO 9001 requirements is also presented. The title of the quality management system is innovatively called the CCE organizational energy management system. By doing so, we compare the quality management system with the electricity management systems as supplied by CCE to its customers.

Keywords

Quality management development, vision, standards, management, organisational energy

1. CCE Ltd.

CCE is an engineering firm which provides consulting and commissioning services world wide. CCE specializes in protection, control and SCADA systems used in generation, transmission and distribution of electricity.

CCE's mission is to provide technical requirements for quality and reliable power supply. By supplying sophisticated secondary systems that allow optimal control, safe protection and effective communication, CCE has successfully attained this mission.

CCE's vision is to consolidate its position as one of the leading integrators of secondary systems in the world. CCE has achieved this by strengthening its business connections and partnerships and professional execution of its services.

2. A vision

2.1 *Benefit of vision*

The content of this paper, as suggested by its title, actually deals more with vision and less with report on what has already been achieved. Does this have any weight at a conference highlighting scientific approaches? Yes, we believe, it does!

We are presenting a real life situation in a concrete organization and its efforts to envision its further development of the quality system management with the aim to increase its benefits. To substantiate our claim that the presented vision may also be a part of the scientific approach, we would like to turn the attention of the present community to the serious polemics within the physicists' community when attempts were made to go beyond the framework set by Newton. Heisenberg reveals to us in his book "The part and the whole" (Heisenberg, 1977) that many very influential physicists, most notable among them, Einstein, claimed that physics is not merely measurements and calculus, but also modelling the ideas and visions of how things might be. As an example of such a useful vision may serve Bohr's model of atom, which even at the time of its publishing was considered as not completely accurate. Still, Einstein supported its usefulness by stating: "When we get to the limits of the known, fantasy becomes more important than knowledge."

Unfortunately, visions of many companies remain more or less documents of the management and serve rather as a decoration than a serious working document. However, in successful organizations it is not so. A noted Slovenian psychologist points out that it is true that the vision of an organization speaks of its future, but it also has a significant influence on the present, since it is important what kind of future one can expect and endeavour for (Musek Lešnik, 2008).

The company CCE has a vision to experience 100 years. Its top management is open to finding new ways, dictated by new times.

2.2 *Vision of further development of QM as practiced in CCE*

We understand that the time has come when, for a sustainable success of the company, it is no longer possible to develop and implement a quality management system as a rather autonomous subsystem, such as, for example, hand (Figure 1).

The time requires that quality management becomes a partial system that is omnipresent throughout the body, such as, for example, the nervous system (Figure 2). This specifically means that quality management is applied to all activities or areas of CCE, strategic management included.

Figure 1: Arm – Subsystem of the body



Figure 2: Nervous system – Partial body system



This means that it must be accepted by each manager as part of his/her unavoidable tasks. It also means that a communication framework needs to be developed to help raise awareness of the employees. It is particularly important to raise awareness of those who directly generate added value for customers. In the case of CCE, these are engineers.

Just as doctors should understand and acknowledge that besides medical knowledge to have a working healthcare system, it is also essential to have healthy processes and sound healthcare organizations, so equally CCE engineers should understand and accept the fact that the successful operation of processes and the CCE as an organization it is essential for the successful creation of electronics that they are planning and building for CCE clients.

Consequently, it is important that CCE engineers understand and accept that for the success of their mission, besides knowledge in the field of electronics and energy, they also have to acquire knowledge to tie their efforts into as harmonious a whole as possible.

For the communication framework that should help us to enter the thought patterns of CCE engineers, the name "CCE Organizational Energy Management System" has been chosen for the CCE Quality Management System.

