



**Production Process Calendar as a Management Tool in Statistical Production**

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*Abstract and Paper*

Planning and monitoring of statistical production for an NSI is a hard work in itself. It is even harder if surveys are much diversified in terms of subject and if sample sizes are high. Especially for countries having many regional offices such as Turkey, statistical field work planning and monitoring, workload calculations, search and improve of data collections methods have a higher importance. Today, with appropriate planning and coordination methods, subject matter units can foresee the path ahead, the obstacles, and the ways of avoiding any possible problems before starting a survey.

Turkish Statistical Institute (TurkStat) is a two sided institution with a central organization consists of 19 departments which are mostly main services and a regional organization that is made up of 26 regional offices country wide. Production Process Calendar (PPC) is used as a quite efficient tool within the process of coordination between the Central Office and the regional offices. Since 2013, surveys according to their data collection stages have been planning in 33 steps via the Calendar [1]. These steps include all the phases starting establishing the main frame to the presentation of the press releases. With PPC, TurkStat has started the planned production process. PPC obtains the continuous monitoring of the data collection process, provides discipline for the all the statistical units and lets the decision makers see whole picture of statistical production.

**METHODS**

PPC is not a comprehensive business model like GSBPM but it is an operative management tool regarding field work planning and monitoring. In planning side, mainly PPC clarifies and finds answers to these three questions: What (the name of the stage of survey), who (the responsible unit) and when (the deadline for the stage). After the planning process, PPC is approved by the President of TurkStat and it is put on the intranet webpage which is open to central and regional units. On the other hand, monitoring, that is the actualization of the schedule, is carried out daily and the results of monitoring are reported to the management regularly.

**Objectives of PPC**

The main objective of PPC is to organize and manage the statistical production process regarding the field work. PPC clarifies responsible units and actualization time for the basic stages of surveys carried out by head office and regional offices. Therefore, it helps revealing the problems encountered in the production process of field work and taking necessary measures. In addition to these, PPC is also used to have a stable distribution of workload throughout the year.

**Planning of PPC**

PPC is also set according to a calendar. The planning of PPC is distinctly clarified by presidential directives [2]. Data Collection and Coordination Department has the responsibility to finalize PPC in a period beginning June till December every year. In this period, all the necessary units, central and



regional departments, come together many times in order to determine the dates of stages of surveys. This coordination helps all the statistical actors take part in actively in the production process.

#### Monitoring of PPC

Monitoring the realization of the plan in the calendar is the second stage of PPC. At the “Planned Date”, requested input is sent to responsible units and asked them to reply at the same day. This daily e-mailing function is planned to be performed using a software mechanism in 2015. Within this software, automatic transfer of realized date information would be possible instead of sending them to Data Collection Coordination Department by e-mail.

### RESULTS

Figure 1. Improvements in PPC Regarding Time Period between Data Collection and Publication of Statistics for Selected Surveys

As shown in the graph, for some selected surveys, the time period between Data Collection and Publication is much shorter in 2015 compared to 2014. This is mainly because, by the help of PPC, it is possible to see the whole process for a survey and to rearrange the time needed for each step of that survey. A quite valuable time can be saved that can be use other statistical projects[3].

### CONCLUSIONS

#### Advantages in Terms of Coordination

In today’s world, the public institutions would also adapt their organisational structure to the swiftly changing conditions of the modern society. The importance of the coordination in country wide organisations becomes apparent. The PPC is not only a working plan for statistical data collection but also a coordination mechanism. It sustains a way of communication and relation between the central office and regional units. The planning side of the PPC is the main mechanism to make the regional and central offices work as a whole unit.

#### Advantages in Terms of Work Load Distribution and Cost Effectiveness

PPC is prepared on a yearly basis and there are 93 surveys planned for 2015. In order to perform all of those surveys, it is impossible to have a stable distribution of workload. PPC provides to make cost and workload analysis for the whole organization. Workload calculation is also used for letting the decision makers give a chance to compare the regional offices and to assess the performance of personnel according to objective measurements. PPC maintains a preview of the next year and let the decision makers tackle with challenges they face.

### REFERENCES

- [1] Production Process Calendar, 2014, TurkStat, 4 – 5
- [2] Directive on Rules and Procedures about Institutional Calendars (Draft), 2015, TurkStat
- [3] National Data Release Calendar, [www.turkstat.gov.tr](http://www.turkstat.gov.tr)



## **Workshop on Statistical Data Collection: Riding the Wave of the Data Deluge**

(Washington, D.C., USA, 29 April - 1 May 2015)

