A Practical Approach to Business Impact Analysis

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Understanding the Organization through Business Continuity Management

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Introduction

The aim of this book

For a topic as important to a discipline as BIA is to BCM, there is remarkably little written on the subject or available on the internet. There are templates available, both for free and for payment, but few explorations of the wider issues that are needed to make effective use of those templates even within the sector for which they were designed. This is because it is difficult, in a few pages, to describe the process of BIA and show its applicability in all sectors. In addition, the BIA method used by external consultants to initiate a BCM programme may appear to bear little relation to the BIA process embedded in the processes of more BCM-mature organizations.

This book is not going to present the reader with a 'one size fits all' template for undertaking a BIA in every sector. Blindly following a template is unlikely to result in a meaningful result. Instead readers are invited to think through the guidance offered, consider the purpose of the data they will collect and devise their own BIA method which fits the current and future needs of their business.

About this book

The term 'Business Impact Analysis' has been applied to a wide variety of different methods over the years but a consensus has emerged in the last few years following the publication of BS 25999-1, *Business continuity management — Code of practice*, BS 25999-2, *Business continuity management — Specification* and, more recently, ASIS/BSI (BCM.01:2010). An international standard is yet to be published but ISO/DIS 22301 suggests that the approach in the earlier standards will be adopted. The methods that support the implementation of these standards are described in the Business Continuity Institute's *Good Practice Guidelines 2010 (GPG 2010)*, which is regularly updated to reflect current practice.

The scope of this book covers the topic 'Business Impact Analysis' that is described (with minor variations) in these standards and guidance. In BS 25999 and the *GPG 2010* the 'Continuity Requirements Analysis' is described as a separate step but, because this collection of resource requirements is usually undertaken at the same time as a BIA, this has been included in the scope of this text.

It has been assumed that there is top management support for undertaking a BIA; if not, then efforts need to be made to gain this support first, a topic not covered here.

The first chapter presents a definition of BIA, explains its importance in the BCM Programme and sets the context in which it is performed.

The second chapter examines the concepts and terminology of the BIA. The reader may prefer to skip this chapter, referring back to it from later chapters when further explanation is required.

The third chapter describes two approaches to undertaking a BIA. A project approach is usually adopted for an initial BIA. Once a BCM programme is established, the BIA can become a process, split into a number of linked activities that are embedded in the organization's management procedures.

The next three chapters discuss how to conduct the BIA as part of a programme using the 'Strategic, Tactical and Operational' model. Those undertaking a first BIA are likely to include elements of all these in coming to an initial understanding of the organization.

The final chapter shows how the results from the BIA project or programme provide the information on which the appropriate BCM strategies can be selected and effective recovery plans developed.

Having said that, no universal template can be provided; Appendix 1 contains a cross reference to the various topics in the text from which readers can, if they wish, create a template for use within their organization.

Throughout this book two icons are used to help you find what you need:

Real-life examples describing tried and tested approaches

Key points

1 What is Business Impact Analysis?

A definition

The BCI's Glossary, BS 25999 and ISO/DIS 22301 all define a BIA as 'the process of analysing business functions and the effect that a business disruption might have upon them'; the ASIS/BSI BCM.01 2010 definition is very similar.

To understand the effect of a disruption a BIA needs to ask:

- What are the key business/service objectives of the organization?
- What products and services are required to meet these objectives of the organization? (Deliverables)
- How are the objectives going to be achieved? (Activities)
- Who and what needs to be involved (both internally and externally) to achieve the objectives? (Resources)
- (And most crucially) When do these objectives need to be achieved? (Time)

These questions are standard business analysis queries but only in the BIA does the last question – relating to time – play such a key role.

A BIA looks at each product, service, process and activity within the organization, understands its significance to the organization and determines the impacts over time that would result if it were to be disrupted.

It also documents the interdependencies of the activities within a business and with suppliers of goods and services. It is necessary to understand this complexity to make estimates of the impacts over time of a disruption to back office and corporate activities.

Once the impacts have been determined, the maximum tolerable period of disruption (MTPD) can then be estimated by asking how long it will be before the continuing failure to carry out the activity will create intolerable impacts.

