

Quality Profession in a World Without Work (Possibly?)

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Greg Hutchins PE CERM Bio

- Future of Quality: Risk[®] evangelist since 2000
- Developer of Certified Enterprise Risk Manager[®] certificate
- First company to be approved for CIP Forensics, Assurance, Analytics[®] (US Dept of Homeland Security)
- Started ISO auditor training in 1987 through AGA Labs CB
- Founder of:
 - 800Compete.com
 - WorkingIt.com
 - CERMAcademy.com
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Presentation Outline

Context:

- Understanding Context is worth 20 IQ points
- AI hype or reality?

Problem:

- What problem does the quality profession solve?
- What is the fear and opportunity posed by AI?
- What are the professional quality risks and challenges of AI?

Solution:

- What are the professional opportunities for quality professionals to pivot and make \$\$\$ in AI?
- What are your next steps to reshape your professional work/profession/career value proposition

CONTEXT: What's Going On?



EECS PROJECT PORTAL

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NIST AI Risk Management Framework Project (Not Available Fall 2022)

The U.S. National Institute of Standards and Technology (NIST) will release the NIST AI Risk Management Framework (AIRMF) in December, 2022. The NIST AI RMF may be the most significant AI standard and guideline issued by the United States.

BACKGROUND

Artificial Intelligence (AI) capabilities are now integrated into nearly all aspects of life, work, and society. AI systems can be used for proactive, preventive, predictive, and preemptive decision making and problem solving. However, decision making and problem solving risks can emerge involving trust, privacy, accuracy, explainability, reliability, robustness, safety, security, and bias risks.

NIST explains the purpose of the AI RMF is to:

"... improve understanding of and to help organizations manage both enterprise and societal risks related to the development, deployment, and use of AI systems. Adopting the AI RMF can assist organizations, industries, and society to understand and determine their acceptable levels of risk."^[i]

[i] "AI Risk Management Framework: Initial Draft: Part 1," NIST, 2022.





Working It App - Future of Work

The Future of Work is being disrupted. MIT has engaged the entire institute in researching and proposing solutions for the Future of Work. Harvard Business School has a similar initiative in terms of managing the Future of Work. Q+E proposes a similar initiative with OSU in developing the Working It app. This software project is based on the fifth edition of the book /Working It: Disruption Rules – COVID Edition/ for OSU's EECS Capstone Project.

The Future of Work data and Future of Professions projections are dramatic:

- 1/3 of the workforce will transfer to new occupations over the next 5 years (Goldman Sachs).
- Sixty-five percent of children now entering school will hold jobs that currently don't exist (WEF).
- 1/3 of all graduates are underemployed (Milken Institute).
- More than 50% of workers want new work/career/jobs (LinkedIn).

**Working It™
App**



**Hello
VUCAN™**

Are You Ready for Age of Disruption

- Moore's Law For People
- What is Moore's Law for IC's
- Moore's Law for people
 - People have a half life for careers.
- **Lesson:**
 - Younger generation will have 10 careers
 - Maybe, it's quality's time
- What does this mean for YOU?



Source Intel Corporation/AFP/Getty Images

Is AI All About the Hype?

FINANCIAL TIMES

myFT Daily Digest



Artificial intelligence

Elon Musk predicts AI will overtake human intelligence next year

APRIL 9, 2024

Jamie Dimon says AI could be as transformative as electricity or the internet—here's how to invest

Published Tue, Apr 9 2024·8:00 AM EDT



Cheyenne DeVon

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Credit...Calum Heath

CHALLENGE: What's Up With Quality?



Thursday, April 11, 2024

Today's Paper

The New York Times

U.S. ▾

World ▾

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Cookin

Dish Soap to Help Build Planes? Boeing Signs Off on Supplier's Method.

An F.A.A. audit found Spirit AeroSystems using Dawn soap and a hotel key card in the manufacturing process. The company says its techniques were inventive.

4 MIN READ



Nick Oxford/Reuters



Etienne Nichols · 2nd

MedTech is hard. Let's make...

Connect

Invest in your company's Quality Team.

You won't regret it...

A quality system is required, but investing in your quality team can allow them to make everyone's lives better at your company.

With more budget your quality team can:

1. Hire more quality specialists to improve efficiencies of your processes across all departments.
2. Invest in an eQMS platform to increase those departmental efficiencies even more. Greenlight Guru, for example, has shown to reduce your team's time spent on development and design documentation by 50%!
3. Improve employee training to create safer medical devices for patients
4. Improve your internal auditing, and take better corrective and preventive actions to help avoid recalls, warning letters, etc.

