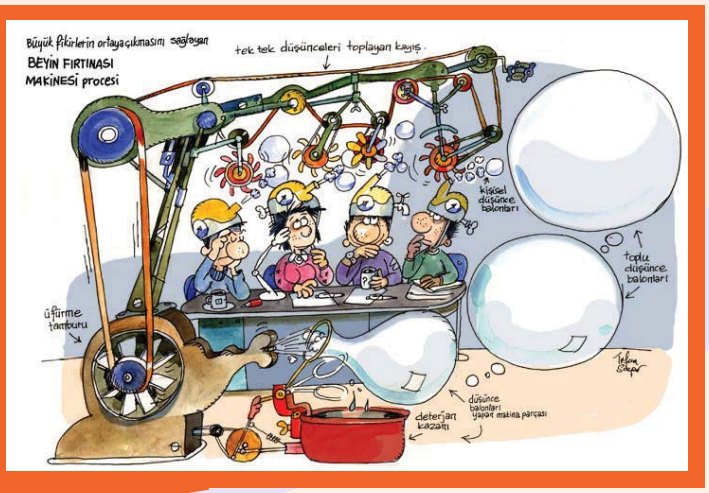
Attention Game

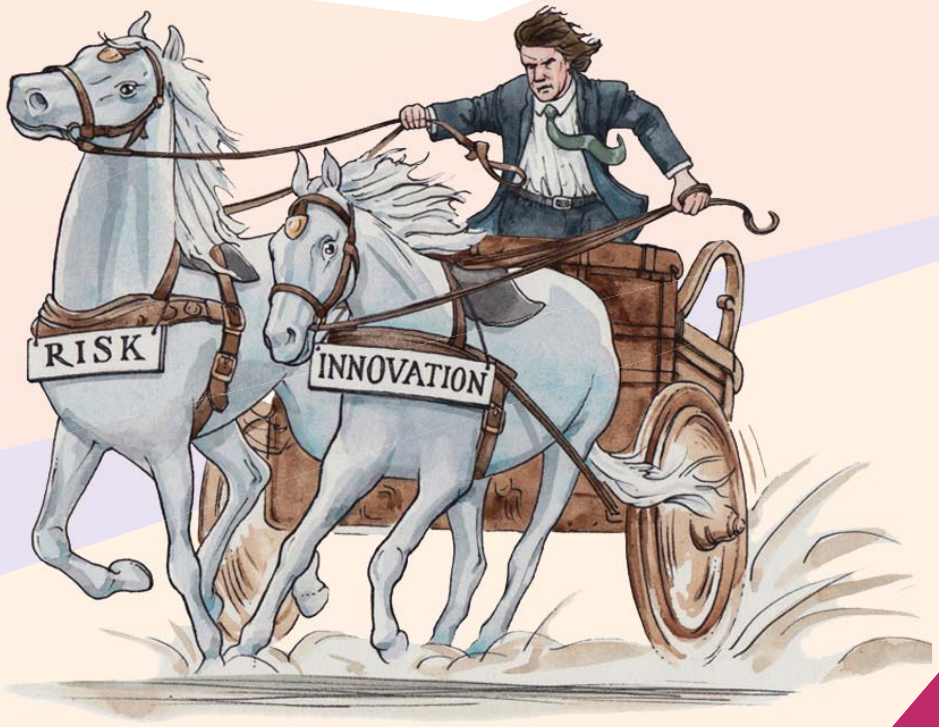
Mustafa ŞAHİN

Dear Innovation Bulletin readers we wanted you to give a pleasant break in your busy schedule to draw your attention with crazy projects.
We have prepared a new attention game for you.
May our readers who find the 7 differences between two pictures send their answers to **idea@stfa.com!**



STFA

INNOVATION and RISK BULLETIN



INNOVATION IS FUTURE

"A NEW YEAR, A NEW PERSPECTIVE"

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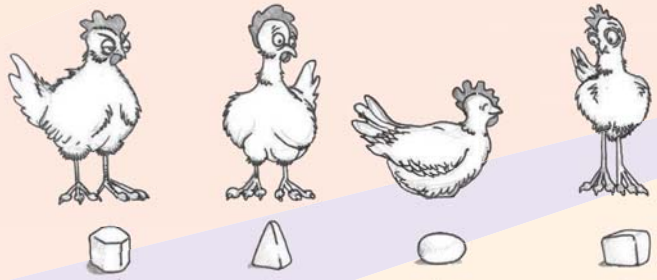
I would like to extend my thanks to everybody who spared their valuable time and contributed to our bulletin with their articles.

İlke BOZKURT

Contents of the Bulletin

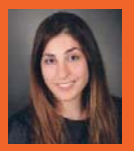
Innovation as interpreted by Ozan YÜKSEL...



Winners of Attention Game

We congratulate winners of the "Attention Game with a Prize" published in the previous volume of the Innovation Bulletin. We would like to express our thanks to all participants who were interested in the contest, and congratulate the winners.
You can contact Ms. Melike Helvacıoğlu at **melike.yaka@stfa.com** to claim your prize.

1. Ersan Közleme
2. Zuhal Yeşilkaya
3. Miray Çınar
4. Turgay Turgut

Innovation From the Past to the Present

MESSAGE FROM THE CHAIRMAN

Mustafa KARAKUŞ

Hi everybody,

First of all, I would like to congratulate all my colleagues who took part in the publication of this second bulletin about "Innovation" as well as to those who contributed with their ideas and opinions. In this bulletin, we wanted to address risk and innovation. I think you have noticed the caricature in the cover which I also liked very much. There may be times in life when we make many statements one after another, but sometimes a single picture or image tells more than a thousand words.

In the business world where dizzying changes take place, everyday we witness hundreds of circumstances where we face numerous challenges. Most of these changes may occur beyond our control. Every new development or uncertainty brings together threats and/or possibilities that we briefly call risk or opportunity. A year ago, could anyone say that oil prices would fall to $28? or that we would have economic and political tensions with Russia.

In our business, we accord utmost importance to two values: The first one is being proactive, and the other is showing fast reaction. Being proactive means to take action in order to eliminate or remedy problems that we can predict. Showing fast reaction means: to take fast action against risks that develop beyond our control and threaten our objectives, and against opportunities that occur. The characteristics common to both elements are that things to be done are done in advance, or even if they have been done, they show differences in terms of time and setting.

As we adopted the two understandings above, we avoided narrowing the innovation concept in our group, and deemed any kind of novelty that contributes value to us as an innovative approach. We expected each of our employees to act accordingly and to embrace this approach. We tried to form all our work systems on this basis.

We told that innovation was not only confined to our methods of doing-business, but also covered all our activities from our approach to customers to development of new business models, from determination of new markets to selection of partners, from visual presentations that make a difference in our tenders to novelties in our organization structure, from human resource recruitment methods to machinery fuel distribution and monitoring systems. In summary, we told that innovation would address each unit / cell in our group, and new approaches would be necessary for these areas. Thinking that terminating a useless practice would add value to us, we saw similar practices as innovative approaches.

Demonstrating innovative approaches by being proactive or showing fast reaction and keeping that climate alive across our group is, in fact, simpler than it may seem. You just need to be open to share every matter and lead every suggestion or idea to a conclusion, whether negative or positive, by utilizing all channels of communication at every level. We designed our infrastructure accordingly. Of course, the most important factors are participation of our all employees and embracement of the system by everybody.

On the occasion of this bulletin, I would like to thank to everybody, and wish you a healthy, successful and exciting year in 2016.

Innovation Studies at STFA

İlke BOZKURT

I am pleased to inform you that the infrastructure is substantially completed in the scope of the activities that have been in progress for some time for the establishment of a "Corporate Innovation System" at STFA İnşaat. Briefly stated, the activities carried out within this scope are identification of a Vision for Innovation, creation of a procedure, determination of Innovation Strategies consistent with Business Strategies, creation of an Innovation Project Portfolio, determination of projects in focus, formation of teams, and making the projects ready for implementation.

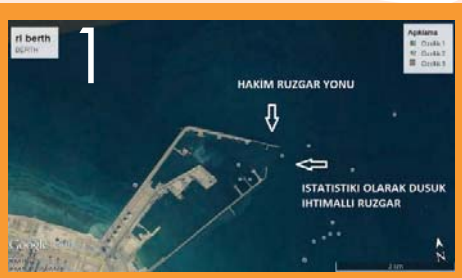
Embracement of Projects

We held Innovation Workshops in August for our Kuwait Project and in September for our Morocco Project. Prior to our project visits, we sought support from our Project Managers for the determination of matters that would add value to the business results that we could focus on and the creation of teams comprised of different disciplines in such a manner so as not to interrupt the works. During the workshop activities, using methods such as fishbone, design-oriented thinking, scamper, etc., new ideas were generated for the solution of selected problems, and these ideas were evaluated, and action plans were created for the selected ideas. Knowing that the most important factors that differentiate Innovation from an Idea are implementation and value creation, support was sought from the Project Manager for monitoring the action plan. The persons responsible for the actions were asked to share the studies with us, and the progresses were monitored bilaterally. I would like to thank to the Project Manager and his team for all these activities and for their support and self-sacrificing efforts.