Why is a BIA so important?

It is necessary to undertake a BIA to understand how quickly the organization needs to respond when a disruption to normal business occurs. It becomes a statement of requirements for the recovery strategy following a disruption. By knowing how quickly the delivery of the various products and services needs to be restored, we can work out how quickly the various activities within and outside the business need to be recovered to enable that to happen.

If these recovery requirements are guessed at, without a BIA process, we could set recovery objectives but when an incident occurs these might be either an:

- underestimate – leading to the organization suffering severe or terminal damage as it could not meet the time or scale of recovery demanded by its customers even though there was a plan; or an
- overestimate – and the organization would continually be spending sums of money on recovery capabilities that were not required, making it uncompetitive or inefficient.

Sometimes there is a limit to how long customers will wait: Following a fire, a manufacturing company rebuilt its plant with the insurance payout, but within six months it had closed because its customers had taken their custom elsewhere and, on resumption of production, too few were won back from their competitors to make the new plant profitable.
Sometimes the need for a speedy recovery is overestimated: A government department was paying a supplier to provide a 4-hour on-site response to multiple locations. To achieve this, the supplier had several mobile facilities in various places enabling it to fulfil this contractual requirement. However, for various reasons, an incident went unresolved for 36 hours but there were no serious repercussions of this delay. The contract was renegotiated to 36 hours, which required just one mobile unit, thus saving a substantial sum.

So the BIA will enable the organization to select an appropriate approach to, and a detailed strategy for, business resumption after a disruption. In times of financial pressure and in the public sector it is particularly important to demonstrate this close match between requirements and spending.

Once the strategy is selected, the BIA can even assist us in working out how long an 'escalating' incident can be left until the plan is invoked. This decision of when to act (for example, to move to an alternative location) is particularly difficult in situations where the problem is temporary, such as a power failure or denial of access.

The BIA also provides an opportunity to make managers more aware of the need for BCM and how it affects their role.

The BIA is conventionally used to determine the current recovery requirements of an organization. It can also be used to consider the impact of disruption under other assumptions. So an organization considering a major change, such as relocation or reorganization, could use the BIA to identify which configurations, from a number of possibilities, provide the required resilience.

What are the prerequisites?

It should be obvious that it is necessary to obtain the full support of the organization's senior management before starting a BIA. Attempts to speak to managers may be rebuffed unless this support is forthcoming. It also needs to be 'sold' to managers as being of interest to them as individuals and an explanatory note in advance of a meeting (described later – see Chapter 5) should address both requirements.

It may be premature to launch into a BIA before there is a semblance of a BCM programme in place. A BIA conducted by an external consultancy may fail to be followed up if there is no identified individual within the organization to learn from the BIA and implement the solutions required by its findings.

Training of people to plan and undertake a BIA – whether classroom-based or self-study – on BCM and particularly on the BIA method, is essential to ensure that the process is effective. Even if an external specialist is being employed, it will be useful for in-house personnel to receive training so they can assist the specialist to understand their organization and take the learning forward when the external specialist leaves.

Undertaking a BCM exercise with the senior management in advance of the formal BIA may be useful. Exploring their reaction to a disruption will achieve:

- an appreciation of the need for a BCM programme by the senior management – so buy-in for the BIA will be enhanced;
- an initial understanding of the business – especially the products, services and the major stakeholders as perceived by management;
- a preliminary acceptance of the context and scope of the BIA, if this has not yet been decided.

In an ideal BCM programme, a BIA should be undertaken using the scope (or a subset of the scope) as set out in the BCM Policy. However, if a policy is not yet agreed, a BIA may be a valuable tool to gain a sufficient understanding of the organization to enable the scope of a BCM Policy to be drafted.

BIA scope

The scope of a BIA should be defined in terms of products or services since, at the strategic level, it is primarily about customer response. The term 'product and service' is shorthand for a wide variety of options which can include:

- a group of products or services which have similar characteristics;
- a single product (or group) delivered to a single customer;
- products supplied to a specific geographical area (where one possible strategy is to provide the product from another area).