... and much more!

Investing in Quality will take your company to the next level.

(Shoutout to [Wade Schroeder](#) for this one! 🙌)

[#quality](#) [#medicaldevices](#) [#greenlightguru](#)



“Our budget for new sales reps is \$300k”



“Our budget for advertising is \$100k”



“Our budget for new tools is \$200k”



“You guys get to spend money?”

  You and 1,747 others

106 comments · 127 reposts

Perception of the Present and Future State of Quality Are Important

Engineering True Quality in Medical Devices

It's a tragicomedy! We kinda have to laugh AND cry because the money is going to be spent on Quality either way... either on investment in true quality up front, or on delays to market, recalls, legal liability, repairing reputation damage, loss of market share, increased operational costs, supply chain disruptions...

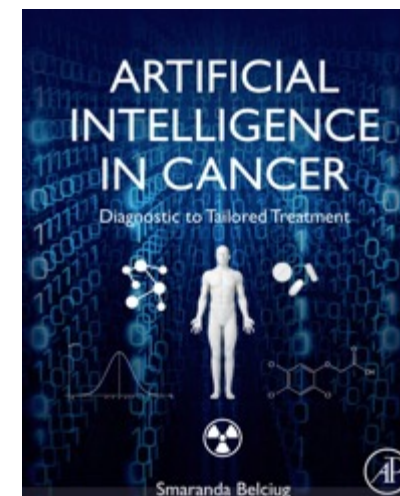
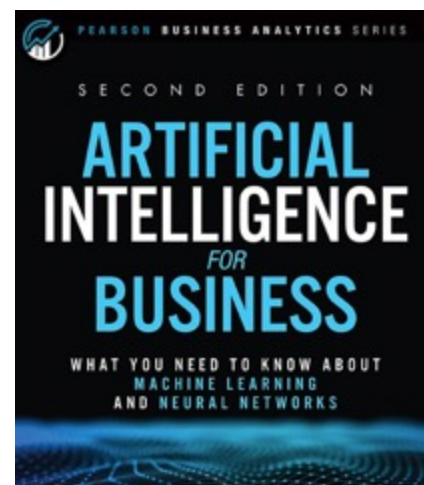
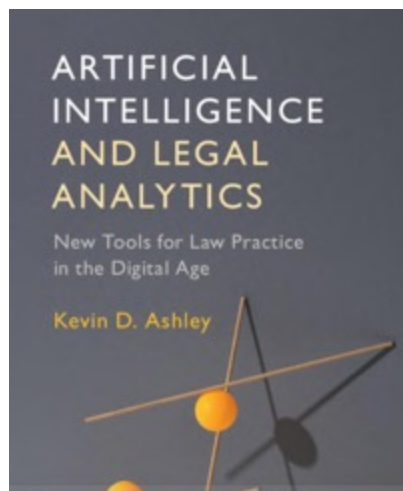
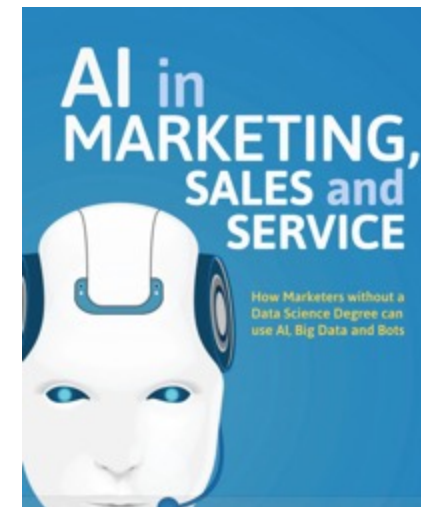
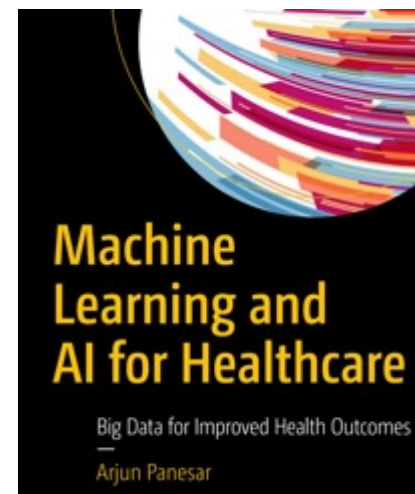
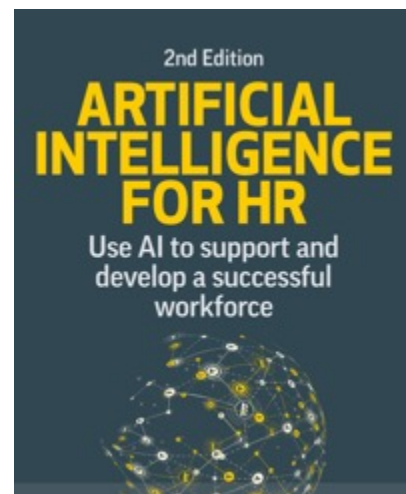
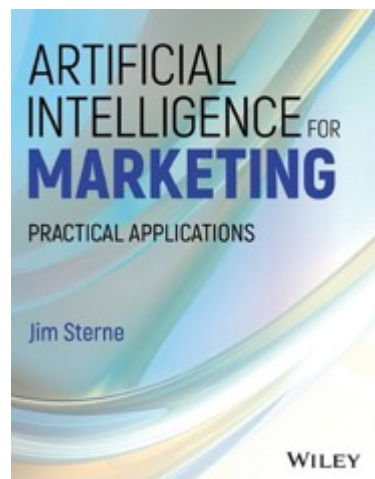
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Spoiler alert 🙊, I recently asked in an interview what was the quality budget for the company. The two interviewers both turned and looked at each other, then looked at me. This went on for what felt like a couple of minutes only for one of them to finally reply "we suppose that there isn't really a budget".

