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A REPORT BY:
CASS BUSINESS SCHOOL ON BEHALF OF AIRMIC

Roads to Revolution

DIGITAL TRANSFORMATION: RESHAPING RISK AND RESILIENCE FOR THE FUTURE

EXECUTIVE SUMMARY

IN PARTNERSHIP WITH:

FM Global   KPMG   MARSH   Russell   ZURICH

ROADS TO REVOLUTION

Achieving resilience is challenging and requires significant board-level support but achieving and maintaining resilience and successful digital transformation is even more challenging

"How are organisations transforming their business models to ensure resilience, value and growth in the digital age?"

To answer this important question, Cass Business School, City University of London, studied a number of leading organisations who are active stakeholders in the space of digital transformation and interviewed a number of stakeholders, including partners to the research, risk management professionals and those from other professional bodies. Findings of this study are published in the 'Roads to Revolution' report.

The 'Roads to Ruin' report published by Airmic in 2011 looked at high-profile crises of companies which left their reputation destroyed. The 'Roads to Resilience' report published by Airmic in 2014 looked at how companies could be helped to avoid corporate catastrophe by learning from those who were leading the way in creating resilient organisations. The report introduced the Airmic Resilience Model.

The main objective of the 'Roads to Revolution' report is to provide pragmatic advice for risk professionals, board members, executives and other top management. It is aimed at those who want to ensure that risk management, resilience and digital transformation permeate their organisations to constantly protect brand and reputation. This Executive Summary provides a short guide to key conclusions, models and supporting information to be found in the full report.

WALKING THE 'ROADS TO REVOLUTION' IS NOT AN OPTION

Walking the 'Roads to Revoluti on' is an existenti al must. The report highlights some of the business and organisational trade-offs that leaders and managers will have to grapple with while walking these revolutionary roads. The report explains the implications of these trade-offs for governance and risk management. The report makes the point that whilst at face value, some definitions and practices for governance and risk management might seem unaffected by the Digital Revolution, the underlying business and organisational dynamics are so different from those of the past, they trigger the need for a major rewiring of both. For example, the report argues that boards will have to deal with the Digital Revolution not just as a cybersecurity issue. Cybersecurity is, and will remain key for any organisation, but boards will have to reskill and introduce new mechanisms to ensure effective and efficient management, monitoring, strategic leadership and ultimately, legitimacy for their organisation. Achieving resilience is challenging and it requires significant board-level support, but achieving and maintaining resilience and successful digital transformation is even more complex and demanding.

Although it is difficult to be certain about the impact of new digital technologies on businesses models, it is clear that digital technologies represent significant transformational opportunities

and new capabilities for all organisations. These new capabilities include:

- on demand computing and on demand data storage
- intelligent automation based on artificial intelligence
- informed decision-making
- pervasive, real time, increased connectivity
- ability to integrate and blend the physical and digital worlds

These individual capabilities may not be new, but the research shows that together, they shape some specific strategic and organisational challenges and risks for the case study organisations.

The research concluded that organisations will have to spend more time managing and coordinating across different inter-organisational and intra-organisational boundaries. In a digital environment, these boundaries become more complex, uncertain and ambiguous:

1. Organisations must become faster at decision making
2. Organisations must build a culture of experimentation, fast adoption and openness
3. Organisations must attract, motivate and keep engaged talented resource

DIGITAL 'TRADE-OFFS'

Ever-increasing digital capabilities enable organisations to update their business models. This is usually referred to as digital transformation. The opportunities offered by the Digital Age are significant, but the challenges are enormous. In order to achieve digital transformation, organisations need to undertake certain evolutions or transitions and decide the extent to which each evolution will be advanced. These evolutions identify the changes that need to occur for digital transformation to take place. They can also be considered as a series of 'trade-offs' between the two extremes. The list of 'trade-offs' which underpin or facilitate successful digital transformation are at **Table E.1**. There is no formula to use, it is for individual organisations to decide the extent of each transition by taking account of the 'trade-off' represented by that transition.

THE AIRMIC RESILIENCE AND TRANSFORMATION MODEL

The research identified the need to extend the five resilience principles of the Airmic Resilience Model to include three additional resilience principles for digital transformation. These new principles are: Redesign processes; Retain stakeholders; and Reinvent purpose.

