MBUS853-2027 Digital Strategy and Transformation

Queen's Accelerated MBA

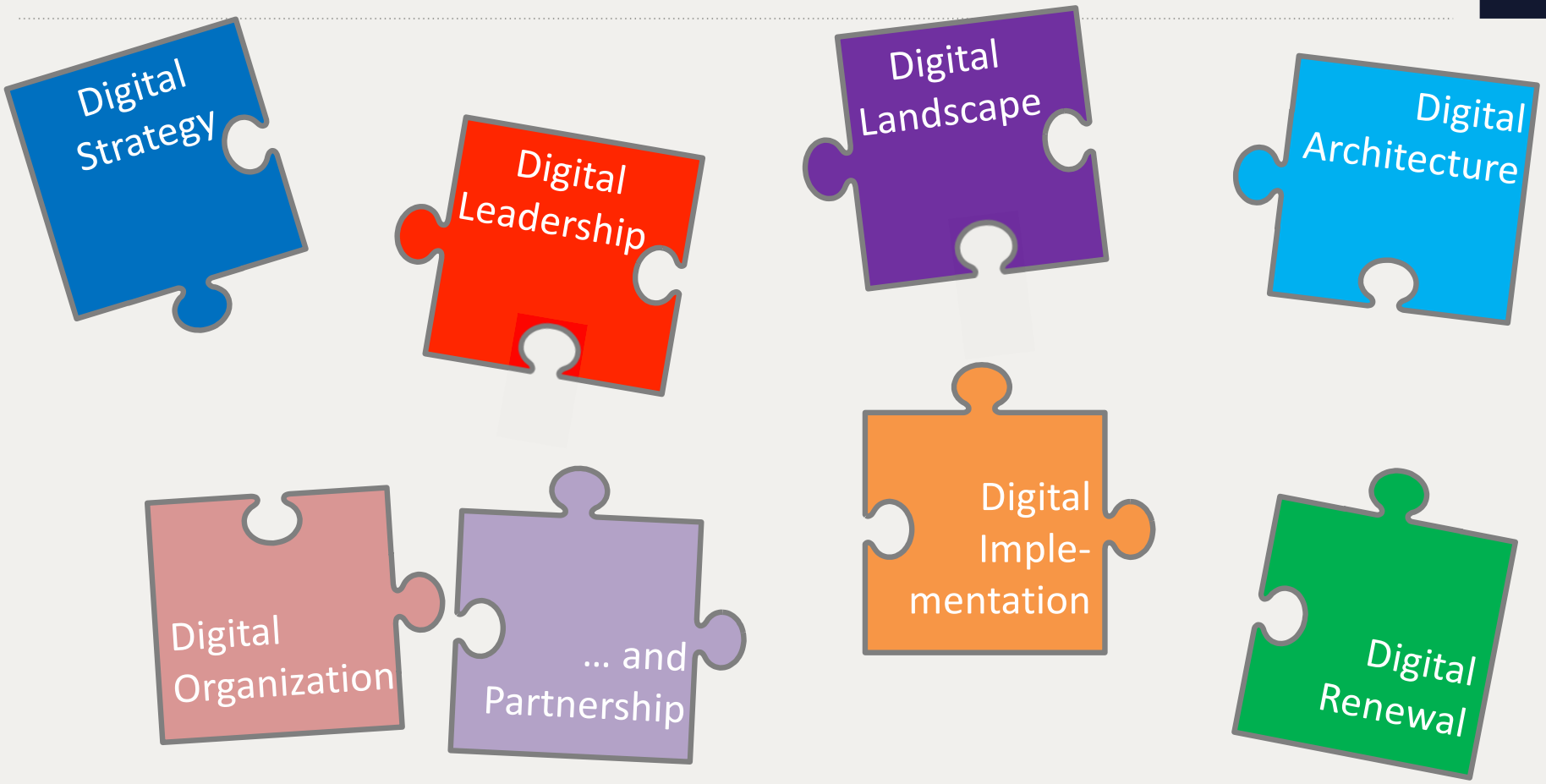
Class Session 7: Digital Renewal

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Smith SCHOOL OF BUSINESS | Queen's University

Course Topics: An Integrative Perspective



Class Session 7: Digital Renewal

- Objective: Examine concepts and discuss challenges with digital operations, application portfolio, and responsible management.

- Article: How Incumbents Survive and Thrive
- Case: Digital Transformation at The Washington Post: Innovating for the Next Gen.

- Course Review and Conclusion

Mini-Case: BBI and People-Analytics System



Aliyah Jones, VP of sales and marketing at **Becker-Birnbaum International (BBI)**, must choose a new marketing director. Her finalists are **Molly Ashworth**, her trusted protege in cleaning products, and **Ed Yu**, a high-performing manager from the beauty division.