3. Quality management systems development

3.1 Support by the ISO 9000 standards family

The area of quality management systems has been supported in recent decades by the ISO 9000 family of standards, based on recognized and proven good practices. A new practice enters the ISO9000 family:

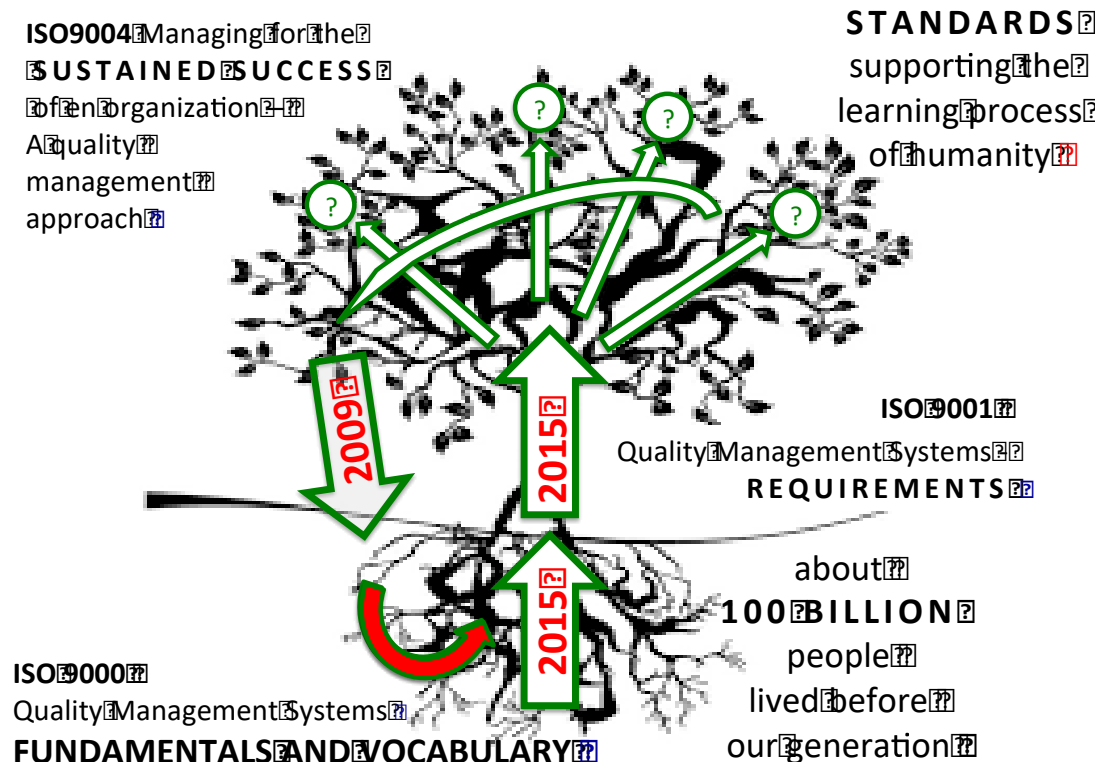
- first through the standard ISO9000 Quality Management Systems - Fundamentals and vocabulary
- and, more recently,
- through the standard ISO9004 - Managing for the sustained success of an organization - a quality management approach.

New features included in these two standards enter, after an understandable delay, also as requirements of the standard ISO 9001 Quality Management Systems - Requirements. This standard specifies requirements that must be fulfilled and consequently confirmed when obtaining a certificate.

Figure 3 illustrates their relationship after recent changes. From the picture it can be seen how the standards support the learning process of humanity, in this case in the field of systematic quality management. Where do the vast majority of experience and knowledge come from? They come from the past, from the lives of all past generations. According to the statement in

the book *Civilization* (Ferguson, 2011), about 100 billion people lived before the present human generation, that is about 14 deceased persons for everyone now alive. Their experiences and knowledge are now passing on through the roots to the presently living population. Just like the crochet of the tree stands on the trunk, the world stands on the older generations, who had enough time to push the roots to the basics.

Figure 3: Human learning process supported by standards



Source: M.Kiauta (2016)

3.2 Development of the ISO 9001 standard

The scope of the ISO 9001 standard was expanded with each subsequent edition (Figure 4). At the onset of the development of the ISO 9001 standard, its scope was narrow. To simplify, it can be said that the requirements were focused on the quality of individual activities. Basic compliance with these requirements demanded provision of documents that determined the requirements for each activity, plus all documents that proved fulfilment of these requirements.