The research concluded that organisations undertaking digital transformation have a willingness to embrace technology and achieve process improvement. In addition, innovation is encouraged and redesigning processes requires a forward-looking approach. Transformation also requires the continuing support of stakeholders. The research found that retention of stakeholders involves active liaison with stakeholders. A major component of retaining stakeholders is utilisation of Big Data to help understand stakeholder expectations. Digital transformation requires a willingness to reinvent purpose. Reinvent purpose is closely aligned with the risk radar principle of resilience. They combine to emphasise the importance of people and culture. Reinvent purpose has the components of opportunity awareness, active commitment and ability to acquire additional people capability. There is a need to reward confident forward-looking behaviour to ensure commitment to constant evolution.

The research also concluded that enhancements to the existing

	Pre-digital status	Post-digital status
1	Ownership of the technology	Access to the technology
2	Science based on experience	Data science based on big data
3	Stability in capabilities and coordination	Experimentation to find product market fit
4	Slack or excess resources and capacity	Efficiency / optimisation of resources
5	Knowledge specialisation to identify specific solutions	Knowledge integration to break down organisational silos
6	Control within the organisation	Openness to extended networks

Table E.1: Digital transformation and evolution or 'trade-offs'

Source: Lanzolla, 2018

components of the Model are required, to take into account digital transformation.

These changes have resulted in the development of the Airmic 'Resilience and Transformation Model' illustrated at **Figure E. 1.** This provides a comprehensive and coherent structure to enable organisations to embrace advances in technology.

> **Redesign process:** organisations must combine process improvements with the desire to fully embrace developments in technology
>
> **Retain stakeholders:** organisations must engage stakeholders in business process redesign which should increase the chances of successfully retaining those stakeholders
>
> **Reinvent purpose:** organisations must challenge their purpose and as the pace of digital transformation increases the frequency of reinventing purpose must match the speed of change

ALIGNING RESILIENCE WITH DIGITAL TRANSFORMATION: EXTENDING THE RESILIENCE PRINCIPLES

The eight principles for achieving resilience and digital transformation are summarised as:

1. Risk radar
2. Resources and assets
3. Relationships and networks
4. Rapid response
5. Review and adapt
6. Redesign process
7. Retain stakeholders
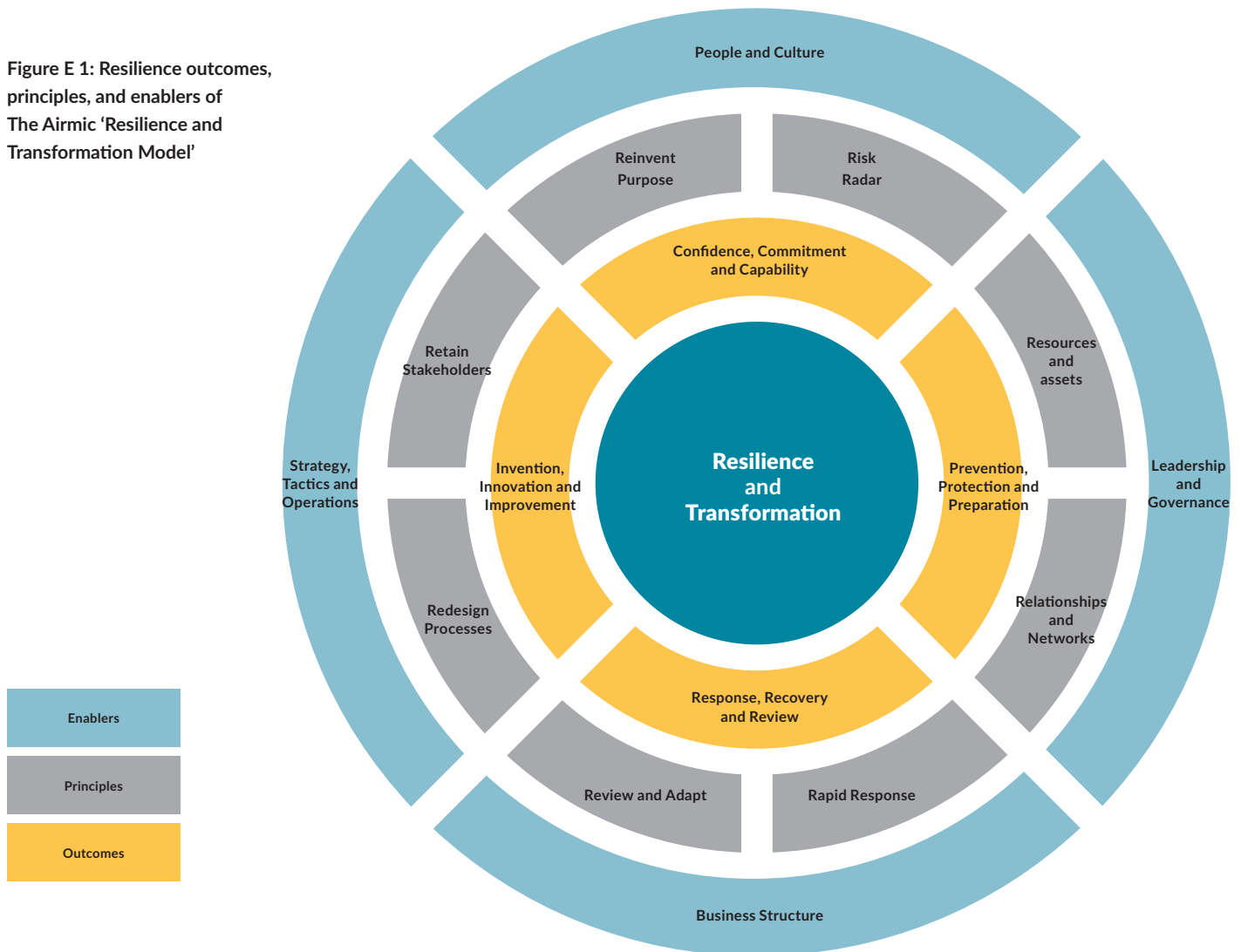8. Reinvent purpose