Molly created a promising subscription service and knows Aliyah's business intimately. Ed revived the FreshFace line, increasing sales by 60% in three years. HR's new **AI-driven, people-analytics system** rates him a 96% match for the role, compared with Molly's 73%.

Ed arrives early to his interview and gives intelligent, well-researched answers. Molly's interview feels more natural because of her relationship with Aliyah. Aware of that advantage, Molly insists, "I'd like to treat this as a formal interview." She performs well, reinforcing Aliyah's belief that she is ready.

HR leader **Christine Jenkins** and data scientist **Brad Bibson** present network analyses showing that Ed has stronger relationships across BBI, while Molly's contacts are concentrated in cleaning products. Christine argues, "You wouldn't launch a new product or a new campaign without data. HR decisions should be approached the same way." Brad says analytics can help managers rely "more on the data and less on gut instinct."

Yet Brad acknowledges uncertainty: "Our algorithm is brand-new," has informed only three promotion decisions, and is too new to validate. Aliyah also worries that performance reviews and resumes may already contain bias. Christine concedes the point but says the tool is intended to broaden, not replace, managerial judgment. She also reveals that Ed is considered a flight risk, whereas Molly is not.

A week later, Aliyah remains torn. Ed is qualified, connected, and favoured by the people-analytics system; Molly has stronger direct experience and Aliyah's confidence. But is that confidence sound judgment or personal bias? "I'd trust the algorithm more if I understood it better," Aliyah admits. She must decide whether to trust the data, or her instincts.

What do you think Aliyah should do?

Source: J.T. Polzer, Harvard Business Review (edited and adapted)

Responsible Digital Management (1/2)

- Organizations must anticipate the **ethical consequences of emerging technologies** before deploying them, and not wait for harm, scandal or regulation.

- Leaders should **explicitly identify their organization's "ethical nightmares,"** such as discrimination, privacy violations, fraud, etc.

- Emerging technologies amplify risk even without malicious intent:
  - **Artificial Intelligence** learns patterns from historical data and can reproduce discrimination or other harmful biases at scale.
  - **Quantum Computing** may facilitate already opaque "black-box" decisions even harder to understand or challenge.
  - **Blockchain** makes information and rules difficult to alter, so poor early governance can lead to irreversible privacy breaches, fraud or financial losses.

Source: R. Blackman, Harvard Business Review (adapted)

Responsible Digital Management (2/2)

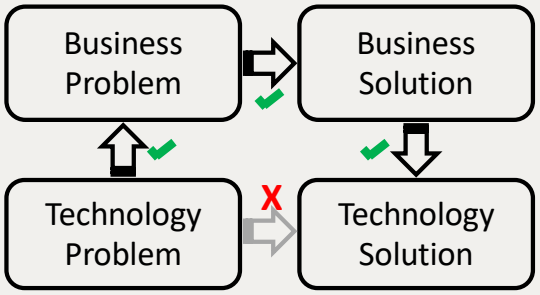
- **Ethics is a leadership responsibility**. Engineers and data scientists can explain how systems work, but decisions about fairness, accountability and harm are business judgments.

- **Ethical risk** should be managed before deployment.
  - **Content**: Identify the specific "ethical nightmares" the organization must prevent, their causes, affected groups and consequences.
  - **Structure**: Establish the governance, controls, workflows, oversight and monitoring required to prevent them.

- **Key Message**: Good intentions are not enough; modern technologies can produce enormous harm through ordinary business processes, flawed data and weak governance. Responsible digital management is a must.

Source: R. Blackman, Harvard Business Review (adapted)

Applying the Strategic Mindset (BBI Mini-Case)



Begin with the business problem, not the algorithm

BBI's business problem is selecting the person most likely to be promoted.

Define the business solution before selecting the technology

Leadership must decide what the role requires; only then can the organization determine what data and analytics are relevant.

Treat ethics as a business requirement

Fairness, employee privacy, explainability should be incorporated into the business solution; not as technical concerns added afterward.

Design the business process to govern the technology

BBI needs structured interviews, transparent selection criteria, independent reviewers and clear accountability. These controls should determine how the algorithm is designed and used.

Use technology to inform (not replace) accountable leadership

Aliyah's remains responsible for the final decision. The best solution combines validated data with informed human judgment.

What is Digital Renewal?

- Digital Transformation creates new capabilities. **Digital Renewal** keeps those capabilities operational, useful, secure, efficient and adaptable over time.

- **Efficient**: Continuously improve how digital applications are built, released, monitored and restored.
- **Useful**: Invest in the right applications, while consolidating, modernizing and replacing those that no longer justify their cost.
- **Responsible**: Review digital assets (data, applications, infrastructure) regularly to address vulnerabilities, dependencies and emerging risks.
- **Adaptable**: Maintain a resilient and sustainable technology foundation that can evolve with changing needs and constraints.

