ITIL 4 SPECIALIST: HIGH-VELOCITY IT IN 1,000 WORDS

THE FUTURE OF DIGITAL AND I.T. SERVICES
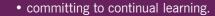
INTRODUCTION

This article gives an overview of ITIL® 4 Specialist: High-velocity IT, summarizing the book's audience and scope and its three main chapters: Key concepts of high-velocity IT, high-velocity IT culture, and high-velocity IT techniques. These chapters address the following questions:

- What is High-velocity IT and what kinds of organizations benefit from it?

- What kind of culture or 'belief system' supports and enables High-velocity IT work?

- Which High-velocity IT techniques can be used to help an organization achieve its objectives.

By describing some useful models, concepts, and techniques, ITIL 4: High-velocity IT gives an understanding of the domain for those who work in it, with references to more detailed guidance. The book does not intend to provide comprehensive or instrumental guidance on how to organize or manage High-velocity IT.

High-velocity IT is related to the other ITIL 4 books. It builds on core concepts, such as value streams and the service value system in ITIL 4 Foundation, and it describes some topics from ITIL 4 Specialist: Create, Deliver and Support and ITIL 4 Specialist: Drive Stakeholder Value from an High-velocity IT perspective. ITIL 4 Strategist: Direct, Plan and Improve offers guidance on how to organize and improve High-velocity IT, and ITIL 4: Digital and IT Strategy helps to determine what kind of High-velocity IT an organization requires.

AUDIENCE AND SCOPE

ITIL 4 Specialist: High-velocity IT is for practitioners in IT and service management who work in organizations that are adopting Lean, Agile, resilient, and continuous approaches to help them become more digitally enabled. These practitioners are familiar with traditional concepts and practices and now want to contribute in environments that demand more from digital technology. They want to learn new ways of thinking and working and integrate these into their existing ways of working. They also want meaningful and rewarding employment, which could be characterized by certain behaviours, including:

- accepting ambiguity and uncertainty
- trusting and being trusted
- continually raising their standards of work
- helping to get customers' jobs done
- committing to continual learning.

KEY CONCEPTS OF HIGH-VELOCITY IT

The aspirational behaviours listed in section 1.1 illustrate the kind of culture that is often found in digitally-enabled organizations. Such organizations use digital technology to significantly change their business model or operating models, with the end goal of co-creating more value for and with their customers (or citizens, for public organizations) and other stakeholders. Five objectives help them to achieve this mission:

- make the right digital investments
- develop digital products and services quickly
- ensure that products and services are resilient
- help the service consumer to realize value from the products and services
- assure conformance of activities with governance, risk, and compliance requirements.

High-velocity IT is defined as the application of digital technology for significant business enablement, where time to market, time to customer, time to change, and speed in general are crucial. High velocity is not restricted to fast development: it is required throughout the service value chain from innovation, through development and operations, to value realization.

Many organizations (including divisions or departments of larger organizational entities) can benefit from increasing digital enablement. For some organizations, however, such transformations are not priorities. Other organizations may think the amount of cultural change that transformations of this type involve would be too difficult to achieve.

HIGH-VELOCITY IT CULTURE

Culture is often pragmatically defined as 'how we do things around here'. Culture and behaviour are strongly influenced by people's values and beliefs. To support positive behaviours and the kind of culture that will enable ITIL 4 Managing Professional in 1000 words: High-velocity IT work, organizations should evolve the way they think and operate in regard to purpose, people, and progress, by:

• defining and fulfilling the mission and objectives (purpose)

• ensuring a productive, safe, stress-free environment for employees (people)

• enabling high performance in constantly changing circumstances (progress).

Table 3.1 summarizes the cultural models and concepts that High-velocity IT explores.

Table 3.1 A summary of the cultural models and concepts

Purpose	People	Progress
Ethics	Reconstructing for service agility	Working in complex environments
Design thinking	Safety culture	Lean culture
	Stress prevention	Continual improvement model
		ITIL guiding principles

Ethics, for example, has been included in the book because of the increasingly profound social and economic impact of technology; for example, the Boeing 737 MAX tragedies involving 'MCAS' software, where conflicting interests seemingly led to disastrous decisions.

Even without the effects of conflicting interests, working with complex systems is inherently hazardous. It is crucial that practitioners understand that they are morally responsible for what they create, even if the consequences of their actions are unintended. This means that, just as they measure their cashflow, organizations should measure whether people are making good decisions from an ethical perspective.

Organizations in which IT drives the business, rather than supports it, therefore have an increasingly strong moral obligation to consider how they apply IT. Education in ethics is a key part of the approach.

When applying ethics, practitioners should aspire to:

• think about how their actions affect others

• establish generic ethical principles

• accept that ethical principles simply help to clarify specific situations

• discuss dilemmas

• take responsibility for choosing the least bad course of action.

"IaC is a way of managing and provisioning IT infrastructure and platforms by using machine readable definition files"

HIGH-VELOCITY IT TECHNIQUES

Practitioners in digitally-enabled organizations apply various High-velocity IT techniques to achieve the five objectives mentioned in Section 2. ITIL 4 Specialist: High-velocity IT describes twenty-five techniques grouped according to the objectives that they support.

An example of a technique the supports the fast development objective is infrastructure as code (IaC). IaC is a way of managing and provisioning IT infrastructure and platforms by using machine readable definition files rather than physically configuring hardware components. IaC enables environments to be provisioned faster, which accelerates the whole development process and applies aspects of software engineering to infrastructure and operations work.

IaC also contributes to the resilient operations objective because, when IaC is used, a suspect environment can be rapidly reconfigured to the specified state. This quality is called idempotence and is key to IaC.

Techniques are applied in the context of multiple ITIL management practices, and IaC can be used in seventeen of them. One of these is the change enablement practice, in which it enables the fast provisioning or decommissioning of virtual infrastructure components in order to balance speed of delivery with governance, risk, and compliance needs.

Here is a list of all of the techniques, grouped (but not always exclusively) by objective.

• **Valuable investments** Prioritization (cost of delay, buy/sell/hold, and others), minimum viable products and services, product or service ownership, A/B testing

• **Fast development** Infrastructure as code, loosely-coupled IS architecture, reviews (retrospectives, blameless post-mortems), continual business analysis, CI/CD, continuous testing, Kanban

• **Resilient operations** Technical debt, chaos engineering, definition of done, version control, AIOps, ChatOps, site reliability engineering

• **Co-created value** Service experience

• **Assured conformance** DevOps Audit Defense Toolkit, DevSecOps, peer review.

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