REDESIGN PROCESS

To take advantage of digital transformation, organisations need to have the ability to redesign their business processes. The requirement is to combine process improvements with the desire to fully embrace developments in technology. This can be achieved by encouraging innovation within the organisation, whilst retaining mechanisms to rapidly challenge and then validate business decisions. One of the key component of the redesign processes principle is to ensure that activities are always forward-looking to decide how new digital developments and capabilities can be implemented into future plans. Implementation of the redesign processes principle must always be aligned with the strategy, tactics and operations of the organisation, but with the emphasis on forward planning.

RETAIN STAKEHOLDERS

The ability to redesign business processes will not bring benefits unless the organisation also retains stakeholders. In terms of revenue, the most important set of stakeholders are customers. However, there are a wide range of other stakeholders, including suppliers, contractors, financiers and regulators. Engaging stakeholders in business process redesign should increase the chances of successfully retaining those stakeholders. The initial stage of digital transformation is often associated with digital delivery of products and services and it is important that stakeholder opinions of these changes are obtained. Organisations need to explain the benefits of digital transformation. Big data is increasingly available and analysis of customer preferences using Big Data will provide a proactive mechanism for identifying stakeholder expectations and thereby, more successfully, retain those stakeholders.

Figure E 1: Resilience outcomes, principles, and enablers of The Airmic 'Resilience and Transformation Model'

Enablers

Principles

Outcomes

People and Culture

Reinvent Purpose

Risk Radar

Confidence, Commitment and Capability

Resources and assets

Retain Stakeholders

Leadership and Governance

Strategy, Tactics and Operations

Invention, Innovation and Improvement

Resilience and Transformation

Prevention, Protection and Preparation

Redesign Processes

Relationships and Networks

Response, Recovery and Review

Review and Adapt

Rapid Response

Business Structure

REINVENT PURPOSE

Reinvent purpose is an important principle that underpins digital transformation. In order to take advantage of digital capabilities, organisations need to routinely and systematically reinvent their purpose. As the speed of digital transformation increases, the frequency of revisiting purpose may need to escalate. A combination of excellent risk radar and a willingness to reinvent purpose develops a culture that creates opportunity awareness within the organisation. The components of the reinvent purpose principle are mainly concerned with the people and culture business enabler. There needs to be active commitment to digital transformation, together with well-resourced people skills and capabilities. A culture of supporting confidence in business decision-making is also necessary. Perhaps the most important component of reinvent purpose is the forward-looking acknowledgement that digital transformation requires a culture of constant evolution (or perhaps revolution) within the organisation.

A range of resilience and transformation practices that extend the existing principles and expand upon the additional principles was identified by the research. One example under each of the eight principles of resilience and transformation is provided below.

1. Risk radar focused on emerging risks and developments in technology

Resilient organisations have exceptional risk radar. Transformational organisations additionally require that the risk radar capabilities are specifically focussed on emerging risks. This will require enhanced risk radar embracing scenario analysis and horizon scanning with a focus on the developments in technology that offer opportunities for the organisation to enhance their business enablers.

