PROMOTION OF TECHNOLOGICAL TOPICS AND APPROACHING THE SOCIETY BY POSTERS

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Abstract: The paper deals with the publicity and the issue of advertisements for the area of technologies It comments secondary impact of the retail chain advertisement to the value of creative work. The paper is focused on the necessity of the scientist and technologists' activities for social status of technological fields increasing in the company. The advertising campaigns can inspire the human beings very much. Explanation of the principles is very important phenomena for promotion of engineers' work and scientists 'work.

Key words: poster, promotion of technology, media, education

1 Introduction

In last years, there was a decrease of the social status of technicians due to the transformation of economics in the Middle Europe. Sustainability of technology development is connected to the sufficient personal base of talented students willing to work in the area of technologies and industry. Subjects concerning technologies are aware of the importance of technologies for the quality of life development. The paradigm of technologies consists in specialisation, innovations and creative use of knowledge. The support of technologies cannot be based on the principles of market but also on principles of social climate influencing.

One of my friends works at the important machinery company. He told me this experience. His workplace is a foundry, the room not very tasteful. It is the room full of dust, steel fixtures, smoke and hot and it is characteristic by hard work and extraordinary quality production with a big value added knowledge. We cannot find there polished handrails and floor but a lot of practical technological artefacts and products of technology. One very serious technologist asked him in this room: "Are you proud of this company?" And he answered: "How can I be proud of such work if I work at such workplace?" And the answer was: "The thing we produce have the top quality level even at such conditions. If you are not proud of your work you are not going to do your work well and you will never be excellent and never be happy."

This idea engaged me since this is a very big idea. We have to be aware of the fact that except mathematics, physics, chemistry we have to teach and create conditions for development of moral characteristics that impact the human being. We do not promise the pupils that the life will be easy with the study of technologies. We put the impact on work of technicians and technologists and it is work for responsible and wise people. Is possible to prevent the decrease of interest in technical subjects by bigger promotion of technology contribution to the life quality by advertisements? The decrease of interest in technological and natural-science subjects is as very important issue as a research and development of technologies. The principles of modern advertisement strategies state that promotion cannot be neglected by the company which is dominant at the market. The creation of a positive public opinion of the branch enables to keep the position at the market. On the contrary the company can lose its position very quickly. Science fields can be affected by underestimation of this issue. We can have excellent scientific teams and discoveries but if there is no implementation of this knowledge into practice there can come divorce from reality and the system collapses.

Many technological fields get into the situation of people´s lack. It is caused by the small working flexibility at the job market or "invisible hand" and also by weak social status. The solution of this situation is very important.

Technicians and technologists have been a very strategic capital for a national economy development. The first stage for the bigger interest in technical subjects and science should be a popularization of technology and sciences. The popularization has an impact on pupils 'motivation and on higher interest in natural and technical subjects – at school as well as during consideration of professional use. This activity is necessary to follow because it influences the company climate for the support of science in general. The human development is a long-time process and our Department of Technical and Vocational Education was placed into the task to realize the Key Project Activity within the project "Education for competitiveness – Cooperation of primary schools with the Faculty of Pedagogy and the Faculty of Natural Sciences in the field of technological education".

The target of the project was to positive influence and change the trend of decreasing number of students of natural science and technical subjects by the activities that motivate leaders for the education of technologies. If we take the pupils 'knowledge into account (stated in researches PISA, TIMSS and Mc Kinsey), the popularization is necessary for sustainability and development of economy. The general target of the project is to show and describe science to young people using simple and effective form – physics, chemistry, mathematics, biology as well as craft and science fields.

Nowadays, popularization of the science has a specific position. Topics of science try to engage, inspire and lead participants to the deeper thinking. The problem is facilitation, idealization and limitedness of deeper knowledge.

Liessman (1) writes: "Knowing becomes neither central nor marginal part of the entertainment industry…". … "Knowing manifests itself as being able to astonish. It is amazing, what exists and how things work and are made. Most TV scientific channels are dedicated to technologies. The programmes are successful because they allow for the main motivation of knowledge – curiosity. From the beginning of modern times, curiosity, curiositas, belongs to the most important propelling forces of the knowledge process. At the same time it was always suspected that it is interested in any individual, extraordinary and not useful objects and it overlooks essential connections of the truth. Ludwig Wittgenstein (4) called "a superficial curiosity to the newest scientific discoveries as one of the most condemnable desires of a modern human being. There is no popular scientific programme that could satisfy this most condemnable desire". We realize the fact that in last years there were a lot of teaching centres in our regions having a main goal to popularize technology. These activities are very useful. This popularization is not every time effective for transferring knowledge. Information has to offer not only superficial amusing nature but also to offer and lead pupils to see presented events in connections. The teaching of events must lead to the situation where the presented event is expanded in the task, calculation or own realization.

