

# **Quality Assurance and EFQM in the Israeli CPI**

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## **A. Introduction**

The Central Bureau of Statistics in Israel (ICBS) adopted the EFQM framework for the CPI in late 2002. EFQM became a quality management standard to be assimilated in all government agencies in Israel and the civil service codebook of regulations was amended accordingly. In this paper we look back at the process after five years and more, and arrive at several conclusions regarding the importance of applying a sound and methodological quality framework for CPI.

## **B. Quality assurance and EFQM in CPI<sup>1</sup>**

Consumer price indices are one of the most important and widely used of macroeconomic indicators. As well as informing economic policy, they are used for indexation of welfare benefits, pensions, securities, and also for escalation clauses in private contracts. Accuracy and reliability are paramount for a statistic as important as a CPI. Therefore the process of producing the index needs to be carefully planned.

Quality is an important aspect of all stages of the CPI process. Errors and bias may leak into each activity: sampling, fieldwork, editing, price measurement, aggregation and publication of the index. For most national statistical institutes, quality control of production will be an area that represents a high risk, given the complexity of the process and the financial implications of an error in the index. Therefore it is of utmost

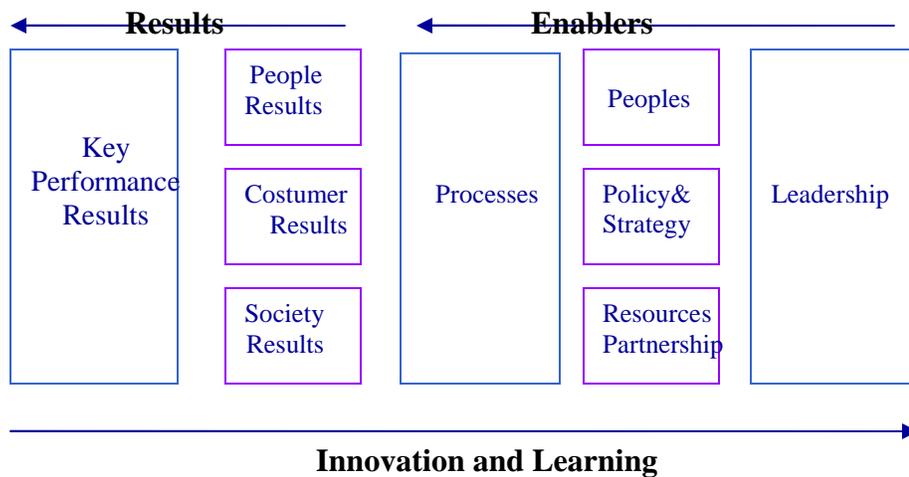
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<sup>1</sup> Chapter 12 of the CPI manual gives an exhaustive description on organization and management in a CPI at <http://www.oit.org/public/english/bureau/stat/download/cpi/corrections/chapter12.pdf>. Parts of section B have been extracted from this source.

importance that a system is in place to ensure that the data obtained, the processes involved in achieving the specified outputs, and the formulation of the policies and strategies that drive them are managed in an effective, consistent manner. The processes should, wherever possible, be open to verification; and mechanisms should be put in place to ensure that outputs meet requirements – in other words, customer satisfaction. Taken together, these elements form the basis of a quality management system.

The Excellence Model (1994) constructed by the European Foundation for Quality Management (EFQM) is a diagnostic tool for self-assessment. The model is widely used by governmental organizations across Europe to improve quality and performance.

**Figure 1: The EFQM Framework**



The EFQM Excellence Model focuses on general business areas and assesses performance against two sets of criteria – the first consists of five criteria covering what the business area does (the enablers: leadership; people; policy and strategy; partnership and resources; and process), and the second consists of four criteria on what the business area achieves (the results: people results; customer results; society results; and key performance results). Evidence based on feedback from focus groups, questionnaires and personal interviews is used to score performance, and a resulting action plan for

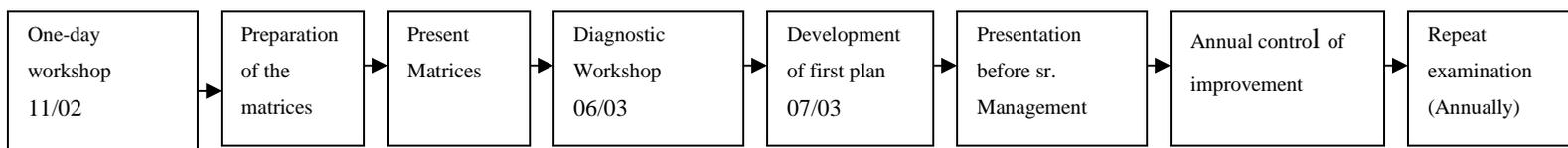
improvement is introduced which is then included in the business plan. Underlying the EFQM Excellence Model is the realization that (business) excellence – measured through customer satisfaction – is achieved through effective leadership which drives policy and strategy, allocates resources compatible with that policy, and manages employees in such a way as to enable them to manage the processes.