Quality is defined as the relationship between the realized and the required. Thus, these documents provided information for measuring the quality. And what we measure can also be improved. It turned out that such an approach in practice mainly guaranteed quality as

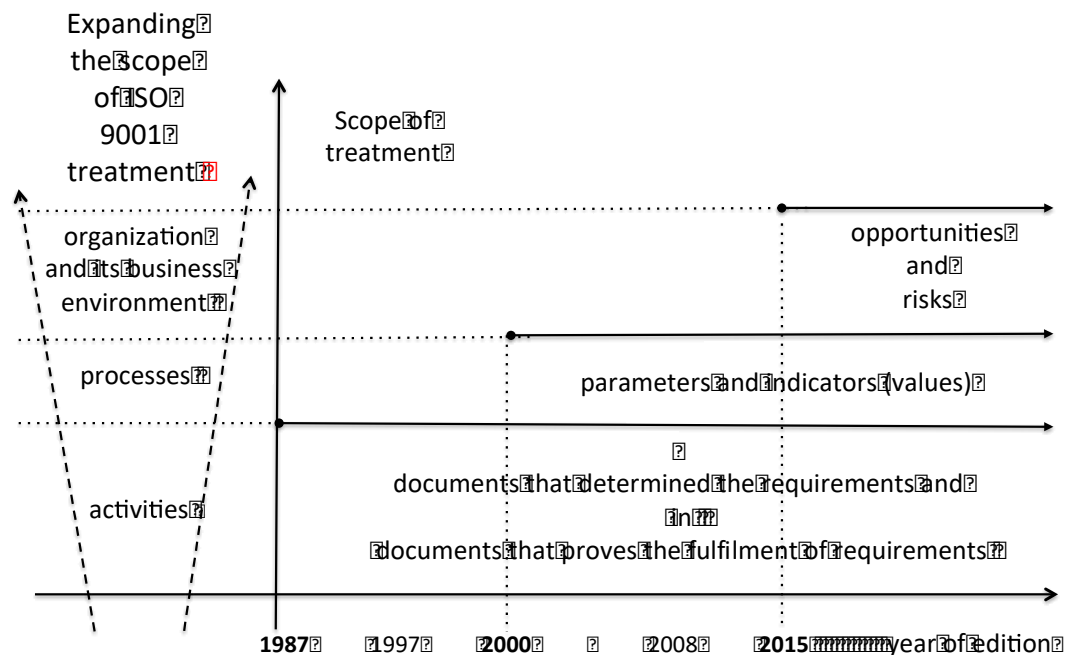
quality = regularity = compliance with rules

Further development expanded the requirements to the set of interconnected activities that together co-create certain benefit. Thus, the quality was slowly moving from ensuring the correctness to the direction of providing usefulness

quality = usefulness = meeting needs

The expanding of the field of quality management continued and developed into a series of interconnected processes.

Figure 4 Expanding the scope of ISO 9001 treatment



Source: M.Kiauta (2015).

