

AS/NZS 5050 (Int):2020
Interim
Australian/New Zealand Standard™
Expiration 23 October 2022



Managing disruption-related risk



AS/NZS 5050 (Int):2020

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee OB-007, Risk Management. It was approved on behalf of the Council of Standards Australia on 9 October 2020 and by the New Zealand Standards Executive on 16 September 2020.

This Interim Standard was published on 23 October 2020.

The following are represented on Committee OB-007:

- Attorney Generals Department (Australian Government)
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Institute of Health & Safety
- Australian Local Government Association
- Australian Risk Policy Institute
- Austroroads
- CivicRisk Mutual
- Department of Finance (Australian Government)
- Employers And Manufacturers Association
- Engineers Australia
- Financial Services Institute of Australasia
- Governance Institute of Australia
- Minerals Council of Australia
- New Zealand Institute of Safety Management
- New Zealand Institute of Surveyors
- Queensland University of Technology
- Risk Management Institute of Australasia
- RiskNZ
- Royal Australian Chemical Institute
- Security Professionals Australasia
- Society for Risk Analysis, Australia and New Zealand Regional
- The Institute of Internal Auditors — Australia
- University of New South Wales
- Water Services Association of Australia
- WorkSafe New Zealand — Energy Safety

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

www.standards.govt.nz

ISBN 978 1 76113 013 7

Interim
Australian/New Zealand Standard™

Managing disruption- related risk

First published as AS/NZS 5050:2010.
This edition 2020.

© Standards Australia Limited/the Crown in right of New Zealand, administered by the New Zealand Standards Executive 2020

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth) or the Copyright Act 1994 (New Zealand).

Preface

This interim Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee OB-007, *Risk Management*, to supersede AS/NZS 5050:2010, *Business continuity — Managing disruption-related risk*. Content relating to business continuity in AS/NZS 5050:2010 has been removed and is superseded by AS ISO 22301 *Security and resilience — Business continuity management systems — Requirements*. Content relating to disruption related risk has been retained in the revised AS/NZS 5050:2020.

The objective of this document is to provide guidance on the unique nature of disruption-related risk and different approaches required for its management. This guidance should be used in conjunction with existing risk management arrangements that an organization may use.

This document assists decision-makers to better understand the conditions that may give rise to disruption, how early indications of the emergence of such conditions can be detected, and how more effective decision-making can be achieved. Disruptive events can exceed, even temporarily, an organization's routine management capability. Disruptions can also create opportunities. The document advocates watching for and being in a position to exploit such possibilities. Managing the adverse and beneficial aspects of disruption can create strategic and tactical advantage in complex and volatile environments, enhance an organization's resilience potential, and contribute to long term sustainability.

The approach described in this document is consistent with AS/NZS ISO 31000:2018 and is applicable to a wide range of organizations including all levels of government, communities, not-for-profit and commercial organizations.

Attention is drawn to the fact that this document is an Interim Standard and should be regarded as a developmental Standard and liable to future alteration.

This document will have a currency of two years from its date of publication. At the conclusion of that period it will be superseded by another Standard, confirmed as an Interim Standard in its present form for a further one year period or withdrawn.

The term “informative” is used in Standards to define the application of the appendices to which they apply. An “informative” appendix is only for information and guidance.

Contents

Preface	ii
Introduction	iv
Section 1 Scope and general	1
1.1 Scope	1
1.2 Referenced documents	1
1.3 Terms and definitions	1
Section 2 The nature of disruption-related risk	3
2.1 The nature of uncertainty	3
2.2 Relationships with resilience	3
2.3 Disruption	4
2.3.1 General	4
2.3.2 Types of change that can lead to disruption	5
2.3.3 Effects of disruption	5
2.3.4 Transition state model of disruption	6
2.4 Disruption-related risk	7
2.5 Assumptions	8
Section 3 Arrangements for managing disruption-related risk	9
3.1 Integrating disruption-related risk into a risk management framework	9
3.1.1 General	9
3.1.2 Objective setting	9
3.1.3 Culture	10
3.1.4 Leadership	11
3.1.5 Risk appetite and tolerance	11
3.1.6 Importance of communication and consultation	11
3.2 Adjusting organizational arrangements	12
Section 4 Process for managing disruption-related risk	14
4.1 General	14
4.1.1 Introduction	14
4.1.2 Outcomes	14
4.1.3 Overview	14
4.2 Exploring the context	15
4.2.1 General	15
4.2.2 Exploring the external context	16
4.2.3 Exploring the internal context	16
4.2.4 Decision making criteria	17
4.2.5 Establishing the scope and structure of a particular risk management activity	17
4.3 Assessing disruption-related risk	17
4.3.1 General	17
4.3.2 Risk identification	18
4.3.3 Risk analysis	19
4.4 Evaluating and making decisions about risk	24
Section 5 Treating disruption-related risk	25
5.1 General	25
5.2 Generating treatment options	25
5.3 Selecting treatment options	26
5.4 Designing treatment implementation strategies	27
5.4.1 General	27
6 Maintaining and improving performance	28
Appendix A (informative) Examples of treatment strategies	31
Appendix B (informative) Incident and management arrangements	40
Bibliography	45

