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DEVOPS AGILE  
SKILLS ASSOCIATION

# DIGITAL TRANSFORMATION AND DIGITAL DISRUPTION: THE BACKGROUND

# PURPOSE OF THE BACKGROUND PAPER

The background paper uses the recent developments leading the digitalization and the current socio-economic context driving the urgent need for organizations to become digital organizations<sup>1</sup> to survive and thrive in the current digital age. By understanding both the promise and perils of the digital age, leaders will be able to use the guidance provided at the organizational, team and individual levels to assess their organization's readiness to capture the value-creating opportunities of the digital age while avoiding its risks.

## DISRUPTIONS AREN'T BLACK SWAN EVENTS: THE HISTORICAL CONTEXT OF THE CURRENT DIGITAL DISRUPTION

In popular perception, the modern digital age is perceived as a uniquely disruptive period. Some people even have apprehensions and termed the digital age as "software eating the world" and "being Amazoned". The apprehension's inference is that the demise or decay of existing enterprises<sup>2</sup>, highlighting that digital disruption is inevitable and terminal. However, both the perception and assumption aren't accurate.

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<sup>1</sup> Digital organizations: We use digital organizations to describe organizations that use software and digital means to conduct business or facilitate the conduct of business. This encompasses organizations that are digital only (Netflix, Spotify etc) and organizations that use the software and digital medium to facilitate their business ( all industries , from banking to mining to transportation to retail)

<sup>2</sup> Incumbent enterprises: Existing enterprises who aren't born as digital enterprises.

Disruptions that companies are experiencing today have happened before. Furthermore, corporate demise at the hands of universal software is only inevitable for companies that fail to harness the power of software. For those enterprises that can harness the power of software, there is an enormous opportunity to generate wealth and prosperity for individual companies and society at large.

While today's frantic and relentless pace of technological change and the ensuing disruption seems unique to our digital age, it isn't exclusive to our times when viewed from the perspective of technological ages. The technology-driven disruption we are witnessing today is largely predictable. **Dr. Carlota Perez, in her book, Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages;** and further elaborated by Dr. Mik Kersten in his book, **Project to Product, How to Survive and Thrive in the Age of Digital Disruption with the Flow Framework;** make the case that digital disruption is both predictable and manageable. Digital disruption is not a black swan event - unprecedented and unexpected.