• Vessels operate subject to international regulations, and sometimes countries may impose additional conditions for their territorial waters (such as class, age, etc.). Knowing these conditions in advance will prevent potential loss of time.

It is possible to add other examples to the ones mentioned above. However, no matter how many examples we may give, it is not possible to create a resource which describes all kinds of risks and how to manage them, and each work is unique, and may include situations that might not have been encountered until that time.

For a healthy risk management, the contract and the work should be well understood, and learned lessons should not be forgotten.



1 – In Ras Laffan Berth project, the predominant wind direction is North. The risk of Eastern Wind that might disturb the project area within the sheltered harbor is less than 5% according to the statistical data. Work site production was affected for 10 days due to wind and wave which occurred in a month in which they were not supposed to occur.

2- The low possibility was realized, and part of the embankment was destroyed during the storm that occurred.

3- Effect of the storm on mould production.

About Risk and Risk Management in Marine Construction Projects

Necdet AKSOY

Construction companies meet difficulties in giving effective and economic offers due to the nature of the work they are engaged in. In this context, it is of critical importance that the company has a stable organizational structure and an uninterrupted risk management practice in place. It is obviously useful if the owner has an idea about the risks that may arise during the execution of the project, and takes the right decision in contractor selection or evaluation of the prices offered.

The contract which is executed between the client and the contractor and binds both parties under the laws describes the projects risks and opportunities implicitly/explicitly (to the extent the work described in the agreement and the contractor's ability to fulfillment work are consistent, risk management and management will become easier), the contract is read and interpreted in good faith, but project management should always be carried out in accordance with the contract terms. However, it should not be forgotten that issues are not always clear as black and white in practice. I always recall the words of the English Resident Engineer Mr. Dixon (Naval Harbour Project, Ormara, Pakistan), **"the best contract can be written after the project is completed".** We may have a bad contract, but the results of fighting with it will be worse than the contract itself.

Due to the nature of the article, some of the items below are specific to Marine Works. Everything that applies to Risk and Management in construction projects applies also to marine works.
The prerequisites for successful risk management in a project are an organization comprised of competent people and always active communication lines. Although the word risk contains a negative meaning, it may refer to positive (opportunity) or negative deviations from an expected result. Therefore, the management of opportunities and risks requires a careful study and observation during the planning and execution stages of a project.

• One of the major risks that marine projects are subject to is sea and wind conditions. When carrying out underwater activities and sea embankments, these two factors seriously affect the progress of the project. In addition to meteorological data written in the contract for the project area in question, additional researches to be carried out by the contractor will help to identify the right team, equipment and method and to make realistic work schedule. This means a foreseeable schedule and a healthy budget.

• If the marine project will be carried out inside an existing port, the prerequisite for the client will be minimum influence on its own operations. If the area is a petroleum/gas exportation port, the results of risks if they occur may be disastrous. The operational order of the port should be fully understood. The time periods in which we can work and the boundaries of the working area will directly affect equipment selections (power, capacity, etc.), team numbers and logistics. Lack of estimation in this respect may give rise to serious financial losses.

• One of the important elements in respect of ports is that these are places where entries and exists are subject to control and permission, and customs rules are applicable. You cannot take a broken air-conditioner out or take a repairer in as you like. I remember that trucks that brought stone materials to our Ras Laffan project in Qatar were turned back due to their worn tires. The work whose supply and transportation were started under hard conditions was delayed due to truck tries and brought about additional costs.

Volunteer Team

The volunteers of the Innovation Working Group that we have formed in the belief that innovation work is not the work of a department, but an effort which everybody should embrace and contribute to carry out their studies in line with our aims to;

- Provide contribution to commercial success;
- Become a more efficient, more competitive, faster and a more effective company;
- Become aware of new technologies and new methods in Turkey and in the world;
- Cooperate with universities in line with our business targets;
- Make the company dynamic and open to change;
- Provide contribution to employee satisfaction;
- Provide contribution as a whole (for the society and the world]
- Do what our competitors cannot; Be a pioneer in doing things for the first time, and gain a competitive advantage;
- Transform mistakes into creative solutions by acting intelligently
- Learn from failures.

I would like to express my sincere thanks to the members of the working group, and the regional innovation teams in the projects.

Management's Support

The management's support is extremely important in order to ensure that an innovation culture is reinforced and supported, and the innovative perspective is reflected to the jobs each of us carry out and adds value to our company.

For the management support that empowers each of us as employees, I would like to thank;
All Members of the Board of Directors who allocated a page for and showed interest to innovation;
Our Chairman who gave importance to the matter and supported us in all our efforts;
All Project Managers who involved us in their projects for innovation activities,
All Project Managers and Team Members who provided support to us in our activities relating to our Projects;
All Managers who encouraged their employees to join the Innovation Working Group that we set up, and supported us in our efforts.

Innovation is Unlimited

Hakan GÜZELDEMİRCİ - Project Manager

In order to survive in today's ever changing competitive environment, our companies have to change and renew their products, services and production methods continually. This change and renewal process is called "innovation".

Innovation covers all processes carried out to develop new or improved products, services or production methods and to derive commercial revenues out of it. Development of a new or improved product, service or production method emerges from new ideas.

Innovation is a continuous activity. For this reason, it is necessary to re-evaluate from time to time these ideas which are put forward, improved, made functional, and finally marketed in order to provide a company with competitive power, along with their results, and to spread their use to derive further returns. Thereby, new ideas which emerge cause new innovation activities to emerge.

Raising awareness;

Among the above factors, to me, the most important one is raising awareness. If we can succeed in this, the rest will be easier. But if we can't, it will not be possible to progress no matter what we do, or whatever award we set. It's something that people should be willing to do.

The dimension of awareness-raising should be such that we should question how we can do better before waiting for the problem to arise. In other words, we do not need to expect any problem to occur in order to be innovative. Conversely, it is essential to assign a problem in order to look for the better, and try to improve it. **Assuming that there are no problems and accepting previous practices, and taking a defensive approach in the business we do are the most important obstacles before our development.**

Giving up habits;

This is the aspect where the difference between young employees and experienced employees becomes evident. Young employees are more technology-friendly and by nature like to cut corners, and are thus open to new methods that can simplify tasks and are more flexible in terms of adaptation. Experienced employees, on the other hand, are more conservative, less willing to change themselves and inclined to protect the existing state. Indisputably **the most important factor in these changes is the senior management support.** Generally, innovation that gives rise to a need for new investments brings together additional costs. The support of top management who will agree with and approve such costs is undoubtedly important.

Risk Management in the Supply Chain

Burçin GÜLENSOY

The risks in the supply chain are split into four groups.

- Supplier or Market based risks: A market comprised of a small number of suppliers and with limited capacity carries a high market risk due to continuous price changes and fluctuations in rates.
- Manufacturer-related risks: Factors that may lead to cessation of or delay in production.
- Customer-related risks: Unforeseeable changes in demands, additions, cancellations.
- Risks caused by environmental factors: Uncontrollable environmental factors such as natural disasters like fire, earthquake, and contagious diseases, political risks, terrorist actions.

In Supply Chain Risk management, there are different methods that prevent occurrence of risks and reduce the possibility of occurrence, and similarly, methods to reduce and distribute the effects of realized risks.

Supplier Agreements enable, in the first place, distribution of risks and responsibilities between the parties, and to structure relationships in a healthy manner. For this reason, companies should prepare contracts in such a way to guarantee themselves in any commercial activity which is of critical importance. A well-prepared agreement will help the parties to be prepared for risks and to develop preventive strategies against the risky points that we have mentioned in order to avoid sanctions that may apply.

Risk Studies at STFA

Özge GÜNGÖR

Our purpose in Risk Management:

- To reduce unexpected events, to adopt a proactive approach in a way to increase profitability
- To carry out change/development more efficiently and effectively
- To monitor changes and trends in the outer environment and to increase the capability to satisfy them
- To ensure that strategy and risk appetite are determined
- To create a risk control system at an affordable cost
- To increase the ability to define and activate new opportunities and markets
- To ensure better project management.

In this respect, we know that we have more distance to cover even although we, as STFA, have reached a good stage.

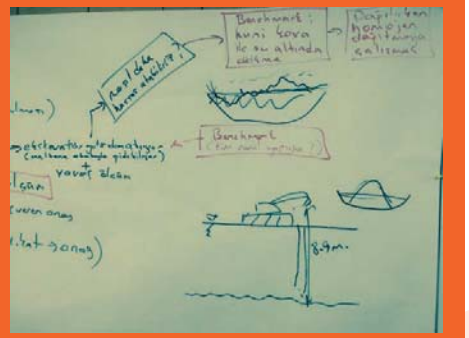
DID YOU KNOW?

