

# Human resources management in modern statistics

Prepared by Janusz Dygaszewicz, Central Statistical Office, Poland

## I. Introduction

1. Modern statistics means modern management of statistical surveys at each implementation stage, with an optimum use of resources, along with approximating the completion of the official statistics mission by increasing the effectiveness of the statistical production process.
2. Modern statistics is also a set of notions characterising individual phases and processes involved in the creation of statistical data in line with customers' needs and the principles of the activities optimisation and allocation of resources, and also the rational use of resources.
3. The innovativeness of statistics is reflected in the current adjustment of statistical production to the Generic Statistical Business Process Model (GSBPM), with the Integrated Statistical Business Process Model (ISBPM) being its equivalent in Poland.
4. The introduction of the CSPA-compliant corporate architecture also determines the actual development directions for statistical production, and the resulting needs to further expand the competences of statisticians.

## II. Problem identification

5. The modernisation of the statistical data production process involves reconstructing the previous model by integrating the activities common to various surveys. However, these changes are so profound that they frequently result in the need to modify, to a varied extent, the duties performed by statisticians. Any such activities are conducted under the general principle of using the existing human resources, at the same striving to make this use increasingly more efficient.
6. The remodelling of statistical data production methods by integrating and redesigning the current working processes requires, among other things, placing the focus on competences, employing a new division of responsibilities, and adjusting the level of employees' knowledge and skills to the emerging needs.
7. Account should be taken of the new work-related elements, including processes, tools and previously unknown phenomena or technologies, such as spatial data, big data, the R-language, the data scientist job, linked open data or machine learning. These not always result from the process transitions performed, but they may appear through natural causes, including those associated with the proliferating IT technologies. The appearance of these new aspects proves that the rapid growth of tele-information technologies has

forced statisticians to continually pursue their professional development and diversify their skills.

8. However, the “mere” replacement of the previously used tools with more modern ones, along with the necessary methodological and organisational adjustments, and the introduction of system changes related to the organisation-wide implementation of working processes appear to be two entirely different things. The accumulation of systemic or ongoing modifications poses a real challenge, or a number of challenges which call for a consistent management model to be employed with a view to achieving success.
9. The first issue to be considered is the natural resistance on the part of employees, resulting mainly from the lack of sufficient knowledge regarding the outcomes of the planned changes, and often also from the unwillingness to take part in any activities beyond their daily routine. This problem is therefore complex, not being limited to developing the staff’s skills or a knowledge base. It is equally important to make the staff convinced of the inevitability and justifiability of the introduced changes, as well as of the fact that they will eventually bring improved working conditions, increased staff skills and facilitated data production processes, which jointly form the working bases of each statistical organisation.
10. Raising staff awareness is a long-lasting process that must be implemented evolutionary. It requires an informed strategy composed of multi-faceted measures taken in a strictly defined chronological order.

### **III. Human resources change management at the stage of introducing changes in a statistical organisation**

11. The order of activities is of utmost importance for establishing the appropriate scenario of the organisation staff preparation to the upcoming changes. The first step that determines any further progress is to make sure that the staff understands the approaching changes. Each organisation seeks to achieve and maintain the accurate market position. However, stagnation – even when a high production level has already been achieved – contradicts progress. In order not only to stay on top but often simply to survive, it is necessary to pursue continuous development, which also calls for system changes. The higher the development level of an organisation, the easier its employees find it to accept the inevitability of changes and the more willing they are to take an active part in introducing them.
12. Overcoming resistance – by their very nature, changes trigger resistance. Any modification-oriented activity is likely to cause resistance that is meant to uphold the current status. This is fully understandable, as any changes distorting the previous “stable” organisation order inflict fear and doubt, cause stress and tension.
13. However, resistance can be overcome by taking a well-matched approach. By classifying its sources and symptoms, identifying its basis, introducing an open model of

communication, encouraging employees to cooperate, and ensuring the support of people who are mindful and convinced of the need to make changes, the initial fear-based resistance can be transformed into a constructive form of resistance. From the point of view of an organisation, the latter is desirable, considering that constructive criticism, negotiation and demonstration of the need to act in line with certain procedures is likely to deliver positive and novel solutions, or an incentive to their development.