Popularisers set out on the way of "medial influencing", nevertheless there is necessary to set the suitable atmosphere of "secrets discovering" and adventures of knowledge with suitable methods in these popularization programmes.

2 Technology Advertisements

Before starting the project solving, we had to find out how the technological fields students perceive their social status. For this phenomena, we chose an indirect question: How to design advertisement or slogan for the subject to be studied by more students? This

question is a very good probe to the socio-cultural background. With this question, there is connected the issue of advertisement note.

What should be the advertisement like? The ethical codex of the Board for Advertisements defines the ethic advertisement as truthful, polite and honest. It concerns mainly the ideas propagation that has to lead students and pupils to positive perception of science and technology use. The technology and science do not bring only positives but also risks. Technologies are not only clean laboratories but also plants, mines and risk workrooms. If technologies introduce ourselves only unilaterally there will be no truthful campaign. In practice, this point of view for advertisements is very vague. The law prohibits the advertisement that is contrary to law regulation, subliminal advertising, false advertising, hidden advertising or unrequested advertising and also the advertisements "being contrary to good manners". Even the Supreme Court was engaged in the issue of good manners. The conclusion is that "good manners" is a summary of moral cultural and social standards that are historically no changeable, they are considered to be basic and respected by the most of society – see Rozsudek Nejvyššího soudu ČR, 22nd Sept. 2006, 33 ODO 71/2006. (9).

For example the company United Colors of Benetton and the photographer Oliviero Toscani (14)is known by his controversial advertisement of the clothing company that was presented by the campaign pointing out the people HIV positive, oil transport impact (the duck in the oil spill) and children's work. The campaign with shocking topics was taken as the freedom of speech (12th December 2000, BvR 1762/95 and 1787/95). KORBEL deals with this case. (5)

These controversial campaigns are effective and their impact is evident at many companies and their campaigns. Many people try to use controversy with the goal to give deeper overlap and creativity. As an example we can state campaigns of the retail chain Hornbach. Work with hand tools and materials demands technological knowledge. Even imperfect work can be positive externality if the creator realizes the value of his professional work. We can tell that knowledge that we have bring us a big amount of independence. If we can adjust our background due to our needs we have necessary amount of self-realization and satisfaction.

Hornbach´s campaign is focused on hobby and professional work support with its hand tools. We, technologists, welcome this campaign because it underlines the importance of procedural knowledge. Slogans: "You will master it with us." The call: "What remains after you?" "And now it´s your turn!" "Tell it with your own project!" "You can make your own home."

DIY projects in the campaign are full of emotions and desires of the authors. Sometimes there is no need to talk but there is necessary to act.

See Fig. 1. Authors of the advertisements are stated here: https://www.behance.net/gallery/22915357/HORNBACH-Sag-es-mit-deinem-Projekt-PRINT-CAMPAIGN [3].

Fig. 1: Campaign "tell it by your own project" Hornbach (2).

The advertising campaign can have wider society dimension. "There is still a lot to do" is a slogan of the campaign that prefers closeness of work values among individual cultures and the necessity of mutual discussion.

This is documented by the Pic. And the clip HORNBACH – Es gibt immer was zu tun. https://www.youtube.com/watch?v=LVJOedTBogU [4].

This clip introduces the community of people, races and nations and their life style I not decreased. On the contrary, the humour that underlines work can engage and shows the problem of human sources management and the issue of regional and ethical stereotypes overcoming during technological issues solving.

Fig.2: "There is still a lot to do" The advertisement with deeper political statement. Hornbach (4)

Existential content of work and its sense is used in the advertisement. "And what remains after you?" see the Fig. 3. At this advertisement the centre of the idea is focused on human needs to create things of permanent value. "We do not let what we eat for the others but we can let what we create…".

Fig. 3: Campaign "tell it by your project" Hornbach (1)

We can see the clip here http://galeriereklamy.mediar.cz/reklama/hornbach-schodiste/ (1). Concept of this communication campaign was created by the Beril company HEIMAT that is a main advertisement agency of Hornbach. Medial panning is provided by the company CROSSMEDIA for Düsseldorf in cooperation with the Czech marketing. The TV spot was broadcasted in the Czech Republic form 30th August 2014. At the same time the campaign was in Germany, Austria, Netherlands, Luxemburg and in Slovakia. It is necessary to appreciate the quality of the campaign because it increases the status of all people that create values by their work and projects. Indirectly but effectively, the campaign highlights the role of work in society. After years when the company was in captivity of economists as main creators of reforms, we returned to the appreciation of work.