Did you know?

- All risks defined for STFA İnşaat group have been collected in a database;
- All risk studies carried out are reported to the Early Risk Detection Committee of the Board of Directors once every 2 months;
- Corporate risks are updated once a year and revised once every 6 months in line with the current strategies of the company;
- The Company management demands a risk management study in all tenders in which we participate;
- All risks and opportunities are expressed in terms of money, and the positive and negative sides of the project are presented to the Board of Directors as a scenario;
- Risk assessments are sought from the relevant in-house departments for each tender, and a risk response plan is created, after these risk assessments are reviewed with the tender leader....

What shall we do in 2016?

- Create critical risk indicators for corporate risks, and follow up risks via these indicators
- Enter the final risk and opportunity amounts presented in the tender file after the closing of the tender into the corporate memory
- Visit project sites, and make risk management more effective
- Follow up the development of risks and opportunities in projects through actions taken
- Draw up controlled (with the risk response plan prepared) and uncontrolled risk maps for tenders
- Activate the software system.

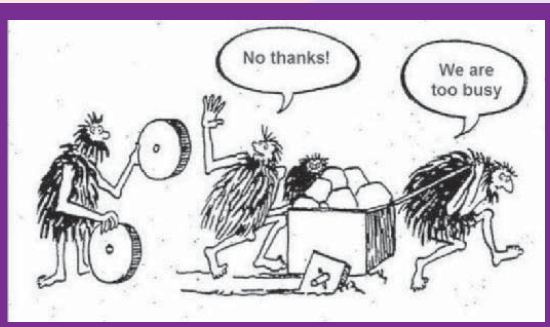


Innovation is Unlimited

We should not consider innovation only in construction applications. In other words, it is not only limited to the activities that we carry out on site. It is not also limited to our activities in the office. **Innovation should be a lifestyle.** I saw a video on Facebook, a friend of mine created and shared. He made such a nice film showing a tugboat of ours traveling at full speed in water with upbeat music in the background that you think it is going into a battle. I mean, there is no better way to fuel team spirit. Personnel motivation is the most important driving force in all tasks that we do. For this reason, innovation is unlimited.

Sparing Time

We always race against time. That is, we are always in a hurry. On the go, the best way is the way you know. Trying to do differently means uncertainty and loss of time! In brief, it is the state of us that is shown in the caricature below.



But, if we can look around, we can see what else can be done, or whether there is an easier way or not.

Taking the risk to lose time and showing the courage to try when necessary is what being innovative is.

Innovation Activities in Kuwait Project

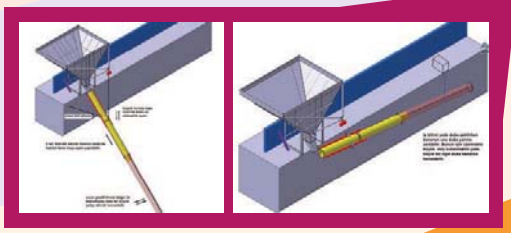
Kaan CENGİZ

We all know that innovation is the foundation stone for increasing our market dominance in marine works and other works that we have a high competitive potential, including, notably, our current Kuwait Boat ports project, and increasing the profitability of the current projects.

It is obvious that one of the keys of the achievements of our founders during the initial development years of the Turkish construction industry was producing innovative and improved solutions. In this context, **we, STFA Kuwait team, define innovation as a prerequisite for sustainability and profitability.** Last year, we discussed in detail the critical construction activities brought before us in each tender and production process in cooperation with university teachers who advised us on a corporate level and our central stakeholders.

During brainstorming and training sessions which stakeholders from every level of the total production cycle joined, we discussed what we did and how we could improve, using the analytic approaches that we learned. We can list some important issues that we generally observed during these discussions. The success and confidence achieved via the existing methods, and as a result, the reduced risk appetite caused reluctance in our team members against new experiences. Some novel solutions were terminated even before examining real economic profitability and discussing them in detail due to concerns over high cost. In addition, lack of qualified personnel who could examine technical feasibility during the process that transforms a need into a solution was another factor that terminated some potential ideas at the discussion stage. We believe that we have succeeded in increasing personnel awareness at every level during the joint activities we have carried out under the project. All our stakeholders saw that their ideas were valued, potential solutions were supported and put into practice with the knowledge and support of all company stakeholders.

We finalized the processes within the project budget and period by evaluating potential solutions that we encountered during the brainstorming sessions that we held as the Project Innovation Shadow Team. The most important development opportunity that we faced during the process was related to the placement of quay block seabed aggregates and we chose to improve this activity as our project target. As many of my colleagues know, we had been applying this activity for a long time by pouring materials with a split dump barge to the channel which had been dredged, and then performing the leveling application with the help of a hydraulic frame and frogmen. In this connection, conventional production efficiencies were used in every tender, and were monitored among the basic production items of our projects. In our Kuwait project, the frequency of controls performed by the contracting entity and the consultant was considerably decreasing our efficiency. Also, working on a shallower sea bottom than other projects was causing non-homogenous distribution of the materials. For that reason, an improvement that would be made in this area would help save on material and time. When the process was examined, basically two improvement methods were brought up. First, the existing worksite resources would be examined and the work that we knew would be seen from another perspective; secondly, answers would be sought to the question of how this issue could be solved in an automotive and innovative manner by examining the latest measurement and machinery technologies, taking into account not only the present project, but also the company and its future projects.



Today we have a question to answer before us, which is, how new models alternative to the business models that collapse one after another. It is clear that strategic importance should be attached to innovation. Another way to succeed is to perceive these signals of change, and take proactive actions and undertake pioneering and innovative works. The signals show that doing business only limited to areas of activity is not possible; different things should be done for the requirements of all segments, spheres and stakeholders of the society, and to make contributions to them. In the congress, presentations and workshops were conducted, dealing with how Business Model innovation could be achieved. These studies included also exemplary studies about how a new business idea can be converted to an enterprise.

"Everything is Changing Rapidly, the Future will be Quite Different than Today"

Everything is changing so rapidly. The future will be quite different than the present, and innovative developments and ideas should be followed up closely in an era when gigabytes of information can be fitted into the palm. Moreover, in a world that becomes smaller due to internet, an event in any point of the world can affect the whole humanity. We have to calculate a few moves ahead and take an innovative approach toward the future. New management models should be created, and the classical perspective should be changed. In fact, changing is not sufficient, one has to transform toward the future. Moreover, it is necessary to make innovation part of the Corporate Culture.

"Changing is not sufficient, One has to Transform Toward the Future. "

Turkey Innovation Week

İlke BOZKURT

Solution for a global world where natural resources are constantly depleted and competitive conditions become heavier.

"a boundless innovation potential"

"Turkey Innovation Week", which brings together leaders of the business world in science, innovation, technology, design, construction, e-trade, entrepreneurship, smart towns, and nanotechnology has been organized for the third time this year at Istanbul Congress Center. Several local and foreign speakers who are specialists in their respective fields took the stage during the three-day congress that aimed to make difference in the establishment of an innovation eco-system in Turkey. More than 50 Universities and Technology Transfer Officers, more than 30 Technoparks and R&D centers of local and foreign origin, and innovative companies from our sector, including Akçansa Çimento and Çalık Holding, participated in the event.

Panels comprised of international experts who made difference in the world and in Turkey were quite interesting. The most interesting events related to our sector were panels during which the Cities of the Future and Materials of the Future were addressed.

For development projects to be accomplished in the main areas of activity of our company via University-Industry cooperation, Technology Transfer Offices of Universities were contacted for the purpose of initiating joint studies. During the congress, InnovaLİG Innovation Development Program Award Ceremony was held. The İnovaLİG' program evaluates companies in terms of reinforcement of organizational innovation management. Studies that are carried out with a view to gaining innovation management and systematic innovation competencies are rewarded, and thereby, innovation is promoted as a structural process which brings sustainable and repeatable awards, not merely as an outcome. As a result of the evaluation, 1st, 2nd and 3rd place awards were given out in 5 categories (Innovation Strategy, Innovation Organization and Culture, Innovation Cycle, Innovation Resources, Innovation Results).

WAVE - " Think differently, build the future"

WAVE Innovation Exhibition, which was before organized in well-known cities of the world like Paris, Milan and San Francisco, was included in the scope of Turkey Innovation Week. In the exhibition, five main trends that challenge traditional roles and influence the whole world, i.e. "co-creation," maker movement", "sharing economy", "circular economy" and "participatory economics" are examined. The projects shared in the exhibition reveal a new innovation understanding which anticipates that humanity can build a better world with a joint genius with fewer resources by turning challenges into opportunities.

