DCMM Digital Capabilities Management Model

Why DCMM

Since the early 1990s internal IT departments have been adopting new technologies to digitize existing business processes. IT management started to evolve using a process focus, where consistency and efficiency meant fast incident resolution. Later, IT moved on and elevated its capabilities to provide business services, the focus was shifted towards the delivery of IT defined services that meet "customer" (understand business) requirements. In the last 20years agile has disrupted traditional IT management with a prioritization of speed, responsiveness and time to market. In the early 2000's e-banking and e-commerce held a competitive advantage; speed and continual delivery of software developments was the competitive advantage moving quickly to meet changing needs. There has been no significant modernization of IT management in the 20 years that have passed since this new paradigm was created, but the change in our world has accelerated – AI, complex self-managed systems, exponentially complex security, the need for exploration and innovation became the driver of digital transformation. Yet IT management has remained stuck in the past, acting as a separate organisation, expecting that the rest of the business will bring their requirements. As we enter 2021, IT management must radically change once again to meet the new reality we all now face.

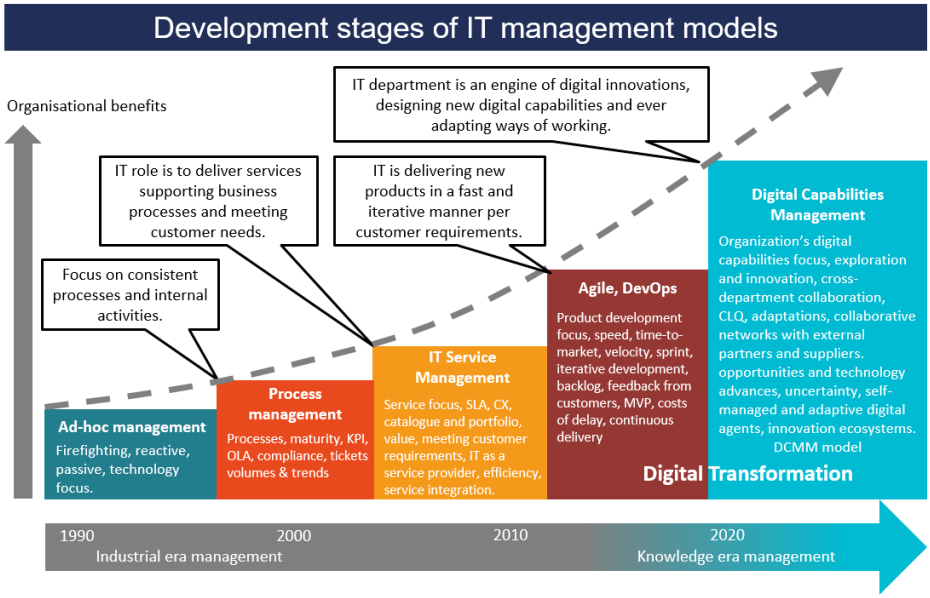
Today problems:

- IT is approaching the business as a customer, adopting a passive role.
- Finding innovative ideas is enormously complex, high risk and resource demanding, yet IT does not see their role in delivering its benefits to the organisation.
- IT management overhead is largely ignored, IT is self-centric, they do not consider the business context of their activities focusing on tasks which are unimportant to the business creating a perception of high cost, little return.
- Service logic has became obscured the more strategic role of IT departments.
- Digital transformation requires redefinition, the questions of; What is IT, what is IT's role in digital transformation have, until now, been left unanswered.

Adopting the DCMM model means the following.

- IT will act as a neural system within the organisation.
- IT is positioned as an enhanced digital capability function.
- IT will become a source of continual innovation.
- IT focus, will be on knowledge work to support organizational growth.
- Management complexity is greatly reduced, freeing up resource and increasing business agility tenfold.
- Digital agents (algorithms, digital employees) are recognised as a critical asset, managed by IT.

The evolution of IT management is described in the next picture, and DCMM is the next stage in that evolution, where IT is an active participant in successful business transformation.