14. In order to achieve the constructive resistance effect or to overcome fear, it appears indispensable to analyse the roles assigned to the organisation employees once the changes are introduced, to show them how to find themselves in a new situation and to bring the results of such analyses to the attention of the entire staff.
15. With a view to ensuring an efficient HR management model in the course of introducing changes, it is of utmost importance to draw up a list of key persons responsible for introducing changes, as well as to determine their level of awareness of the need of changes and their involvement in this respect. It is equally important to develop an action plan targeted at these people at various stages of implementing changes, to ensure their efficient functioning both in the change process and within the “new” organisation model. Undoubtedly, the crucial role is to be played by the organisation manager, and his/her willingness to take the leadership constitutes a prerequisite to changes.
16. At the reorganisation stage, the scope of change management in the HR area also involves examining the situation in terms of the division of forces in favour of and against changes. This analysis will shed light on the balance of forces, subsequently enabling the planning and implementation of measures to tip this balance in favour of change supporters. Finally, this will foster a systematic and comprehensive assessment of change conditions, thus facilitating full-scope preparations for changes in most functional areas of the organisation.
17. Working processes reformulation requires a precise determination of changes in duties and skills required in various positions within the organisation. In view of the evolutionary nature of organisation-specific changes, preparing the staff for the upcoming novelties is also a long-lasting and gradual process. Skills building takes place on the basis of an educational programme which, apart from the scope of responsibilities, should take into account such aspects as individual capabilities and needs of each employee.
18. In respect of the Polish ISBPM, the following framework employee competences for various units have been developed:
  - a) Data Collection Unit: comprehensive knowledge of the tools used to collect data and knowledge in the construction of information systems; knowledge of using administrative sources and possibilities of the use of typical and untypical data sources are also very useful.
  - b) Data Processing Unit: methodological knowledge (e.g. survey methodology including used concepts, applied standards: dictionaries, classifications and

nomenclatures); IT knowledge (construction of ETL processes, methods and construction of integration, database design, design and development of information systems and also the creation of the OLAP cube).

- c) Data Analysis Unit: competences in the use specialised analytical tools as well as knowledge of analytical and classification standards; the skills of analytical and synthetic thinking and drawing conclusion and interpretation of information for the preparation of analytical papers (publications, reports).
- d) Client Service Unit: the ability to establish friendly relations with the customer; create promotional strategies and also use websites.
- e) IT Services Unit: the ability to construction of highly specialised tools supporting the implementation of the tasks at all stages of the process of statistical production; competences in the systems analysis, systems and architecture designing, programming skills (e.g. R, Java, SQL, .NET), database and IT infrastructure administration and also security system administration.
- f) The Control, Coordination and Organisation Unit: competence in system design, knowledge of methodology and statistical tools, the principles of quality assessment, information of the standards such as GSIM, SDMX; knowledge of quality management and international quality standards regarding the methods and tools for quality measurement.

19. *The Statistical Education Plan* developed on a yearly basis is meant to foster development and provide employees with the competences they will need to perform specific duties. It contains the activities offered by all statistics units in relation to specific strategic objectives, such as the improvement of statistical production processes or the provision of data. These are supported through training courses, meetings, workshops and other educational activities.

20. *The Individual Professional Development Programme* is used as an auxiliary measure to adjust the training courses to the actual employees' needs. It allows the periodic employee review to be linked with the annual training programme. It constitutes a HR management tool that serves the purpose of planning the professional advancement of employees. The Programme is drawn up for each employee on a biannual basis, being divided into four thematic areas: knowledge, computer/IT skills, linguistic skills and competences.