First of all, alternative mechanized solutions were brought to the table. Solutions such as placing the materials using a spider apparatus used in concrete pumps and a cone alternative to a pump were discussed in detail. The pump method was tried, and the expected flow could not be achieved. We saw a potential in the pipe-hopper system, and completed our engineering studies in this aspect, and ordered a system that would increase material placement speed as shown in the drawings. After performing efficiency checks of the apparatus, the trials of which we will start following its production, we hope that the apparatus will be a solution that can be used in other projects of the STFA family. In addition to new engineering approaches, we decided to implement one of the solutions generated within the worksite as they were easier for us to put into practice. For this reason, we tried our excavators equipped with GPS devices that are used in various activities in the scope of the project. As you can see in the photographs, the material placement activities that we carried out with the long-armed excavator provided the opportunity to progress with an extremely higher efficiency than with other alternative leveling methods. This approach helped us to increase our production rate, whereas materials placed in a more homogenous way than with the previous method made a positive effect on the quality and rate of production during the subsequent activities.

While these activities were in progress, our innovation group attended Kuwait Construction Fair, where we had the opportunity to share the problems we encountered during underwater measurement activities with the company Feinwerk Technik of Germany. The company authorities were informed about the entire quay production process, and measuring problems encountered were described with the help of visual documents.

The problem relating to the establishment of the measuring point, which is encountered in land – sea transitions and which is currently tried to be solved using mechanical means rather than the laser technology, was discussed at length. Although we have been carrying out joint activities with them the solution of the existing problem will require investment costs which significantly exceed the company needs.

To summarize year 2015, a considerable production increase was achieved in placement of Accropode blocks and placement of seabed aggregates of the quay block between the beginning of the year and the end of the year, thanks to increased operation sensitivity of existing heavy-duty equipment, including notably, measuring technologies. For this reason, we would like to share with STFA family our belief that STFA should include the state-of-the-art measuring equipments as standard in each project during the tender stage in its marine works which is a machine-intensive sector, and can thereby attain much competitive tender production processes. Furthermore, as STFA Kuwait, we believe that every innovative attempt whether concluded positively or negatively is a success, because we know that achieving the better is only possibly by good thinking.

Innovation for a Construction Project

Hakkı Emre KARABAY - Project Manager

Although innovation brings to mind invention of a new product or technology, followed by development and production of prototypes, performance of certain tests and presentation to users, innovation, in the case of a construction project (in particular TRYCT Project), can be interpreted **as overcoming problems encountered by using novel methods and materials instead of those that are known or previously applied.**

Thus, the first stage should be to discuss the problem in question.Employees with any qualification can bring a suggestion or an idea, and listening and attaching importance to such recommendation or idea will encourage people. The next step is the search for solutions and reaching the solution partners nearby. As a matter of fact, after this step, feasibility studies of the method/material will be started so that the cost can be compared to the alternative in the budget if it is an item that was foreseen from the price quotations received, and that its interaction with other constructional activities can be evaluated according to the work schedule. The matter will be shaped in the light of information from the manufacturer or supplier and the quantity survey.

At this point there is an important stage, which is, what outcome will a system that you are convinced at your desk that it will work will bring in practice. For this reason, a "mock-up" is necessary. In this context, a trial should be performed in a small section of the subject work in order to prove that the method proposed by the manufacturer/supplier works. Only after these stages, a clear conclusion relating to the contribution of the method/material to the project can be reached.

These Artificial Palms are Unique!

Özge GÜNGÖR

Sustainability recently has become a trend that we hear about in every area of our lives and that is always on the agenda. Being a topic of the agenda for such a long time is of course important, but I hope it does not remain as a temporary topic in history. Yet, this is not expected when consumption speed is increasing at such a high speed and resources are so limited.

Innovation and sustainability are interrelated and integrated topics. For this reason, this article will highlight renewable energy, a branch of sustainability.

Artificial Palm trees appear in the area of renewable energy in an innovative manner. Real palm trees add value to the city they are located both in visual and economic terms. But, what do artificial trees provide to the people in the city?

- First of all, these artificial palms grow themselves, and work with 100% solar power, and thus, the tree does not need an external source for its functions.
- The palm lies like a shade at the site where it is placed, and therefore people who want to benefit from the function of the tree can sit under the tree.
- It has a filling station, which means, you can charge telephones and similar electronic tools with it, even at a higher speed of 2.5 times.
- It features Wi-Fi Hotspot.
- You can reach several addresses/telephone data in several languages with the touch-screen information source. Even in case of an emergency, you can touch the "Emergency" button, and reach an authorized person with live camera connection.
- Being a digital billboard, the trunk of the tree can be used for official and commercial purposes.
- As it is highly durable, these artificial trees have been designed to withstand outdoor conditions.

These artificial palms are used in Dubai, a country full of rich petroleum beds. I think that if these trees are used in the cities of our solar-rich country it will be very valuable both in terms of efficiency and tourism.

CIRCLE – Bronze Award in Innovation Category

İsmail KURBAN

Winners of 2015 SAP Quality Awards given by SAP, the world leader in corporate applications and software, to the most successful technology applications of the year in Europe, Middle East and Africa (EMEA) were announced.

Companies that implemented information technology products that made a difference competed for SAP Turkey Quality Awards which were given for the purpose of drawing attention to successful technology applications. As a result of evaluations that lasted about two months, companies that transformed their information technology infrastructure and used innovative technologies were given Awards in different categories.

As a result of a detailed and comprehensive application process and jury presentation, CIRCLE, a Human Resource project of STFA won the Bronze Award in Innovation Category of the SAP Quality Awards where the projects of 20 companies competed in 3 categories. In this project, STFA implemented SAP SuccessFactors Talent Management Sytem's Recruiting and Goal Management Module, and the performance Management Module that works in integration with that module, and 360 Evaluation Management and Social – Business Network – Jam applications, and thus achieved effective management of Human Resource processes to make a difference in the attainment of strategic targets of the group.

Candidates for SAP Quality Awards given out every year stand out with their use of SAP quality principles in many strategic areas. Companies that simplify and effectively use sophisticated technical and business processes with the help of software and business applications, and achieve excellence are included in the evaluation. These companies are evaluated according to criteria such as difference-making technology applications, benefits derived, cost, speed and added value.

The evaluation committee consists of SAP managers, representatives of companies that have won the award in the past, and external specialists.

Innovative Applications performed in Yarınca Container Port Project:

Solar powered lighting

Taking and implementing fast and right decisions in the committed projects and sticking to budget and period discipline are the most important factors. For this reason, it may be the case that new method/material employed does not lead to the expected result, and its recovery may cause greater deficits.

In this context, the above workflow in our "Sludge Treatment" application in TRYCT project was sensitively followed-up. Two separate "full scale" tests were performed both in the quality control laboratory and on the field. After fully convincing ourselves that the method will give the right result, we proceeded with the implementation stage and completed the operation in a period of 2 months.

Silt separation with Geotube

Innovation the Art of Turning Change into Transformation

Levent CENGİZ - Project Manager

First of all, companies should make innovation culture a corporate culture, which is a long process. In order to create and deploy an effective innovation culture within the organization, first of all, senior managers should adopt and encourage it. When company employees are considered, they have different culture, different beliefs, and different habits.

It is an extremely important milestone that STFA, a pioneer in innovation, has a platform that enables everybody in the company can express themselves. Literally, the word innovation which brings together several discussions is the art of transforming turning change into transformation although it is considered by some people as novelty or anything about novelty.

The "traditional perspective" of employees in several enterprises may give rise to problems in making a difference in the present business world, and this is something that we, i.e. construction companies, encounter frequently. We should be aware of the fact that conventional ways and forms of thinking may prove insufficient in responding to new developments; that information may not, in its own right, be sufficient for us to create perspectives and insights for the future. In this connection, the way **how senior executives of a company see "change and transformation" becomes extremely important. When we look at the companies that are able to survive today, we can see companies that are able to turn change into transformation.** Hence, these companies have experienced the process in which change becomes transformation, and consider it as a part of the corporate culture. Sometimes, impossibilities may trigger new horizons. Thus, the biggest responsibility falls on the ship's master. Learning new things everyday, preserving excitement, maintaining discipline, regenerating oneself, being energetic, questioning, being open to new ideas, listening, encouraging and supporting creative thinking in employees, not just looking at, but seeing and evaluating problems, planning, creating and most importantly implementing a strategy.

Those who stick to conventional ways, are unable to regenerate themselves, fail to catch up with the change of the present era where everything changes instantly are destined to disappear in a fierce competition where they cannot fight with their competitors. For this reason, efforts should be used everyday for innovation and change/transformation.

Innovation Trainings

Melike HELVACIOĞLU

Trainings are continued with valuable exchange of information by Merih Pasin and Umut Ekmekçi, our academic consultants for STFA innovation working group. Trainings are planned in the form of 10 serial sessions under the title "INO 101 Introduction to Innovation". The topics discussed during these trainings included innovation concept, definition of innovation strategy, intellectual property rights in innovation, and project management structure in innovation.

