

THE ASSESSMENT OF THE EFFECTIVENESS OF THE AIR METEOROLOGICAL SERVICE

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This article discusses about effectiveness of aviation meteorological services. It starts with the general information of the efficiency. Then, it goes on to detect and evaluate effectiveness. This part follows to air meteorological service, the evaluation of its current state, gaps, identifying reserves, proposals to increase and sustain efficiency, divided into individual sections. To give a practical example was developed two case studies of meteorological services in terms of their activities on the basis of annual reports and their comparison through Benchmarking.

Keywords : effectiveness, assessment of the effectiveness, aviation, air meteorological service, benchmarking,

Preface

Topic relating to the evaluation of the effectiveness of aviation meteorological services has not yet been explored, and also because this thesis was made. The aim is to highlight the possible effective or efficient functioning LMS, identify shortcomings and reserves.

Introduction

Evaluation of the effectiveness of air meteorological service can be considered by statistical data recovery from air traffic safety. An important parameter of evaluation of the number and quality of timely meteorological information that will significantly contribute to the prevention of dangerous flight situations, precautions were used to avert any prerequisites to the development of civil aviation accidents, aviation accidents and disasters. Assess the effectiveness of aeronautical meteorological services to those levels of acquisition, transmission and evaluation of meteorological information is important in determining the directions of improving this activity itself in order to increase efficiency.

Assessing the effectiveness of existing aviation weather services and related research is a difficult task, because it's not a manufacturing company and it's not possible to assess the quality of the physical product. Currently, a major problem that prevents efficiencies LMS lack of coordination of activities, tasks, and their focus. This applies primarily to the absence of strong central control at the global level, which would help to improve intensive services LMS. It belongs to one of the main problems that prevent most efficiencies LMS in the world. Great potential in terms of efficiency for LMS is a high percentage of highly qualified personnel, and is a prerequisite for high-quality and efficient they satisfy the program as well as the percentage of older staff age which requires long-term work in the LMS and demonstrates the high professional competence. [1][3]

Evaluation and improvement of the efficiency is difficult, but it may be the case for areas:

- Staff training
- Care workers
- Science and technology
- Legislation
- Internal organization
- LS comparisons with other meteorological services
- Research
- Projects

Training of customers offers great potential in the near future in terms of reducing the risk of accidents and bad decisions. Thus trained staff is able to adequately deal with different situations, meteorological forecasting accuracy. That employees are carriers of ideas, knowledge, experience and creativity, and their approach depends on the success and effectiveness of the enterprise as a whole. [2] [3]. The other side, however, organize and provide training for workers so that it does not cause high financial cost for LMS, which would be inefficient for the company. Great potential for LMS is a high percentage of highly qualified personnel, and is a prerequisite for high-quality and efficient they satisfy the program as well as a significant representation of older age personálu which requires long-term effects in the LMS and demonstrates the high professional competence. [3]

Increasing the effectiveness of safety and health in the workplace helps health care in all aspects. Many companies have developed their own special social programs, which are not related to air meteorology no reports, so it can be assumed that something as yet engaged or there is no indication it being necessary to change in the near future. Currently, many companies only meet a statutory requirement, it is their duty, but often forget that it is the long term insufficient attention to mental and physical health of employees who are actually the driving force behind the company. [4] [3]

Another element that supports the effectiveness of the constantly evolving scientific technologies today can very accurately, quickly and reliably evaluate the entries, as well as expanding scientific knowledge, able to support significantly

the quality of meteorological information. Not only the technology and knowledge are important but also plays a major role properly coordinated management and workers, whose task is to adapt all kinds of knowledge, correct and appropriate use of technology and an interest in the proper and efficient operation of the LMS. Regular inspection of operation and maintenance is important for high quality and efficient operation of the LMS and therefore should be included in the normal course of business. [3]

As for the financial side LMS, to work effectively it is necessary to do regular monitoring and records of funds spent on each activity. The result is an effort to improve efficiency and quality of work, and thus the LMS output, while reducing non-productive financial expenses, and including non-manufacturing workforce. Proper functioning of an effective source LMS are also financial savings and non-financial, that may help to get out of trouble in difficult times. [3]

Impact on the efficiency of the LMS are general rules and standards of the State (The Federal Aviation Regulation issued by the FAA for the USA-which in addition to adjustments registration, production and inspection of aircraft authorized and controlled LMS). In some cases, the impact on the efficiency of LMS, especially if there is a regulation different from other states, resulting in a disadvantage for the carrier, causing a failure to give correct information LMS. The solution could be to establish uniform international standards and documents applicable in any country without exception. [3]

One possible way of assessing the effectiveness of the use of so-called LMS, comparing the input and output units internal organization. It is a mutual comparison of the effectiveness of activities, ie. detecting whether the units able to properly and effectively use the time and the space to your advantage.