Digital Operations

- Digital or IT Operations are the set of processes and services that are managed in the production environment by the technology department within an organization
  - For example: the day-to-day "running" of hardware, operating systems and software applications upgrades, network and systems administration, user authentication and authorization, device management, remote access, backup/restore, help desk, etc.

- Challenges with the Digital Operating Environment
  - Too many costly, overlapping software applications, multiple (and sometimes out-of-date or legacy) hardware and operating systems.
  - Staff mostly reacting to short-term problems with repetitive time-consuming tasks.
  - Bureaucratic policies for technology changes, including traditional configuration management (e.g., application updates, new software releases)
  - Limited ability to embrace both classical and modern development/implementation methodologies
  - …

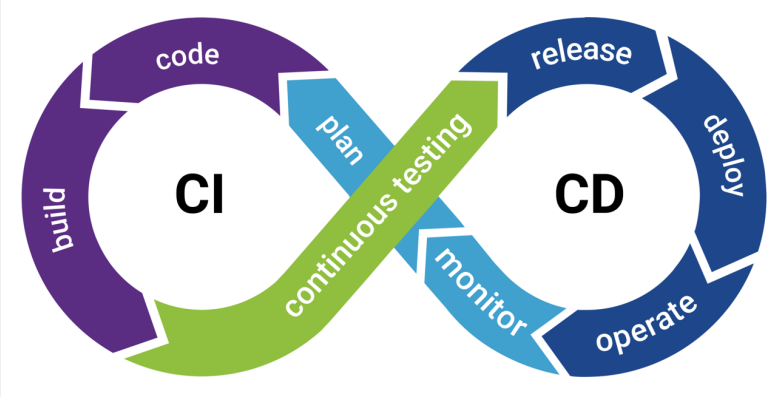
Sources: www.sumologic.com (Adapted); Gartner Group

Example: Development and Operations

- Consider the example of a fictional e-commerce company called **ShopVirtual**.
- The company's software development team is responsible for creating new digital features, while the IT operations team manages deployment, infrastructure, and monitoring. This leads to a slow-release cycle, with new digital feature taking months to reach customers. Although the software development process is based on the Agile Development Methodology, the handover to the IT Operations team results in frequent production issues and, more importantly, a high number of rollbacks.
  - **Rollback** is the process of reverting a software application, system or component to a previous version or state due to issues encountered after a recent update, deployment, or configuration change. Rollbacks are performed to restore stability, functionality or performance when the new version or changes cause problems, such as software application bugs, system incompatibilities, security vulnerabilities or unintended consequences that impact user experience or system reliability.
- **What do you think management at ShopVirtual should do to address this challenge?**

What is DevOps?

- DevOps (Development and Operations) is a set of practices, tools, and policies based on agile principles.
- It is a methodology that looks to streamline all software implementation functions from *development to testing to operations* within the same cycle.
- It requires a much higher level of coordination among the key stakeholders: Software Development, Quality Assurance (QA) and IT Operations.



A CONTINUOUS INTEGRATION AND CONTINUOUS DEPLOYMENT (CI/CD) CYCLE

Sources: D. Green, What is DevOps, Tech Crunch Network, Synopsys.

Example: Continuous Integration/Delivery (CI/CD)

- Imagine you're running a busy **Pizza Restaurant**. Your job is to get pizzas out fast and fresh.
- **Without CI/CD (Old Way):**
  - –The chefs (*developers*) make the pizzas, but no one checks them until the end of the day shift.
  - –At 6 PM, all the pizzas are brought to the front at once for delivery (*manual deployment*).
  - –Sometimes pizzas are raw, missing toppings, or even have pineapple when the customer didn't want it (*bugs*).
  - –The delivery team (*operations*) gets blamed, but they didn't make the pizza.
  - –If something goes wrong, everyone scrambles to fix it during the dinner rush.
- **With CI/CD (Modern DevOps Way):**
  - –You install a conveyor belt system (*CI/CD pipeline*) in your kitchen.
  - –Every time a chef finishes a pizza (*code change*), it goes on the belt.
  - –Automated quality control inspects it as it moves: right crust? correct toppings? properly cooked?
  - –If anything is wrong, it's sent back immediately for correction (*automated testing*).
  - –Once it passes all checks, it goes to delivery: no delays, no meetings (*continuous delivery*).

DevOps Principles

1. **Iterative**: DevOps is similar to agile methodologies in that it facilitates projects with a high degree of uncertainty that do not require comprehensive plans.
2. **Continuous**. The goal of DevOps is continuous delivery of projects into testing and then deployment. It supports rapid change and is never “done”.
3. **Collaborative**. All stakeholders share common objectives, work together to solve problems, and agree on the mission and metrics of the project.
4. **Systemic**. DevOps applies agile principles to operations and seeks to remove as many constraints to delivery as possible in this function.
5. **Automated**. Wherever practical, automated tools are adapted to link the different steps of the DevOps process (from development, in testing and integration deployment) to deliver fast, safe and cost-effective solutions.