During the first "From Idea to Innovation" training, they emphasized the importance of creating a common perception regarding the definition of innovation. In addition, they provided information about innovation types, innovation components, and international innovation standards.

During the second training, the main topic was "Innovation Strategies". Merih and Umut teachers underlined the strategy planning tools in innovation. Also, they talked about how innovation types and an innovation strategy map could be defined taking into account capital requirement and primary competencies of the company.

During the third training, Merih teacher addressed "Intellectual Property Rights". What are patent, utility model, trade secret and trademark? What conditions are sought to get a patent? He spoke about the importance of patent definition in patent application.

During the fourth training, Umut teacher described "Design-oriented Thinking". In the scope of the study, various innovative idea development models were discussed.

During the fifth training, "Innovation Project Management" was described. The topics discussed during this training included characteristics of an innovation project team, communication, meeting management, and action follow-up. In addition, useful questions and useful forms in innovation project management were shared with the participants.

During the last training entitled "Innovation Culture, Climate and Leadership", an exchange of ideas was conducted in respect of characteristics of corporate innovation climate, ensuring internal motivation and participation of the employee, leadership approaches that nurture innovation, and common problems encountered in relation to innovation in the corporate culture and solution methods.

The trainings planned to be organized in the subsequent process are;

- Change Management
- New Trends and Opportunity Areas in Innovation
- Management in Different Cultures
- Cooperation Management and Partnership
- Innovation and External Finance Sources
- R&D Project Management Experiences
- Creative Thinking Techniques
- New Business Model Development.

Participation in these trainings is of utmost importance for our company for proper management of the innovation climate and culture.

Videos and presentations of the trainings organized are available at //mystfa.com for all our employees to utilize.

Use of Unmanned Aerial Vehicles at Worksite What Awaits Us?

Yiğit TEKŞEN

There are several new innovative technologies suitable for professional use at the construction site. Expansion of the use of unmanned aerial vehicles (UAV) at worksites is exciting news. While the use of UAV at the worksite can bring benefits in terms of communication and safety at the worksite, it may also provide technical support by 3D modeling and instant field images. Generally, it is remotely controlled, but there are also options where you can draw the route and leave the rest to the vehicle.

As stated in Construction Executive's article in June 2013, recent developments in camera, sensor, aeration, battery, autopilot guiding technologies did not lower the prices of UAVs, but also improved the ease of use. These small vehicles that can take off on the spot feature camera hardware, but also they can be equipped with LIDAR.

We can see a good example in construction activities in Japan, a country that is getting prepared for 2020 Olympic Games. After shortage of workers became a major problem, Komatsu, the second largest construction equipments company in the world, increased the use of robots at the worksite particularly because blue collar workers could not obtain visas. According to Bloomberg report, this is at the same time the greatest manpower bottleneck of the last 20 years. There is a shortage of 25,000 workers for the construction of stadiums and other Olympic buildings.

With its investment in Smart Construction service, Komatsu started performing those tasks for which humans are less needed by using industrial machines all mechanisms of which are controlled remotely without using an operator.

These remotely controlled bulldozers are guided by unmanned aerial vehicles. How much and where materials have been lifted, cement poured, and how much work needs to be done can be instantly reported. Two people are sufficient for safe management of the worksite. Komatsu, in cooperation with Skycatch, an American entrepreneur (a company where it became a shareholder with a 25-million-dollar investment) has reduced errors, and attained increased operational processes. Apart from these, use of UAVs at worksites will become increasingly widespread with the help of photographs, videos and instant reports that can be presented to the client.

Sources: techinsider and fieldlens

In the scope of innovation studies related to our project, we implemented the "Split Dump Barge Positioning System through "Use of GPS on Split Dump Barge". According to the classical method, positioning is carried out by establishing communication with 2 topographic wireless radios on the barge and the land with the help of a total station device installed on a fixed bent bar on the land. Since the barge moves during the guidance provided by the topographer on the land, commands constantly change, reducing the maneuvering capability of the master. Aside from problems encountered after placing the barge in the area, the process of guiding the barge into the area is a long process. According to the innovative method, on the other hand, positioning is performed using GPS RTK (real time kinematics) and a computer software on the barge. This independent system transmits in real time (1/10 s) all data relating to the vessel, such as maneuver, speed, route of the dumping site, and time to the master, and increases maneuvering capability and dumping safety by 100/100.

- The effects of the innovative method are summarized below.
- With the innovative method, approximately 20 minutes are saved in every dumping operation.
- According to the following time periods, thanks to the change in positioning period, 13 trips per day can be completed in 1 shift that lasts 10 hours using the new method, whereas 9 trips per day could be completed using the old method.
- 300 m3 dumping could be realized in each trip.
- As a result; daily (double shift 20 hours) average speeds:
  Old method: 5400 m3 / day
  New method: 7800 m3 /day

Moreover, we applied the mattress dumping that we had previously used with a split barge in Erlen Port project also in this project. In the conventional application, core materials would be loaded to a skip attachment (a truck case) with the help of a loader/excavator and high-capacity cranes would be needed as the materials would be dumped at long distances. With the new method the mattress material is poured, with the help of a split barge, to areas for which dumping plans are prepared in advance, and therefore the need for a loader/excavator and a high-capacity crane is eliminated. 900 m3/day of core mattress material should be dumped using the skip attachment, whereas 1600 m3/day of mattress material can be dumped now using a split barge. Low capacity boom cranes do only the leveling task.

In our project, 2 full-day workshops were organized on 9 and 10 September in relation to innovation studies. The primary aims of this study are summarized below:

The purpose is not to make an invention, but to IMPROVE business results (improving speed, efficiency, cost, motivation, etc.)

- Raising awareness on innovation
- Finding methods to speed up production
- Increasing efficiency
- Lowering costs
- Improving resources
- Training on problem-solving techniques
- Training on management of multi-cultural teams,
- Evaluating the work with the partner (JV)
- Making the project team a part of the planning and thinking process

The study which was carried out under these headings had an extremely major contribution to making the participants become aware of what they exactly understand from innovation and what innovation really means, sharing innovation activities of various large-scale construction companies in the world, understanding positive effects of innovation on efficiency and difference - making organizations, learning the importance of internalizing the innovation phenomenon and the differences that thinking of ways to achieve the better everyday would bring, and creating teams that make interventions and brainstorming sessions for solutions, and creating a basis for such studies.

In this context, we, as the Morocco project team, owe it a duty to thank to Ms. İlke BOZKURT, our innovation manager, and Mr. Dr. Merih Pasin for their kind contributions.

Meaning and Purpose of Innovation

İlke BOZKURT

The word innovation is used in the sense of "novelties that create value" in STFA Construction Group. What is meant by creating values is achieving commercial gains on the part of STFA Construction Group, and the satisfaction of a need, or the solution of a problem, on the part of the Customer.

Innovations are not necessarily required to be brand new and ground-breaking solutions for the whole world. Innovations may be realized in the form of development / improvement of existing solutions / methods in such a way to create added value or development of brand new solutions / methods. Improvements and simplifications that lead to increased efficiency in the business processes of STFA Construction Group, quality-increasing projects and implementation of brand new solutions are also regarded as innovations.

Innovations are classified under 5 categories.
- Product/ Service Innovation
- Business Model Innovation
- Process Innovation
- Marketing Innovation
- Organizational Innovation

The purpose of innovation is to create a new value for our customers and make a profit when customers recognize that value. Such profit may be in the form of money, or customer loyalty,or stronger brand value, all of which indirectly help the company earn money. Innovation is transformation of an idea into profits. In fact, there is no tie between the number of patents a company possesses and its financial success. A crazy product is not an innovation unless it offers a value to the customer. Innovation is not deemed completed when it shows itself in financial statements.

"Finding an innovative idea and creating a value that will make the customer's world better and nicer, by looking at the world, your customers, their business lives and lifestyles from different perspectives"

When we focus on creating a value, we should: Provide a better solution than that of existing services or products for the problems or needs of customers. Innovation is based on understanding customer needs and problems that have never been solved or that have not been sufficiently solved.

Virtual Reality in Design:

Virtual Reality (or shortly VR) has an increasing share in the user technology market as the prices of VR technologies fall thanks, notably, to smartphones. Although VR and AR technologies are rarely (or never) seen at worksites at the moment, the technology has been used at design stage for a long time. As part of BIM systems: Architecture, engineering and construction companies are able to impress their customers by taking them to a virtual tour in their projects using VR and AR headgears. Main VR platform producers like Oculus Rift or HTC Vive aim to connect VR design and construction stages by developing software. A New York based company irisVR aims to apply file formats frequently used in the industry to this system easily. Engineers or Architects shall install Revit files on VR headgear and will, thereby, see and design their models better. Although VR experience is far from excellence, the primary purpose should be to demonstrate the potential of this technology to architects, engineers and various professionals in the sector.