3 Outputs of the project and conditions

Our project had very little finances comparing to the retail chain.

We built up the experimental workroom – laboratory supporting research oriented education, workroom for technology education and education of crafts and physical experiments with materials. Another workplace is for building up the measuring and robotic workplace for physics, chemistry, biology and technical subjects. We ensured the Technological Day or Creative Day with educational programme in Laboratory 1 – for interested primary school pupils. We ensured the Measuring among Us or The Day with Robot by educational programmes in Laboratory II – for pupils and teachers.

Professional advertisement studios use marketing research and consult their intentions with sociologists and other professionals. Due to time and financial conditions we had no possibility to use these sources. The project period was one year. It was necessary to keep the selection procedure rules, to ensure professional, popularisers, lectors and managers. It was important to pay attention to the terms of deliveries, specifications and other issues. The success of the campaign was depended on the potential of creators and graphic designers. Finances were limited and the lowest price was preferred. There had to be harmony between creator of ideas and graphic designer.

4 Poster creation

We found to be necessary to address the public by the technological topic and the posters with interesting information about technological principles that naturally catch an attention. The second way was to create one poster that will promote technology by visual paradox.

Due to our consideration of being necessary to create values that could serve to primary and secondary schools for many years we decided to create the set of educational posters that should influence technology perception and technological subjects. From the practice at schools, we found the demand for materials that would decorate special classrooms i.e. workrooms or rooms for physics. The project provided us by financial means to pay a professional graphic artist.

We used this opportunity of graphical processing by a professional. The professional was Zdeněk Abendroth – Abe art. This realization could be done within the project Windows of Science Wide Open. CZ 1.07/2.3.00/45.0004.

It was necessary to set main technological topics. We decided that the educational clips must cover topics of technological innovations, modern technologies, physical principles, technology development and also a medial presentation of the project and social cultural aspects of modern technologies. There was necessary to begin the campaign for the target

group. For this poster, we chose the conservational style with text description of topics that we offer – see Fig. 4.

Fig. 4:. Educational clip advertising the project activities.

There were posters documenting principles of water motors and ship propulsions. The point was to present not only historical developments but to show less known propulsions using i.e. Mangus Phenomenon. Its effect is intuitively known from sport – fig. 2. Creation of educational clips demands the use of licenced databases and knowledge of the author´s law.

Fig. 5: Ship propulsions

Fig. 6: Shape memory alloys

Materials SMA are a progressive topic where we can present the wide range of knowledge – from crystalline structures to individual technological applications, see fig.3. We found necessary to reflect contemporary pupil´s and student´s life style. The pupils and students are very interested in IT at the expense of own creativity. It is described by SPITZER. We tried to implement controversial advertisements using original artistic expression of commercial and consumer life style. We tried to ask pupils if they are aware of the quality of work they make using tablet. Our intention was to underline the difference between craft and art production and passive consuming of entertainment through IT.

Fig. 7: What do you make in tablet

For fullness of education and popularization of progressive technological topics, we made a poster that warns about socio cultural connections between craft, artistic work and passive information accepting from the tablet – see Fig. 7 "Have you ever seen the trade of your ancestors?" "What do you create on the tablet and what value?" The author of the artefact is the author of this article. Photos and graphical processing was done by Zdeněk Abendroth. After realization, we did a measuring of visual efficiency of the Eye Tracker glasses technology – see Fig. 8. Our goal was to integrate such information to the poster that was not implemented at school. Eye Tracker measurement enables to find if percipients noticed this information. Other innovations can be focused on the issue where to put the information and how to underline it for bigger efficiency of impact.

Conclusion

We afford to summarize our experience on the base of our little advertising campaign for the project and technology promotion. We recommend all popularisers of science and technological topics to reserve enough capacity for promotion of own work to the public. The visual style and communication with the target group, preferences of the group and reflection of their needs and life style – this all is very necessary to accept. During our work with posters, we set.

During the project preparation, we recommend to create time and financial frame for correcting work and testing of visual efficiency by the eye-tracking technology. Afterwards, the eye-tracking testing can prove of the information is suitably located and if there is no picture preferences to text message. Our measuring enables to place individual elements better. The testing was done by the eye tracker glasses in laboratory where are located the posters and we can compare what time of each percipient was dedicated to individual posters in connection on questionnaire of initial and final knowledge.

For technics and for machinery companies, it is important to promote the value of technological work and industry. Neglecting of this priority can influence the development of technologies in the future.

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