

INTERDEPARTMENTAL METHODOLOGICAL DISCUSSIONS

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“A fundamental rule for system analysts in defining user requirements is: understandability, in complete detail, by the intended audiences” (idenews.com)

1. Introduction

The Research Department consists of two operational wings, each with its own peculiarities and areas of focus. And within each wing there are different divisions (feathers). If there is no proper co-ordination, “flying” becomes close to impossible. Even if one wing is broken it will cause disruption and incapacitation. The fast pace of financial innovation, technological advances and growing need for up to the minute quality data required by various official institutions, as well as private entities, places a heavy burden on the data requirements expected from the Research Department.

Time, effort, resources, dedication and manpower is required and these will determine whether we will be able to continue to fly..... perhaps like a dove, or even aim to soar like an eagle!

There are various areas of commonalities among the different divisions of the Research Department. For example Money and Banking figures either form important inputs or serve as confirmation of government finances (such as government deposits), balance of payments (foreign deposits, assets and liabilities) and flow of funds where, among other things, the financial intermediary role of banks in the economy is disaggregated. These inter-linkages, which also apply to National Accounts, the Monetary Policy Review area, as well as Macro Models is a prime example of the importance of sharing and integration of data.

2. Full review of process

It is therefore important that the Department take a step backwards to review the full process of the collection and dissemination of economic data. We are all agreed on the importance and usage of information, but the accessibility of data, the defining of data requirements, data management and the co-ordination between divisions is an area that presents a number of challenges.

Research data, unlike other types of information, is collected, observed, or created for purposes of analysis to produce original research results (University of Edinburgh). Research data can be generated for different purposes and through different processes:

- Observational – captured in real time
- Survey data
- Derived or compiled data

Research data also comes in a variety of formats that include:

- Flat text files
- Numerical and Excel files
- Data files
- Models
- Hard copies
- Area specific
 - RMO and Oracle for forms data
 - TSA and IES for time series data.

We therefore need to standardise methodologies and work flows.

3. Co-ordination and accessibility

While data in one form or another is generally available, the co-ordination and accessibility thereof can be improved. Not only do we need to look at defining data needs, requirements and international best practice, but we also need to look at how technological advances could help to assist in providing ease of access and user friendly ways of interchanging data between divisions.

Ease of access is an area that can be improved in our department. It is not always easy to find appropriate data as our time series systems are archaic and search functions are limited. Only those working closely in specific areas normally understand where to find appropriate data, making it very difficult not only for new appointees, but also for those that do not work closely with the data in a specific area. The new time series system can be helpful to alleviate the problem but should not be expected to be the ultimate solution if sufficient time and effort is not applied to ensure that the system can deliver what we require. It is therefore important to look at our full process, systems and procedures.

Even if our (that is, RSH) current data structure works effectively in our area, but it does not serve the needs of the user community effectively, it may be best to re-devise a suitable alternative. We now have the opportunity provided by the implementation of the new time series system and we should approach it with the necessary focus and attention that it requires. It should be approached with enthusiasm and vigour, we may not get such an opportunity again soon. The approach should be multidimensional with a dedicated team of experts from the different areas. A project team dedicated to the process would be most preferred as it would ensure faster results and dedicated focus.

4. Technology and data storage

In terms of the use of technology in data storage it becomes very important to look at the concept of data management. This will ensure that systems are effectively designed and maintained, while delivering the required output. It would be possible to run Oracle type databases (for especially forms data) where detail data is stored with its multi-dimensional capabilities while the essential time series data that are required and sometimes interconnected with other series of different divisions should be maintained on its own system.

Technology could assist us in releasing data timeously and effectively. Technology allows for many innovations which could provide us with new solutions or other alternatives to the current way we release information. We could have a “*real time*” quarterly bulletin that updates as information is processed. This is perhaps a discussion for another occasion, but the concept should ideally be kept in mind in the design of an optimal solution.

However, technology also presents its own problems and challenges. It requires technologically minded individuals (economists), with a liking for computers and systems. A systems driven process can also deliver incorrect results, but because the detail behind it is not always understood these errors will be difficult to pick up and correct. It also assumes a heavy reliance on IT and technicians which requires dedicated IT personnel that can respond quickly to requests. Furthermore, due to the intricacies of the procedures involved any changes may not always be easy to implement.

5. Difficulties of data integration

One example of the difficulty in integrating data between divisions is the Oracle Financial Analyser product. Oracle is used to store our forms data. This is a system used in Money and Banking Division (MB), Capital Market and Flow of Funds Division (CMFF), and also by

Balance of Payments. It provides us with the ability to view a complete survey in a multidimensional format, eliminating the need, to some extent, for time series as all the data of the survey can be viewed simultaneously while it also allows for re-organising the way in which the data can be viewed. All in all a huge improvement from the RMO system that is much more limited in its viewing capabilities. However, the way in which the Oracle systems were designed does not allow for easy sharing of data between MB and CMFF. This is because MB is linked to the system designed and used by the Bank Supervision Department, while a different approach was used in CMFF. Thus, while technology provides a great benefit, it also creates design problems that cannot be rectified easily.

The problem is that the system works at the moment and a redesign will cause major disruption. Each division is focussing on their own area and ensuring that the output can be maintained, but how long can we continue this way before major problems are experienced. It can be compared to the national roads network with a patchwork of potholes that allows for driving over it, but with a lot of bumps along the road. A proper solution would be to take a comprehensive approach and do a complete overhaul of our current systems. This will take a lot of work, many man-hours and a dedicated team of people specially allocated to this project. Time, money and workload do not always allow for such a process but the benefit over the long run should outweigh the short-term cost.

The focus of the Research Department is the delivery of reliable output. The mission and vision of the Department states that our primary purpose is to: *Support economic policy formulation by providing accurate economic information and well-considered analysis, research and recommendations.* Our overall strategy is *the broadening of economic information gathering, improved research capacity and dissemination.* We therefore need to ensure the necessary focus to enable us to effectively generate our results and output in a user friendly system. We need to set standard operating procedures and protocols and we need a system that allows for effective data mining.

6. Other concepts to consider

Other concepts that need attention in the methodological discussion process is data verification and storage, data management, data integrity and confidentiality, a data dictionary which will allow for easier data mining and search facilities. Furthermore we need to look at the integration and communication among all stakeholders and effectively manage respondent burden and/or duplication. The shifting roles of economic players also creates challenges for data collection and processing.

7. Summary and conclusion

In terms of the cross-departmental flows of information our systems need to ensure that we speak from one mouth. We therefore need to focus on enhancing the process of integration and sharing of information. The dissemination of statistics and economic information is one of the functions of the Department that can be viewed as of national importance. When looking into the integration of data, we should simultaneously be investigating how any solution would be able to facilitate improved data delivery to the outside community.

References

- www.idinews.com Defining data items. 29 June 2003
- www.ed.ac.uk The University of Edinburgh. How to manage research data. 28 August 2009