4. Vision of further development of quality management systems

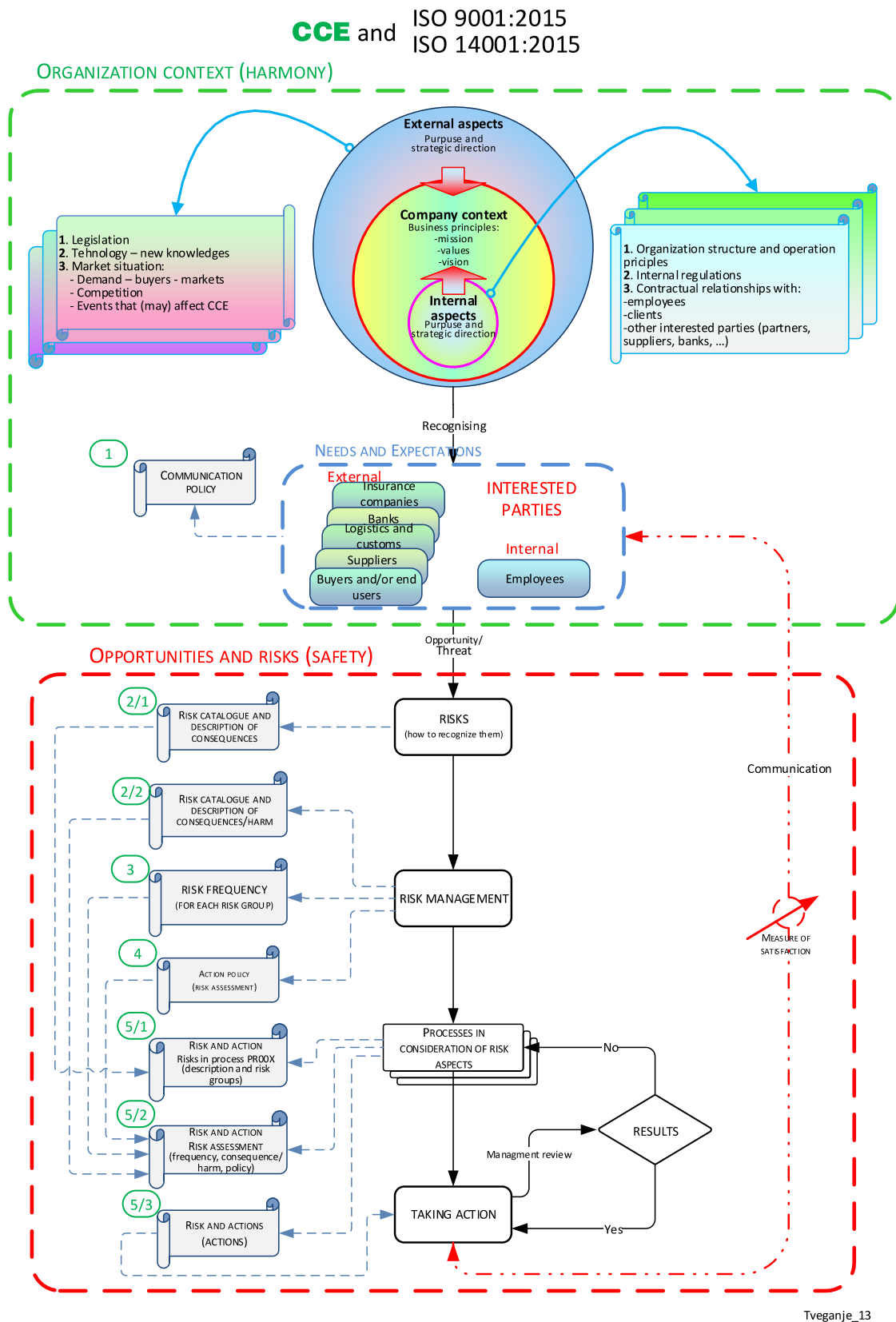
In the latest edition, the scope of the discussion has been ambitiously spread to the whole organization and its integration and response to events in its business environment. The new elements extend the requirements of systematic quality management also to strategic management activities. Very ambitious. For most certified companies this is an idea that is quite far from their reality. Planning and then monitoring the activities of top management, comparable to planning, and monitoring of other activities in organizations? Unfortunately, for the most organisations this is more a vision than a reality that has already been achieved. But I am convinced that those organizations which will take such a vision seriously will be successful.

We have to be realistic. If the game moves into "water", only those who know or learn to "swim" can participate. Unfortunately, traditional quality players do not know how to "swim". Therefore, the vision of the new version of ISO 9001 can be usefully realized only if it is really accepted by traditional "swimmers", which are the managers.

5. CCE vision of further development of quality management systems

An example of the visualization of these new requirements is shown in Figure 5.