Another way to assess the effectiveness of a subsequent increase in the use of FDH DEA Model for Benchmarking - comparisons of material resources, systems, organizational units, practices, services, LMS and other high-meteorological services in order to identify gaps and opportunities to improve their own operations in the field, not on the basis for transposition practices, but as a means of inspiration for new ideas, using facts, literature, communications with employees, pre-planned strategy. [5] [6]

Research is an important part regarding efficiency improvements LMS. Each LMS should work on his research by analyzing the facts and design improvements of existing systems, because customer demands are changing over time, in order to create a new custom equipment and systems for the most efficient work, using options available

(knowledge, labor, skills) and their own potential. [7] [3]

Each LMS should create projects or in some part, as a tool for increasing the efficiency of building interest in the project, for example. support in countries where they are not sufficient conditions for self-development, focusing on technical assistance, training, and other legislation. Projects are often designed to work with LMS of other countries that together contribute to the development, exchange of information, research and implementation of resources and technology, united common methodologies, improving the consistency and coherence of activities, harmonization of a common approach, better and more efficient use of capacities in order to simplify and improve the performance of LMS itself and using human resources, materials, funds, equipment and other activities. [2]

Processing of this issue, I conclude that the weather service is only minimally concerned with efficiency, as demonstrated by the lack of material on the topic being acquired. The reason for this can be a difficult process of evaluating the effectiveness of a sort of indifference own to deal with the evaluation and awareness. Generally described, the efficiency and economics of the productive enterprises, but there is no single document or publication dealing with the efficiency of the services, so this work has been generated primarily from the perspective of the proposal as it might seem in theory and practice. The effectiveness of LMS is not participating as the company itself, but also plays a major role in the environment (economic) in which it is located. The main point is to determine the effectiveness of the time-inefficient services, which is not exactly an unanswered question. The problem of efficiency is not only domestic but international.

Evaluation of the effectiveness of air meteorological service can be considered such. Statistical data recovery from air traffic safety. An important parameter of evaluation of the number and quality of timely meteorological information that will significantly contribute to the prevention of dangerous flight situations, precautions were used to avert any prerequisites to the development of civil aviation accidents, aviation accidents and disasters. Assess the effectiveness of aeronautical meteorological services to those levels of acquisition, transmission and evaluation of meteorological information is important in determining the directions of improving this activity in order to increase its own efficiency.

Meteorological information about important weather phenomena are also not least impact on the economy and air traffic even if it is a standard economic methods used to determine the effectiveness of arguably applicable. Timely and reliable meteorological information may be a key

factor for the right decision to change the route of flight, flight level, any postponement or cancellation to be in effect in addition to security have an impact on economic efficiency given as saving fuel, clock technical resources used by aeronautical or parts thereof. The effectiveness of the use of aeronautical meteorological services, its potential and improve the state has essentially had no impact on the overall efficiency of aviation operations.

Meteorological services are strongly influenced by the environment in which they are located, and especially economic and other situations in the country. If the LMS is in a stable prosperous environment allows it to evolve. LMS is often limited funds and no market or otherwise motivated to greater development. The situation could be resolved better economic situation and the supply of new customers from different areas and new requirements. Surroundings significantly affects whether positively or negatively on the effectiveness of the meteorological/aeronautical meteorological services.

The topic is very broad and it is not possible to include all into this paper, e.g. further details on tools to evaluate and improve the

efficiency, technology, methods, and so on. The LMS is recommended to increase their interest in the efficiency of the processes leading to success in the future.

CONCLUSION

There are plenty of models to assess the efficiency, but few of them can be applied to the service sector. The reason for this can be a difficult process of assessing the effectiveness or in some cases insufficient attention evaluation efficiency improvements. Based on the evaluation of annual reports, I found out that the weather service in some ways is trying to evaluate their performances and interested in the effectiveness of which is conditioned mainly available resources and capabilities. Generally, there are materials written on the efficiency and economics of the productive enterprises, but there is no single document or publication dealing with the efficiency of the services, so this work has been generated primarily from the perspective of the proposal as it might seem in theory and practice

Benchmarking of two meteorological services

	MetOffice
Employees	Except PC satisfaction surveys, intensive training, honesty negotiations, ensuring a pleasant environment
Finance	sufficient level, the effective use of the resources provided, std. and extended actions
Research	an ongoing research in various areas of the above standard
Projects	Implementation of many different national and international projects, sufficient financial support

	SHMÚ
Employees	Primary care (PC), health and safety, the skills required, the need to reduce staff numbers, premium training were provided
Finance	financial problems, lack of resources to perform standard operations
Research	necessary research limited finances, it is not at the required level
Projects	Uncompleted projects at the stage of suspension due to lack of funding, the project has received more attention

BIBLIOGRAPHY

- [1] Karel KŘÍKAČ : Ekonomická efektivnost – Přístup a hodnocení, Praha, 1980
- [2] Slovenský hydrometeorologický ústav, online dostupné na internete : < <http://www.shmu.sk>>
- [3] National Aviation Weather Services Committee - National Research Council : Aviation Weather Services A Call For Federal Leadership and Action, 1995, dostupné na internete online: <http://www.nap.edu/catalog.php?record_id=5037>
- [4] Ing. Luboš SOCHA : Manažérske systémy integrovaného riadenia, Ružomberok, 2010, dostupné online na internete :< <http://web.tuke.sk/lfkmlp/Ucitelia/Socha%20Lubos/Studijny%20material%20MANAK/MSIR.pdf>>
- [5] KARLÖF, B.: Benchmarking. Victoria Publishing, Praha, 1995.
- [6] Slovenská technická univerzita v Bratislave, Ústav elektroniky a fotoniky , Katedra mikroelektroniky - Benchmarking, dostupné na internete : < kme.elf.stuba.sk/moodle/pluginfile.../Benchmarking.pdf?
- [7] National Oceanic and Atmospheric Administration – Aviation Weather, dostupné na internete : < http://www.research.noaa.gov/weather/t_aviation.html>

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