Sources: C. Haight, Principles and Practices of DevOps, Gartner Research Report

Question

- When resources are limited, how should an organization balance funding new digital applications against maintaining the legacy systems that people already depend on?

Technical Debt

- What is Technical Debt?
  - The cost to an organization of supporting sub-optimal or legacy technologies such as aging hardware, operating systems and software applications
  - Technical Debt is inevitable simply due to age and change (incremental development, mergers and acquisitions, new regulations, platform changes, …)

- Sources of Technical Debt
  - Poor application design and quality of user experience with technology
  - Integration of multiple technologies with newer versions of applications
  - Architecture that is insufficient or overly complex, e.g. multiple platforms and/or multiple versions of applications
  - Development practices/tools that have changed over time but not standardized
  - Applications designed in haste that are harder to upgrade and change

Sources: J.D. Mckeen & Heather Smith, IT Strategy & Innovation, P. Dawson & D. Cappucio, Garnter Research

What Can You Do About Technical Debt?

- Measure your technical debt
  - Gather as many metrics as possible (maintenance, defects, integration costs, …)
- Partner with risk and security
  - Connect metrics to business risks and vulnerabilities that are quantifiable
- Take a business point of view
  - Educate business stakeholders to understand costs and risks and have business and technology stakeholders determine mitigation approaches
- Manage technical debt explicitly
  - Develop plans and budgets to monitor and address technical debt. Appoint an IT-Finance specialist, use financial tools, separate operations from development, and take into account the *Total Cost of Ownership (TCO)*
- Most importantly, take an **Application Portfolio Management** approach

Sources: J.D. Mckeen & Heather Smith, IT Strategy & Innovation, P. Dawson & D. Cappucio, Garnter Research

Application Portfolio Management (APM)

- Application Portfolio Management (APM) is an ongoing management process of categorization, assessment, and rationalization of the hardware, operating systems, and software applications inventory.

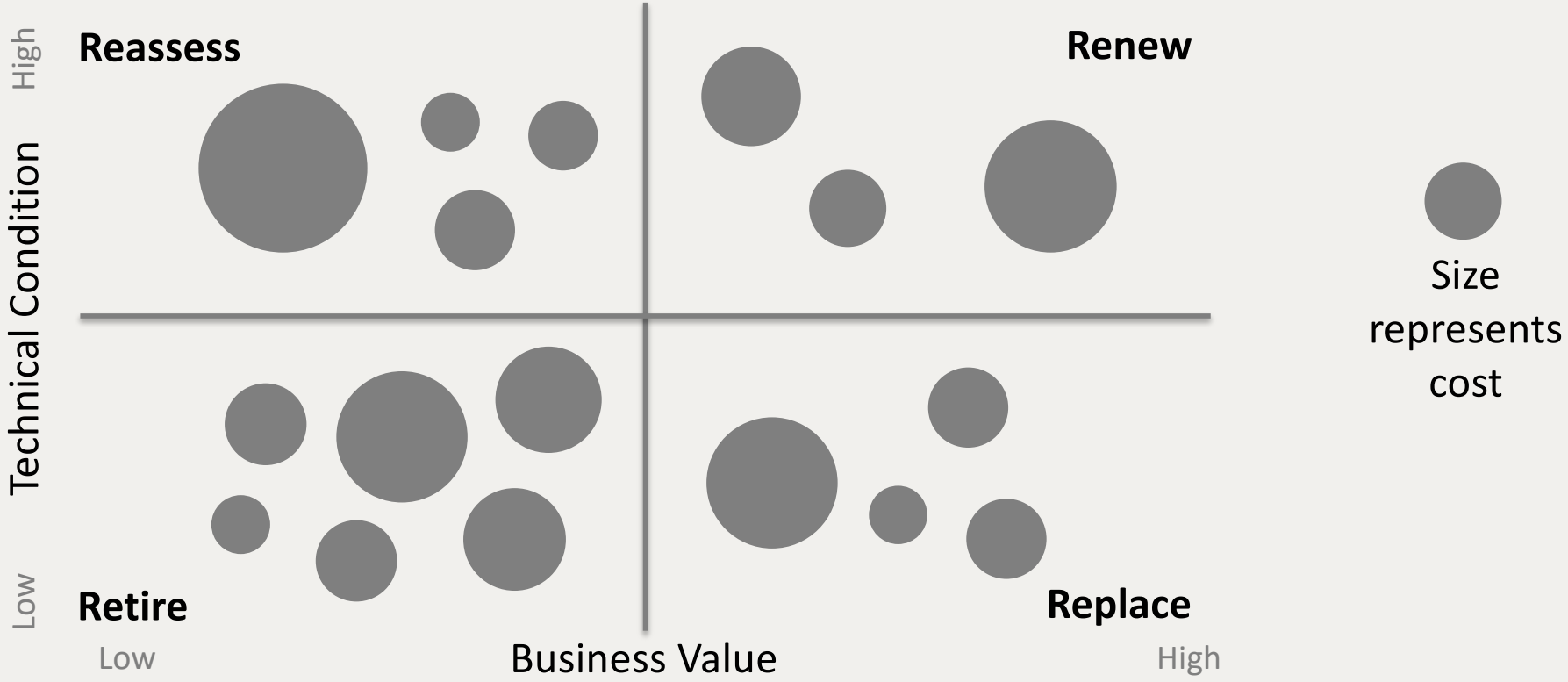
- It allows organizations to identify which applications to maintain, invest in, replace, or retire, and it can have significant impact on the selection of new business applications and the projects required to deliver them.

