WHY DIGITAL TRANSFORMATION MAY FAIL –

AND WHAT CAN BE DONE ABOUT IT

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Abstract

Digital transformations are as widespread as the chances of success are dismal. We highlight key reasons for failure and outline three strategies for change that can increase the chances of success. Organizations should help both business leaders and technology leaders understand and appreciate each other's perspectives; and create shared ownership of the transformation. In-house technology DNA should be nurtured; shared targets should be developed; and constant efforts to integrate business and technology perspectives should be instituted.

It is hard to imagine a company that has not attempted a journey of digital transformation. 9 out of 10 senior leaders report that their organization has pursued one or more large scale digital transformations since 2020 (McKinsey, 2020). The chances of success are slim at best however, with only 1 out of 8 digital transformation efforts likely to meet their stated objectives (Wade & Shan, 2020). Information technology projects more generally can put the organization at great risk through unpredictable, extreme cost overruns (Flyvbjerg et al., 2022).

We believe that a key, often unrecognized, bottleneck in such efforts is the chasm between business and technology; and its mirror image, the gulf between technologists and business

leaders. During digital transformation, many organizations expand the remit of existing technology functions or create specially designated offices with responsibility for implementing a new technology. This approach however could signal that these offices have sole ownership of implementing the transformation; to the relief of most other parts of the organization who feel that perhaps they can sidestep the painful process of change or wait it out.

To bridge the business-technology chasm it is vital to accomplish two things: First, to enable *business* leaders across the organization to understand the benefits that digital solutions and technology could confer on the organization and to develop the motivation, ownership and accountability to weave technology into business processes. Second, to help *technology* specialists appreciate the business benefits of digital transformation, to see the perspective of both external and internal customers, and to actively work together with business leaders to lead the transformation.

Both of these are tricky to achieve because they ask business leaders and technology specialists to operate within and to appreciate each other's domains; this ask goes against their training, outlooks, competencies and daily routines. Based on our experience of leading and researching digital transformation over several years, we learned that to accomplish this challenging balancing act, three fundamental strategies for change could be adopted.

First, firms should develop their own native, in-house technology DNA rather than outsource most technology provision. This does not mean firms should in-source everything, but rather to carefully assess the balance between internal and external provision and ensure that their own technology competence is not hollowed out. Extensive outsourcing could shackle firms to existing providers that may not be willing to deliver competencies for shifting business requirements without prohibitive price tags. It may also distance a sense of real ownership of technology from being a core part of the business. Developing robust native technology DNA means that both technology specialists and business leaders are more likely to have the capabilities and ownership to effectively align technology with business strategy.

For example, developing in-house digital capabilities that can deliver both near term benefits on particular projects, as well as help to align operations with longer term strategy and priorities, is one key goal of NASA's digital transformation process currently under way. In order to embed and accelerate the process, the agency has fostered agency-wide digital transformation

communities of practice that connect both internally as well as with external stakeholders (Marlowe, Haymes & Murphy, 2022). While the agency's business model is now in its commercial network phase where NASA contracts with external stakeholders and acquires many of the mission-related engineering technologies it needs on the open market (Heracleous, Terrier & Gonzalez, 2018), it also invests significantly in its own native digital technology capabilities to optimize and align operations. At the same time, the agency carries out various initiatives such as research projects that aim to gather lessons from external best practices (NASA, 2020) as well as leadership development programs to ensure that technologists acquire leading edge management capabilities and managers understand more about the potentialities of technology (Heracleous, 2022).

Second, firms should set common, joint objectives for technology and business leaders by developing company-wide metrics that apply equally to both. This is the most under-appreciated aspect of digital transformation, and also tricky to accomplish. Absent this, the forces of tradition, routine and habit operate so that business leaders naturally focus on business outcomes and technology leaders on technology outcomes.

To draw from an exemplar, DBS Bank accomplished a digital transformation process that helped it move from a bricks-and-mortar, slow-moving bank using a multitude of legacy technology systems to one of the world's leading digital banks (Gulati et al., 2022). The business-technology alignment was achieved through creating 30 or so separate "Platforms" such as consumer banking, institutional banking or wealth management. Each Platform mapped onto a certain business function and was *co-led* by a business as well as a technology head. The owners had a set of *shared* platform objectives which included business, customer and technical outcomes. The key was that these objectives were co-owned. This joint ownership of platform outcomes became truly transformational in how the business and technology teams over time learned to operate as real partners.

