

STRATEGY FOR LEARNING FROM FAILURE

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***Abstract:** For a long time the classical organization had a hostile attitude toward mistakes. It was believed, and still does, that errors should never happen, because detailed instructions, prescribed standards, and procedures are specified in the process of carrying out operations, activities, and tasks. Mistakes were considered unacceptable, because of that they were often covered up, and when the errors were obvious, no one learned from them, nor individuals nor organizations or their parts. The wisdom of learning from mistakes and failures in modern conditions is indisputable. Yet, few organizations do it. The fact that people are not dedicated to learning is not the reason for this. Managers in different companies genuinely wanted to help their organizations to learn from their mistakes and failures to improve future endeavors. In some cases, their teams have devoted much time to subsequent examination, retrograde studies, and similar arrangements. However, the efforts of these acts did not lead to positive outcomes. The main reason is in the wrong thinking and approach to mistakes and failures, i.e. people were thinking incorrectly over errors. The paper deals with strategies for learning from mistakes in order to minimize their negative effects and impacts.*

***Keywords:** errors, types of mistakes, learning from mistakes*

1. INTRODUCTION

Modern management believes the failure is something bad and something not only individuals but also teams or organizations and even countries to fight against. This is indeed true. Accordingly, the problem is not in errors and failures, because they are integral parts of life and work of every man. Faults and failures cannot be avoided, but can be reduced, and we can learn from them. In other words, the problem is not to fall, it is important how fast the man or an individual will stand up and move decisively towards achieving the set goals.

If errors are a reality, the logical question is whether they can be used to increase personal and business success. Charles Schwab gave an additional controversy on the issue of errors once saying, "When my people do not make mistakes, I am concerned." It turns out that not only wrong those who do not work, but their biggest mistake, because as members of society do not contribute anything. Charles Schwab's statement is especially topical for the

innovative organization associated with permanent changes and turbulence. In such circumstances, people are looking for new ways to perform operations and tasks, to respond to specific challenges. In the search for successful concepts, individuals i.e. organizations make mistakes, but the greatest risk and error is do not take the risk and to look for more efficient and effective solutions. In other words, a failure that results from mistakes, sometimes is bad, sometimes is inevitable, and often very good. What we should have in mind is that the error should never be repeated. In practical activities we are starting from the assumption that if we stumble on the same stone once, this can be forgiven. If you stumble on the same stone a second time, this can be tolerated. Nevertheless, if we stumble upon the same stone for the third time, then the individual should be reviewed because it is not a problem in stone, but in a human doing or not doing.

The practice of corporate systems shows that errors, omissions, and failures are rarely recognized, and if they are, they are portrayed as something objective and as the result of external influences. This is especially true for countries in transition, where there is no professional management, and where the largest number of business problems was attributed to the global economic crisis, globalization, etc. For these reasons, analysis of the causes of failure and subjects are lacking. Organizations do not learn enough from mistakes and failures, leading to a repetition of the same mistakes. Accordingly, organizations need new and better ways of overcoming superficial sermon ("The procedure was not followed.") or smugly appraisals ("The market was not ready for our outstanding new product."). It is necessary to get rid of old culturological beliefs and stereotypical perceptions of success, and accept the learning from mistakes.¹

2. CAUSES AND TYPES OF ERROR

Failures and mistakes relate to man as the only conscious and rational human being. They occur wherever there is a man, as being imperfect and thinking differently in each new time dimension, make different decisions that produce different levels of success in family, enterprise, public administration, etc. Every man eventually realizes the mistake and it is more or less ready to accept the blame for its occurrence. However, bureaucratic organizations that operate on the basis of so-called "calm waters" and the principles of "psychological safety" do not recognize the errors. Accordingly, these organizations do not learn from mistakes and failures, because it shows that one would learn from our mistakes, we should admit that mistake was made.

The key question that arises in different organizations is how to react constructively to failure, and not to encourage carelessness and superficiality? If blame for the failure and error are not attributed to people, how to ensure that these same people are going to be willing to do their best? This position is based on the false dichotomy. In reality, a culture in which recognizing and reporting an error is good, it can (in some organizational contexts needs) to coexist with high standards of tasks fulfillment. To understand this, one should bear in mind the most common causes of errors, which may be accidental, intentional, and of negligence.