Maybe, We Need To Reimagine Our Profession

- Has quality been working for companies?
- Is the quality profession working for you?
- If yes, great.
- If not, why not?

Where's AI In Quality?



SOLUTION: OPPORTUNITIES

Show Me 'Da' Money

Medical Decision Making

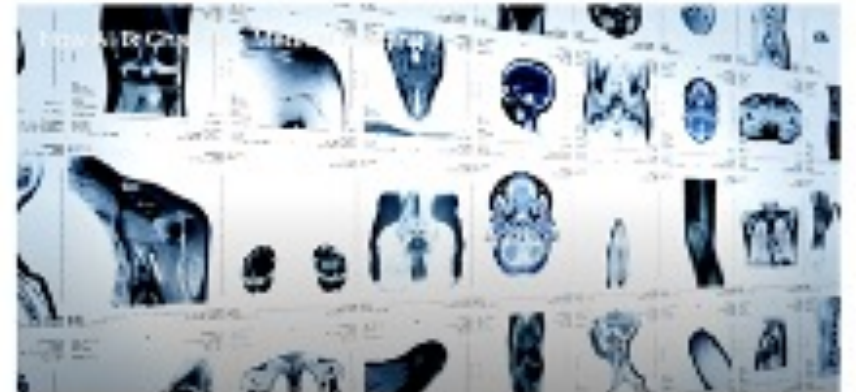
Human Physician



Source: [Pexels](#)

AI Physician

HEALTH + BIOLOGY
How AI Is Changing Medical Imaging to Improve Patient Care



Source: Time Magazine 2022

**Human
In
The
Middle**

Military Decision Making

Machine Public Safety

News of Bay Area & State

Report: Oakland police consider use of possibly lethal robots

Joshua Stone, SF GATE
Oct. 17, 2022



Source: SF Gate, 2022

Policing

Human
In
The
Middle



Video shows a drone hovering over a building and then dropping a robot on the roof.

Source: NY Post, Oct.26, 2022

Existential Decision Making

Thing in the Middle - Human or Robot



Source: Pixabay

The real issue is that when you start to manipulate the information space, you manipulate human behavior.

Eric Schmidt (former CEO Google)

MIT Sloan Review, Eric Schmidt, November 2022.

Trust

Or the Lack of

**Trust =
Assurance**

Opportunity #1: EU AI Act Article 17 (Feb.6, 2024) – Quality Management Systems

“Providers of high-risk AI systems shall put a **quality management system** in place that ensures compliance with this Regulation. That system shall be documented in a systematic and orderly manner in the form of written policies, procedures and instructions, and **shall include**”



EU AI Act Article 9 (Feb.6, 2024) – Risk Management System

1. “A **risk management system** shall be established, implemented, documented and maintained in relation to high-risk AI systems.
2. The risk management system shall be understood as a **continuous iterative process** planned and run throughout the entire lifecycle of a **high-risk AI system**, requiring regular systematic review and updating.”