Introduction

AS/NZS 5050:2010 was originally published to provide an approach to align various organizational continuity and contingency arrangements with contemporary risk management. Over the last decade there have been significant changes in understanding about disruption, in particular, the limitations of many conventional risk management and continuity approaches for dealing with high uncertainty. Disruption-related risk should be an integral part of an organization's broader risk management thinking. This has provided the impetus for a complete revision of the Standard.

NOTE The following two paragraphs include content from *Thinking About Risk Management and Disruption*, Copyright © 2018 Dr Carl A. Gibson and Michael Tarrant. Available from: <https://www.linkedin.com/pulse/thinking-risk-management-disruption-carl-gibson/>

All organizations deal with change in both their internal and external environments and in their interactions with those environments. Business-as-usual can deal with small perturbations in the routine environment that are encountered daily, but disruptive situations require an organization to operate in a non-routine way. Today's environment is increasingly characterized by high levels of uncertainty amplified by volatility, complexity and ambiguity. This poses an ongoing challenge to organizational performance. Many organizations are faced with rapid, extensive and often unanticipated change. This is typically dealt with reactively and generally not well handled.

Such change can be a surprise or a shock to an organization and may result in significant disruption to the organization's pursuit of its purpose and objectives. The level of change can erode the effectiveness and timeliness of decision-making. Disruptive change can also arise from the unanticipated outcomes of decisions and planned activities. This disruption is commonly a result of the cumulative effect of multiple small progressive changes, which can then manifest as an apparent sudden and dramatic change.

Potentially disruptive conditions can arise from unexpected changes in, for example, stakeholder expectations, new strategies adopted by competitors, emerging technologies, staff capacity, availability of finance, the requirements of new legislation, deliberate, malicious or criminal actions of others, collapse of supply networks, the impacts of natural events, etc.

To maintain organizational performance and to avoid either abrupt or progressive failure, organizations need to have the capability to adapt to such changes. This requires deep and systematic thinking, the adjustment (or abandonment) of conventional management techniques, and the adoption of more adaptive non-routine arrangements.

Such approaches enable an organization to quickly focus on stabilizing an evolving situation, maintaining or resuming the most important functions, and working towards eventual restoration of routine operations and full achievement of objectives.

Decisions about disruption-related risk should consider treatments that will both reduce the occurrence and scale of potential events that could cause disruption and develop the adaptive capacity to adjust to its evolving environment. This will, by necessity, require that scarce resources are most effectively and efficiently allocated to the achievement of objectives.

Managing disruption-related risk

Section 1 Scope and general

1.1 Scope

The Standard describes the application of the concepts and techniques for managing disruption-related risk and disruption, to help any organization achieve its priority objectives in both routine and non-routine conditions.

The Standard accommodates the better practice concept of an “all hazards approach”, developing a suite of integral arrangements that are able to deal with a diverse range of potentially disruptive events.

The Standard is designed to be compatible with AS ISO 31000:2018 and can also be applied within any other risk management arrangements that organizations may decide to use.

1.2 Referenced documents

AS ISO 22301, *Security and resilience — Business continuity management systems — Requirements*

AS ISO 31000:2018, *Risk Management — Guidelines*

ISO Guide 73:2009, *Risk Management — Vocabulary*

1.3 Terms and definitions

1.3.1

all hazards approach

integrated approach that involves developing broad preparedness, decision-making, response and recovery capabilities that can deal with a full spectrum of different disruption-related risk and disruptive conditions

Note 1 to entry: This is different to other traditional approaches that are designed to deal with specific predicted situations or a narrow range of risk and conditions using stand-alone processes.

1.3.2

crisis

unexpected non-routine situation that is beyond the capacity of normal management structures and processes to deal with effectively, has both strategic and operational implications, and is often perceived as a potential existential threat

Note 1 to entry: A crisis may require significant diversion of management time, attention and resources away from normal routine operations to respond to the situation.

Note 2 to entry: A crisis is often accompanied by a loss of stakeholder confidence in the organization.

Note 3 to entry: A crisis is associated with high intensity of change and impact, and a high urgency for decisions and action.

Note 4 to entry: A crisis is characterized by rarity, novelty, and complexity.