Figure 5: CCE and ISO 9001:2015



Source: I.Rahelić, M.Kiauta (2016).

Let us point out three important elements: the visualization of elements important for understanding the context of the organization; the visualization of the risk management approach; and the policy of communication, which is the basis for creating a balance between the interests of stakeholders and also for safeguarding it against risks. In the chapter below, we will address each of these three aspects.

5.1 Understanding the concept of organisation - View of the director – (Jovanović, 2017)

Introduction CCE has been on the market since 1990, i.e. more than 27 years. In that time, there were ups and downs, we have seen our first million USD before 7 years of existing, we were on the edge of abyss, when there was no margin for errors left, we experienced our light of fame and glory. We grow up strong and ready for future adventures.

There are four distinctive periods in CCE's life. The first, 1990 to 1996, period which could be denominated as 'La dolce vita with a bitter end', the second, 1997 to 2004, which could be described as 'Struggle for survival and a big victory – with seeds of sinister events', the third, 2005 to 2013, let us name it 'Surfing on tidal wave of demand – could finish badly' and the fourth, 2013 – to current date, proper name is 'Renaissance'.

La dolce vita with a bitter end We started our business in Italy, in Rome. The business was limited to services, i.e. consulting, workshop testing, on site commissioning of secondary systems, etc. It was linear and simple. There were no risks, except not to be paid for the work done. There were only four people in the company, which was not very complicated to handle.

1990 was a year when the rate of Italian lira against German mark was 750, when Italian government was changed every six months and that did not have any influence on the Italian economy, which was booming, matching the description 'La dolce vita'.

If BSC for that period are analysed, it can be found that, financial performance was stable due to the simplicity of work, there was only one client, but apparently with limitless need for our services (first management glitch, a big one), the required work which we mastered to such an extent that formalized processes were not considered necessary (second management glitch), human resources were not taken in consideration, since our knowledge was much bigger, than what our work was demanding (third management glitch).

If we apply Adizes Corporate Lifecycle definition to this period, it results that we never reached out of GO-GO stage.

At the end of our Italian adventure, we experienced something that I call IKEA effect. Our client fed us with work in such quantity that we did not have time to even look for other options on the market. When we became absolutely depending on this only client, and when our services were not needed any longer, we were asked to cut our rates on 1/3 or to leave. We left and found ourselves in a difficult situation. A sudden loss of orders made us so miserable, that we were not able to pay salaries for 8 months. Two of four founders of the company left, the third was intensively looking around for other options. It was a bitter end indeed. We were broke, but we were not dead yet. After 8 months we got one solid order and things started to move in a positive direction.

However, there were very rough times waiting for us.

Struggle for survival and a big victory – with seeds of sinister events At the beginning of 1997 our order book was full, our human resources were scarce. We were involved in a renovation of 5 hydro-power plants on the river Drava, we were involved in phase IV project in Qatar (the biggest tender in the world at that time) and we were only three employees in the company, two engineers and one administrative force. At the beginning of 1998 there were 8 people employed, 7 in technical field and one in administration. Orders were piling up. Besides reading the manuals, knowledge was apprehended by attending all kind of training courses, workshops and similar. In 2002 we, for the first time, invested more in knowledge

than in hardware. A new core business, remote control, was established. In the year 2000 we received our first order to design and deliver complete secondary systems for 2 most important substations in Nigerian capital Abuja. The project was completed in 2004 and that launched us to a new orbit. The market started to recognize us as player in the field of secondary systems.

At the end of 2004 there were 12 people employed, 10 in technical field and 2 in administration.

Again, if BSC for that period are analysed, it can be found that financial performance was stable due to new knowledge from the field of payment security instruments, there were several clients so we could answer to a crisis of any kind, our vulnerability was reduced to minimum, the required work changed from very simple to very complex, so formalized processes were considered necessary and introduced thorough process of certification of quality standards ISO 9001 and ISO14001, human resources were significantly taken into consideration, since our need for elevation of knowledge level became a must.