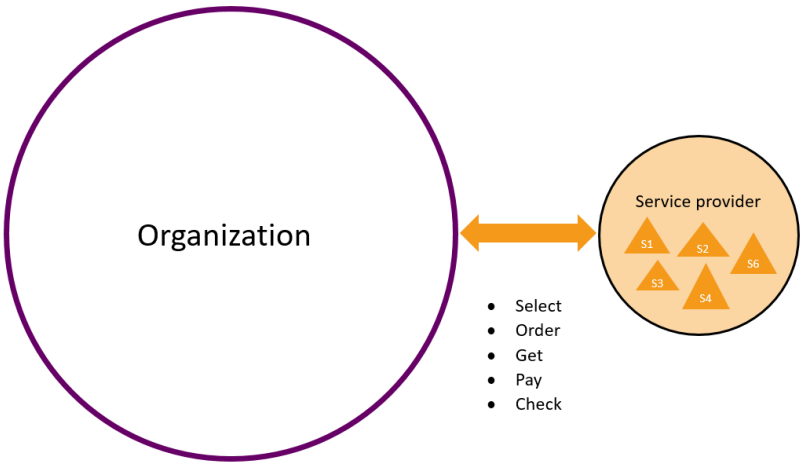


Differences to ITSM and Agile

The world of IT management is shaped by two main thinking streams, which create paradigms on the role of IT. ITSM represented by ITIL, FitSM, ISO/IEC 20000, VeriSM, IT4IT, is placing service and value at the centre of its thinking. Another stream Agile, represented by DevOps, SAFe and other similar models are approaching IT with the same logic as that of a software development company.

Problem of thinking "external"

Both models are coming from communities who define their customer as someone external, using the logic of "us and them".



This thinking creates a certain management pattern where main motivation is to satisfy the customer and enable economic transactions – billing. As the economic transaction is the driving force in the relationship, necessary management practices are put in place, like request/change tracking, SLA, reporting, service catalogue and customer acceptance etc. Both models accumulated large experience from the context of where they came and have created entire ecosystems of consultants, trainers and tools to support their growth across industries.

But a critically important question is now being asked by many CIOs who are working **inside** their organization.

CIO: How do we know, that acting in the same way as a service provider, is indeed the best possible management model?

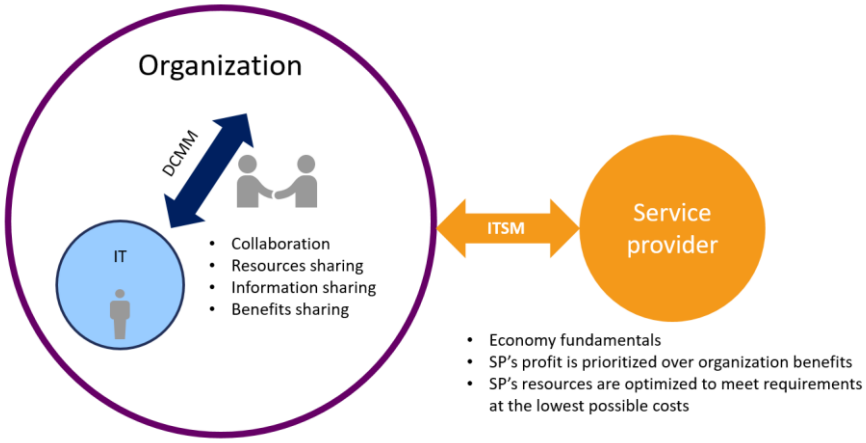
This simple question was the starting point of our exploration and then design of an entirely new management model, DCMM, which is structured around completely different thinking.

Sources of inspiration

Since about 2010, we have observed the rapid emergence of new ideas, challenging widely accepted truths and proposing new solutions to problems only now arising in the digital era. The new paradigm provided by the CORE information economy model, discoveries in biology (collaboration as the main force in evolution), artificial intelligence emulating the brain and complex self-organised organisms are just examples of what we see everywhere. Old truths and models are now proving to be unfit for purpose in today's complex reality.

DCMM fundamentals

The Digital Capabilities Management Model describes a new paradigm on the role of IT. Rather than acting as external to the organisation, IT as an integral, inseparable part of its organization, as an organ is within an organism. Over the whole DCMM book we will use many analogies with nature and living organisms, which is also providing great aid in the explanation of the rationale behind this suggested management model.



A fundamental difference to previous models, is perception of IT as a part of its own organization. This means that many practices motivated by economic transactions will be either eliminated or minimized to greatly reduce administrative overhead and increase business agility. Organizations exist for the purpose of creating shorter communication links and to eliminate administrative costs of external relationships. However, surprisingly, authors of previous models did not ask themselves, why a given organization exists and continue to suggest their models outside of their intended context for internal IT also.

DCMM model parts

The Key building blocks of DCMM are collaboration, innovation and continual adaptation with minimized administrative overhead.