The causes of errors and failures might be:

- Failure to comply with appropriate standards and procedures,
- Carelessness in the performance of job,
- Lack of knowledge, skills, experience, and ability to perform,

¹ Amy C. Edmondson: Strategic learn of mistake", Fortuna, June 2010.

- Compliance with existing, but incorrect procedures and standards,
- The complexity of operations,
- Uncertainty regarding goals

The failure or error arising from deliberate experimentation, or researching new technologies, processes and concepts of work, may even be praised. Innovative organizations encourage individuals to explore, and if it is successful, management encourages those who make mistakes and thus encourages them to continue experimenting and searching for new technological, organizational, and other solutions. Practice shows that a large number of managers said a small number of errors in organizations are subject to sanctions, about 5%, but when searching for an answer to the question of what percentage of errors is recognized, responses ranging up to 90%.²

The reasons for this are still in the presence of a large traditional organization and management that is focused more on punishing mistakes, and less to incentives allowing employees to act flexibly and to be effectively motivated to invent ways to achieve the defined goals. In this context, it should be noted that by sanctioning of mistakes the organization are coming back to the past that is gone with the wind, rather to focuses on the future. Accordingly, organizations that are oriented to sanctioning of errors are typically less successful than those who learn from mistakes.

It turns out that the most expensive is learning from its own mistakes. Hence the efforts to make management capable to diagnose causes and recognize symptoms that indicate to possible errors and to find the way to resolve them, even during the education. Modern business education is followed by the general effort to teach future managers how to act in each situation. It is clear that life cannot be programmed and that there is no educational system that can foresee all possible situations and causes of problems. Therefore, the modern business education requires higher level of creativity so management, i.e. individuals could act in accordance with the situation.

The most effective way is learning from others' mistakes. Therefore, the causes of failures are investigating, with the overall effort not to repeat ascertained mistakes in a learning organization, or to make its negative impact smaller.

In the future, emphasis will be given to the prevention of errors and failures, rather than solving problems. Successful will be those that prevent rather than solve problems and eliminate errors. In this context, a number of mechanisms have been developed to detect and diagnose the error, and then try to rectify them soon as possible. For example, the "poka yoka" control system in the Japanese Toyota shows that system, which is based on constant learning from small errors (small deviations in the process) is an effective way to improve performance of products or services. Experience of the errors prevention has been developed in Toyota's system. Worker on the assembly line that spot the error or just a potential problem is encouraged to pull a rope called the *Andon* cord, which runs the mechanisms for solving problems. Production is continuing smoothly, if the problem can be overcome in less than a minute. Otherwise, production is stopped - despite losses - until the error is resolved. This system of control and learning is called "idiot safe" because it provides 100% control system, in which it is impossible to produce a car with an error. The intensity of repeating mistakes or errors on an assembly line is a signal that can be made in redesigning the manufacturing process and assembly line, so the intervention and stopping of the assembly line would be as shorter as possible.³

² Amy C. Edmondson: "Strategic learn of mistake", Fortuna June 2010.

³ Š. Šigeo: Nova japanska proizvodna filozofija Tojote, prevod, Beograd, 1989

3. TYPOLOGY AND THE MOST COMMON MISTAKES THAT LEADERS MAKE

Typology of criteria that differentiate errors may be different, depending on the number of relevant factors and influential forces. Therefore, there are intentional errors, errors of negligence, big and small, intelligent and inevitable.

Intentional errors and omissions are the most dangerous and can be aimed to individuals. These errors are clearly defined and specific legal requirements determine what is considered to be the intention, as well as sanctions for these types of errors.

Unintentional errors or error of negligence does not necessarily carry the sanction. However, if the error arises from the lack of attention, it can be sanctioned. Of course, if negligence arising from fatigue, for example due to excessive driving of motor vehicles, working longer than full time, the blame for the failure or mistake shall bear rather the manager that determined the shift, than performer, and that is the evidence that should be determined.