As stated, the Israel Civil Service Commission adopted the framework for government agencies and ICBS chose CPI to be the first team to assimilate the framework.<sup>2</sup> The immediate challenge for the team would be the transformation of a business type model to a statistical process.

### C. Applying EFQM to CPI

In late 2002 the senior management of ICBS decided<sup>3</sup> on assimilation of EFQM for the CPI team. The team included 15 professionals from all several areas of CPI: economists from the subject matter unit, statisticians from the methodology units, and coordinators of fieldwork and computer programmers from IT. An organizational consultant with EFQM experience and the quality coordinator of ICBS accompanied the process. In figure 2 below we present the stages that were devised for the CPI team:

**Figure 2: Stages of EFQM application in the CPI**



The CPI team learned about the model, the basic concepts and the expectations in a one-day workshop during November 2002. For the next half year (until June 2003) the teams were split up into small groups and each group was given an assignment to assess the functioning of the CPI according to the 9 criteria of excellence (see appendix 1). The

<sup>2</sup> CPI was chosen for two reasons: (1) it is a most important statistic (2) it has a sound methodological process; therefore we hoped that the experiment would be a success and encourage the other units to adopt the framework.

<sup>3</sup> The Civil Service Commission asked ICBS to be one of the first agencies to adopt EFQM according to the new government policy.

system for assessment was a matrix system in which each group made 10 statements for a criterion and then graded the statements based on their own understanding and consultation with others in the organization. The grades reflected the level of application where higher (in a rank of zero to five) meant that the statement for that criterion was being applied in satisfactory fashion. In the diagnostic workshop, that was held in June 2003, all teams gathered with the consultants and final grades were assigned for all criterion. This self and team assessment process enabled the team to understand their position in terms of the excellence criteria.

A plan for short and long term improvement was assembled in July 2003, following the diagnostic workshop, and this was presented before senior management who decided on the action items to be placed in the unit's working plan. The working plan was introduced in the 2004 fiscal year and an annual process of quality control including reexamination, update of development plan etc, and has been installed midyear, each year.

*C1. Preparing the CPI team for the process – getting to a common denominator*

In preparation for the inaugural workshop the CPI team deliberated with the following questions:

- How will the CPI, a sound and methodological statistical process fit into a business based management model?
- Is it possible to have a quantitative estimate of CPI quality?
- CPI is a labor-intense process with a fixed deadline, how can extra activities fit into the work plan?
- Should management (and at what level) be involved in the assessment process or will this cause the staff fear to speak its mind and submit objective grades?

An obstacle, which turned out to be a great advantage, was the requirement for all partners in the process (including the Civil Service Commission) to speak the same

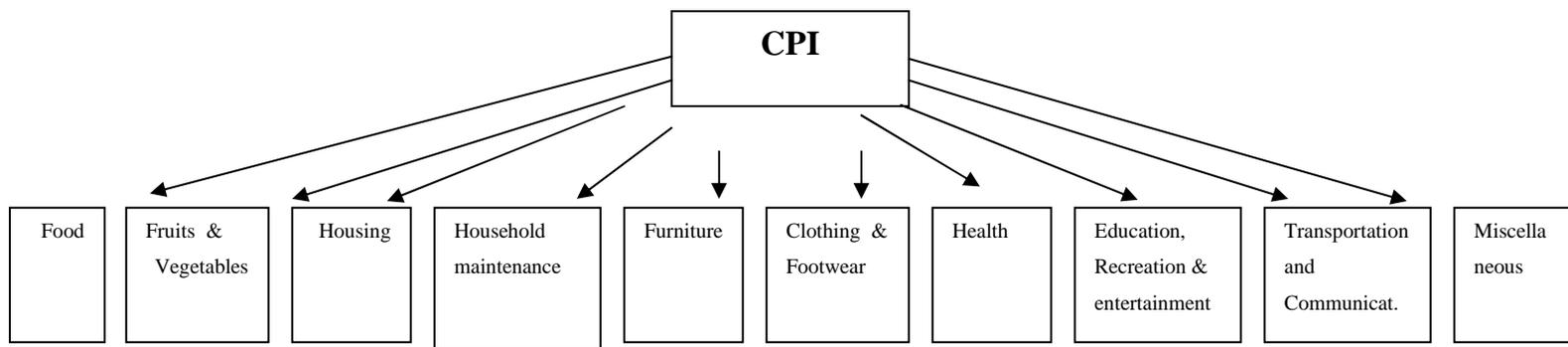
language. This brought about the preparation of a working manual for the economists in the CPI unit, a document that defined the different functions of these CPI professionals<sup>4</sup>.