Robot Power Suit:

Powered exoskeletons or "exosuits" are being developed for decades particularly for medical and military projects, and numerous prototypes are produced. A producer (Ekso Bionics) aims to enable construction workers to lift heavy loads with the help of light exosuits that the company develops and to eliminate injuries. This product has not yet been put into practice because Ekso Bionics develops products for the medical sector like other companies in the industry.

Another technology company aims to bring exosuits to the worksite in another way. Rise Robotics is a company that investigates various uses of Cyclone Piston technology, a mechanically-powered energy storage system. Although this piston which is powered by a light cable has been designed for energy storage of exosuits which are primarily going to be used to lift heavy loads, Rise Robotics aims to improve an existing product in the worksite, following the trend in wearable technologies. While investigating where this technology could be used, the investigations took them to portable air compressors in the end. The filling period of the system (up to 125 psi) is 7 times faster than a standard air compressor, and the system can be easily mounted on the back and used for various purposes at the worksite. Although the initial purpose of use of this product is compressed air equipments, Rise Robotics says that we can see exosuits being used in lifting heavy loads at worksites by 2018.

Wearable Technologies in the Construction Sector

Emre KARAMANCI

The construction sector that follows wearable technologies, a new trend in technology, closely, speeded up its activities in this area recently. As a result, helmets, reflective jackets and work tools frequently used by construction workers and engineers may face considerable innovations in near future. Below are four examples of how wearable technologies can be used in the construction industry.

Smart Helmet:

A helmet which is an indispensable item of every construction worker had not undergone any design change for long years, until Daqri, a company based in California, introduced its new product, Smart Helmet. The helmet reflects 3D images on a fully transparent visor with the aim to expand and enrich the worker's field of vision. A wireless camera system with a field of vision of 360 degrees mounted on the helmet will enable the worker to see his environment better. This system aims to expand information flow at worksites by creating augmented reality (AR), i.e. reflecting dynamic information or 3D images on real images.

For further information: ***http://hardware.daari.com/smarthelmet/***

A safer Warning Jacket:

Warning jackets are a standard work apparel frequently seen in worksites, but technology companies see this ordinary product as a good opportunity to apply innovative approaches. For instance, Red Point Positioning GPS warning jackets enable to track worker locations particularly in crowded worksites. At worksites so established, workers can be positioned with an error margin of 20 cm. According to the initial results of the project which is currently in testing stage, GPS positioning systems offer successful tracking in terms of distance of workers to industrial machines and/or avoidance from dangerous areas. In addition, InZoneAlert jackets that can be used on road worksites in particular were tested on a road worksite where smart cars were driven. The test results show that jackets warn workers about a coming vehicle 5-6 seconds in advance, and prevent a potential accident. We will see the use of these types of applications for worker safety in the years ahead.

The Role of Innovation in Risk Management

İlke BOZKURT

Many business thinkers call the current age the "Destruction Age" because these are the times when many companies that were thought to be too big to fail collapsed one after another. The most important reason that led us to see thinking big and innovation as strategic priorities was the "risk" that we faced. Today, irrespective of the sectors, the business models, our ways of doing business and our business culture that have until now helped us to stand are now facing a serious risk of collapse.

Innovation is the plaster of resistance to be won against a constantly changing economic and political atmosphere, and the way to build tomorrow from this point on.

"Trying to resist change under changing conditions is a big risk."

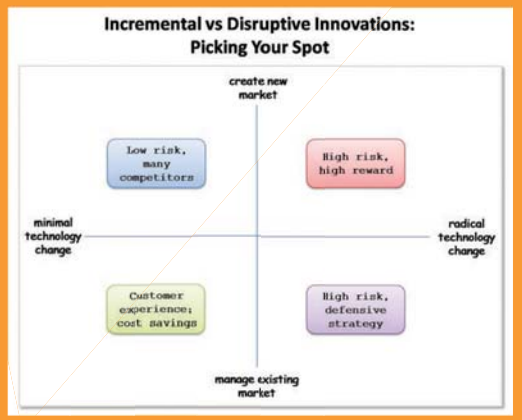
When we consider the risks that we face due to the increased global competition under the changing market conditions, differentiating from competitors becomes important. To eliminate these risks that threaten the sustainability of our business, we have to find methods with an innovative perspective and gain a competitive edge.

"Increasing innovation appetite. Decreasing risk appetite"

If proactive and reactive risk prevention and reduction activities are carried out in order to protect against any kind of risk that may occur in the micro and macro scales, such activities can be identified through "innovative ideas".

"The integration of risk management with the innovation process becomes important."

In brief, innovation is the most important risk reduction weapon of risk management. It is both a defense against threats and an enterprise toward opportunities. It is a giant key that serves all purposes of risk management.



Innovation Outlook...

Fazıl KIRAN

There are two methods to find an address that you look for. You ask a person who says he/she knows the address. It may not always be possible to verify whether the answer is true or not. The second method is to research, and to that end, to find the address and bring about new innovations using new methods and tools. Innovations should be integrated to the way of doing business with a view to guaranteeing permanency and continuity of innovation. This requirement is to make an innovation in creating teams.

Some steps taken with the past habits will lead to failure in innovation. To sail by the tailwind of innovation, a company should be supported by the top management. Continuity is essential.

"When no Borings were made in Turkey, STFA was thinking of the Ground"

If you look at the history of STFA, you can see that many of our employees who learned the job at our company now work for our competitors in Turkey and the World. For this reason, we have to make changes in innovations relating to raising employees. We have to set up teams that have a sense of belonging and loyalty. Our companies have to change and renew their products, services and production/solution methods continuously in order to survive in the constantly-changing competitive environment. Thereby, innovation will become continuous and a source of commercial income. Innovation is a continuous activity. Ultimately, the way of doing business and the way of developing business will provide competitive power to the company, and these ideas should be evaluated and deployed to all lines of business of the company to derive new benefits. Such deployment will give rise to the birth of new innovative ideas. We may call this a cumulative innovation. As an example to this sort of innovation, the data and reports of all researches performed from 1960s to the present found in the archives of our Company were transmitted to the digital environment and the values of the company were thus emphasized. The aim was to transform such data to commercial innovation.

In companies, R&D is driven by needs. Needs that arise at worksites are solved by research. Because part of our business is producing solutions/answering needs, these researches form the basis of innovations. In 2013 and 2015, port fills were improved with Jet Grout through an application performed for the first time in Qatar and Turkey, and better results were obtained compared to equivalent applications. R&D study for this improvement method had been carried out for 30 years in our company. I would like to state that we are ahead of several European countries in this subject. In the last 3 years, the benefits of this research were reaped in a new area and our company gained awareness / technological innovation. Technological innovation refers to a new service or a new product.

Due to their limited opinions, the Ottomans, Iran, India, China, etc. Were not interested in discoveries although they needed them. They thought that the world still revolved around Asia. While Europeans were traveling over the new Atlantic and Pacific sea routes, even small countries like Denmark were organizing discovery voyages to America, nobody from the world of Islam, India or China made voyages to America. The Ottomans or Chinese did not travel to America because they "were not interested in new information" not because it was very far away, or they lacked the necessary technological, economical and military instruments.

For innovation, we should be open to new ideas and aim to reach new information.

No later than 15 years after the discovery of America, Spanish colonists gave an end to the Aztec Empire in Mexico thanks to their advanced technology. They deceived the native people telling them that they were peace envoys. When the natives noticed the truth, they could not do much against developed weapons with their wooden swords. 10 years later, Spanish colonists then arrived at the borders of the Inca Empire. There, they used the same tactic they had used against Aztecs to Incas. The result was the same. If Incas had known what had befallen on Aztecs, they would not have cooperated with the invaders. They would not have fallen into the trap, and could have taken measures. If they had had information, the outcome could have been otherwise.

Taking lessons from experiences of others and taking measures here bring about the power of communication. For 300 years, Europeans achieved indisputable dominance in America, Oceania, Atlantic and Pacific, and as a result of the resources that they captured and with their innovative thinking, they ultimately occupied Asia, and shared other empires between them. As they converted new inventions and discoveries into Money and power, they started making investments in this area. In 1660s, the British established and allocated resources to the Royal Science Academy, a specialized society in the area of science, a kind of R&D institution. When others noticed and started to understand the developments, it was too late. Only in the 20th century, they could gain a global vision, and only in that way, they could defeat giants like France, as in the case of Algerian resistance, despite its superiority in number, technology and economy. Similarly Vietnam could defeat USA by turning its struggle into a global case. I wonder, if the Aztec king could reach the Spanish people at that age, and establish communication and alliance with the rivals of Spain (Ottomans, France, Portugal), what course the events would have taken? That's where the power of information and communication lies.

Information and communication technologies enable small states to defeat giants.

Having information is of course very important. Had Aztecs and Incas been aware of each other and the world, history would have been written otherwise. Information is spread with communication and become stronger as it is shared. Every new piece of information makes us more competitive. However, even if we have information, they will be useless if we are not open to new ideas and thoughts. Opinions such as "we already know what is right", "our method is the best, we don't need another", "such ideas are not applicable in our sector" are the greatest obstacle before innovation. In this way of thinking, the reluctance of Asian people in making voyages to America although they had knowledge about it is complete the same.