1.3.3

disruption

event or changing conditions where routine modes of operation are interrupted, degraded or impaired, or where the ability to achieve purpose or key objectives is otherwise compromised

Note 1 to entry: Disruptive conditions: any change in the internal or external environment, that if not addressed could lead to a disruption.

Note 2 to entry: Disruptive event: the conditions under which a disruption has occurred or is probable.

Note 3 to entry: Disruption effect: the impacts imposed by a disruptive event.

Note 4 to entry: Disruption-related risk: effects of uncertainty where routine modes of operation are interrupted degraded or impaired in a way that compromises the ability to achieve purpose or key objectives.

1.3.4 resilience

expression of a system's ability to withstand, react and adapt to disruption, and to achieve a stable state where its purpose and priority objectives can be achieved

Note 1 to entry: Resilience is a term used to describe the beneficial outcome of the interaction of a complex range of system capabilities that allow that system to achieve some functionality in the face of disruptive conditions.

Note 2 to entry: All systems have some level of resilience. The approach used to examine resilience will strongly influence the level of resilience assigned.

Note 3 to entry: Resilience is an attribute, not an absolute measurement of capability. Resilience can only be measured in hindsight, although the *potential capability* for future resilience to a specific challenge may be estimated.

Note 4 to entry: Resilience is not a fixed attribute of a system. Resilience is dependent upon the type and scale of the challenge (e.g. the potentially disruptive conditions). A system may demonstrate high resilience to one type of situation, but low resilience to a different situation.

Note 5 to entry: Resilience of a system may vary over time, as either internal or external conditions change.

1.3.5 risk effect of uncertainty on objectives

Note 1 to entry: An effect is a deviation from the expected, positive and/or negative.

Note 2 to entry: Objectives can have different aspects (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product, and process).

Note 3 to entry: Risk is often characterized by reference to potential events and consequences, or a combination of these.

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood of occurrence. However, this is not the only way in which risk can be expressed.

Note 5 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

1.3.6 system

integrated set of parts that work together as a whole, where these parts may be physical, behavioural, logical, procedural, informational, or structural

Note 1 to entry: In this Standard "system" is used in a broad sense and is not restricted to specialist uses such as IT system, or system of work.

Note 2 to entry: A system may be part of an organization, part of the organization's environment, or be formed by the interaction of the two.

Note 3 to entry: For the purposes of this Standard the term "system" will generally have one or more meanings of: an organization, a grouping of organizations (such as an interdependent network, industry sector, alliance, a community, society, etc.), some or many interlinked parts of an organization, or the interaction of an organization with its environment.

Section 2 The nature of disruption-related risk

2.1 The nature of uncertainty

To effectively manage disruption-related risk, it is important to reflect on the nature of uncertainty.

Uncertainty is experienced in the internal and external environment in which the organization operates (or will be operating) and affects decisions that are made in pursuit of its purpose and objectives.

Uncertainty may be present or arise over time, because of the following:

- (a) *Variability*, both natural and intrinsic variability of the system and its environment, particularly where there are unknown relationships or interactions.
- (b) *Volatility* which increases the speed and unpredictability with which change occurs and the onset of its effects.
- (c) *Complexity* which makes it difficult to understand interactions within and amongst systems, and what outcomes will arise from these interactions.
- (d) *Ambiguity* which relates to the lack of clarity regarding a situation, where multiple valid interpretations of information or indicators are possible.
- (e) *Novelty* where there is a lack of prior experience and familiarity within which to build a framework for understanding.
- (f) *Information* limitations as follows:
 - (i) A lack of available or accessible information.
 - (ii) The individual's or organization's ability and capacity to process, analyse and understand the information (i.e. to make sense of it), including information overload, and information that is beyond their common experience.
 - (iii) A deliberate decision to ignore or dismiss available information.
 - (iv) Information that is invalid, inaccurate, inconsistent, unreliable, conflicting, or untrustworthy.
 - (v) Inappropriate acceptance or rejection of information.

Uncertainty is present in routine environments, although high levels of uncertainty are more common in non-routine environments. As uncertainty changes over time, the nature of risk will change, particularly in very volatile, complex and dynamic operating environments. The timely detection of change and the exploration of uncertainty are of even more importance in these non-routine conditions for dealing with disruption-related risk.