If we once again apply Adizes Corporate Lifecycle definition to this period, it seems that we experienced the first ups and downs of ADOLESCENCE.

We acquired the premises, we were recognized by banks as a trustworthy small company of highest credit rating.

Unfortunately, instead of capitalizing the favourable circumstances and setting course to sustainable growth, due to differences in vision how to proceed, of two 50% owners, the company did not progress but it stood still. A/m[<= kaj je to?] difference in vision was the seed for future misunderstandings, disputes, and consequently company deterioration.

Surfing on tidal wave of demand – could finish badly By 2006 the company lost almost all accumulation. We were not broke, but we were slowly heading to extinction. There was some, rather small fluctuation. We employed some more people to fill the gaps. Duality of concept, as a result of owners' different standpoints, made the company unstable and extremely vulnerable. However, orders were coming regularly, but financial performance was showing signs of serious illness. In 2013 the situation escalated when company was not able to cope with internal problems, some employees lost confidence, owners instead of standing together deepened their dispute. It ended in the way that one of the owners left and another 5 employees as well. The company was on its historical minimum and the situation was dramatic.

Analysing BSC for that period, it can be found that financial performance was unstable due to constant gap between inputs and obligations. That was a result of not having accumulation. There were several clients still, but they were starting to wonder if CCE is strong enough to survive. Our vulnerability was high; the required work remained very complex, formalized processes were there, we remained certified for quality standards ISO 9001 and ISO14001. There was extremely bad mood spreading around.

If we once again apply Adizes Corporate Lifecycle definition to this period, it seems that we were fortunate to go through the turbulences of ADOLESCENCE relatively safe and sound.

Renaissance The fact that 6 people including one of the owners left, was a blessing in disguise. The bad mood disappeared. Those who remained declared that they have confidence in management.

In a very short time the management created a new book of rules for all relevant activities. The new salary system, which enables accumulation, was created as well. A big contract in Zambia, which was on ice, eventually started. That was the biggest order CCE ever received. New engineers were employed. Majority of internal problems were reduced to a level that allowed normal handling. Good mood and optimism were restored. Currently the company has 26 employees, in the year 2017 there are going to be 3 babies born at least (two of them

are already delivered). Several houses will be populated. There is a general belief in CCE that life is beautiful.

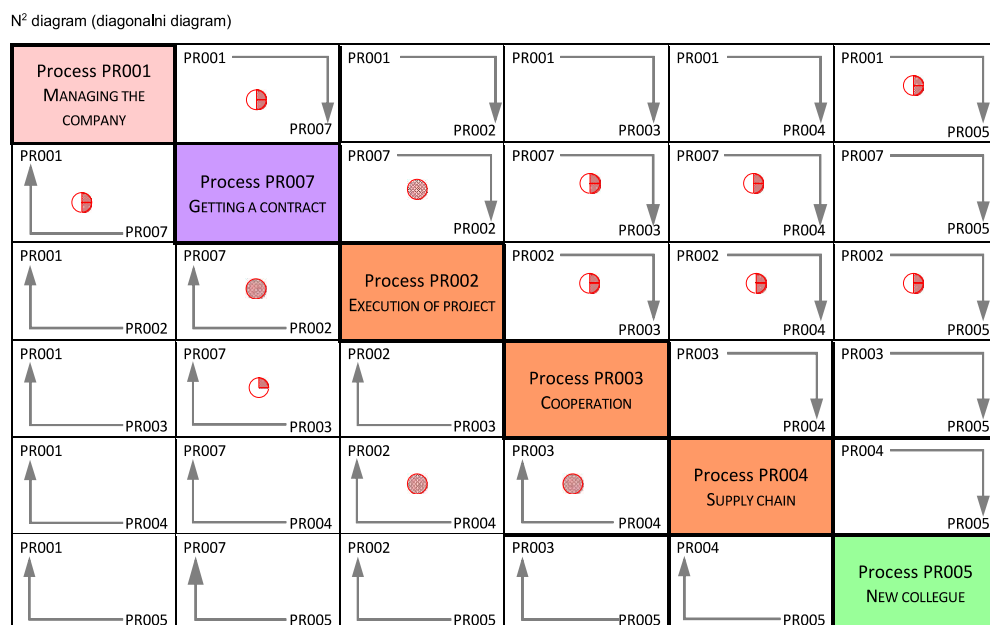
Again, if BSC for that period are analysed, it can be found that financial performance is stable due to firm and profound knowledge from the field of payment security instrumentation, project management, etc. The number of main contractors (clients) has increased, therefore our vulnerability has been reduced considerably, the required work remains very complex, formalized processes have been improved and we remain certified for quality standards ISO 9001 and ISO14001.