EU 8 Areas Requiring Risk Assessment

1. Biometric identification and categorization of natural persons
- 2. Management and operation of critical infrastructure**
3. Education and vocational training
4. Employment, worker management and access to self-employment
5. Access to and enjoyment of essential private services and public services and benefits
6. Law enforcement
7. Migration, asylum and border control management
8. Assistance in legal interpretation and application of the law

Opportunity #2: AI Risk Assurance



THE DIRECTOR

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

March 28, 2024

M-24-10

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Shalanda D. Young *Shalanda D. Young*

SUBJECT: Advancing Governance, Innovation, and Risk Management for Agency Use of Artificial Intelligence

Artificial intelligence (AI) is one of the most powerful technologies of our time, and the President has been clear that we must seize the opportunities AI presents while managing its risks. Consistent with the AI in Government Act of 2020,¹ the Advancing American AI Act,² and Executive Order 14110 on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence, this memorandum directs agencies to advance AI governance and innovation while managing risks from the use of AI in the Federal Government, particularly those affecting the rights and safety of the public.³

The practices in this section represent an initial baseline for managing risk from the use of AI. Agencies must identify additional context-specific risks that are associated with their use of AI and address them as appropriate. Such risk considerations may include impacts to safety, security, civil rights, civil liberties, privacy, democratic values, human rights, equal opportunities, worker well-being, access to critical resources and services, agency trust and credibility, and market competition. To address these potential risk management gaps, agencies are encouraged to promote and to incorporate, as appropriate, additional best practices for AI risk management, such as from the National Institute of Standards and Technology (NIST) AI Risk Management Framework,²⁹ the Blueprint for an AI Bill of Rights,³⁰ relevant international standards,³¹ and the workforce principles and best practices for employers established pursuant to Section 6(b)(i) of Executive Order 14110. Agencies are also encouraged to continue developing their own agency-specific practices, as appropriate and consistent with this memorandum and the principles in Executive Order 13960, Executive Order 14091, and Executive Order 14110.

