



IMPLEMENTING DIGITALIZATION STRATEGIES WITHIN THE INDUSTRY 4.0 FRAMEWORK

–

A Multi-Aspect Approach to Enhancing QA Agency Efficiency and Sustainability

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About ACQUIN

ACCREDITATION, CERTIFICATION AND QUALITY ASSURANCE INSTITUTE

- established 2001 in Germany,
- active in Germany and abroad.

Digitalisation Strategy

CORE STRATEGIC DECISION:

- implementation of an organisation-wide software system as the structural backbone for operational transformation.

Implementation

TYPE OF SOFTWARE INTRODUCED:

- enterprise-grade agency software system designed for organisations operating in multi-project, multi-user, cross-functional environments
- originally developed for advertising agencies, currently used by large integrated communication networks, event-production providers, medically regulated communication firms as well as major retail chains.

REFLECTING ON THE FRAMEWORK



- 📍 What effect does efficiency and sustainability of a company have on its impact as a QA agency? Are we efficient and sustainable enough as a company to make the maximal possible impact as a QA agency?
- 📍 How can elements of Industry 4.0 (digitalization and change in organizational culture) contribute to increasing efficiency and sustainability of a company, and consequently its impact as a QA agency?

Software provides comprehensive business solution

- Integrated modules (Finance & Controlling, HR, CRM, Project Management, Time Tracking etc.),
- Centralised data architecture enabling unified, real-time information.

IMPACT:

- Ensures coherent, stable workflows → sustainability
- Reduces redundancy and error potential → efficiency

Software undergoes continuous improvement and development

- Regular adaptation to technological and legal changes

IMPACT:

- Guarantees long-term system stability → sustainability
- Prevents fragmentation and outdated processes → efficiency

Software provide extensive customization options:

- Adaptable software and database structures
- Ability to model QA-specific workflows, standards, and processes.

IMPACT:

- Enables continuous optimisation → efficiency
- Supports sustainable development of QA-specific solutions → sustainability
- → Forms the foundation for QA-specific organisational transformation

Data-Driven Decision Making (Resulting Capability):

- Integrated data enables advanced analytics
- Supports evidence-based organisational steering.

IMPACT:

- Optimises resource utilisation → efficiency
- Enhances strategic decision-making → sustainability

DIGITALISATION AS AN ENABLER OF NEW ANALYTICAL CAPABILITIES

Example of application in thematic analysis

During the 1. Phase – ev thus the original impulse

- Scenario 1: The may implement i the agency. Spec the conditions th the GEE, conditi by the HEI during
- Scenario 2: Afte into the Deficien problems and pr the GEE. If the pr in the accrediti

It should be noted that it for all agencies, due to d the current analysis.

During the 2. Phase, con as well as opportunities t final accreditation decisio

- Scenario 3: Afte problems meritio proof of the fulfill if the proof of th
- Scenario 4: Afte provide additioni GEE can be conr made, and the H
- Scenario 5: Con can also be decli example, if the G of the Specimen
- Scenario 6: The suggested by the the HEI may prov the fulfillment t ;
- Scenario 7: The the GEE). If the Procedure (Stellu accreditation wil subsequently con