While creating the DCMM model, we focused on the practicality and creation of viable new management patterns, which will support CIOs in digital transformation. While many authors provide well intended advice that IT should transform, they are very unclear in describing WHAT should it transform to. DCMM

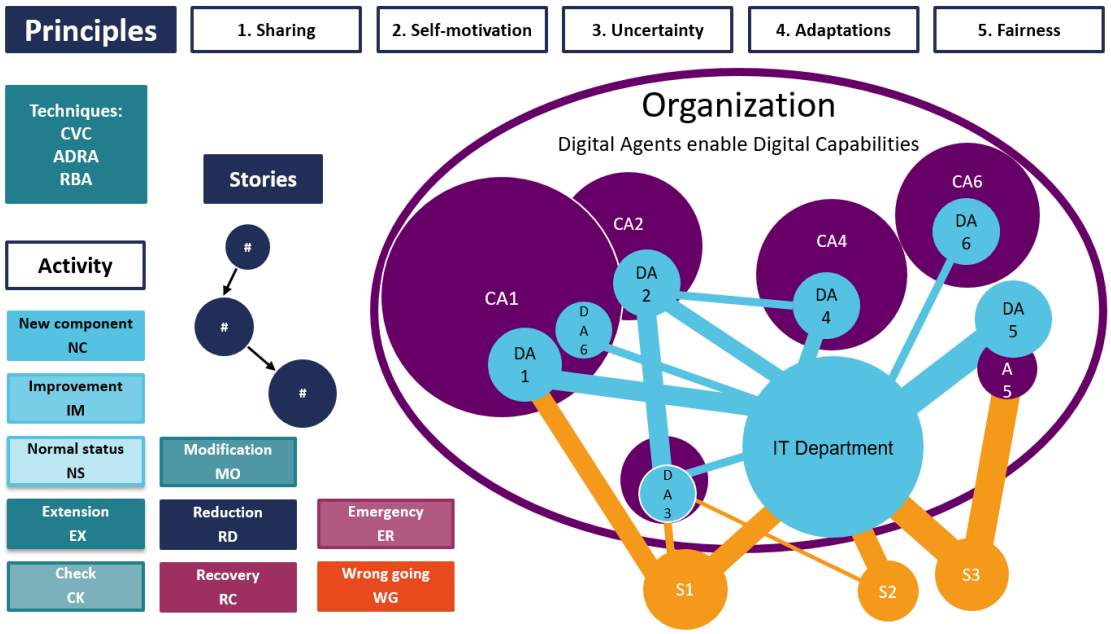
is therefore a practical guide on WHAT to transform to and HOW by providing a documented IT management model for the modern CIO.

Components of DCMM are:

1. Visual proportional model
2. Principles
3. Activities, stories, processes
4. Digital Agents and capabilities
5. Techniques

1. Visual proportional model

This next picture is providing a visual model of DCMM and within it also a visual model of IT (right part of picture). A unique and innovative idea behind DCMM is the use of graphical representation to depict the resource consumption and capabilities provided. Using proportional representation in a visual model offers a great aid for communicating what IT does and to what the resources are transformed into.



2. Principles

Working inside an organization brings massive consequences, as it alters how we approach things and changes how we treat our colleagues.

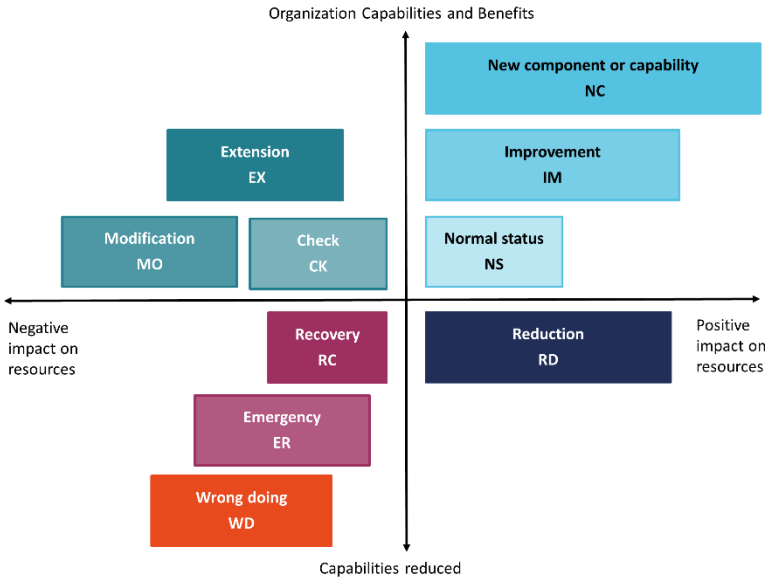
- Sharing – IT shares organizational resources with other departments.
- Self-motivation – IT acts without explicit request to act, becoming proactive
- Uncertainty – due to complexities and ongoing changes, the outcomes of acting are frequently unpredictable, and this must be supported in your management model
- Adaptation – every part of your organization, including IT is learning and adapting
- Fairness – collaboration inside the organization is driven by fair resources allocation