Errors can be big and small, but there are no precise criteria for which is big and which is small. However, in management and organization, the main criterion for distinguishing between small and big errors is the amount of damage they produce. For managing faults and for learning from the mistakes, it must be borne in mind that every major mistake once was a small and evolved to a level, when it was evaluated as big. In this context tendency is important i.e. the trend of error development. Wisdom dictates that small errors are analyzed to prevent damage, but also to stop the trend of its development.

Inevitable errors mainly occur in complex systems, or emergencies, i.e. uncertain events. In other words, a large number of organizational errors occur due to complexity or lack of information and knowledge to prevent them, stop, or eliminate adverse impacts. For example, on the battlefield high dynamics of changes is obvious, in health systems, nuclear facilities, spacecraft, aircraft carriers, etc. These events or situations contain systemic risk which carriers of jobs and tasks are exposed to. For example, in hospitals there is usually a state of emergency "because the ongoing struggle for human life and health.

While serious mistakes can be avoided by following the best practices for security and risk management, including detailed analysis of all possible accidents, small and often big errors are inevitable. Avoidance of consequential errors means quickly identifying and correcting small errors. Most accidents in hospitals resulting from a series of small mistakes that have gone unnoticed and, unfortunately, manifested in the wrong way.

Intelligent mistakes are welcomed, as they provide valuable new information that help to overcome the competition and determine future development. Because of this, Sim Sitkin, a professor of Duke University, called them intelligent mistakes. They occur when the experiment is necessary, or when the answers are not known in advance, because we have not met with such a situation before, and perhaps we shall never meet again.

For example, the discovery of new drugs, creating a radical new businesses, innovative product design and testing of customer behavior on a new market. "Trial and error" is a common term for the type of experiments, necessary in such cases, but at the same time is a misnomer, because the error means that we originally had the correct result. When we are on the verge of discovery, on the edge to make a mistake, the right type of experiment leads quickly to the "useful" errors. Managers, who practice it, can avoid the non-intelligent errors of experimentation in a greater extent than is necessary.

Leaders of IDEO, the firm for product design, realized this when they introduced a service for innovation strategy. They not only help clients to design new products within its existing capabilities - a process IDEO improved - but also their service helps to create new lines that will take them to new strategic directions. Realizing that have not yet effectively present

themselves, the company initiated a small project with a company that produce mattresses, not announcing the launch of a new business.

Although the project failed - client did not change its product strategy - IDEO has learned the lessons from that situation and understand what needs to be done differently. For example, they hire team members with MBAs who could help clients in creating new business (projects) and included some of the client manager in its team. Today, innovation strategy service achieves more than a third of IDEO's revenues.

Tolerating the inevitable procedural errors in complex systems and intelligent errors on the verge of new discoveries and knowledge will not promote mediocrity. Indeed, tolerance is the essence of any organization that wants to discover new insights and lessons that contain such errors. However, the error is still, by its nature, emotionally colored, because we judge by our heart, not mind.

4. STRATEGY OF LEARNING FROM MISTAKES

Modern organizations are trying to learn from mistakes, and above all the others' mistakes. This rule must be noted first of all by top managers i.e. leaders. Research and business practice suggests that leaders often make the following seven deadly mistakes:⁴

- Placing too ambitious (unrealistic) goals,
- Formulation of vague and immeasurable (generic) objectives,
- Neglecting of planning in the implementation of goals,
- Fear of leaders and staff overload,
- Undefined personal responsibility for the implementation of key objectives,
- Searching for objective reasons to justify failure,
- Conditioning of the perpetrator

It is evident that of the 7 deadly mistakes made by leaders, three are related to the phenomenon of goals. Too ambitious goals are actually unrealistic, because it often made a comparison between possibilities and potentials of the organization and if it finds that between the objectives and the capacity of the organization gap exists, it could have a discouraging impact to the perpetrators. Therefore, wise managers must be realistic, because the low-set goals can be a problem also, especially in conditions of high turbulences, when searching for an adequate dynamic. The same applies to formulation of vague and generic objectives. Practice shows that general objectives are big problem, and because of that, each goal should be measurable. It is clear that each job can be measured and the jobs in research, and intellectual organizations.