ACCREDITATION PROCEDURE [AKKREDITIERUNGSVERFAHREN]						
Szenario	AGENCY [AGENTUR] PHASE 1			ACCREDITATION COUNCIL [AKKREDITIERUNGSRAT] PHASE 2		
	Visit [Besuchung]	Preliminary report [Vorläufiger Bericht]	Final Report [after Deficiency Correction Cycle] [finaler Bericht nach Mängelbearbeitung]	Application Procedure [Antragverfahren]	Final Decision Procedure [Stellungnahmeverfahren]	Fulfillment of condition [Ausfüllung]
1	→	✓				
2	→		✓			
Condition was suggested by GEE after the first or second visit (X). HEI implemented the suggested changes during the evaluation procedure prior to issue of the preliminary accreditation report (1) or during the Deficiency Correction Cycle prior to the issue of the final accreditation report (2). The proof of the fulfillment of condition is provided by HEI; condition was evaluated by the GEE as already fulfilled (✓)						
[Aufgabe wurde von der GEE zum Zeitpunkt nach der ersten oder zweiten Begleichung evaluiert (X) von HEI im Laufe des Besuchsverfahrens zur Erstellung des vorläufigen Berichts (1) oder im Laufe der Mängelbearbeitungszyklen vor Erstellung des finalen Berichts (2) bestätigt; der Erfüllungsnachweis wurde während der HS nachgereicht; Auflage wurde von der GEE als bereits erfüllt bewertet (✓)]						
3	→			✓		
Condition was suggested by the GEE in the final accreditation report. The condition has been fulfilled by the HEI after the end of the evaluation procedure. HEI submitted proof of fulfillment as part of the application documents to the GAC. The condition was assessed by the GAC as already fulfilled. Hereinafter referred to as „deleted condition; fulfilled“.						
[Aufgabe wurde von der GEE im finalen Akkreditierungsbericht vorgeschlagen; diese wurde von der HS nach Abschluss des Besuchsverfahrens bestätigt und der Erfüllungsnachweis im Rahmen der Antragstellung beim AR eingereicht; die Auflage wurde vom AR als bereits erfüllt bewertet. Im Folgenden: „gestrichene Auflage, erfüllt“.]						
4	→				✓	
The condition was proposed by the GEE and confirmed by the GAC. Accreditation with conditions is granted. Fulfillment is subsequently assessed by the GAC. Hereinafter referred to as „confirmed condition“.						
[Aufgabe wurde von der GEE vorgeschlagen und vom AR bestätigt. Akkreditierung mit Auflagen wird erteilt. Die Aufgabenerfüllung wird anschließend vom AR überprüft. Im Folgenden: „bestätigte Auflage“.]						
5	→			X		
The condition was proposed by the GEE but not confirmed by the GAC (AR). Hereinafter referred to as “deleted condition”.						
[Aufgabe wurde von der GEE vorgeschlagen, jedoch vom AR nicht bestätigt (X). Im Folgenden: „gestrichene Auflage“.]						
6				→		
Additional condition was planned by the GAC. The proof of fulfillment has been submitted by HEI as part of the Feedback Procedure. The condition was assessed by the GAC as already fulfilled.						
[AR spricht zusätzliche Auflagen aus. HS legt im Stellungnahmeverfahren Unterlagen zur Aufgabenerfüllung vor. Die Auflage wurde vom AR als bereits erfüllt bewertet. Im Folgenden: „zusätzliche Auflage“.]						
7	→				✓	
Condition was additionally expressed by the GAC. HEI does not provide documents during the Feedback Procedure. Accreditation with conditions is granted. Fulfillment is subsequently assessed by the GAC. Hereinafter referred to as “additional condition”.						
[AR spricht zusätzliche Auflagen aus. HS legt im Stellungnahmeverfahren keine Unterlagen zur Aufgabenerfüllung vor. Die Aufgabenerfüllung wird anschließend vom AR überprüft. Im Folgenden: „zusätzliche Auflage“.]						

Table 1: Description of Possible Scenarios (Darstellung und Beschreibung möglicher Szenarien)

Thematic Analysis:

“The chronopolitics of quality assurance: gatekeeping or joint action? Case study of system accreditation in Germany 2018-2024” (ACQUIN, 2025)

- Digitalisation provides the data architecture necessary to investigate dimensions of quality assurance that were previously inaccessible as structured, comparable evidence.
- Digitalisation enables new analytical capabilities in QA, not just operational ones.

“Never again should it be possible to say ‘we didn’t know.’ No one should be invisible. This is the world we want – a world that counts.”

(UN Secretary-General’s Independent Expert Advisory Group on a Data Revolution for Sustainable Development, 2014 (quoted in: World Economic Forum, Data-Driven Development: Pathways for Progress, January 2015)
[http://www3.weforum.org/docs/WEFUSA_DataDrivenDevelopment_Report2015.pdf.](http://www3.weforum.org/docs/WEFUSA_DataDrivenDevelopment_Report2015.pdf))

- **What is our responsibility, as QA agencies (QA actor), in aligning with global expectations for transparency, evidence-based governance, and data-driven accountability?**
- **Does digitalization become not only an operational means, but a responsibility?**



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