# **PRODUCTION PROCESS CALENDAR AS A MANAGEMENT TOOL IN STATISTICAL PRODUCTION**

## **Working Paper**

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### **I. INTRODUCTION**

1. Planning and monitoring of statistical production for an NSI is a hard work in itself. It is even harder if surveys are much diversified in terms of subject and if sample sizes are high. Especially for countries having many regional offices such as Turkey, statistical field work planning and monitoring, workload calculations, search and improve of data collection methods have a higher importance. Today, with appropriate planning and coordination methods, subject matter units can foresee the path ahead, the obstacles, and the ways of avoiding any possible problems before starting a survey.
2. Turkish Statistical Institute (TurkStat) is a two sided institution with a central organization consisting of 19 departments, which are mostly main services, and a regional organization that is made up of 26 regional offices country wide. Production Process Calendar (PPC) is used as a quite efficient tool within the process of coordination between the Central Office and the regional offices. Since 2013, surveys according to their data collection stages have been planning in 33 steps via the Calendar. These steps include all the phases starting from establishing the main frame to the presentation of the press releases. With PPC, TurkStat has started the planned production process. PPC obtains the continuous monitoring of the data collection process, provides discipline for the all the statistical units and enables the decision makers to see whole picture of statistical production.

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<sup>1</sup> The views, comments and opinions expressed in this paper are those of the author and do not necessarily reflect the opinions or policies of TurkStat. The same rule applies for all the work done on the basis of this paper.

## **II. PRODUCTION PROCESS CALENDAR**

### **A. Objectives**

3. The main objectives of PPC can be stated as follows:
  - organizing and managing statistical production process regarding field works,
  - clarifying responsible units and actualization time for the basic stages of surveys carried out by head office and regional offices,
  - revealing the problems encountered in the production process of field work and taking necessary measures and
  - having a stable distribution of workload throughout the year.

### **B. The Structure**

4. PPC is not a comprehensive business model like Generic Statistical Business Process Model (GSBPM) but it is an operative management tool regarding field work planning and monitoring. On the other hand, the stages of PPC to a large extent coincide with GSBPM, but in different levels.
5. In planning side, PPC clarifies and finds answers to those three questions: What (the name of the stage of survey), who (the responsible unit) and when (the deadline for the stage). After the planning process, PPC is approved by the President of TurkStat and it is put on the intranet webpage which is a common access area for central and regional units. On the other hand, monitoring, that is the actualization of the schedule, is carried out daily and the results of monitoring are reported to top management on a regular basis.
6. There are 33 steps for each survey planned in the PPC. Those steps can be separated into 4 categories. Firstly, the steps regarding the determination of main frame and date of sampling are determined. After sampling, the sample is sent both to responsible unit(s) in the central office as well as to regional offices for field organization by department of sampling. The sample is also loaded to the software by the related central unit. Another important step in this category is to send information letters to respondents approximately ten days before the actual data collection process begins.
7. Second category of steps of surveys in the PPC is related to the software used to collect data. Currently, the main data collection method for business surveys is web in TurkStat. On the other hand, CAPI is used in household surveys to a large extent. In order to avoid problems during data collection process, the software for each survey is tested both by responsible central unit and regional offices. In addition, Data Documentation Initiatives (DDI) and rules of the software are renewed every year. The renewal dates area also stated in the Calendar.
8. After the determination of sample and preparation of the software, everything is ready for data collection. With the help of PPC, it is possible to see data collection period for all surveys at one glance. It helps us organize field works, distribute workload equally throughout the year, and therefore to use personnel and financial resources efficiently.

9. When data collection process ends, analysis start. At the beginning, there is a time period for regional offices to check their collected data. After that, the central unit analyzes the whole data coming from all regional offices. If an error or something suspicious is detected, the central unit returns back to the regional office and the data is checked once again. For some surveys, process of the analysis lasts until the publication of the statistics.