Listed principles are driving different behaviours and activities in IT when compared to the existing "external" logic, this is a massive difference to ITSM logic.

3. Activities, stories, processes

Most of what IT does is the result of self-motivated actions, frequently driven by previous activity or the availability of resources to start certain activities at a certain moment in time, or responding to unexpected situations like business emergencies or changes in conditions (competition, regulation, malfunctioning).

- New component
- Improvement
- Normal status
- Check
- Modification
- Extension
- Recovery
- Emergency
- Wrong doing



Every activity has a different impact on organizational resources and capabilities. The need and method to understand the complete picture relating to resources is one of the significant features of DCMM.

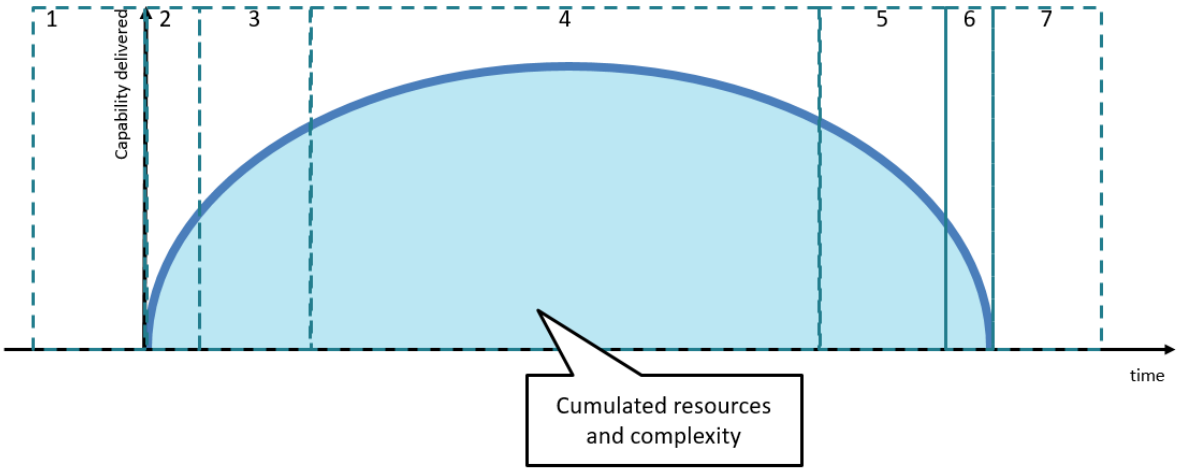
Chains of activities will create stories, where the continuation of a story is frequently unknown and the decision of what the next activity should be, only happens based on the outcomes of a previous activity.

From the process perspective, DCMM is retaining only a few repetitive processes like outage management, provisioning and monitoring in order to be as reliable and flexible as possible.

4. Digital agents

In DCMM, IT is responsible for Digital agents. DA's consist of processing capacity (aka brain), connectivity (nerves), memory, algorithm and information. Unlike a service, we approach digital agent's in a similar way to how we approach humans or living organisms – aging, growing in complexity, wrong doings. Working with the digital agent logic, means accepting that some systems could be extremely complex and internal processing logic might even be changing so frequently they cannot ever be fully understood. Some digital agents might be enormously complex, that the processing logic can't be verified for correctness – we call this Digital Intelligent Agent aka Digital intelligence.

Understanding the concept of DA's aging and growing in complexity means that we must adopt more suitable management techniques for digital agents over their changing age.



Every digital agent is enabling your organization with specific digital capabilities. In other words, it is not IT who is providing services, instead IT is designing, acquiring and improving digital agents, which then provide the organization with new or better digital capabilities for the purpose of gaining an advantage in the market.