Those who are not open to Innovation and Change Lose at the Beginning.

For an innovative climate, it is essential to accept ignorance, to give importance to every new idea, and to pave the way for innovations. Once we set out, our appetite to innovation will increase further as we discover new and creative ideas and convert them into power and money.
Seeing events from a different perspective provides us with greater benefits in issues such as seeing what we can't. Honestly, do you think is it necessary to re-discover America?

The Story of Innovation

M. Timuçin ERDOĞU

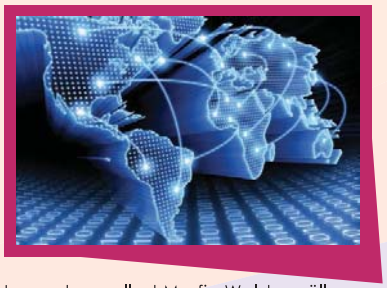
The most important resource of new ideas and creativity is to reach and share information. Communication and required data are a prerequisite for successful innovation. Being aware of knowledge and experiences of others, leveraging and integrating them into our own ways of doing business is a key requirement for sustainable success. In fact, the answer to the question, "why is IT important for innovation?" changes from company to company subject to the innovation management process. Some companies use IT as an innovation tool, whereas others do not consider it so important. The essential contribution of IT occurs when it combines with the company's goals.

In an environment where innovation is effectively managed and well understood, IT is of course an important innovation element in today's world where technological developments constantly increase and the speed of communication is unbelievably shortened. However, IT activities should be in the same direction as the company goals, provide facilitation for the business processes, solve critical problems, and most importantly, provide added value.

For companies that understand the power of information and accelerate the innovation process of information exchange, communication and information technologies are more important. Information shared not only inside the company but also with the external world makes companies stronger.

Let us exemplify the power of communication and the willingness to reach new information with a classic story. This is the original story of the statement "there is no need to discover America again" which is used to in the sense that there is no need to look for a novelty.

The Italian sailor and the first modern "innovative person" Amerigo Vespucci published his travels between 1502 - 1504 and told that the lands discovered by Christopher Columbus in 1492 were not islands located offshore South Asia, and were lands which ancient geographers, holy writings and the Europeans living in that age never knew. The interesting part is that: First, nobody believed his claims. People thought that they were Indian off-shore islands.



But in 1507, a German cartographer called Morfin Waldsemüller was convinced that these claims were true, and created a new map which would later become very popular, and mistakenly thinking that Amerigo Vespucci was the person who discovered these lands, he named the new continent after him in his map. In this way, the name of an Italian, who had no other skill than acknowledging his "ignorance", was given to the American continent.

We all know the story until there. What we don't know is that the discovery of America was the beginning and foundation of some sort of innovation. This discovery did not only teach people that actual observations are truer than past traditions, but also instigated them to be willing to access new information in a speedy manner. The appetite in innovations gave Europeans competitive power for a long term.

In the world, strategic partnership agreements were made with companies that carry out ground works and do not have offices in the geography where we work, and new business flows were gained for our company.With these changes, the company has achieved organizational and marketing innovation. The increased competitive power has brought together growth in revenue and profitability.

The reduction of costs has enabled us to create new products and services. Innovations developed in-house;

Design of equipments capable of performing drills at high altitude in Slope Protection business
Marine boring with Wireline Deniz Rotary,
Detailed Rock Face Mapping with Laser Scanner,
Heavy Cone Penetrometer capable of performing multi-purpose land and marine measurements,
Improvement of port fills on wide areas with Jet Grout
Performing technological tests at sea over Jack Up produced by Jack Up.
(CPT. Downhole, P.S Logging vs.J
Long and Short Distance Directional Horizontal Drilling,
Slope Stability and Improvement Projects Design Studies,
Multi-disciplinary cooperation with universities.

Presentation of academic papers that describe the works performed during international symposiums on behalf of STFA. Equipping the Drilling, Injection and Jet Grouting equipments with Digital Measurement devices, and performing quality control of the production.

Innovation Outlook...

Fazıl KIRAN

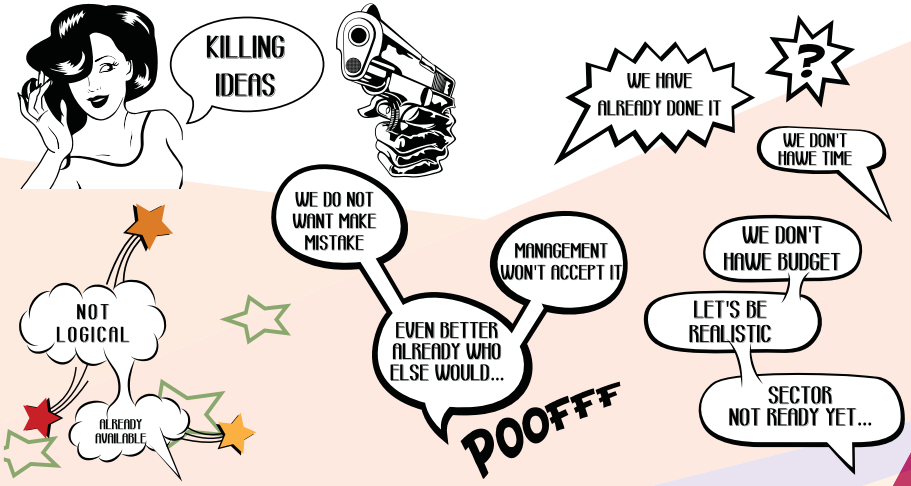
We can describe the steps of the innovation process as obtaining necessary information, developing a solution and giving an answer, learning and scanning ideas. As a case study, we can show our Oman Khasab project. As a company, when we assumed this job, we had hesitation as to how we could do it. Necessary information was collected, solutions were generated, solutions were answered, things were learned, ideas were scanned, and the present application stage was achieved. Our target is to carry these applications to other markets.

We are trying to achieve success by taking risk, seeing the differences, adding creativity, knowing the customer's value, and ensuring continuity in customer relationships. Since questioning the ideas and how better we can do is a phenomenon embedded in the genes of our company, tolerating failure has been part of the business. Communication and cooperation are both part of the business.

For what purpose will we develop new ideas?

Where does the company want to head for? What are its targets? What are the issues that force us most or that must open new horizons, and must be given priority while heading for these targets? We have to direct our limited resources to these issues. The primary process starts thereafter. Which ideas are we going to project? Which one is suitable for us?

Decision makers should permit trying new ideas and new projects with a perspective free of prejudices that gives value to new ideas. Successful pilot projects will clear the way for innovation. If innovative ideas are eliminated at the beginning with a mindset like "we already know the solution", all the preceding process steps will be go down the tube. Determining the agenda with statements like "This what we exactly need", "We don't need it at the moment" , "Let's postpone these activities" will prevent innovative efforts.



For issues that will provide added value or benefits, a resource, i.e. "budget" should be set aside and managed effectively. For successful results, management of innovation is a must. Coordination of all these activities is the subject of innovation management.

How is Information Technology related to Innovation? Where does IT stand in the process?

Innovation is an integral activity. Innovation is not only large-scale and major changes or novelties; it is does not only consist of technological advances; it does not either mean a strong R&D. It means implementing new and creative ideas that have been transformed into added value in order to reach set targets, whereas information technologies are sometimes the catalyst and sometimes the application tool of these ideas.

First of all, Information Technology should be integrated with business processes and business goals. Otherwise, it cannot be an innovation catalyst. Where does the company want to go? What are its strategic targets? What is the agenda of senior executives? How can IT be utilized to that end? Secondly.

IT must be proactive. In other words, benefits should be derived using the right technologies when combining information technologies and business processes. Only if IT Management comprehends the business goals correctly, it may have the power and ability to propose and manage the right technologies. Information Technology is in fact a part of interdisciplinary cooperation in the innovation process.

Why is IT Important for Innovation?

If Information and Communication Technology about which almost every employee has as much knowledge as they have about "football" fails to substantiate innovation projects with practical knowledge, technological toys and value added justifications which people will first recall, it will not be able to stand out. Everybody expects integration of technological tools with innovation. When that does not exist, it causes a misperception that IT is not effective in the innovation process.

The Story of Innovation

M. Timuçin ERDOĞU

Technology is defined as the collection of practical and technical information for the invention and development of new goods, services or production processes or the solution of practical problems. Innovation which means processes carried out for developing new or improved ideas (such as a product, method or service), and designing them to derive commercial revenue is a concept which is sometimes used interchangeably with technology.
Information technology is a name given to tools that help to produce, collect, accumulate, process, spread and preserve information. Today Information Technologies may be perceived, in its own right, as innovation just like technology. Although the definitions seem to be intertwined, information technologies and technology are not in fact innovation, but an effective part of guiding new discoveries and inventions by using exchange of data effectively. **Innovation, on the other hand, converts inventions into value-creating deliverables.**

Why is Important Very Important Today?

