



DISCUSSION PAPER

Topic: Business Impact
Analysis/Assessments



1.0 PURPOSE OF BUSINESS IMPACT ASSESSMENT

A business impact assessment (BIA), also called a business impact analysis, is a study of an organization's functions for the purpose of estimating how well or poorly it can be expected to perform if its operations are disrupted. A BIA establishes a more rigorously defensible baseline for deciding how much continuity planning should be developed. Many continuity planners encounter the dilemma that after having identified solutions to avoid or minimize operating risk, senior management balks at the cost. This is especially the case when the benefits – not only for reduced impacts of risks but also improved daily operations – are nebulous or not clearly understood. A BIA provides a stronger analytical basis for making these decisions.

In general, planners and executives tend to underestimate the costs associated with disruptions because they overlook some sources of disruption costs. As a result, inadequate continuity plans may be constructed. This discussion provides a comprehensive list of the categories of "drivers" to reduce the likelihood that some costs are overlooked, and it examines the challenge of defining continuity planning correctly to provide a defensible base for decision-making.

This analytical process is called a business impact assessment, not because it applies only or primarily to organizations with profit motives, but because the process focuses on the results of disrupted business type operations. In this discussion, business impact will mean the same as government impact, where the concern is for disrupted government operations and their effect on the public at large and specific beneficiaries of the operations. "Organization," "agency," "business," and "government" will be used interchangeably in this discussion.

2.0 HISTORICAL PERSPECTIVE

The essence of a BIA is measuring effects from disrupted operations. But measure what? And how? And under what premise? The context or frame of reference adopted in a BIA is critical.



California Governor's Office of Emergency Services

State Continuity Planning Program

Historically, performing a BIA would have involved rather straightforward tasks of estimating daily or hourly operating costs for the agency, and these costs would serve as a measure of the “value” at stake if the operations stopped. Twenty years ago, constructing a disaster recovery plan mostly focused on restoring computer and communication systems at recovery sites. The BIA provided cost estimates to trade off the anticipated duration of down time (without planned recovery capability) with the cost of maintaining restoration capability, typically measured in mean time (minutes, hours, days, weeks) to resume operations. This latter metric is sufficiently important that it has acquired its own acronym, RTO, or Recovery Time Objective.

The expectations of a BIA are expanding because of several trends and events. As information technology facilitates more rapid performance of services and delivery of goods, expectations of customers and the public in general for responsiveness are lowering the limits of acceptable down time. Restoration times are now often measured in micro-seconds (e.g., no interruption), seconds, minutes, and hours instead of days or weeks. Because recovery site costs escalate as response time’s drop, management must examine more critically their customer’s expectations. The BIA is thus becoming a vehicle for documenting variations in customer response requirements and differentiating response times required of recovery sites for different government functions.

The changing profile of operations risks is also shifting the focus or frame of reference for BIAs. The terrorist attacks of September 11, 2001 and the subsequent anthrax attacks raise the issue of loss of personnel and/or extended loss of facilities, not just computing centers. The deterioration in information security in new computer systems, the consequence of adoption of Internet-based operations, raises the possibility of cybercrime and cyberterrorism. Either angry individuals or organizations with hostile political objectives can mount these attacks, from within or outside of a government entity; if from outside, with the subject organization as either the intended target, a participant in a larger target, or an innocent bystander.

The consequence of these trends is that recovery strategies must account for disruption of more different types of resources, not only computing centers, and therefore the planning solutions are becoming more costly – and require more rigorous justification.



3.0 SCOPE AND FOCUS –CONTINUITY OF DELIVERY

The increased cost of continuity plan solutions has motivated senior executives to challenge whether continuity plans must be prepared for all operations within an agency. Estimating lost production is no longer the key or primary measure. Rather, the harm to customers has increased as a driving force because the long term survival of many organizations depends upon customer trust of its performance. For a government, disruptions to its operations can cause:

- Loss of life or increased injury;
- Suffering and discomfort;
- Loss of trust;
- Civil disobedience;
- Adverse impact on the economic and social well-being of the public.

Practically speaking, government continuity planners must ask themselves two questions:

- “Who is counting vitally on the services (or goods) we provide them, in a time-critical context?”
- “What constituencies of ours matter the most to us (again in a time-critical context), and will our failure to serve them lead to large amounts of harm – to them or to us?”

Yet assuring that all operations can continue under all circumstances is prohibitively expensive (in government or in the private sector), and the frame of reference for BIAs is a closer scrutiny of who is most at risk should operations stop. As the following Figure 1 illustrates, continuity plans must reflect the nature of the relationship between government services and the specific “customer” bases that those services support. The goal is assuring continuity of delivery of critical services but not all services.