If once again we apply Adizes Corporate Lifecycle definition, to this period, it seems that we avoided DIVORCE and PREMATURE AGING. Still in ADOLESCENCE, we believe we are on the brink of stage PRIME. The delicate balance between flexibility and control is still on the side of flexibility. With an increased number of employees there is an increasing need to strengthen the organization structure.

5.2 Risk Management

Based on the analysis of two completed projects we prepared supporting documents in order to help employees.

Figure 6: N² diagram



Source: I.Rahelić, M.Kiauta (2016).

1/3

N2-IVANANGfinal

Influences:

— C - critical

— S - strong

— IM - important

— PR - present

full circle

half circle

quarter circle

empty circle



5.3 Communication

In order to develop and maintain good relations with all relevant stakeholders, we have developed a communication plan that includes: who, when, where, with whom, what and how to communicate. The vast majority of content is only a record of already existing CCE good practices.

6. Performance (success) indicator organizations - indicator of consistency


If simplified, the character of the system developed over the years from the quality system (up to 2000), through the quality management system (until 2015) to the organization's performance system (vision).

That this is really meant as a performance guarantee system in the standard is implicitly apparent from ISO 9000: 2015 - 2.2.2 Quality management system...comprises activities by which the organization identifies its objectives and determines the processes and resources required to achieve desired results.


However, if it is supposed that system supports performance/success of an organization, it is important how performance is measured. The measurement should be such as to recognize only success that is sustainable, that is, to take into account the interests, the needs, and the opportunities of the most important stakeholders of the organization. The closest seems to be the Adizes formula (Adizes, 2014). He declares that success should be measured by the energy efficiency of the organization (both inside and outside). Less energy should be lost in internal harmonization, and the remaining one should adapt to the external conditions and needs (Figure 7)

Figure 7: Adizes' success formula

Then, if any remains, here



$$\text{Success} = \sum \left[\frac{\text{Integration}}{\text{Entropy}} \right]$$



Available energy first flows here

Source: I.Adizes (2014).

7. Organisational energy

This leads us to the concept of organizational energy. Google query (jun.2017) finds 7,000 hits for "organisational energy" and 194,000 for "organizational energy".

“Energy, not time or resources, is the fuel of high performance”
(Lohehr J, Schwartz T, 2003)

The concept of Organizational Energy was defined as:

"Organizational energy is the extent to which an organization or team or division, depending on your responsibility, has mobilized this kind of emotion. It's cognitive and we have a potential for the goals of the business or unit or team that you do have." (Bernd Vogel, 2011). Well, if organizational energy is so important and if we can measure it, it is essential that we know how to influence it. Brečko (Brečko, 2016) lists five factors that are key drivers of efficient management of organizational energy:

a) vision and strategic direction: a clear picture of common goals releases a lot of energy and leads to creative tension

b) quality of management: by providing leadership support for personal development of employees in their motivated pursuit to achieve common goals, including innovation

c) a belief in success: to what extent employees have confidence in their abilities

d) commitment: employees have a strong sense of duty

e) mutual relations and cooperation: the level of cooperation between the units, departments and employees of the organization

In the CCE are determined that necessary activities for the development and maintenance of organizational energy become part of their management system. A questionnaire is ready. The results of the survey will provide guidelines for action (table 2).