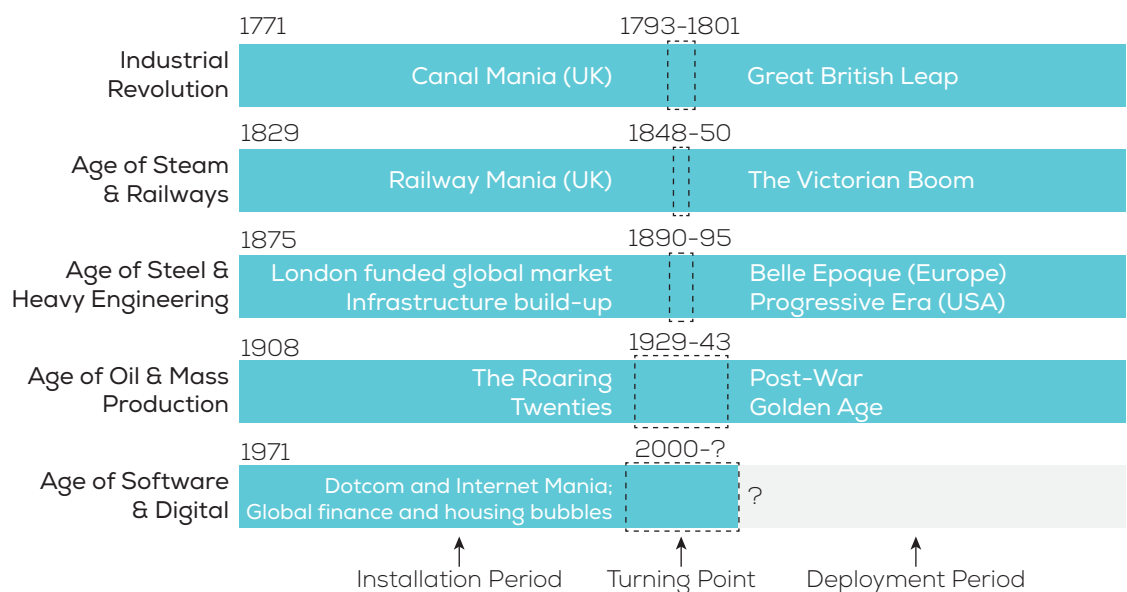


Figure: Technology revolutions through the ages

**Reference:** Carlota Perez, *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages*;

Dr. Mik Kersten, *Project to Product*, how to survive and thrive in the age of digital disruption with the flow framework; Blog post summarizing Carlota Perez's book - [The Deployment Age | Reaction Wheel](#)

## DIGITAL TRANSFORMATION: MASTER THE BUILDING AND OPERATING OF SOFTWARE-POWERED PRODUCTS AND BUSINESSES TO SURVIVE AND THRIVE IN THE DIGITAL AGE.

From the industrial revolution to our current software-led revolution, each technological revolution resulted in economic upheaval and disruption due to the change in the means of production. Each technological revolution heralded the start of a new technological age and a new means of production. Companies that mastered the new age's means of production survived and thrived in that technological age, and those that didn't were disrupted and didn't survive in the new technological age.

In the preceding and fast receding *Age of Oil & Mass Production*, the means of production was mass production. Companies that mastered mass production thrived in that age. Companies that could produce and sell at scale from retail to manufacturing did very well. For instance, in the early part of the oil and mass production age, there were 300 plus start-ups making cars in Detroit, USA alone. However, only the Ford Motor Company among them mastered the new means of production – mass production, ensuring its success in that age.

Today's ever-expanding digital age is rapidly displacing the previous age of oil and mass production with a radically new means of production - software. Companies that can master the building and operating of software-powered products and businesses will survive and thrive in this current age. Companies that don't master it will get disrupted.

## PROMISE OF THE DIGITAL AGE: THE VALUE-CREATING OPPORTUNITIES OF THE DIGITAL AGE

The narrative to describe the digital age defines the mental model through which we approach its challenges and opportunities. The digital age, viewed through the lens of disruption, appears dismal, with incumbent companies in perpetual defensive mode fighting off encroachment of the digital disruptors - the tech giants and start-ups that have mastered the building and operating of software-based products and businesses.

However, viewing the digital age from a value creation perspective opens up the possibilities for organizations to create a massive amount of additional wealth and societal prosperity. Each technological age brings with it value-creating opportunities for organizations that have built the capabilities to capture those opportunities. As illustrated in the earlier figure (The technological revolutions through the ages), the age of steel and heavy engineering led to the Belle Époque<sup>3</sup> (Europe),

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<sup>3</sup>[The Belle Époque or La Belle Époque \(French: \[bɛlɛpɔk\]; French for "Beautiful Epoch"\) is the term often given to a period of French and European history, usually dated to between 1871-80 and the outbreak of world war I....it was a period characterised by optimism, regional peace, economic prosperity, colonial expansion, and technological, scientific, and cultural innovations.](#)

Progressive Era<sup>4</sup> (USA), and the oil and mass production era resulted in the post-war golden age<sup>5</sup>. Similarly, in the current digital age, organizations with the capabilities to build and operate innovative software-powered products and businesses will generate wealth and prosperity by capturing the enormous value-creating opportunities of the digital economy.

“The Digital Spillover: Measuring the True Impact of the Digital Economy,<sup>6</sup>” a report published by Oxford Economics, captures the enormity of opportunities of the digital age. The report finds that in 2016 “ the digital economy was worth US \$11.5 trillion globally, equivalent to 15.5 percent of global GDP and that it has grown two and a half times faster than global GDP over the past 15 years, almost doubling in size since the year 2000.” and the report forecasts that “ the global digital economy in 2025 is expected to be worth \$23 trillion equivalent to 24.3% of the global economy.”

For organizations to capture the vast opportunities of the digital age, they need to build a high-performing IT function that can help them build and operate innovative software-powered products and businesses at the speed and scale demanded by the digital age.