When using a wide geographical scope it can prove difficult to explain how all sites are unable to operate where the product or service is produced from several sites. However, industrial action or picketing at all sites is one of several scenarios that could cause this.

Selecting just one customer may make it difficult to identify how much resource is required to operate activities that provide support to other customers or products.

Some methods suggest limiting the scope of the BIA by a 'planning horizon', such as a length of disruption beyond which impacts are not considered. It is difficult, however, to see how either the impacts or the appropriate horizon can be determined in advance of the BIA process.

Where an organization has several production locations and a dispersed customer base it may be difficult to identify an appropriate geographical scope of the BIA. One of the following may be appropriate:

- whole organization, where the various locations are strongly interdependent – there may be a lower-level 'Sub-strategic' BIA for each significant location set within the overall Strategic BIA;
- one (or a group of locations), where the locations are fairly autonomous and each serves a discrete geographical area;
- identifying what is delivered to different regions, as separate products or services which can be included or excluded from the scope.

The best choice for scope is often guided by the likely structure of the BCM strategy and incident response, whether this is to be centralised or locally managed.

2 Understanding the BIA

This chapter outlines the concepts, terminology and methods of the BIA.

Time and impact

Why is time everything in managing incidents?

When an unexpected incident occurs that affects an organization there may be disruption to its operations. As a result, the supply of products or services to customers may be interrupted. This may be noticed quickly if the disruption affects the 'front office' activities, or more slowly if it is the support or back office processes, such as accounts, that are affected.

The cause of the incident and its immediate impacts will determine the initial response. If it is an emergency, such as a fire or explosion, the emergency services may initially take control of the situation. The incident may create some initial sympathy and understanding from customers if the cause of the problem lies outside the organization's control. However, this sympathy disappears quite quickly if the organization fails to restore the service to customers, who will blame the organization, not for the incident but for the inadequacy of response and the tardiness of service restoration.

So, whereas the plans for the initial response to an incident need to take into account its cause, the plans and timetable for recovering the organization's operations are determined by the demands of customers and the impacts on other stakeholders irrespective of the cause of the disruption. Thus we need to understand the impacts and timescales of a disruption, in advance, to determine the likely priorities after the incident – and how long the disruption can last before the organization's survival is threatened.

There are three interacting elements that determine this survival point – collectively known as the maximum tolerable period of disruption (MTPD):

- the stakeholders who suffer the impacts;
- the nature and size of the impacts on those stakeholders;
- the rate at which those impacts grow over time.

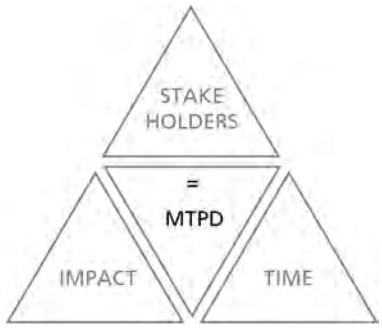

Figure 1 The elements that determine the maximum tolerable period of disruption

Stakeholder identification

It is useful to conduct a stakeholder analysis as part of the BIA process because the impacts of a disruptive incident will affect a number of stakeholders and the effectiveness of the organization's recovery will be judged by all of these.

For the purpose of the BIA, stakeholders can be divided into four broad groups:

1. Within the organization:
   - the staff and executive directors
2. In the market sector:
   - customers and partners
   - competitors
3. Those with a financial interest:
   - suppliers
   - shareholders
   - the organization's bank or other financiers
   - the organization's insurance companies
4. Those with other interests in the organization's affairs:
   - staff families
   - neighbours
   - politicians
   - the media
   - pressure groups

Although the main focus of the BIA will be the impact on customers, the impact on each of the other stakeholders should be considered.

- What is their interest?
- How will a disruption affect them, and over what timescale?
- How could it be mitigated before and after the incident?

4 Strategic BIA

The BCM programme scope should be set out in the organization's BCM policy and therefore already have been completed before the BIA process is initiated. It is considered here because the BIA process can be used to assist top management to set and review the scope in terms of products and services as well as setting the required recovery timescales.