Table 1: Organisational energy questioner

Questionnaire prepared for our organization	I agree	I partially agree	I partially disagree	I disagree
1. ...relations are very calm...				
2. ...there is a disruptive atmosphere...				
3. ...management encourages solving of problems...				
4. ...strategic tasks are often neglected ...				
5. ...the goal is most often the fastest and the cheapest...				
6. ...employees are overwhelmed by too many tasks...				
7. ...management encourages/demands innovation...				
8. ...employees are very exhausted...				
9. ...one can notice many frustrations...				
10. ...the majority of employees identify with the organization...				
11. ...a lot of complaining and negativity...				
12. ...goals are clearly set by the management...				
13. ...employees are satisfied with current situation and oppose to changes...				
14. ...there are many rumours...				

Source: Simenčič (2007)

Table 2: Organisational energy board

STRENGTH	MAJOR	CORROSIVE ENERGY (2,4,6,8,11,14) Negative internal tension. Much of the energy is spent on solving internal problems (conflicts). NON-PRODUCTIVE – HARMFUL ACTIVITIES CCE level reached ...% SLO in 2016 39% TOP 10 EU in 2011 18%	PRODUCTIVE ENERGY (3,7,10,12) Strong: - positive emotions, - attention to activities, focused on key goals SEIZED OPPORTUNITIES CCE level reached ...% SLO in 2016 68% TOP 10 EU in 2011 81%
		ENERGY OF DISCOURAGEMENT (5,9) Lack of interest in goals, mental absence, apathy, disappointment and regrets lead into a state of INERTNESS CCE level reached ...% SLO in 2016 33% TOP 10 EU in 2011 12%	CONFORTABLE ENERGY (1,13) Lack of enthusiasm, relatively high satisfaction, <u>low</u> tension leads to lack of energy needed for changes or seizing new opportunities. LOST OPPORTUNITIES CCE level reached ...% SLO in 2016 59% TOP 10 EU in 2011 74%
	MINOR	NEGATIVE	POSITIVE
		DIRECTION	

Source: J.Jovanović, Brečko (2016)

8. Conclusion

8.1 Form Over Function - The Loss of Common Sense

Adizes in his blog observes (Adizes, 2017) that in particular situations ever more regulated environment increasingly takes over people's decisions. To illustrate this, he uses an example of a crossroad, where one keeps standing at the red light, even though all intersecting roads are empty in all directions.

Numerous rules and regulations, with which quality management systems (like Adizes' case of traffic lights from above) take over decisions in specific situations, correspond to the above example. Adizes points out that we should not lose common sense when applying rules. Decisions should be focused on the content and should not be subordinate to the form more than necessary. He illustrates this by the warning: "Do not look after the problem starting from solution (tools, forms). Look after solution starting from the problem."

8.2 Balance between response/adaptation and regulations

The vision of the new ISO 9001 that the principles of quality management are also applied to the content (strategy) is convincing enough to deserve the effort of testing it in practice.

In CCE the practical test is supported in an innovative way by comparing the quality management system with the electric power management systems that the company builds for its customers (Figure 8). The idea is that the CCE engineers are more likely to accept the "traffic lights" that regulate their "roads" in the processes, if and when compared with the

"traffic lights" that they build into the electrical power management systems for their customers.

To realize this vision we will assess/measure the gap between management focus and quality management focus of the last 10 years:

- by analysing which specific areas have been directly covered by the existing quality management system (for input data we will use the results of internal and external audits, the actions taken thereof and the results of these actions),
and

- by analysing the current company situation according to the Adizes' life-cycle theory.
A staff member who is training to take over the field of quality management in the coming years intends to pursue this topic as a candidate for the master's degree at the university.

We are not absolutely certain where this path leads us, but we are positive that it is the best among many possibilities.

Source: I.Rahelić, M.Kiauta (2017)



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