2.2 Relationships with resilience

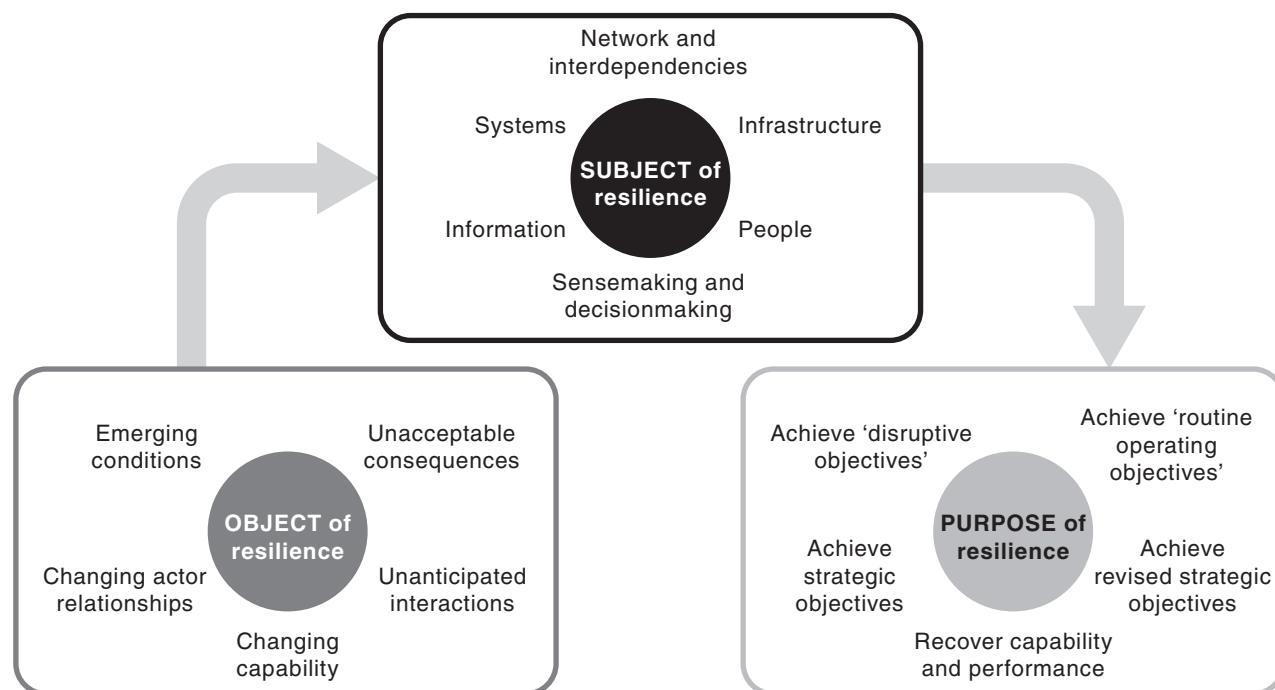
A detailed examination of resilience is outside the scope of this Standard. This Standard takes the view that the management of disruption-related risk is a vital activity, that along with other important activities, contributes to an overall organizational ability to deal with potential and actual disruption. This provides a potent contribution to an organization's resilience to a wide range of external and internal challenges.

The management of disruption-related risk assists in ([Figure 1](#)) —

- (a) understanding the object of resilience (from where challenges emerge);
- (b) the subject of resilience (organization functionality that can be impaired by interaction with those challenges); and

(c) the purpose of resilience (what needs to be achieved in the face of disruptive challenges).

This perspective recognizes that organizational resilience is the outcome of the cumulative and complex interactions and contribution of multiple systems, capabilities, functions, processes and behaviours. Disruption-related risk management provides an insight into how these attributes interrelate and how resilience will vary depending upon the nature of the changing conditions and challenges.



[SOURCE: Gibson C.A. (2020) "Perspectives on Resilience." *Monographs on Risk and Resilience*. 2020, 1 pp.1–98. Reproduced with permission.]

Figure 1 — The nature of resilience

2.3 Disruption

2.3.1 General

Disruption describes the transition of a system from an existing state to a different state, where the original purpose, and objectives, and functionality can no longer be achieved. Disruption can produce both positive and negative outcomes for an organization. Disruption can act as a driver for organizational change improving innovation, efficiency and effectiveness. Conversely, disruption can adversely affect organizational capabilities and impair the achievement of objectives. The balance between the benefits and harm depends to a large extent on how an organization's approach to managing risk.

There is a myriad of potential causes of disruption, resulting from the effects of either planned or unplanned change occurring within or external to a system. Change may arise as a result of deliberate decisions, or as unanticipated outcomes of decisions.

Availability of time, energy and resources, along with irreducible uncertainty, can preclude any definitive exploration of all of these sources. Instead, a focus on the interaction of the organization with disruptive conditions and its ability to manage these conditions becomes an important focus of understanding uncertainty and managing risk.