- The overall goal of APM is to enable organizations to determine the best approach for the use of capital and operating funds allocated to building and maintaining applications.

Sources: J.D. Mckeen & Heather Smith, IT Strategy & Innovation

Application Portfolio Analysis

- In most established organizations, more than 50% of applications are legacy. Technology budget allocation is typically 70% on existing and 30% on new systems.



Source: J.D. Mckeen & Heather Smith, IT Strategy—Issues and Practices

APM Barriers

- The first barrier is constrained resources and budgets. The practice of continually adding applications to the IT department's burden while holding IT budgets and head counts relatively flat is obviously problematic.

- The second barrier (arguably the biggest) is that few business managers want to give up any application once it's installed. In their minds, the agony of change is clearly not worth the rewards.

- The third barrier is the fact that IT management often lacks the political clout to make business managers engage in an exercise to rationalize applications across the enterprise in order to decommission ("sunsetting") some applications.

Source: J.D. Mckeen & Heather Smith, IT Strategy—Issues and Practices

Article: How Incumbents Survive and Thrive

- What's the article about? What is your key insight and your critique?
  - **Myth**: Many people believe that technological disruption will destroy most old-economy companies, with Big Tech and unicorn start-ups ultimately taking over the world.
  - **Reality**: Research on the world's biggest companies shows that digital disruption is less destructive than you might think. Industry transformation happens very slowly, and incumbents can successfully respond to disruptive challenges.



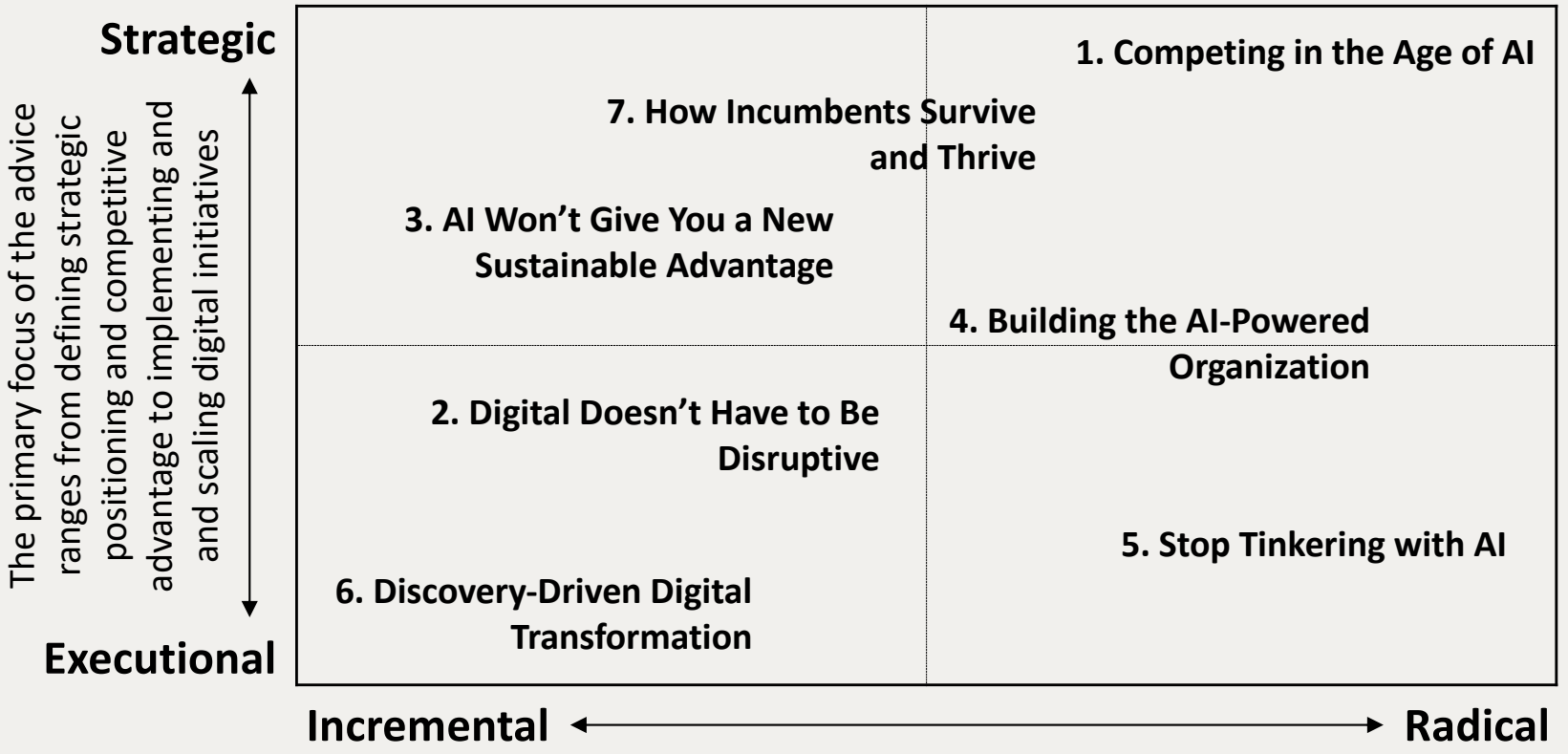
Source: J. Birkenshaw, Harvard Business Review