Consulting Opportunities

USA: AI Bill of Rights Principles



Safe and
Effective
Systems



Algorithmic
Discrimination
Protections



Data Privacy



Notice and
Explanation

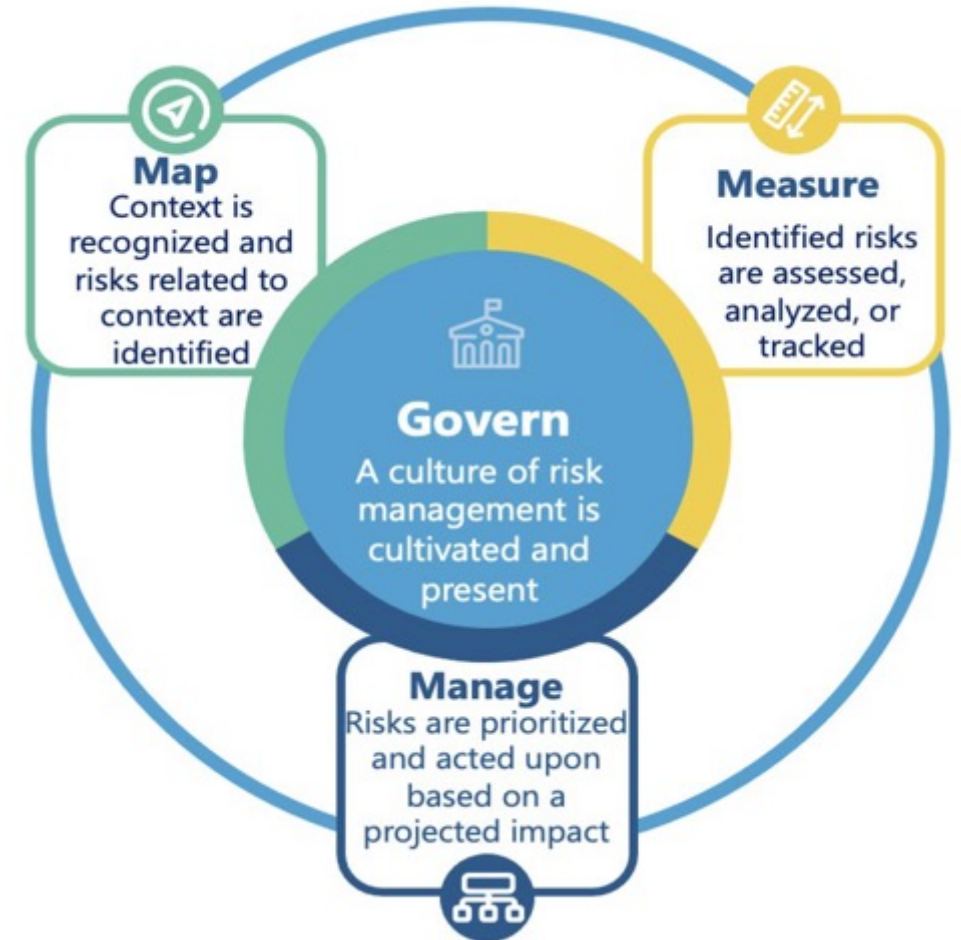


Human
Alternatives,
Consideration,
and Fallback

Consulting Opportunities

NIST AI-RMF 'What' Standard:

1. Framework applies to automated **risk based, decision-making** systems.
2. Is part of US Presidential executive order for US Federal agencies



AI Consulting Opportunities

- GRC compliance
- Audit
 - Social – Rights preserving
 - Technical – AI decision makin
 - & Safety
- ISO compliance
- AI inventorying
- AI risk assessment

TECHNOLOGY

SF exec defends 'brutal' tech trend: Lay off workers to free up cash for AI

Dropbox CEO Drew Houston told the Verge he laid off workers in part to hire engineers for AI

By **Stephen Council**

April 17, 2024



Opportunity #3: State AI & Risk Reviews

Feb 14, 2024 - Technology

Exclusive: States are introducing 50 AI-related bills per week



Ryan Heath, author of [Axios AI+](#)

Audit/Assurance/Accountability Review

Audits/Assurance

- Healthcare access
- Tenant screening
- Criminal justice
- Facial recognition
- Employment screening
- Marketing

Audits/Assurance

- Incarceration
- Homelessness
- Job loss
- Equity-stripping
- Debilitating health

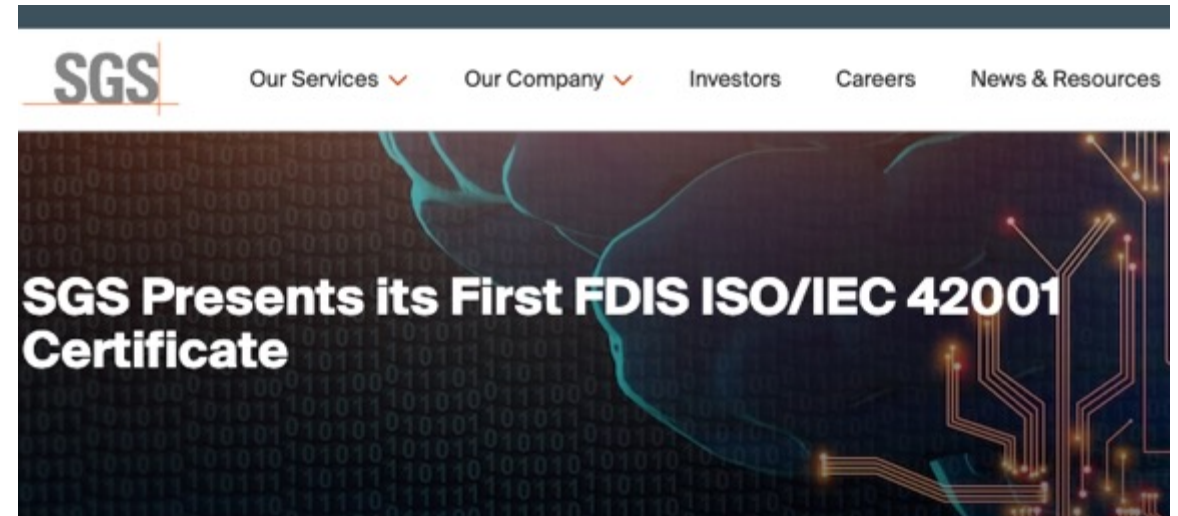
Opportunity #4: ISO 42001 AIMS & Risk Consulting & Registration

- Consulting on AI management systems
 - ISO 42001
 - ISO 27001
 - Etc
- Compliance consulting
 - Made in USA
 - Customer-supplier



Opportunity #5: ISO Risk Based Auditing

- Hot certs:
 - ISO 27001
 - ISO 42001
 - Etc.
- All risk based



Story: Is AI & Risk The Future of ISO?