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<sup>4</sup>[The Progressive Era \(1896–1916\) was a period of widespread social activism and political reform across the United States of America that spanned the 1890s to World War I.](#)

<sup>5</sup>[The post-World War II economic expansion, also known as the postwar economic boom or the Golden Age of Capitalism, was a broad period of worldwide economic expansion beginning after World War II and ending with the 1973–1975 recession.](#)

<sup>6</sup><https://www.oxfordeconomics.com/recent-releases/digital-spillover>

## DASA DEVOPS GUIDANCE FOR DIGITAL AGE SUCCESS: GUIDANCE AT THE ORGANIZATIONAL, TEAM AND INDIVIDUAL LEVEL.

DevOps transformation is the means for organizations to build high-performing IT that will help them succeed in the digital age. DASA defines DevOps as “ a cultural and operational model that fosters collaboration to enable high performance IT to achieve business goals<sup>7</sup>.” DevOps transformation and high performing IT functions drive the larger organization-wide digital transformation.

For organizations looking for holistic transformation guidance, DASA offers guidance at three levels.

## ORGANIZATIONAL TRANSFORMATION GUIDANCE: THE DIGITAL READINESS ASSESSMENT

The digital readiness document is an instrument for initiating a dialogue with organizational leaders to assess the readiness of their organization for transformation to achieve digital age success.

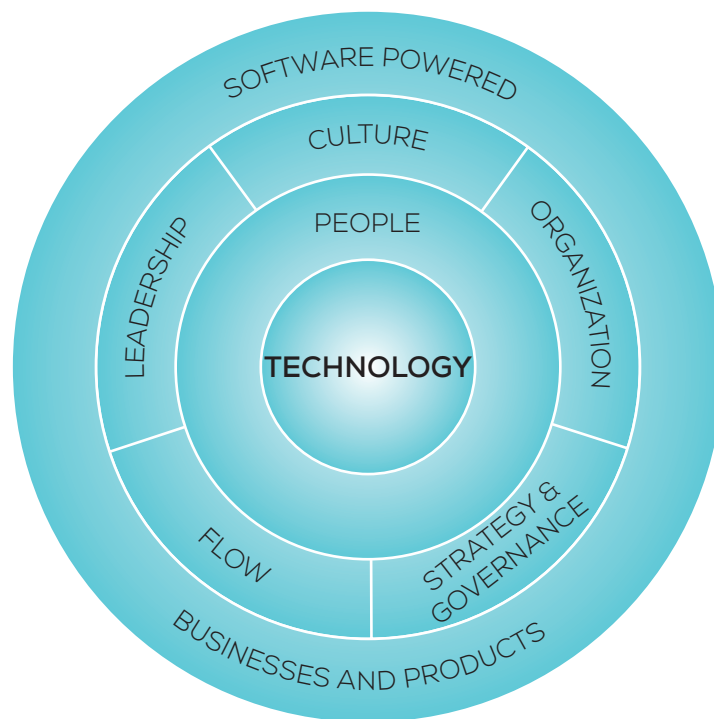
It helps organizations assess their digital readiness along seven dimensions. Organizations can use the results of the assessment to chart the path of their transformation to create a high-performing IT function that can power the organization-wide digital transformation.

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<sup>7</sup> DASA DevOps Fundamentals

Here is an executive summary of DASA's Digital Readiness Assessment.

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## TEAM LEVEL TRANSFORMATION GUIDANCE: THE DASA DEVOPS TEAM COMPETENCY SCAN

For modern digital organizations<sup>8</sup>, teams are the organizational units for carrying out work and delivering value. DASA team

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competency scan provides guidance to build business and technology teams to develop, deliver and operate software-powered business products and services.

[Explore the DASA Team Competency Scan](#)



1. Novice / 2. Competent / 3. Proficient / 4. Expert / 5. Master

## INDIVIDUAL-LEVEL TRANSFORMATION GUIDANCE: GUIDANCE FOR BUILDING THE HUMAN AND TECHNICAL SKILLS OF INDIVIDUALS.

Individuals power teams and teams power the modern digital organizations. Digital age success requires individuals to have both human and technical skills. The DASA Competency framework provides organizations a modular and flexible, broad as well as a deep framework to help build the competencies of their people. The DASA Competency Framework has three major components: the core values, the core competencies, and the technical capabilities.

For further details on the competency framework, review the executive summary and the white paper.

[View the Executive Summary of Competency Framework](#)

Competency Framework White paper



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