### *C2. The functions of the CPI staff economists*

The working plan for the economists was defined in four connected layers:

1. Current data editing – the economists are in charge of the logical and statistical checks of price data collected in the field according to the following consumption groups:

**Figure 3: CPI main consumption groups for the economic editors**



Each price observation is checked to see that there are no outliers in terms of price change, price level, and changes in characteristics. The responsibility lies with the economist to be aware of changes that may be found in other data sources<sup>5</sup> i.e. information on market reforms, special sales, etc. as he or she are experts in their area, familiar with the professional and popular literature on their consumption group. Other obligations are weekly surveys of problems encountered in their respective area, presented at the weekly staff meeting and monthly reports presented at the staff meeting before the publication of the CPI.

2. Current subject matter work – the subject matter work of the economist is to improve the data on a current basis in connection to collection methods, item definitions, price

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<sup>4</sup> The intent here is the work conducted by the officials in charge of the core of the process – the work of editing, price measurement, and aggregation – “producing the index” – that is the work of the economists in the subject unit. Documentation on fieldwork was already well defined for many years.

<sup>5</sup> In contrast to statistical editing, that is based on the data, collected for the CPI database.

measurement methods and a better understanding of the relevant market forces. These include the following activities:

- ❑ a monthly check of the characteristics of the items
- ❑ track the existence of price observations
- ❑ monthly check of the sample of outlets
- ❑ update the maximum and minimum price borders according to price changes
- ❑ updating of pricing method for calculation in the index, especially important for services <sup>6</sup>
- ❑ a quarterly examination of the overall suitability of the items in the sample
- ❑ presenting a paper, each quarter, relating to one or more of the issues above

3. Projects on CPI issues – Each economist in the unit undertake a project regarding important issues connected to the compilation of CPI such as: the updating of the CPI basket, improving the procedures for each stage of the process including computerization, and dealing with issues raised in the CPI manual. The application of outputs from these projects will take place when the basket is updated every other year.

4. Development of CPI methodology – the plan for developing improved methodology for CPI at ICBS includes the following subjects: seasonality, new methods for computing micro indices, designing special CPIs for compensation, owner occupied housing, the use of scanner data and its implications, CPI classification. The economists in the CPI unit may cooperate with the research team of the Government Statistician on several of these issues.

### *C3. Diagnostic workshop – getting to a plan for improvement*

As stated above, in the diagnostic workshop, that was held in June 2003, all teams gathered with the consultants and final grades were assigned for all criterion. This self and team assessment process enabled the team to understand their position in terms of the

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<sup>6</sup> The collection procedures and price calculation differ from the conventional methods applied for goods. Pricing a liter of milk is straightforward and handled by the enumerators in the fields using standard methodology. Communications and many other advanced services are handled by the economists in the CPI division.

excellence criteria. The next stage was to describe the problems in the present process based on the outcome of the workshop. The main questions were:

- A CPI must be clear and simple for all players in the process. Reality is complicated and dynamic. What are the methods for updating the rules of process?
- Subjective handling in editing procedures may induce bias. How can the editing processes and the solutions given by the team be standardized?
- Reforms in the economy are changing the way services are prices and supplied to the public. How are these changes to be incorporated into the index?
- Technology has improved many of the procedures in the compilation of a CPI. However, over dependency on the computer may hide some of the problems, i.e.: building external systems to cover many of the items in the basket (of substantial weight) that are not covered in the main system. How to design rules and procedures for handling many systems and for the merging of all external systems into the overall CPI system? How may we be assured that security of the data is not endangered by the many systems in a world of advanced technology?
- CPI must be produced each month at the highest quality. The staff is required to advance their assignments in each of the four layers defined by management. Resources are scarce and in reality most of the projects are always pushed off in favor of the current daily procedures. In the long run, one must invest in research and development in order to achieve the same level (or hopefully improved) of quality over time. Can the EFQM excellence model actually assist on this acute problem?

The methodology of EFQM, as explained by the consultants, required short and long term plans. They recommended that we devise plans that will be implemented and not only "stay on the paper". Therefore plan for what you can execute in reality. Management of the CPI division looked at these problems and presented the following plans for improvement before the unit and later before senior management of the ICBS.