Further, DBS developed a corporate-wide balanced scorecard that integrated technology and business strategy. This focused approximately 40% on traditional financial performance, risk, employee and customer KPIs, 20% on digital outcomes such as digital revenue, digital customer engagement and customer journey targets, and lastly 40% on the bank's digital transformation and other business goals in terms of its organization and processes. These targets applied to *all*

senior leaders in *all* functions; were cascaded down several levels in the organization, and importantly linked back to the Platform objectives so each platform's outcomes were tightly coupled to the bank's mission.

Third, it is crucial to maintain the focus over time on integrating the business and technology capabilities and developing ambidextrous leaders who can appreciate and operate with both domains. Natural behavior will tend to separate business and technology functions out again into specialized domains so the integrative organizational muscle needs to be constantly exercised and developed. A management system should be developed that can drive the culture of business / technology integration so that it becomes second nature to the organization. This can be done for example through a regular cadence of objective setting, quarterly business reviews, performance goals, platform alignment, training, and corporate communications that constantly reinforce this integration. NASA for example has adopted an implementation process that includes creating digital transformation roadmaps in different parts of the agency, synchronizing and integrating these roadmaps and relevant implementation efforts, funding "catalyst projects" to address barriers to implementation, and measuring progress over time to help maintain focus (Marlowe, Hayes & Murphy, 2022).

Following these three principles can help an organization beat the dismal odds of digital transformation success and over time create an organization that can operate at the speed of technology. It is worth mentioning that these lessons may be applicable beyond technology in terms of successfully implementing organizational transformation that necessitates development of new competencies. For example, when an organization aims to develop leading edge innovation competencies, it cannot fully outsource innovation; it has to maintain its own in-house creative DNA, and make constant efforts to nurture and sharpen innovation competencies. Leaders focused on innovation (for example those in an innovation subsidiary in the context of structural ambidexterity) should appreciate broader business imperatives, and business-oriented leaders should appreciate the potentials of new creations arising from the subsidiary; something not always guaranteed (e.g. Heracleous et al., 2017) and indeed tricky to achieve as it entails ambidextrous mindsets (Tushman, Smith & Binns, 2011). The real challenges of integrating discrete perspectives such as the business and technology ones in organizations where

specialization comes naturally mean that integrative mindsets and processes need to be constantly reinforced.

REFERENCES

Flyvbjerg, B., Budzier, A., Lee, J. S., Keil, M., Lunn, D. & Bester, D. W. 2022. The Empirical Reality of IT Project Cost Overruns: Discovering A Power-Law Distribution, *Journal of Management Information Systems*, 39:3, 607-639.

Gulati, R., Wong, A., Lau, D. H. & Mesfin, J. 2022. DBS: Purpose-driven transformation. *Harvard Business School Case 423-022*, September.

Heracleous, L. 2022. Helping at NASA: Guidelines for using process consultation to develop impactful research. *Information and Organization*, 32: 100388.

Heracleous, L., Papachroni, A., Andriopoulos, C. & Gotsi, M. 2017. Structural ambidexterity and competency traps: Insights from Xerox PARC. *Technological Forecasting and Social Change*, 117: 327-338.

Heracleous, L., Terrier, D. & Gonzalez, S. 2018. The reinvention of NASA. *Harvard Business Review*, April. Available at: https://hbr.org/2018/04/the-reinvention-of-nasa

Marlowe, J. L., Haymes, C. L., and Murphy, P. L. 2022. NASA's digital transformation strategic framework & implementation approach. *NASA/TM-20220018538*, December, 20pp.

McKinsey Consultants Survey 2022. Three new mandates for capturing a digital transformation's full value, 15 June. Available at: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/three-new-mandates-for-capturing-a-digital-transformations-full-value#/

NASA Office of the Chief Technologist, Strategic Integration. 2020. Investment decision best practices for NASA from venture capital. *NASA/TP-20205010519*, November, 32pp.

Tushman, M. L., Smith, W. K. & Binns, A. 2011. The ambidextrous CEO. *Harvard Business Review*, June, 74-80.

Wade, M. & Shan, J. 2020. Covid-19 has accelerated digital transformation, but may have made it harder not easier. *MIS Quarterly Executive*, 19(3): 213-220.