The organization's strategic review

The annual strategic review published by the top management will restate, or revise, the organization's strategic objectives. Given that the BCM programme is expected to relate closely to the objectives of the organization, the publishing of this document should initiate the BIA process as well as prompt a review of the BCM policy.

A change in the strategic objectives of the organization may be reflected in the BCM policy by a change in the scope of the programme, by adding or removing certain products and services, or a change in their priorities, which will affect the scope of the BIA.

Using a BIA to set the scope of the BCM programme

The scope of the BCM programme is defined by the key products and services identified in the BCM policy.

Looking at each product and service in a Strategic BIA, top management may consider that:

- the impacts of non-delivery may not become serious for months, or not at all;
- the organization would still be viable without them;
- the reputation damage that results from the disruption is manageable;
- there are alternative providers to whom the contract or delivery responsibility could be easily passed;
- BCM solutions will be too expensive or not practical.

In these cases they may be excluded from the scope of the BCM programme.

The use of the BIA method, instead of a risk-based approach, ensures that intangible impacts such as reputation are considered, and that the timescale available for making decisions after disruption is identified.

Preparing for the Strategic BIA

Although top management need to make the decisions about scope and delivery timescales, it is necessary to prepare information carefully beforehand that will enable them to understand the nature of the required decisions and to record them in a form that provides a workable structure for the BCM programme.

Understanding the context of the organization

The following information may be useful in understanding the context within which decisions will be made by the top management:

- company/group financial structure: showing the ownership of and external influence on the company and possible availability of external resources in a recovery situation;
- company future strategy: any decisions likely to be taken in the next two/three years that may significantly impact upon the building of a recovery strategy, such as product diversification, expansion, relocation – this may need to be treated in confidence;
- wish list: if the company were to start from scratch, what would be done differently?

Grouping key products and services

The products and services of the organization should be identified and an attempt made to split them logically into a small number of groups. These may be groups of:

- the same type which share roughly the same urgency of delivery;
- customer groups where premium customers are to be treated differently;
- a combination of the above;
- other stakeholder requirements, such as external regulatory reporting.

These groupings may become the basis on which plans are written and a disruption handled, so it is important for them to be meaningful and not too complex.

Estimating a draft MTPD

It will usually be necessary to propose to top management values for the MTPD of each group which they can then challenge to reach a consensus. Therefore research should be conducted to provide appropriate backing for the values proposed. Sources may include:

- previous disruption experience within the organization or similar body;
- company advertising and strategic objectives;
- documented sources, such as contracts, service level agreements (SLAs) and regulations;
- customer surveys, interview data, or marketing opinion;
- the likely impact of a disruption on customers' businesses and their expected response;
- the expected response of competitors;
- financial and other internal impacts on the organization.

Having extracted a set of generic impact types from the above sources, it can be used to populate the table in the next section (Table 1, P&S disruption – Impact by time).

It is also helpful to prepare in advance a draft definition of what constitutes 'intolerable' for each of the selected impact types. Whereas this is relatively easy to define for financial losses, it is more difficult to describe for less tangible loss, such as safety or reputation – but examples may be sufficient.

Possible sources of background information to support these proposals may come from:

- top management – strategic development plans;
- PR/external communications – will provide an understanding of the current capability to mitigate reputational impacts;
- finance – understanding the current cash position, the dynamics of the organization's cash flow and future projections;
- marketing – may be able to provide predictions about customer and competitor behaviour during an incident by analysing the alternatives available, and quantify the loss of market share over time and the cost of winning it back; in the public sector a similar prediction may be available from political analysts;
- insurance – sums insured and terms of any business interruption insurance.

A logistics firm was profitable but had borrowed a huge sum to build an automated sorting facility. Whilst the debt was being paid off, the maintenance of cash flow was an urgent concern as requests for further borrowing would probably be turned down. This had a strong influence on the setting of the MTPDs for delivery services.