In order to learn from mistakes, it is necessary to recognized the existence of a mistake and make it transparent. Errors that are not transparent are not in a function of learning. It is therefore necessary to establish the personal responsibility for mistakes, especially when it comes to crucial mistakes, because without that the entropy of the functioning of the organization increases. The practice shows different ways of learning. Yet most organizations learn from the mistakes through three primary activities: (1) detection, (2) analyzing, and (3) experimentation.

⁴ According to Robert H. Schaffer: Mistakes Leaders Keep Making, "Harvard Business Review, September, 2010. pp. 86-91

5. ERRORS DETECTION

Detection of big, painful, and expensive mistakes is easy, although people are trying to keep them as a secret as long as possible. However, practice shows that in every organization any error that can be hidden is being hidden, until it causes immediate or obvious damage, i.e. until it is obvious. Therefore, the overall objective is to spot the mistake as soon as possible, i.e. before it grows into a real disaster. In this context, the management is trying to diagnose retrograde phenomena in the organization and determine the appropriate treatment, i.e. a "medicine" based on symptoms.

"Shortly after he arrived from Boeing to take a job at Ford, in September 2006, Alan Mulali has established a new system of detecting errors. He asked managers to mark good reports with green code, yellow to mark caution, and red to mark the problematic statements, which is a common management technique. According to a story from 2009, (Fortune), at the first meetings all managers were marking their operations in green, which is particularly irked Mulali. Reminding them that company lost several billion dollars last year, he directly asked, "Is there something that may not work well?" After a temporary yellow report submitted in connection with a serious fault in the product, which would certainly keep the launching of product, Mulali reacted to the dead silence that was followed by the applause. After that, weekly staff meetings were full of colors.⁵

Management in detecting errors is using different techniques and technologies. However, most techniques are used superficially or ineffectively. When these techniques are used and errors are identified, they are not passed elsewhere, so others learn, i.e. in order not to repeat mistakes in their areas too. For example, the Electricity of France, which operates 58 nuclear power plants, is a true exemplar in this area. Management of giant goes beyond the regular demands and simply follows each of them reverently in connection with anything, which may be unusual, immediately investigate everything that happens suddenly, and inform all other power plants of any defects in the work.

In the detection of errors there is a widespread behavior relating to reluctance to pass over bad news to higher levels, or to embellish existing condition, i.e. for mistakes, which other subjects are responsible for, or the objective circumstances. The reason characterize the great interest, because mistakes often called into question the continued existence of directors and other managers at their existing jobs. Therefore, stakeholders and other interest groups often check the authenticity of reports by special bodies or agents, and even by personal inspection through the ordinary and extraordinary control.

However, in the detection of errors it is necessary to change management approach and encourage employees to recognize themselves where they were wrong. Stubbornness on this issue can be fatal, and often paid with human lives. In this context, some managers organize "parties of failure" in honor of intelligent, high- quality scientific experiments that have not achieved the desired results. These parties do not cost much money and diverting precious resources - especially scientists - to new projects as soon as possible can save thousands of dollars, not to mention encouraging potential new discoveries.

⁵ Mistakes Leaders Keep Making", Harvard Business Review, September, 2010. pp. 86-91

6. ANALYZING ERRORS

When an error is detected, it is essential to determine the causes or the source of error. The assumption is that each occurrence and the process have their own causes that lead to positive and negative results. Therefore, discipline is required - enthusiasm even more - to implement a sophisticated analysis, in order to establish the right diagnosis, as the basis for its elimination. The duty of management is to ensure that its organization, after the error is determined, move forward and take measures so these or similar mistakes are not repeated.

Practice shows that the analyses of errors are superficially, often accompanied by a high level of subjectivity. It turns out that the testing or reference to personal errors is deeply, emotionally uncomfortable and can undermine human self-esteem. Left to themselves, most people are superficial in examination or completely trying to avoid the analyzing of errors. Another reason is that analyzing of organizational errors requires research and openness, patience and tolerance for the occasional ambiguity. However, managers typically admire, and are rewarded for decisiveness, efficiency and activity - rather than careful thought. Therefore, the building of organizational culture and behavior is important thing for successful analysis of errors, because this is one of the ways people and organizations learn.