2.3.2 Types of change that can lead to disruption

The broad categories of change that can cause disruption include the following:

- (a) *Planned change*, where the change is deliberate and designed to alter some aspect of a system, its external environment, or the interaction between the two. Disruption may occur as a result of unexpected consequences of planned change.
- (b) *Expected change*, where the change arises as a result of the natural variability, or other independent causes, of either internal or external systems. Although uncertainty can accompany such change, it usually occurs with some degree of predictability, or can be anticipated.
- (c) *Unexpected change*, where change occurs within a system or its environment (or the interaction between the two) for which there is no previous awareness or anticipation.

NOTE 1 Such change is usually poorly understood and may occur for some time without being detected. It is often referred to as “unexampled change”.

Due to the complexity of most organizations and their environments, the effects of change can be very difficult to predict and assess. In some cases, change that is small, of short duration or is localized can have a greater disruptive potential than some other change that is much larger, more extensive and is prolonged.

NOTE 2 Such asymmetric change is a common feature of complex systems.

2.3.3 Effects of disruption

The effects of disruption may be experienced as —

- (a) changing functionality and performance of a system;
- (b) changing system inputs and outputs;
- (c) changing awareness and understanding of the prevailing conditions and system capability;
- (d) psychosocial affect, providing heightened or depressed cognitive and emotional response;
- (e) inability to keep up with the rate of change;
- (f) changing resource demands and utilization; and
- (g) changing interrelationships and dependencies.

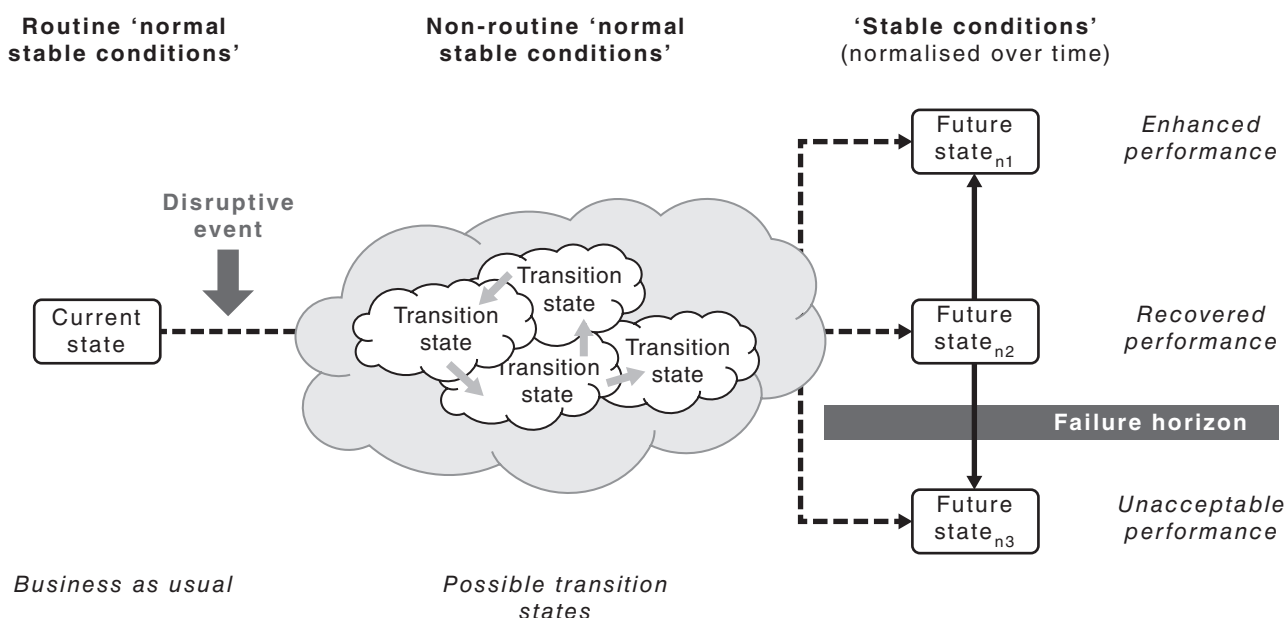
The attributes of disruption are typically characterized by —

- (i) the nature, intensity, speed of onset, timing, instability and scale of the disruptive event;
- (ii) size, diversity and radius of effects;
- (iii) the degree of exposure to the effects;
- (iv) duration: both the total period and any coincidence with other internal or external constraints or amplification which take place during the disruption (for example, seasonal peaks or troughs in normal demand; resource availability, information accessibility, distractions, etc.); and
- (v) the mechanisms, both internal and external, through which the disruptive effects are experienced, including —
 - (A) the complexity of the mechanisms (for example, whether cascading, branching collateral effects, etc. are involved);

- (B) whether the mechanisms are predictable, or unstable and evolving; and
- (C) whether the effects are cumulative or amplified by the context in which the effects are being experienced (for example, whether power loss coincides with unusually hot weather).