Conducting a Strategic BIA

The Strategic BIA requires the input of the top management. Whether this is achieved through a report, workshop or presentation depends on the organization's procedures, but it is important to obtain buy-in to the decisions from a significant proportion of top management – and is an opportunity to make them aware of other aspects of the BCM programme. The views of the project sponsor should be sought as to how this is best achieved.

To ensure consistency of approach it may be worth using a formal time/impact table, one per product and service group (see Table 1).

The factors that emerged as being important during the preparation stage are listed down the side, with space for any additional factors that emerge during the discussion. Those suggested for consideration in the *GPG 2010* are the impact of a disruption on:

- stakeholder or public safety or well-being;
- statutory duties or regulatory requirements;
- reputation;
- financial viability;
- product quality;
- environmental damage;
- other issues specific to the organization.

At present there is no timescale in the column headings. These can be filled in once a pattern emerges from the discussion. The significant points in the timeline were described in Chapter 2 (see section headed Significant time periods in recovery options) as being where alternative strategies became available (a few minutes, days, weeks, months) so, as a minimum, these should be identified as significant. It is also possible that an impact type is not applicable ('n/a') to this product and service group. However, it is probably more important for top managers to come to their own conclusions rather than trying to guide them towards preconceived fixed time slots.

The last column on the table (which may need to be enlarged) should contain an explanation of what factors were taken into account in

6 Operational BIA

The Strategic and Tactical BIAs have set the MTPDs of the products and services and their associated activities. In the Operational BIA we identify the urgency and resource needs of each activity within each department that together make up the processes of the organization.

In a small and simple organization it is possible that the analysis of processes will have provided sufficient detail to enable recovery strategies to be determined, in which case the identification of individual activities will not be required and the step can be limited to determining the resource requirements of each activity. In a large organization, a more detailed activity-level understanding is required of the operation to enable departmental recovery requirements to be documented and recovery plans to be written.

In a large department it is probable that the head of department is able to determine the urgency of the processes in the Tactical BIA but requires those who actually undertake the work, or who supervise them, to identify the staffing, applications and other resources required for each activity within it. In a smaller department it is more likely that the head of department will be able to answer on both counts.

Even for an initial BIA it is worthwhile to request the appointment of a BC Coordinator for the department who can undertake this detailed research. Once the BIA process becomes embedded that person will take on the full responsibility of developing and maintaining the departmental plan. This individual therefore needs to have or be able to acquire knowledge of the processes.

An initial BIA will make the first attempt to identify the appropriate division of the department's processes into activities. Subsequent BIAs should always review the scope of each activity since this is where most operational changes will be reflected.

Activity urgency

The urgency of an activity will be set by the urgency of the process of which it is a constituent part. If the sequence of activities required to perform the process is complex, or if an activity takes a significant length of time to achieve, this should be noted and may need to be taken into account in setting the overall recovery timescales of the process.

It is not strictly necessary to assess the impact of failure of the activity since assessment of the failure of the process of which it is part will have been carried out at the tactical level. Indeed, it is often difficult for those managing at an operational level to understand the full implications of a disruption. Nonetheless it provides a useful cross-check and may identify some unexpected impacts, particularly those related to dependencies on other departments and suppliers. It also provides a useful discussion at a BCM training event to operational staff providing or collecting the information.

Quantifying resource requirements

To understand the continuity resource requirements, the resource needs of each activity should be quantified and aggregated at various levels for use in the BCM strategy. The quantification of resources should focus on those that might need to be made available in advance; details that can be addressed internally by the department itself should be addressed when developing departmental recovery plans.

It may appear that an activity's resource requirement is going to best be described as a phased recovery over time, rather than a return to normal at a specific time. This may be the case when an activity is supporting services with a range of MTPDs. This is often the case for back-office activities which may provide support to all the organization's service delivery.

This can be managed in various ways:

- Phasing the resource requirements within a single process
- Splitting the process into two or more phased activities
- Splitting the process into several activities

Process:	ACCOUNTS		
Time:	Day 1	Day 3	Day 10
Staff nos.	1	5	15

Table 4a Phased resource requirements

Activity:	ACCOUNTS (supervisor)		
MTPD:	Day 1	Day 3	Day 10
Staff nos.	1	1	1