The research practice of complex organizations functioning is like hospitals, where human lives are on the edge, the analysis shows that errors are performed rarely, i.e. they are inefficient. A small number of hospitals systematically analyze medical errors or poorly performed procedures in order to learn something. Recently conducted survey in the hospitals of North Carolina, published in November 2010, in *The New England Journal of Medicine*, showed that, despite many years of increased awareness of medical errors related to thousands of lives each year, hospitals have not got any safer. Medical specialists in many cases are not willing to question the procedure of their colleagues that led to mistakes, even in complex trials. Therefore, in addition to the organizational culture it is necessary to develop ethics, medical ethics in concrete case, to change the attitude toward mistakes.

Fortunately, there are exceptions to this model, which continue to give hope that the organizational learning is possible. In Intermauntin health care system that used by 23 hospitals in Utah and southeastern Idaho, deviations from medical protocol are routinely analyzed to investigate the possibility of training procedures. Permission to depart from the protocol and data exchange in order to obtain better outcomes encourages physicians to participate in this program⁶.

7. PROMOTION OF THE EXPERIMENTS

The third critical action of effective learning is strategic manufacturing of errors - in the right place at the right time - through systematic experimentation. Scientists conducting experiments in basic sciences know that while they are performing experiments that sometimes give spectacular results, a high percentage of them (70% or more) fail. How do these people get up in the morning from their beds after such failure? First, they know that failure often occurs in their work, on the part of the enterprise when you are close to scientific discovery. Second, they, much more than most of us realize that every failure carries valuable information and they are eager to get to that information before the competition.

⁶ Richard M. J. Bomer "Fixing Health Care on the Front Lines", *Harvard Business Review*, April 2010

In contrast, managers who are responsible to try a new product or service - a classic example of an experiment in the business - typically do everything they can to prove that the pilot product is the perfect product or service, at the very beginning. Ironically, this hunger for success later can stop the success of the official product. Too often, managers of the pilot product design optimal conditions rather than representative. Thus, the pilot product will not show what does not work properly.

The analysis of business practices shows that successful organizations are those having a system to detect and analyze errors and to motivate employees to indicate the error. "Insider system" was developed in which individuals report errors, knowing that their good intentions will not be misused. In particular, it stimulates the creation of intelligent mistakes, as would be used for learning and creating new products, processes, or technologies. It turns out that managers, who foster a culture of intelligent mistakes, considered them as a side product of experimentation and advanced operations. They also realize that they do not have to make large experiments that require a high budget. Sometimes a small pilot, testing of technology or just a simulation, will give the appropriate results. Of course, the profit should be made through a gradual improvement, and implementation of small ideas in the functional improvement of products and services, while fundamental improvements related to science and similar organizations.

8. RESUME

Previous analysis has shown that the error must be managed efficiently as inadequate response to staff can lead employees to a situation of relaxation, which inevitably leads to a lack of responsibility for certain acts or omissions in organizations. On the other hand, too much commitment to errors can block a huge intellectual potential and creativity that exists in people, because if people are afraid of mistakes and have a feeling that even the intelligent mistakes will be punished, they will not experiment and seek for more efficient ways of working. In this case, the organization will not thrive, but will lag behind. Therefore, it is necessary to get rid of the old cultural beliefs and stereotyped perceptions of success, and to accept the learning from mistakes.

In addition to learning from mistakes, it is often used learning from the mistakes of others, which is more effective. It is based on the analysis of the success of a particular action or inaction, based on the verified criteria. After determining the cause of this error and trying to establish a code of rules or laws that transforms to codified or verified knowledge.

Of course, failures and mistakes are not always a bad thing in organizations. More precisely, they are sometimes bad, often unavoidable, and in other situations and contexts are very good and useful. Professional management is trying to learn from mistakes, so mistakes would not be repeated. Learning from mistakes is implementing through three main activities: detection, analysis, and experimentation. Error detection and identification of big, painful, and costly errors is relatively easy. The most important thing is to notice these errors as soon as possible, before great damage occurs. Analyzing of errors is used to identify causes of errors and to make some conclusions and lessons. Promoting of experiments is strategic errors production - at the right place in the right time - through systematic experimentation and they are useful in a broader context, as a rule.

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