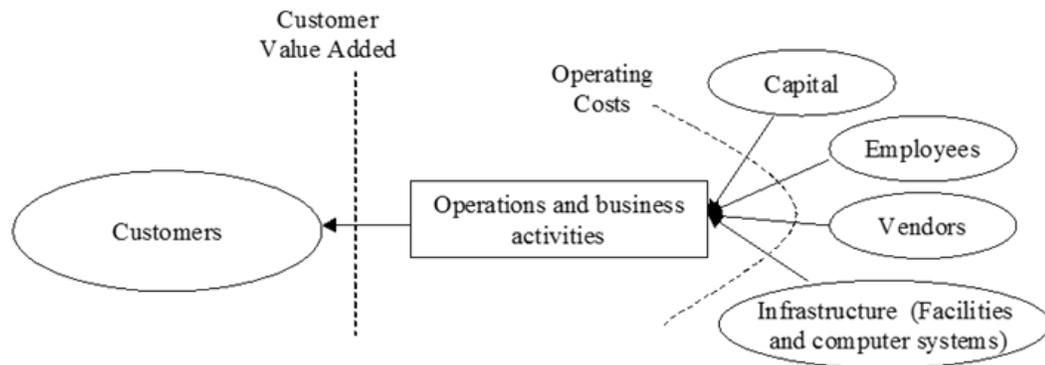


Figure 1: Basic Business Processes

4.0 BASIC “DRIVERS” OF DISRUPTION COSTS OR EFFECTS

As most planners recognize, capturing the operating costs of a government is reasonably straightforward since all organizations maintain standard accounting processes for recording and reporting these costs. Measuring the value of government services delivered, however, is more challenging. Furthermore, for continuity planning purposes, the measurements must account for how disruptions to delivery occur *operationally*.

The following list identifies basic categories for grouping disruption effects, and the comments reveal how difficult the measurements may be:

- Recipient satisfaction effects:** This category addresses as explicitly as possible the direct effects on the various customers or public bodies that normally benefit from the government's services. If the services are disrupted, this category must estimate the amount of inconvenience, suffering, jeopardy of personal health or life, and emotional distress the disruption causes. It also captures the estimated costs for remedying the situation after a disruption is addressed and services resume, such as appeasement or compensation payments and extra services.
- Revenue effects:** For some services, the recipients pay directly for the services. A BIA gauges how much of the normal revenue stream is either lost or delayed because of disruptions. For some operations, in fact the revenue stream can continue in spite of



California Governor's Office of Emergency Services

State Continuity Planning Program

a cessation of operations. This effect is captured in cash flow estimates, but it also correlates with estimates of recipient dissatisfaction as captured in the previous category. Another revenue effect occurs when the disruption reduces the tax paying base, either during or after a disruption.

- **Persistent expenses:** When a government operation ceases, some of the expenses associated with the operation cease as well. For example, postage expenses stop when checks are not mailed. Other expenses may not stop, and this category addresses how expenditures for supporting goods and services change (or not) when an operation stops.
- **Abnormal expenses:** When a government must recover its operations via alternative locations, facilities, equipment, or people (such as temporary hires or overtime), it will incur costs that would not happen if the disruption had not occurred.
- **Excess capacity costs:** When a government returns to normal operations after a disruption, it may find itself resuming or restoring a capacity level that is not utilized initially – or forever. If the normal recipients of the services before disruptions are slow to return afterward, excess costs are incurred.
- **Interdependency costs:** In the context of examining or assessing the continuity risks associated with a particular source or risk cause, planners must estimate the likelihood that government operations that are not directly affected by the immediate cause will be disrupted anyway because of interdependencies. The shutdown of one building in a complex can disrupt government operations in other buildings that depend on activities in the closed building.

As one can see, there are numerous opportunities for planners or senior executives to inaccurately estimate the costs of a disruption to operations. The general tendency is to overlook some categories, and although some effects may be positive in the short term, the majority of effects are negative. Many planning efforts without the benefit of a BIA underestimate the impact costs.



5.0 WRINKLES IN THE MEASUREMENTS

A careful reading of the cost categories or drivers in the last section will reveal that the baseline for measuring some effects is nebulous. If a government occupies a building that it owns and it is forced out of the building for a protracted time, say six months, is the cost of owning a building that is not occupied counted? If a government leases space in a building and it is forced out of the space for six months, will it expect to pay rent on the unoccupied space? In an absolute sense, the cost associated with this disruption effect must be the same – obtaining space elsewhere for the six months – but the real cash flow effects may not be the same.

The immediate concern of continuity planners should be to simply establish a baseline of what would occur if a disruption happened as a result of any number of scenarios, but given the current operating structure. The metrics employed can include dollars as well as other physical measures to reflect effects whose monetary value is difficult to quantify.

For a broader or more encompassing view, an understanding of how the organization has structured its operations – rent versus own in the above example – will affect the impact on it of a disruption. This understanding can influence strategic planning over the long term so that operations resiliency becomes a factor in senior executive decision making. To return to the building rent versus own example, a government that owns a building will be motivated strongly to spend for mitigation efforts to minimize the likelihood of its building being shut down. An agency that rents and would not be compelled to pay rent for space it cannot occupy will not experience as strong a motivation to mitigate loss of occupancy.

6.0 THE BIA “AS IS” VERSUS “TO BE”

Having established a baseline estimate of the effects from various disruptions as categorized above, the “as is” state, continuity planners can then estimate the effects if a particular proposed continuity plan element is acquired – the “to be” condition. The difference between restoring an operation in an “ad hoc” manner, without planning and requiring perhaps many weeks, can be compared with the effects if the operation can be restored, under emergency conditions, in one, two, or three days. This difference provides a clear understanding of the



California Governor's Office of Emergency Services

State Continuity Planning Program

benefits of the continuity plan elements, and makes an evaluation more straightforward after the costs of the plan elements are established. This is the goal of a BIA.