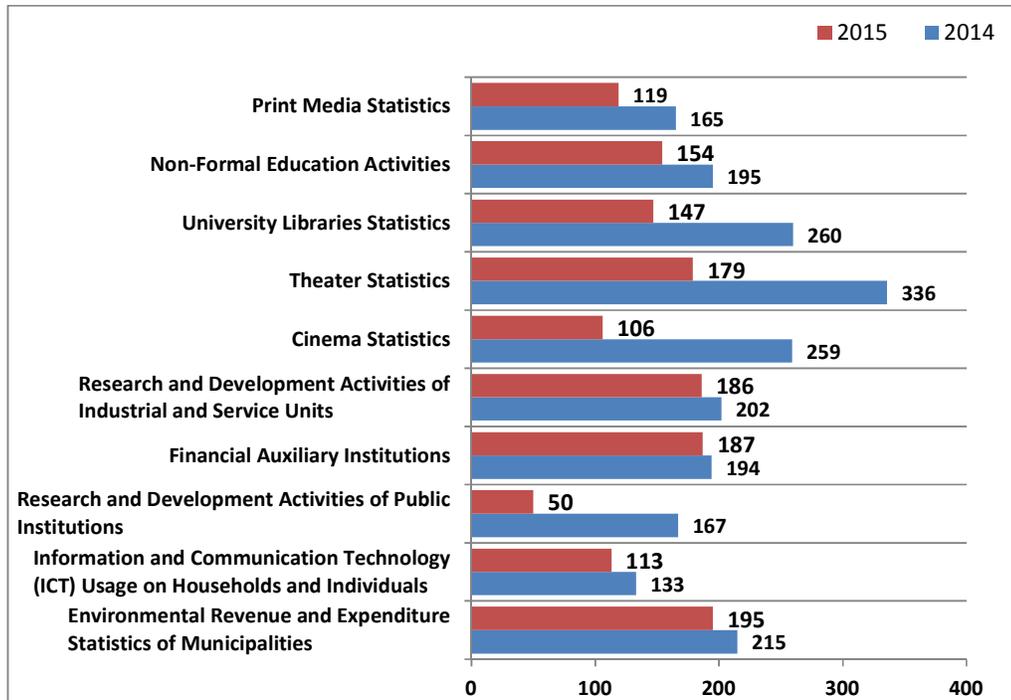
### **C. Planning of PPC**

10. PPC is set according to a calendar itself. The planning of PPC is distinctly clarified by presidential directives. Data Collection and Coordination Department (DCCD) has the responsibility to finalize PPC in a period beginning May till October each year.
11. All the necessary units, central and regional, come together several times in order to determine the “planned dates” of stages of surveys. DCCD meets with each central unit that have a survey in the PPC and the whole process for each survey is set in those meetings. Members from Sampling Department and Information Technologies Department attend to all meetings. This coordination helps all the statistical actors take part in actively in planning of production process.
12. In May, statistical producing units declare their surveys with their expected implementation dates and estimated sample sizes for upcoming year. Next, estimations for the number of personnel and equipment (vehicles, netbook, etc.) are calculated in order to implement those surveys. In addition, implementation dates of surveys are reorganized in case there are overlaps of implementation period especially for the surveys having big sample sizes. Because the more smoothly the load spread during the year, the easier to use resources efficiently. When the implementation periods are fixed for each survey, approximately until August, the other steps in the PPC are set. That is; firstly the steps before the implementation stage (sampling, preparation of software, etc.) are determined and then analysis stages after implementation are set. Finally, as the Calendar is established, it is submitted for approval of the President of TurkStat in early October. After ratification, it is published in the intranet.

### **D. Monitoring of PPC**

13. Monitoring is as important as the planning of PPC. For each stage of the each survey, at the “Planned Date”, the realization is asked by sending an e-mail to the responsible unit declared for that stage. While replying this e-mail, the responsible unit explains the reason in case of failure. This daily e-mailing function is planned to be performed using a software mechanism in 2015. By the help of this software, fulfillment of the duty regarding that specific stage will be transferred automatically.
14. Results of the monitoring are reported to the top management on a regular basis. It becomes possible to deal with unforeseen circumstances in the process of statistical production for those surveys. DCCD promptly contacts either with regional office or with central unit in order to solve the problem.

### III. RESULTS



**Figure 1. Improvements in PPC Regarding Time Period between Data Collection and Publication of Statistics for Selected Surveys**

15. As shown in the graph, for some selected surveys in the PPC, the time period between data collection and publication of statistics is much shorter in 2015 compared to 2014. This is mainly because, by the help of the PPC, it is possible to see the whole process for a survey and to rearrange the time needed for each step of that survey. A quite valuable time can be saved and used for other statistical projects.
16. PPC is a quite effective management tool. It enables management to enhance the production process by making necessary changes in time period spent for data collection, analysis and publication. Comparing 2014 and 2015, there are considerable reduction of time needed for data collection period and analysis for some surveys. This is partly because, application of new data collection techniques reduced the time need for data collection and analysis.

### IV. CONCLUSIONS

#### A. Advantages in Terms of Coordination

17. In today's world, the public institutions have to adapt their organizational structure to the swiftly changing conditions of the modern society. The importance of the coordination in country-wide organizations becomes apparent. The PPC is not only a working plan for statistical data collection but also a coordination mechanism. It sustains an effective way of communication and relation between the central office and regional units. The planning side of the PPC is the main mechanism to make the regional and central unites work as a whole unit.

## **B. Advantages in Terms of Workload Distribution and Cost Effectiveness**

18. Nearly 90 surveys are planned in PPC for 2015. In order to conduct all of those surveys in an efficient and effective manner, it is very crucial to have a stable distribution of workload. PPC provides to make cost and workload analysis for the whole organization. Workload calculation is also used for enabling decision makers to give a chance to compare the regional offices and to assess the performance of personnel according to objective measurements. PPC maintains a preview of the next year and let the decision makers work thorough challenges they face with.

## **C. Advantages in Terms of Institutional Discipline and Timeliness**

19. PPC allows subject matter departments to see and plan all the production process for their survey(s) for the whole year. Therefore, it becomes easier to take necessary precautions in each and every steps of the survey. Regional offices, as implementing units, on the other hand, have more chance to be prepared for field work and to make their own organization. In addition, PPC gives way to see time period spent for each step of all surveys. Since users need more and more timely data, it is a quite instrumental tool to realize the timeliness principle.