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Comment

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Don Dillman has written a useful and provocative paper. It would interest me, even had I not worked at the U.S. Census Bureau for part of the same time as he. I recognise the conditions and problems he describes. I do not disagree with his argument, but I believe I have a few comments that further illuminate or even provide an additional, different perspective. I worked at the Census Bureau for 23 years in two spells (1963–75 and 1981–92), so I am familiar with and knowledgeable about its culture (especially the operations culture). However, I worked six years at the U.S. Office of Management and Budget and now three years in an international organisation, so I have the added perspective of other organisational cultures. Dillman uses the analogy of the aircraft manufacturer operating an airline and designing planes at the same time. Perhaps this is an apt description of the coexistence of research and operational cultures, but the existence of separate cultures, per se, is not what generates the problems. As propounded by total quality management, clients and suppliers should mutually be involved in design. I would very much want to think that aircraft were designed with the involvement of pilots, flight attendants, and even passengers. So, the mere coexistence of the research and operational cultures is not the core of the problem. If these cultures did not coexist within the Census Bureau, the obstacles to innovation and change would be far greater. It is surely the relationship and utilisation of the two cultures where the problem lies. Another feature that slows innovation, as Dillman points out, is the hobbled ability of many kinds of organisations to foster or even allow innovation. He mentions some features that slow innovation and change in government survey organisations, but there are other conditions in government that exacerbate these difficulties.

One is the imbalance between the penalty for failure and the reward for success. Particularly nowadays, a function of government that works smoothly and achieves its objective is little noted or recognised, even within the executive branch. The media and the Congress take no interest at all, for largely understandable reasons. There is no profit motive for the managers or workers, although to a surprising extent staff at the Census Bureau and other government survey organisations are genuinely motivated by the satisfaction of public service and their own sense of competent performance.

Failure is something else entirely. It will attract the attention of all the above. In

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spite of the protections inherent in civil service, individuals often suffer as a consequence, and the agency's reputation, influence, and ability to gain resources are often affected, too. This is probably inescapable, but the relative values assigned to success and failure certainly do not favour innovation and change. Second, there is a strong political suspicion of change in statistical results, even when change entails improvement. A more accurate measurement of the number of unemployed or the incomes of the poor is not welcomed disinterestedly by the administration or the legislature, let alone groups with policy views or economic interests. That innovations occur is a credit to the values of survey organisations and the effort and skill they devote to explication. Third, there exists the need to achieve balance in treatment of different groups or areas. If a pilot test in the chairman's legislative district is a good idea, then one in the ranking minority member's must be, too. The relative need or even existence of a technical problem is not considered relevant. Fourth, the groups that must agree on changes often have different and inconsistent goals. The legislature may be controlled by a different party than the administration. The oversight committee has concerns that do not square with the appropriations committee. Privacy protectors and genealogists, mayors and governors, rural planners and urban ethnic associations may all have different, irreconcilable views that must be reconciled. Dillman mentioned that a minimum of eight entities outside the Census Bureau might comment on a single experimental design. There are certainly difficulties posed for innovation within a hierarchy, but at least a hierarchy can reach a decision. Non-hierarchical agents, usually with different values and goals, must reach a consensus, a process which can absorb resources and energy that, in turn, disincline one towards change.

Dillman is correct in his observation that expertise needs to be increased in measurement and nonresponse error within the research culture. And, a first step is to bring into government a sufficient body of specialists in measurement and nonresponse error who can withstand pressure in design considerations. At the Census Bureau, a beginning was made at the end of the 1980s, and this development should, and I hope will, continue. However, in times of resource constraints, this sort of change is not easily achieved in the short term. The current small number of measurement and nonresponse error experts might be partly rebalanced by somewhat reducing the resources devoted to the "old frontier" work, e.g., mathematical statisticians calculating variances for each and every statement; perhaps the tasks could be automated or performed by personnel with different skill levels. Of course, it is necessary to build capability within the operations culture. The theoretical basis underlying measurement error and nonresponse error is, I believe, more intuitively accessible to non-technicians than is that of sampling error. Therefore, training could improve the orientation and sensitivity of operations staff to this source of error. It is part of a broader need to strengthen the understanding for and habit of using the scientific method in the operations culture. The ability, dedication, and energy of performers in the operations culture is unquestioned, but more often than is optimal, there is reliance on authority, history, or impressionistic evaluations as the basis for design decisions.

In the Census Bureau, and perhaps in other parts of government, consideration of options in making a decision is not a particularly strong habit. Experienced, serious

people identify a problem or task to be done, reach a reasoned judgement about what should be done to solve the problem or accomplish the task, and get on with it. Since this occurs in a hierarchical context, one or more other layers of the organisation also must concur. Only rarely are options formally drawn up, let alone argued and tested. A manager is presented with a problem and a developed solution. This is routine decision making in important matters, including budget proposals and informatics acquisitions. In the Office of Management and Budget, decisions are usually presented as a set of options, with formal argumentation of pros and cons, which at least informs the decision maker and often opens new possibilities. This process can nevertheless sometimes be mechanical, artificial, and occasionally even precious. It was often said that budget examiners put the option they favoured in the middle, in the hope that the decision maker would, like Goldilocks, find the middle bowl of porridge "just right." To be sure, this process does not always result in the "correct" decision! Nonetheless, the process does force consideration of questions: How do we know this? What choices do we have? What if another course were taken?

When I returned to the Census Bureau in 1982, I endeavoured to establish this mode of posing decisions. From time to time, I was indulged, especially on a few important issues. Generally, though, a systematic consideration of alternatives did not evolve into praxis. Of course, mailing costs, efficiency in data entry, and all the input cost considerations whose dominance of design decisions frustrated Dillman are of great importance. But it is essential to put these in the context of results in terms of accuracy as well as precision of measurement. What is needed is a frame of mind which ensures the right context and the technical skills to demonstrate results.

For my part, I am less concerned by the problems of hierarchy than is Dillman. For one, they are hard to tackle directly. For another, changes in technology of communication and theories of management will continue to whittle away at the information rigidities and even the decision functions of hierarchy. (E-mail speeds communication and functionally flattens the organisation, but it often also can broaden and lengthen discussion of trivialities and irrelevancies in unproductive ways.) It may be, too, that the great, crashing budget debate in the United States will flatten hierarchical structures and achieve organisational consolidation as resource constraints have in many other countries. I believed when I worked there, and still do believe, that the Census Bureau is too layered within itself and in its context in government. I emphatically believe that changing either condition is hard, without exogenous intervention. An obvious solution is to use, to the extent possible, the concepts of total quality management: flatten the organisation, devolve responsibility to the level of best knowledge, use matrix management with teams of various skills needed to accomplish tasks (this management style is not foreign to the Census Bureau, in fact it is a fundamental principle of organisation). Still, in my view, it is important to ensure the independence of methodologists (both traditional statistics and the expanding corps of measurement error specialists) and to use the hierarchy effectively to see problems and goals of other magnitude that are visible only from a certain perspective. It is also important to build understanding and knowledge of nonsampling error in higher administrative levels. This may evolve in time, to be sure, but it can and should be accelerated by training, hiring, and establishing special channels of communication. Changes in

respondent behaviour, needs for improved measurement and operational efficiency, and rapid changes in technology make it important that government survey organisations take constructively into account experimental, knowledge-based approaches to reducing measurement and nonresponse error. Dillman's proposed steps, especially those practically in the reach of survey organisations, would be helpful. But, they will not resolve the broader questions of innovation and change in government.

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