Course Articles Summarized

1. **Competing in the Age of AI**: Firms that embed AI at the core of their operations can scale rapidly, learn continuously, and compete based on data and platforms rather than traditional advantages.
2. **Digital Doesn't Have to Be Disruptive**: Organizations can succeed in digital transformation through incremental changes that preserve their core business than pursuing costly, radical disruption.
3. **AI Won't Give You a New Sustainable Advantage**: Generative AI creates significant value but rarely provides lasting advantage unless it reinforces existing, hard-to-replicate strengths.
4. **Building the AI-Powered Organization**: Organizations scale AI by treating it as an organizational transformation, redesigning structure, talent and culture rather than simply piloting technology.
5. **Stop Tinkering With AI**: Organizations must move beyond small-scale experiments and commit to enterprise-wide AI deployment to unlock meaningful value.
6. **Discovery-Driven Digital Transformation**: Incumbents should pursue digital transformation through iterative experimentation and learning rather than risky, all-in bets.
7. **How Incumbents Survive and Thrive**: Established firms can respond to digital disruption through multiple paths, from doubling down to fighting back to moving away.

Articles and Advice

These articles offer differing, and at times conflicting, advice because digital transformation depends heavily on context rather than a single best approach.



The primary focus of the advice ranges from incremental improvements to existing processes and business models to radical transformation of how the organization operates and competes

MY ADVICE:

DON'T JUST FOLLOW SOME GENERAL APPROACH. <u>BUILD YOUR OWN APPROACH</u> THROUGH YOUR OWN RESEARCH AND DECISION MAKING.