2.3.4 Transition state model of disruption

In the course of a disruption, a system (see [Clause 1.3.6](#)) may pass from its current state (pre-transition state), through to any number of possible temporary transition states, before achieving a new future state. This process of transitional change can be very fast and obvious, or it could be slow and imperceptible, resulting from the cumulative effects of many small and seemingly insignificant contributing and influencing events. The transitional states may demonstrate similar, improved or impaired functionality and performance compared with a previous state. Similarly, a future stable end state may possess different functionality compared with the current state, ranging from enhanced functionality and performance through to dysfunction and unacceptable performance, i.e. a disrupted state (see [Figure 2](#)). The system's operation becomes non-routine, and the effect is termed a "disruption". Minor transitions do occur where functionality remains within acceptable parameters, representing the perturbations and transitions which all systems can experience during routine or "business-as-usual" (BAU) operation.



[SOURCE: Reproduced with the permission of Dr Carl A. Gibson and Michael Tarrant. Original article; *Thinking About Risk Management and Disruption* available at: <https://www.linkedin.com/pulse/thinking-risk-management-disruption-carl-gibson/>

Figure 2 — State transition following a disruptive event

In response to potentially disruptive conditions, decisions may be made to intentionally direct the state transition to a future desired state, which exhibits a recovered or enhanced level of performance. This may require objectives to be reprioritized, modified, suspended, or abandoned, or for new objectives to be introduced, and for resources to be redirected and reallocated. However, some organizations are unable to attain a desirable future state, achieving unacceptable levels of performance, which at some stage will constitute organizational failures. Such "failed" future states often arise as result of any one or combination of —

- (a) a failure to recognize changing conditions within sufficient time to analyse, make decisions and act;

- (b) establishing fragile routine capability, that is incapacitated by relatively small levels of change;
- (c) a failure to understand the changing conditions and understand the short- and longer-term implications;
- (d) the presence of complex system interdependencies that defy simple linear problem-solving attempts;
- (e) making situational assessments and inferences that are unsupported by the data;

NOTE A practical example of this occurred in the early stages of the COVID-19 pandemic when claims started to be made that Italy had turned the corner and the infection rate was now in decline. This was based on 2 days of decreased numbers of new cases. Commentators did not understand that 2 data points are not a trend.

- (f) reliance on invalid, misleading, outdated or poorly understood assumptions;
- (g) pursuing objectives that are increasingly inadequate or obsolete in the changing conditions;
- (h) making decisions in the absence of effective sensemaking;
- (i) continuing to implement rigid continuity plans, that are increasingly irrelevant and impractical in the evolving conditions;
- (j) unavailable or inaccessible prepared resources; and
- (k) leadership and people capability that is ill-suited to the changing demands.

The desirable outcome is to establish a stable state. That state may be the original state, or a different state that allows objectives to be changed, the development of more efficient delivery of the desired functionality, and improved resilience. Caution should be exercised with an intent to “bounce back” to an original state, where original vulnerabilities may be reintroduced.

2.4 Disruption-related risk

Disruption-related risk relates the potential effect of uncertainty that compromises the ability of an organization to achieve its purpose and objectives under changing conditions and requires an organization to adopt a non-routine mode of operation. Disruption can arise from any form of uncertainty and there can be positive or negative outcomes or more commonly a mix of the two.

Such risk is often characterized by high consequences and low likelihood. The level of uncertainty, both in the likelihood of a disruptive event occurring and in the magnitude consequences, can range from high or low with an expectation that more complex systems are associated with higher levels of uncertainty. Disruption related risk is often outside the experience of the organization and its people and beyond the capability of many of the organization’s usual analytical approaches, hence has often proved particularly problematic for organizations to manage.

Approaches to understanding risk are often based upon deterministic and predictive techniques, which are well suited to simple linear problems, or where there is very good quality data. The complex problems that are associated with disruption-related risk are often nonlinear and require more exploratory, intuitive and speculative approaches. This involves gaining insight into risk by reflecting on scenarios that could affect the organization or its key interdependencies.

The following paragraph includes content from *Thinking About Risk Management and Disruption*, Copyright © 2018 Dr Carl A. Gibson and Michael Tarrant. Available from <https://www.linkedin.com/pulse/thinking-risk-management-disruption-carl-gibson/>

Making lists and using simplistic risk registers will be of limited value, if not misleading, in managing disruption-related risk. Disruption-related risk requires a richer and systematic approach to creating and sharing *knowledge and sense* (not just sharing *information*) about the past, current, and potential future conditions, and using this understanding to make effective decisions in pursuit of the

organization's purpose and objectives. Risk assessment therefore involves creating a rich understanding of how uncertainty could affect objectives.