“ISO and IEC’s joint subcommittee on artificial intelligence, meanwhile, has recently developed the first management system standard devoted to AI (ISO/IEC 42001).



Dr. Sung Hwan Cho – ISO President

Sergio Mujico – Secretary General



- ISO January 14, 2024

How To Double Your Salary?

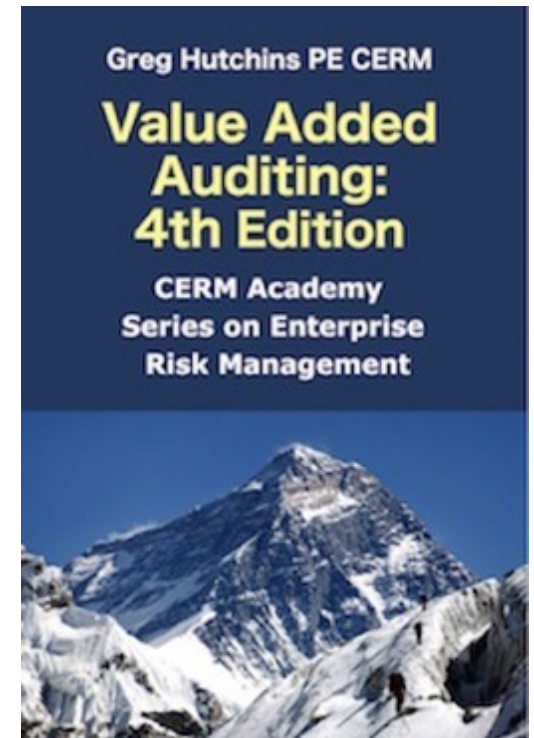
- **Do:** Learn risk management & risk assurance
- Do risk based, decision making Be human in the middle
- Provide 'reasonable' assurance & accountability
- Develop and implement AI risk frameworks
 - Tailor ISO 42001 and ISO 31000 to AI contexts
- Develop AI risk control systems

Better: Add risk to your job title

Best: Add **AI risk & risk assurance** to your job title

Risk Resources

- Get NIST RMF for FREE
 - <https://www.nist.gov/itl/ai-risk-management-framework>
- Attend National AI Advisory Committee (NAIAC)
 - <https://ai.gov/naiac/>
- Get ISO 42001 (\$225)
- Get Certified Enterprise Risk Manager (CERM'ed)
 - <https://cermacademy.com/>
- Learn about Future of Quality
 - www.FutureofProfessions.com
- Read about risk with almost 3000 articles
 - <https://insights.cermacademy.com/>



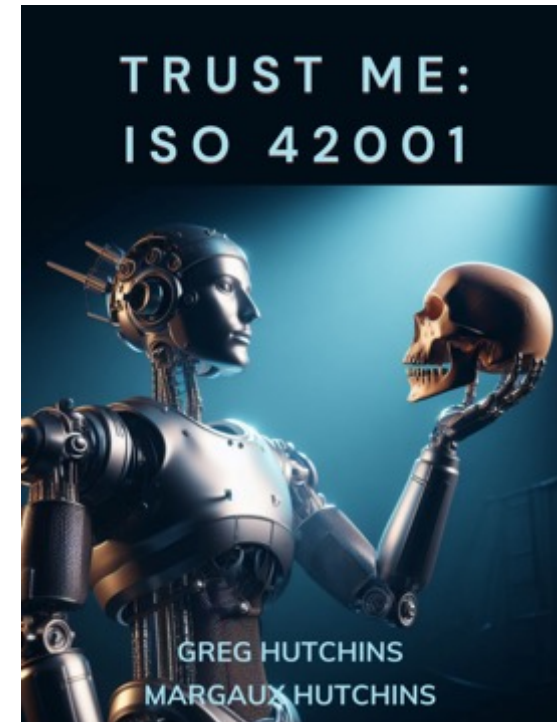
Future of Quality: Risk[®]

Are You Going To Be AI Doomer or Boomer?

AI Doomer



AI Boomer



Thank You For Your Time Today

If you have any thoughts or would like to talk, please call me at:

503.957.6443

Or

Greg@800Compete.com