Case: The Washington Post

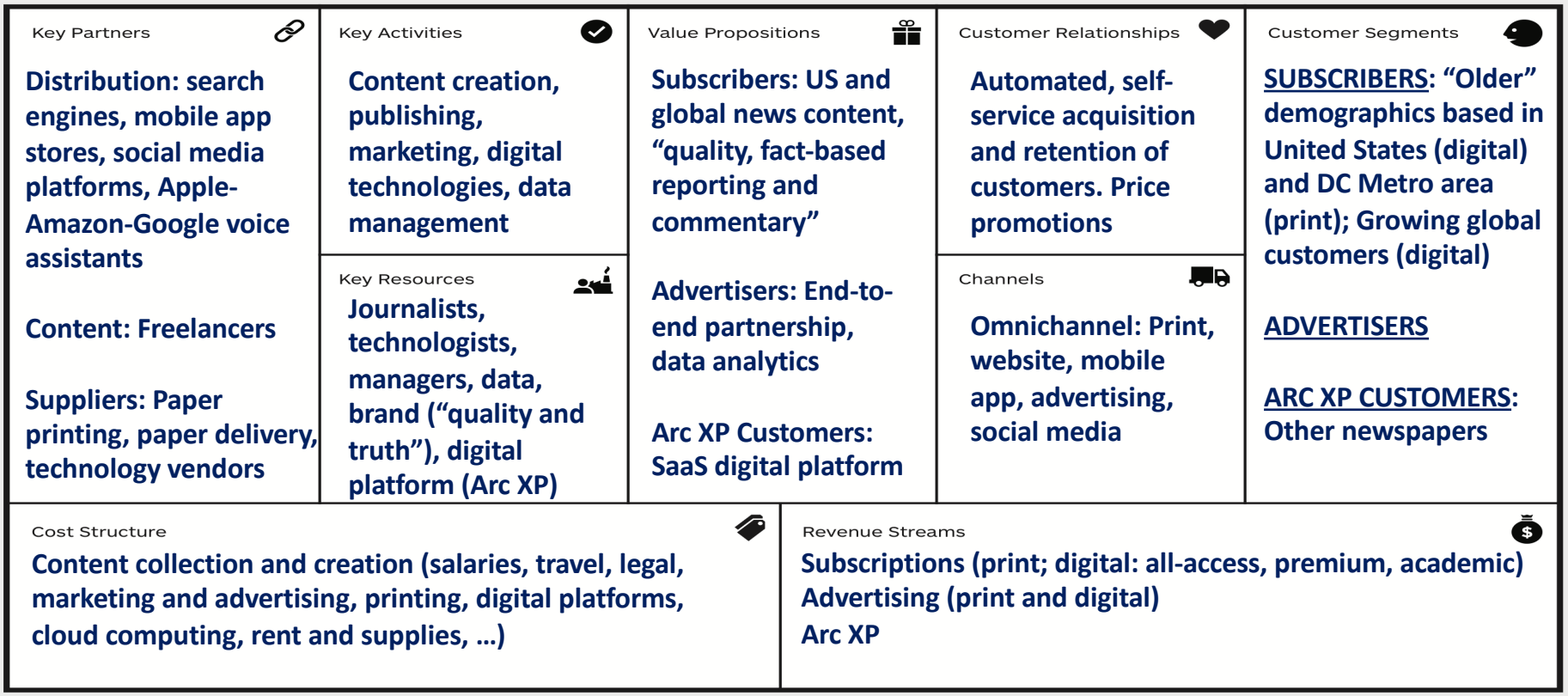
- How has The Post done so far, in terms of business renewal and digital transformation?
- What are the issues facing the company?
- What is your recommendation going forward?



Digital Transformation at The Washington Post

- **Digital Transformation Journey**
  - Disruption and crisis had let to several years of financial decline
  - Amazon's Jeff Bezos bought The Post for $250M, hired Fred Ryan as CEO
  - Established three catalysts: shaping ideas, taking ownership, speed of execution
- **Developing a Digital-Product Mindset:** Empowered engineers to partner with the newsroom, deliver reader-focused products rapidly, and aligned work through shared goals and results.
- **Digital Transformation Journey**: Expanded staff and global reach, adding technical and design expertise, and investing in new digital storytelling capabilities.
- **Redesigning Core Processes**: Grew digital revenue through end-to-end advertising partnerships, subscription experimentation, dynamic paywalls, and distribution across external platforms.
- **Achieving Excellence in Technology and Journalism**: Combined journalism with technology expertise, building Arc XP into a global software business serving media and non-media clients.
- **The Transformation Journey Continued — Innovating for the Next Generation**
  - Announced the Next Gen initiative to accelerate the acquisition of younger and more diverse audiences. Formed a cross-company taskforce.

The Washington Post Business Model Canvas



Source: R. Murray & K. Miner, University of Virginia (adapted)

The Washington Post: Responses and Risks

Double Down: Build on Strengths Amplified its journalism, hired more journalists and data scientists. Reinforced fact-based journalism while transitioning to a digital-first newsroom. ***Risk**: Market may shift faster; younger audience devaluing traditional formats*.	**Fight Back**: Attack Disruptive Forces Launched initiatives like the Next Gen Task Force. Built a social-first strategy and expanded into new digital content to compete with digital players. ***Risk**: Fighting disruptors is hard to execute and easy to mistime.*
Retrench: Defend Existing Territory Did not explicitly retrench but avoided aggressive acquisitions or high-risk moves into unfamiliar sectors; and improved processes and infrastructure. ***Risk**: Retrenchment may signal defensive action and managed decline.*	**Move Away**: Enter New Business Developed cloud-based Arc XP, originally for internal use but also to serve external clients to tap into a different, high-growth revenue stream. ***Risk**: Loss of focus on core business. Also, diversification requires new capabilities.*

Source: J. Birkenshaw, Harvard Business Review (Adapted)

Case Studies and Lessons (1/2)

1. **DBS** case showed how financial institutions can transform themselves into digital leaders by embedding AI into operations and culture. It highlighted the importance of **integrating business strategy with digital technologies** to compete for the future, not just optimize the present.

2. **General Electric** case illustrated the organizational and strategic tensions that arise when pursuing digital at scale, especially when trying to pivot from an industrial-company to a digital-company. It underscored the need for **alignment between business and technology leadership**.

3. **DeepSeek** case showed how **emerging AI technology players can quickly disrupt** established assumptions about scale, cost and capability. It highlighted how alternative approaches can challenge incumbents, while raising questions about sustainability and geopolitical risk.