An effective approach to managing disruption related risk should consider how decisions are made under conditions of high complexity, volatility, ambiguity, and overall uncertainty. This includes considering the effects of —

- (a) inappropriate reliance upon rigid analytical thinking;
- (b) stress-related impairment of cognitive capabilities;
- (c) misleading biases and heuristics;
- (d) over-confidence in the quality and integrity of decision making; and
- (e) unacknowledged and untested assumptions upon which decisions are based.

2.5 Assumptions

Assumptions have a profound effect on decisions and are of particular importance in the context of disruption-related risk. Many assumptions are accepted without question, and many assumptions are not recognized and remain hidden. Under conditions of high uncertainty, the reliance on untested assumptions increases dramatically. Furthermore, the validity of assumptions can change significantly over time. Assumptions that may be legitimate under routine conditions, can be quickly invalidated when those conditions become non-routine.

It is therefore important that a process is in place to continuously identify, understand and challenge the full range of assumptions that are in place. For each assumption, this involves examining the following:

- (a) *Certainty* — The extent to which the assumption can be described and understood.
- (b) *Validity* — The accuracy or reasonableness of the assumption.
- (c) *Influence* — How the assumption influences decisions.
- (d) *Criticality* — How changes to the assumption are reflected in the need to change the decision.
- (e) *Relevance* — The conditions under which the assumption become more or less relevant.

A range of tools can be used to test assumptions including —

- (i) sensitivity analysis;
- (ii) stress testing;
- (iii) design thinking; and
- (iv) red teaming.

Section 3 Arrangements for managing disruption-related risk

3.1 Integrating disruption-related risk into a risk management framework

3.1.1 General

Disruption-related risk should be reflected in the governance arrangements, and in all decision-making in the organization. An organization should, wherever possible, ensure that disruption-related risk can be managed within their existing risk management framework. The risk management framework should include elements that reflect the need to operate in both routine and non-routine modes, and to help ensure an organization can continue to achieve its purpose and objectives. However, some modification of the existing framework may be required for better managing disruption-related risk. This includes —

- (a) measures to support behaviours that help in addressing cognitive and emotional biases;
- (b) capabilities such as situational awareness, sensemaking, and complex problem solving;
- (c) structures and responsibilities that can be quickly modified to allow a more responsive, agile and flexible assessment and treatment of risk; and
- (d) analytical tools that provide additional insight into emerging complexity and uncertainty.

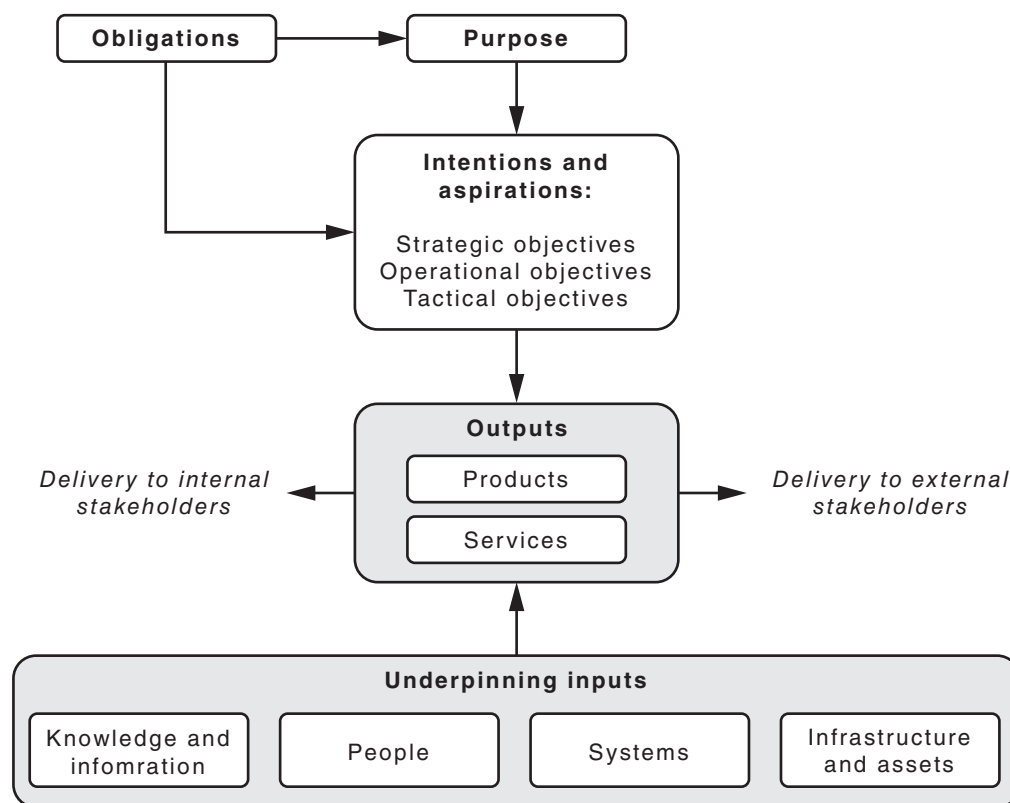
Disruption-related risk should be managed as an integral part of an organization's overall risk management arrangements, which should be understood and supported by key stakeholders, particularly top management and oversight bodies.