### **Short term plan**

1. Prepare a manual for staff economists: documentation of procedures and rules for each of the four layers of work. The document will also be used for training of new staff and must allow updating and archiving of older versions.
2. Conduct Satisfaction survey for employees in order to cover many aspects of day to day life at the workplace.
3. Conduct workshops for CPI users in and outside ICBS to improve dialogue and user satisfaction.
4. Improve security level by educating the staff of simple steps that may be taken to guard the data against intruders.

### **Long term plan**

1. Enhance the computer systems in the following areas: interface with external systems; build a system for management<sup>7</sup> of outlets and price observations; improve the accessibility to databases by (independent) querying; build a new system for the housing component in the index as part of the overall system.
2. Improve collection of prices from Internet.
3. Use scanner data for research and control.
4. Build new internet site for Prices.

These plans were presented before senior management in autumn of 2003 and included in the plans for the CPI unit starting from fiscal year 2004. The short term plans were executed in 2004/5 and long term plans in 2005-2008. A reexamination of the process, according to our EFQM methodology is conducted annually and modifications are introduced when required.

### **D. EFQM - A Success Story?**

**Improvements in the process:** Application of short and long term plans devised through the EFQM process has led to the following improvements.

- Computerization means more efficient and effective work.

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<sup>7</sup> As opposed to editing systems that already exist.

- Documentation was completed, is updated and can be used for standardization of editing and other work stages and training.
- Security of CPI data was enhanced.
- Cooperation and betterment of communication with the users.
- Freeing of resources for other layers of index activity by staff economists and not only current CPI.
- Allowing staff to participate in other kinds of activities that are connected to management issues.
- Success of EFQM in CPI led to implementation of this model in other units. In addition, we present our experiences before other government and public forums.

**Answers to our questions:** if we go back to the questions that we asked about the applicability of EFQM in CPI we may now answer accordingly.

- How will the CPI, a sound and methodological statistical process fit into a business based management model? *It is possible. One must change the mode of thinking and understand that better planning, designing and control will eventually free resources for the statistical production.*
- Is it possible to have a quantitative estimate of CPI quality? *We have not been successful in finding a "number" that we can state without doubt in connection to EFQM by saying that applying EFQM has improved the CPI by "so and so".*
- CPI is a labor-intense process with a fixed deadline, how can extra activities fit into the work plan? *The staff realizes that the extra activities are investments that free resources and also find the experience to be challenging and enjoyable.*
- Should management (and at what level) be involved in the assessment process or will this cause the staff fear to speak its mind and submit objective grades? *Our experience shows that immediate managers may be part of most of the process. Senior management must be involved at the declarative level so that staff should understand that the process is of utmost importance. However the senior managers should not participate with staff in the workshops as this may deter*

*staff from speaking its mind. It may also lower staff expectations regarding improvements in physical features of the workplace and issues that arise in the Satisfaction Survey.*

## Appendix 1: The EFQM Excellence Model criteria<sup>8</sup>

The Model's 9 boxes represent the criteria against which to assess an organization's progress towards Excellence. Each of the nine criteria has a definition, which explains the high level meaning of that criterion.

### **Leadership**

Excellent Leaders develop and facilitate the achievement of the mission and vision. They develop organizational values and systems required for sustainable success and implement these via their actions and behaviors. During periods of change they retain a constancy of purpose. Where required, such leaders are able to change direction of the organization and inspire others to follow.

### **Policy and Strategy**

Excellent organizations implement their mission and vision by developing a stakeholder focused strategy that takes account of the market and sector in which it operates. Policies, plans, objectives and processes are developed and deployed to deliver strategy.

### **People**

Excellent organizations manage, develop and release the full potential of their people at an individual, team-based and organizational level. They promote fairness and equality and involve and empower their people. They care for, communicate, reward and recognize, in a way that motivates staff and builds commitment to using their skills and knowledge for the benefit of the organization.

### **Partnerships and Resources**

Excellent organizations plan to manage external partnerships, suppliers and internal resources in order to support policy and strategy and the effective operation of processes. During

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<sup>8</sup> Source: EFQM website at <http://www.efqm.org>

planning and whilst managing partnerships and resources, they balance the current and future needs of the organization, the community, and the environment.

**Processes**

Excellent organizations design, manage and improve processes in order to fully satisfy, and generate increasing value for, customers and other stakeholders.

**Customer Results**

Excellent organizations comprehensively measure and achieve outstanding results with respect to their customers.

**People Results**

Excellent organizations comprehensively measure and achieve outstanding results with respect to their people.

**Society Results**

Excellent organizations comprehensively measure and achieve outstanding results with respect to society.

**Key Performance Results**

Excellent organizations comprehensively measure and achieve outstanding results with respect to the key element of their policy and strategy.