21. Another step on the way to an effective HR management in modern statistics is to provide employees with a thorough and continually updated set of necessary information. This purpose is served by the Knowledge Base, which is an organised repository of information, which we identify, analyse and remember (store) in order to use it to achieve personal goals or in relation to the organisation – mission and organisational goals. High efficiency of knowledge use is called wisdom. Apart from having a vast store of organised knowledge, wisdom means the ability to constantly improve it, creatively connect and associate different elements of knowledge and drawing conclusions from these associations. The

well-established model of knowledge dissemination within the organisation lets its employees not only identify with the organisation activities, but also assume joint responsibility for the accomplishment of its objectives. Such employees can form the true pillars of the organisation.

22. The properly defined and efficiently functioning internal communication is by no means less important than the elements referred to above. The proper definition comprises well-divided roles, along with the provision of all operational information required for the accurate performance of duties. It is also of essence to provide the indispensable data by avoiding the unnecessary information overflow that could cause chaos and disorganisation.

#### **IV. Human resources change management at the stage of consolidating changes in a statistical organisation**

23. The introduction of substantial changes in an organisation is a process confined to certain time frames, followed by a period of peace that precedes further changes. However, staff training cannot end with the completion of reorganisation. Its continuation may prove necessary due to:

- a) the need to conduct in-depth workshops on development processes, which undergo natural evolution in line with environment transitions (e.g. the discovery of new data sources, new programming languages, etc.),
- b) staff replacement,
- c) the need to conduct extended employee training in a given field,
- d) the need to develop knowledge and competences fostering further improvement and changes.

24. It is desirable for the organisation to continually search for the areas of new improvements, as this lets it avoid stagnation which could with time lead to the sense that no further development is needed. It is even more promising when the initiative of positive (even minor) changes is raised by employees, as this implies that they feel attached to their organisation in a positive way. Not only do they identify with it, but they also form its distinct part. This is a very positive symptom that needs to be cherished and skilfully stimulated through a system of incentives and training courses.

25. Ensuring employee satisfaction from the duties performed is one of the potential incentives. Employees need to know that their work really matters and is appreciated by their superiors. They also need to see the outcome of their work, taking the form of specific products, such as data publications or procedures accepted and used in practice. Although much depends on the actual duties performed in a given position, a niche can always be found within which a given employee can achieve success.

26. Job satisfaction can be manifested in different ways. For some employees, it arises from the positive assessment of their work by the superiors, whereas for others it means having

an interesting job that brings the sense of fulfilment. Nonetheless, for the vast majority of people, the financial aspect of work can hardly be overestimated. It is ideal when all employees are satisfied with their financial conditions. Unfortunately, the budget of some entities (including public administration entities, and especially those dealing with official statistics) is too tied to meet all the needs. Therefore, the financial policies implemented by all organisations, including especially those that face financial deficiencies, should be transparent enough to invoke the sense of a fair division of funds. This will make employees willing not only to work for their organisation or company, but also to use their best endeavours to contribute to its good standing.

27. Internal communication is the last, but not the least important, element related to HR management. Employees very often act as a link between the organisation/company and the outside world. Therefore, they should be aware of the role and objectives of the organisation, and its significance to the external environment. When this awareness goes in hand with professional fulfilment, the employee becomes “a spokesperson” of the organisation for which he/she works. Such attitudes displayed by the organisation or company staff are likely to have a greater positive impact on its goodwill than many carefully prepared public announcements.

## **V. Summary**

28. Human potential is the underlying resource to be used during system changes.

29. Properly motivated, trained and well-informed employees assigned to adequate positions constitute the paragon of success in the implementation of system changes.

30. It is extremely important to put huge emphasis on the professional development and reputation of statisticians.

31. The acquisition of new competences and awareness-raising are gradual processes.

32. Attention should be paid to individual competences and capabilities, which should be subject to continuous development.

33. It is indispensable to set up a system of incentives, both financial and non-financial.

34. A good example of the organisation manager as the change leader is the prerequisite to an efficient implementation of each system change.