Some of the key factors in establishing effective risk management arrangements, include developing a comprehensive understanding of —

- (i) the organization's purpose and objectives;
- (ii) how the purpose and objectives could be affected by non-routine conditions; and
- (iii) how the purpose and objectives may need to evolve under those non-routine conditions.

3.1.2 Objective setting

It is important to understand how internal and external obligations, such as legal (legislative, regulatory, contractual, or policy requirements), social, moral, or ethical, and intent influence the establishment of an organization's purpose and objectives, and how these direct the delivery of products and services. This provides the foundation for understanding the interdependencies of priority objectives, services and products upon the people, systems, processes, infrastructure and information that underpin them (see [Figure 3](#)).



[SOURCE: Copyright © 2020, Gibson and Tarrant]

Figure 3 — Establishing and underpinning the objectives

Managing disruption-related risk involves continually monitoring and reflecting upon the relevance of objectives; in particular, how their relevance may change under evolving non-routine conditions.

3.1.3 Culture

Culture is a collective expression of how people think and behave, characterized by artefacts (what is visible to an observer), that are driven by the values and behaviours of individuals and groups, that in turn are driven by the (often unexpressed) deep assumptions held by those individuals and groups.

As such, culture will strongly influence how individuals independently and collectively perceive, interpret, and make sense of risk-related information, and how they make decisions about risk using that information or by ignoring that information.

Within an organization there may be different cultures (or “subcultures”), reflecting the beliefs, values, and assumptions of different groups within an organizations (structural or social groupings). Each of these different cultures may influence risk management differently, at least at a local level. While different cultures may be present, it is important to recognize that the concept of “risk culture” is an entirely artificial confection and has no real existence. What is important is how organizational culture (and subcultures) interacts with and affects the management of risk.

Culture is not static; it is constantly evolving. Under routine conditions, cultural evolution can be a slow incremental process. Under disruptive conditions cultural norms can be stressed and undergo (or may need to undergo) dramatic change. Understanding how changes occur and what effects they potentially could have on capability during a disruption are important considerations for risk management.

3.1.4 Leadership

Leadership is an important aspect of both the management of disruption-related risk and an effective response to potential disruption. Leadership on disruption-related risk should be exercised by —

- (a) considering disruption-related risk in the development of strategy, objectives, and planning throughout an organization;
- (b) exploring how existing culture may influence the management of disruption-related risk, and how the effect of uncertainty and potential future disruptive conditions may influence culture;
- (c) including consideration of disruption-related risk in statements or policies that establish a risk management approach, plan, or course of action;
- (d) ensuring that the necessary resources are allocated to managing disruption-related risk;
- (e) assigning authority, responsibility and accountability at appropriate levels within the organization for managing disruption-related risk, which is communicated to all levels in the organization;
- (f) recognizing and addressing all obligations of the organization, including its voluntary commitments;
- (g) establishing the type and amount of disruption-related risk that may or may not be taken by the organization, which then guides the development of risk criteria;
- (h) ensuring that disruption-related risk criteria are communicated to the organization and its stakeholders;
- (i) communicating the value of managing disruption-related risk to the organization and its stakeholders; and
- (k) promoting ongoing systematic monitoring of this type of risk.

Top management is accountable for managing risk, while oversight bodies are accountable for overseeing risk management. In which roles they should ensure that —

- (i) disruption-related risks are adequately considered in the pursuit of their purpose and objectives;
- (ii) arrangements to manage disruption-related risk are implemented and operating effectively;
- (iii) such risks are appropriate in the context of the organization's objectives; and
- (iv) information about such risks, and their management, is properly communicated.

3.1.5 Risk appetite and tolerance

An organization may have a different acceptance or aversion for different types of risk. An organization may therefore establish a suite of risk appetite and tolerance parameters, reflecting the different types of risk within its context. It is important to consider how appetite and tolerance may change in the context of disruption-related risk.

Clearly defining an organization's appetite and tolerance for different types of disruption-related risk provides a robust frame within which decisions about risk can be made.

3.1.6 Importance of communication and consultation

The effective management of disruption-related risk involves the sharing of information and the development of shared sensemaking about such risk, in a way that allows better informed decision-making. The commonly encountered high levels of uncertainty and turbulence encountered during a