4. **Pernod Ricard** case illustrated the challenges a decentralized global organization has when using data and AI to improve sales and marketing decisions while preserving local judgment. It highlighted the need to **balance global standardization with local adaptation**.

Case Studies and Lessons (2/2)

5. **Harley-Davidson** case showed how an established manufacturer can pursue new digital experiences while renewing aging systems and production operations. It highlighted the **need to balance digital innovation with modernization of the core**, and ecosystem partners.

6. **ANZ** case demonstrates how a bank can **implement agile processes and technologies**. It also illustrated that scaling agile requires a deep commitment to mindset shift, executive sponsorship, and sustained investment in people and change management.

7. **Washington Post** case showed how a legacy newspaper company can **reinvent itself and operate** by embracing digital technologies, data analytics, and a digital platform mindset. But this required a dual focus on core news business and technological agility.

- **MY LESSON: DIGITAL TRANSFORMATION IS BUSINESS TRANSFORMATION, NOT JUST A TECHNOLOGY DEPLOYMENT. IT REQUIRES ORGANIZATIONS TO RETHINK THEIR STRATEGY, STRUCTURE, PROCESSES AND CULTURE.**

Digital Renewal Takeaways

- Treat Digital Operations as a mission-critical function. DevOps is helpful in breaking down the silos between users, management, development, quality assurance (including automated testing), operations and security.

- Technical Debt is a problem. An Application Portfolio Management approach can help with the reduction of the cost and complexity of the applications portfolio and allow better decisions regarding technology investments.

Reflections Journal and Final Submission

- Please be sure to write your Reflections Journal entry for Session 7
  - Reflect and write on ONE key concept from the class session slides (not from the assigned article, case study, or any external sources) and the application of that concept through ONE specific example from your professional experience or personal observation (not from the assigned article or case study).

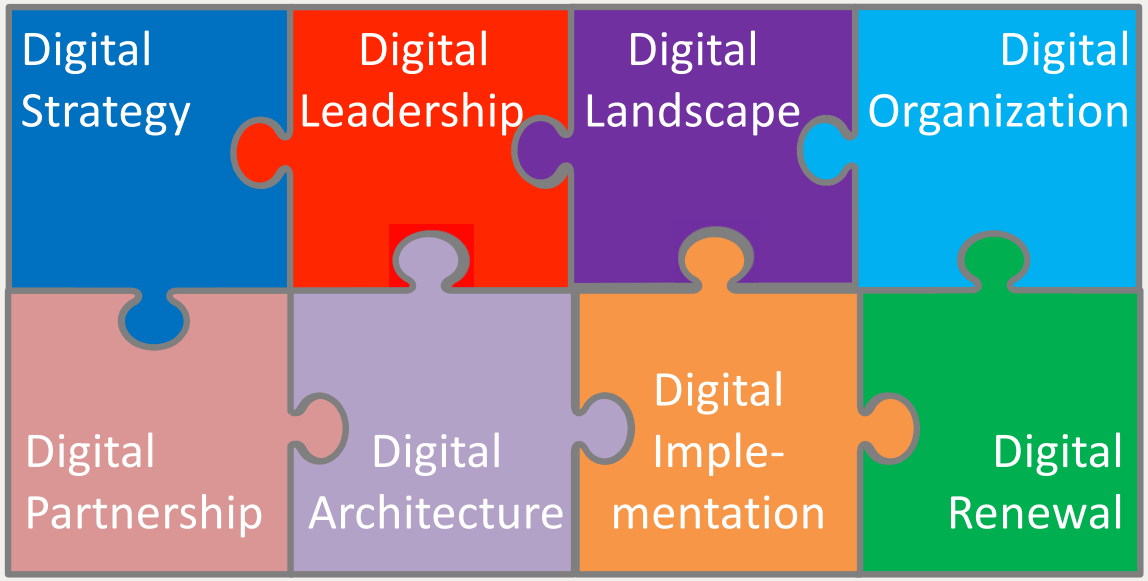
- **Submit your Individual Reflections Journal by October 15, 2026** (11:59PM)
  - **Individual entries for any five (5) of the seven class sessions** in the course; all five entries on separate pages in one **Microsoft Word file** with a cover page.

Framework for Digital Transformation

Creates champions of change

Enables efficiency and innovation

Integrates technology with business



Supports collaboration and governance

Leverages external expertise

Ensures sustainability for ongoing change

Establishes blueprint for scalability

Provides structured yet flexible deployment

Course Conclusion

1. How can I leverage digital capabilities to help further enhance the differentiation of my company?

2. To what degree should I deploy digital technologies to replace human work and judgment?

3. Whose philosophy do I want within the digital transformation, mine or the vendor and consultant's?