Of course there are numerous reasons and benefits of finding and implementing new ideas for the success of companies. For instance, finding a way out and getting one step further in the constantly-increasing competitive conditions, creating new market and business opportunities, estimating the future and trends, and offering new products and services that suit such trends.Innovation is not only to design new products and services, but also to improve existing business processes, to find new customers, to cut costs and increase profitability. **In brief, innovation is a key for a company to achieve success in business life.** It sounds good in theory, isn't it? It seems like a magic wand. You win if you are innovative. However, innovation requires change, a different perspective and is expensive. Many companies may fail to find sufficient financial resources for innovation.

Converting innovative and creative ideas into money requires more than making researches, making and implementing inventions. The success of innovation depends upon mutual support between company management and economy. The company management should allocate resources for innovation, and in return, innovation should create new markets, competitive edge and cost reduction techniques which are necessary in order to create new sources.

The cycle of Management, Resource and Innovation should be created within the company. As innovations bring about new gains for the company, the belief in innovation is reinforced and more resources are allocated. We call those companies that create this cycle innovative companies. Is it, but, simple to become an innovative company?

What are needed to be Innovative?

The most important step in innovation is to recognize that we know nothing. Assuming that we know nothing, we should be open to change, and aim to attain new ideas and new information. This, in return, requires to create the necessary setting at the company for new ideas and change, and to determine suitable targets for this process. In fact, no new idea ever occurred in an instant. It is an integrated and gradual process. New ideas may emerge in many ways such as using existing information in a different manner, using the existing method of a discipline for another discipline, applying a business model used in the local market to a foreign market etc. However, it is not sufficient on its own.

Innovation is not sufficed with new ideas; new and creative ideas should be commercialized, in other words, converted into money. Every new idea does not convert into money. Inventions that are successfully commercialized are called innovation. **This requires companies to create an innovative environment as well as to allocate resources for the process.**

A Successful Innovation: "What is more important?" "What is a benefit"?

For a successful innovation, we need, first of all, a purpose, a problem to solve, and an issue to concentrate on. We need to define a purpose for innovation and to derive a benefit and added value in the end.

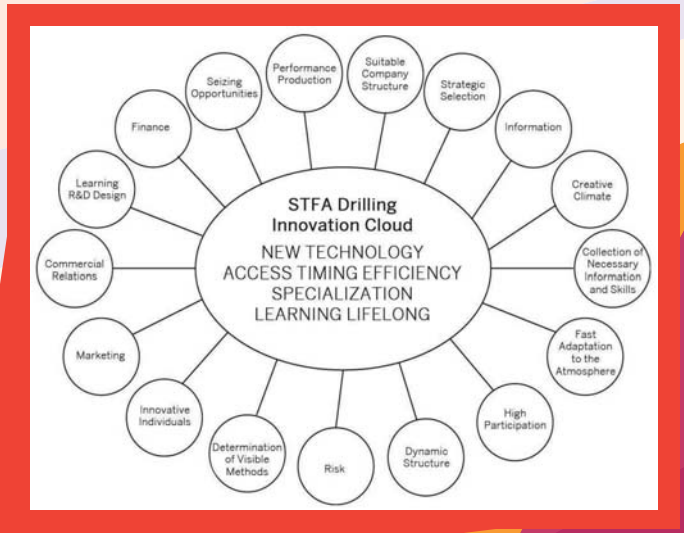
Since our company structure is based on team work, there are key person in team work. There is intense communication with these key personnel. Personal development is encouraged in our company. We instigate our team leaders to make innovations. The means to generate ideas are open in our company by creating a creative environment. We have a learning organization. We lead the way to the generation of new ideas by knowing existing Technologies well and applying these technologies in our company's businesses.

Being a growing company, we believe that innovations will be facilitated by;

Understanding the needs and expectations of our employees;
Understanding and integrating to the market where we make business;
Understanding the expectations and requirements of our clients, and generating solutions;
Understanding the expectations of the market;
Sharing the company's targets and strategic plan with all employees;
Working with discipline, aspiration, enthusiasm and working hard;

The fact that we support our business plan with financially realistic targets and create a long-term strategic plan makes all our employees focus on the target. We have a bright future. Our target is high.

At companies where there is continuous improvement and innovation, the benefits obtained include reduction in costs, increase in efficiency, increase in profitability, rise in quality, creation of new markets, and increase in customer satisfaction. Our targets are also in this direction. We believe that the atmosphere of success created in the Company is a prerequisite for creation of innovation. For this reason, the structure below constitutes the building stones of innovation.



New Forms of Innovation and Emergence of Paradigms

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We are undergoing a "transformation". Congested veins, chronic diseases, untreated gangrenes, deadlocks and dissatisfaction witnessed and experienced by individuals in social life, economy and business life now require a new discourse, a new paradigm. Every new generation creates a new living culture with its own capabilities, own agenda and own dreams. This time, the new generation dreams of a different world, different lives and different solutions. In the new world of the new generation, the necessity of "innovation" or "creativity" is not discussed, because creativity is embedded in the DNA of this generation, a part of their lifestyle, and the only way for them to raise against a world in which they no longer believe and to express their existence claims. To change, to cause change, to regenerate

Yes, this new world has competition, too, which is even fiercer. However, this generation produces a new meditation that heels the spirits worn out in competition;"cooperation". **Now, the power of collective intelligence, collective creativity, cooperation are remembered with a greater respect.** At the heart of this new paradigm is **"learning by trying - doing - communication and cooperation."** The biggest representatives are kids whose ages are not yet double-digit. The **"Maker Movement"** is spreading to all corners of the world, including Turkey. Children who write the rules of a new world are creating their own garages, writing codes and designing circuits sometimes at school, sometimes and local workshops such as "İskele 47" and sometimes at home. They are trying micro-scale productions with 3D printers and their own materials and they learn as they try.

Innovative academicians guide them in their way; they take lectures from campuses and carry them to these local workshops and workshops are transformed into information production settings that are more dynamic than the R&D centers of many institutions. Furthermore, the "maker movement" is not only limited to youth or children. In many countries,"science cafes" are becoming increasingly widespread. At the end of working hours, hundreds of people from different branches of business, different social groups, different ages and cultures fill science cafes and together they "entertain", "learn", and "produce" using both science and technology!The new generation is well aware how weak they are when they are alone, and are braver in asking for help. For this very reason, platforms based on exchange of information, labor and time, not money, like Zumbara, which offer the opportunity to learn from - teach to each other reach thousands of members, and knowledge spreads with each exchange. The professional lives and productivity of individuals are no longer confined to the walls of the companies; "co-working spaces" like Urban Statin, Yazane, Kolektif House, Komünite are the new centers of productivity and creativity. On the other hand, numerous alternatives of learning are emerging; Platforms like Coursera, Udemy enable millions of people to access courses taught at the best universities of the world free of charge. Platforms like Khan Academy which STFA Holding established in Turkey, make learning more interactive, joyful and easier. Ideas, projects and stories worth to share are shared millions of times, free of charge, free of obstacles, free of censure through platforms like TED Talks. Stories and narrators inspire brand new solutions.

Like hope, inspiration is the shelter which this generation needs most.

There are representatives of this generation also in the corporate world, who understand that all good ideas do not stem from their own R&D laboratories or their own employees, who keep their eyes and ears open to the world they live in, who give importance to and try to evaluate ideas and suggestions of all stakeholders, whether internal or external. These are companies that are recognized and try to implement "Open Innovation". They organize contests, announce campaigns, organize Hackathons and grow with new ideas.

On the other hand, they notice that their manpower is not only a driving force to perform the duties assigned to them, but also to put brand new and authentic ideas into practice. They know that the future of their company lies in blue oceans, and those who will take them to the blue oceans are exultant rebels who are called intrapreneurs.

Moreover, large-scale and multinational companies that dominate the economy are not any longer the only sources of strong and creative ideas that are powerful enough to change the world; a courageous inventor, designer or artist can collect millions of dollars of donation for his/her idea – invention through mass funding, and shares the delight of implementing that invention which will change the world with all the donators as in Kickstarter. Excitement and hope grow as they are shared, and make a greater impact as they grow.

In a nutshell, we now face a new living culture, a new path, a new alternative. The competition culture which humanity nourished by destroying each other and which has come to a deadlock now leaves the stage to "competition based on cooperation", "co-evolution" and "co-existence" which humanity has chosen to transcend itself and get rid of its own weaknesses. It is this new generation who will build together the knowledge that will change the world, creative and innovative ideas, inspiring stories and the excitement and hope that help them hold on to life. As they have lost confidence in all institutions, rules and commitments, they will rather find confidence in each other and the wealth of differences.