5. Techniques

DCMM is practical and therefore we wanted to provide IT professionals with trusted guidance on how to quantify the benefits delivered to their organization, After all the board will want to measure your success.

- **CVC** – Costs value calculation is traditional model of calculating value delivered through certain digital agents (i.e. less time needed for specific transaction
- **ADRA** – Activity driven resource allocation – technique describing how to provide iterative resource allocation for new, unproven digital agents to test and verify capability potential
- **RBA** – Resource / Benefits analysis, A key component of the DCMM model. The RBA chapter of DCMM describes, with practical examples, how to quantify the overall benefits delivered by the whole of IT.

Key differences to widely used IT management models and frameworks are summarized here:

Paradigm →	Industrial Era - ITSM, Agile, DevOps, LEAN, PDCA, 6Sigma, VSM, Scrum	Knowledge Era - DCMM, SFIA, ISO 44001, 56002, …
Underlying logic	Traditional Samuelson economy, Porter value chain, consistent and efficient processes as a source of value, elimination of waste, quantitative management.	Information theory, new economy CORE ECON, complex systems, collaboration and value networks, value from knowledge, innovation & automation of routine work, AI
Analogy	Organization is a machine, deterministic input → output processing	Organization is an organism self improving its capabilities
IT role	Service/Product provider to the business who is approached as a customer	Capability, IT is an integral part of the business
IT work	Predefined processes, streams, workflows, variability is negative, decision making externalized	Proactive knowledge work, dynamic clusters of interrelated activities, variability is normal, largely autonomous
Management objectives	Productivity, efficiency, speed, SLAs, KPIs, velocity, waste reduction, time to market	Multidimensional quality, collaboration potential, innovativeness, resilience, organization capabilities
IT driving force	Demand from customers triggers IT activities	Improvements and innovation of business capabilities
Information and feedback	Information is available any time at zero costs, feedback information is always correct, existence of external all-knowing instance (customer, stakeholder)	Information is a result of activity, costs are incurred, information is usually incomplete, non-verifiable and asymmetric, feedback is frequently missing or delayed
Decision making	Customer's responsibility or zero cost activity, decision making happens instantly when required	Consuming resources (time), complex analysis, additional info can be required, effects of decisions are opaque
Future	Predictable: $y = f(x)$, outputs and outcomes predictable	Non-predictable: $y_{n+1} = f(y_n, x, z, ..)$, path dependence, probabilistic outputs & outcomes
IT is perceived as	A cost, IT costs should be below competition	An asset, IT should be sufficiently funded

Drift to knowledge work

Summary

DCMM is targeted to help CIOs in their digital transformation, to change the paradigm of IT in their organization, positioning them as an innovative department, capable of delivering large, organization wide projects that bridge departmental borders. DCMM enables the CIO to create powerful digital ecosystems with external partners to leverage their capabilities rapidly accelerate growth. Transformation is not a minor iterative step, it will change our patterns of acting inside IT and present IT as a critical capability to the success of every organization.

About the Author

Zdenek Kvapil is the founder and CEO of Q4IT and the architect of the IT QUALITY INDEX framework and DCMM. He has spent 30 years in the IT industry, from programing through to the management of his own IT consultancy business. His other roles in the industry have included consultant, trainer, speaker and founder of the itSDFI conference.

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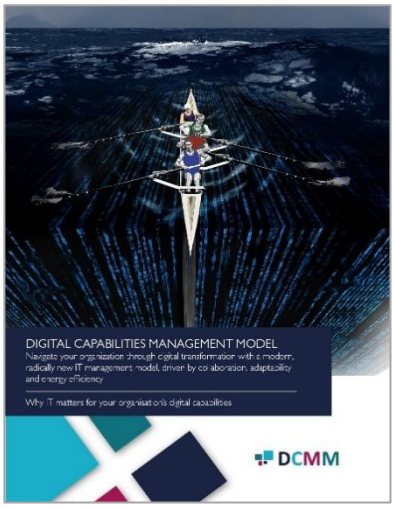
Co-author

Jonathan Boyd, consultant at Q4IT, has been in IT for over 20 years across many roles and has a wealth of experience gained from many improvement projects across both public and private sectors. He is currently working to support the growth of a number of modern businesses set to positively disrupt their market. He is laser-focused on modernising the thinking behind business enablement from technology and challenging accepted practice.

Book DCMM was published December 2018, ISBN: 9798275088243, updated November 2025, can be ordered here



DCMM infographics poster