2. Resources and assets able to take full advantage of developments in technology

Resilient organisations have resources and assets that are flexible and diversified. Transformational organisations additionally require specific focus on the need to strengthen resources where they are insufficient to take full advantage of developments in technology. The additional resources will be designed to ensure that the best advantage is taken of developments in technology.

3. Relationships and networks that are constantly developed and extended

Resilient organisations value and build strong relationships and networks. Transformational organisations additionally examine the need to extend existing networks. Joint-venture partnerships with organisations previously viewed as competitors is often a means of obtaining transformational capabilities.

4. Rapid response supported by excellent communication within the organisation

Resilient organisations have the capability to ensure decisive and raid response. Transformational organisations additionally require that communication barriers within the organisation are removed. The need for greater cooperation and/or elimination of silos within the organisation is required in a way that does not create confusion of roles and responsibilities.

5. Review and adapt to events to protect and enhance reputation

Resilient organisations review and adapt to changes and adverse events. Transformational organisations additionally require specific focus on protection and enhancement of the reputation of the organisation. This can often result in more successful crisis management which when successfully achieved, can build the reputation of the organisation by demonstrating the quality of management and governance capabilities within the organisation.

6. Redesign processes to embrace new technologies and encourage innovation

Revolutionary organisations can successfully redesign business processes and solutions. This requires the embracing of new technologies to ensure improvement. Successful redesign of business processes based on encouraging innovation, whilst retaining adequate mechanisms to validate decision-making. The requirement for successful implementation of the redesign processes principle is fundamentally based on a forward-looking culture within the organisation.

7. Retain stakeholders during the transformation by analysing big data

Revolutionary organisations retain stakeholders during the transformation. The ability to retain stakeholders is essential for successful digital transformation. Retaining stakeholders is based on engaging the stakeholders and analysing the Big Data available about the characteristics of those stakeholders. The key requirement is to discuss and share opinions with all interested parties and develop the options for digital delivery of the identified benefits.

8. Reinvent purpose by opportunity awareness, commitment and capabilities

Revolutionary organisations have the ability to reinvent purpose. Successful achievement of digital transformation is dependent on a willingness of the organisation to reinvent its purpose. Reinventing purpose is based on opportunity awareness, the active commitment of stakeholders and the availability of the necessary capabilities. Confidence in the purpose of the organisation is required to ensure constant evolution. There is a strong link between the ability to reinvent purpose and the risk radar of the organisation.

> RESILIENT ORGANISATIONS IN THE DIGITAL AGE MUST CONSTANTLY REINVENT THEIR PURPOSE.
>
> THIS INVOLVES BEING AWARE OF OPPORTUNITIES, BEING WILLING TO COMMIT AND RECOGNISING THAT CONFIDENT FORWARD LOOKING BEHAVIOUR SHOULD BE REWARDED

ENABLERS AND OUTCOMES

Board members require assurance that the eight principles of resilience and transformation are implemented. However, the board conversation about resilience and digital transformation is most likely to focus on the associated business enablers within the organisation, rather than the principles. The business enablers identified in this report are (1) leadership and governance; (2) business structure; (3) strategy, tactics and operations; and (4) people and culture.

BUILDING ON THE FOUR BUSINESS ENABLERS

Building on the four business enablers, resilience and transformation can be summarised by considering four types of organisational resilience. **Table E.2** presents the features of the four types of organisational resilience. Each type of resilience aligns with robust and dynamic implementation of one of the business enablers. These can be used to guide the board conversation on resilience and transformation. Each type of resilience aligns with robust and dynamic implementation of one of the business enablers at **Table E.3.**

Although all four types of resilience are required in order to achieve successful resilience and digital transformation, it is often integrative resilience that is the strongest within an organisation. It is from this point that the three other types of resilience are developed towards structural, transformational and ultimately contextual resilience. This progression represents developing maturity in the resilience agenda of the organisation. Transformational resilience will be enhanced by redesigning processes and retaining stakeholders. In many ways, the ultimate and most difficult to achieve form of resilience is contextual resilience. By developing people and culture and ensuring robust implementation of risk radar and reinvent purpose principles, risk and opportunity awareness will be improved and contextual resilience will be achieved.

1. Integrative Resilience

- controls in place for the expected risks, as described in the risk register
- robust risk awareness to assist with design and implementation of strategy
- optimal utilisation of resources and assets to take advantage of opportunities
- supportive relationships and networks to build successful brands and reputation

2. Structural Resilience

- ability to achieve rapid response to a crisis, cope with the unexpected and learn lessons
- knowledge of emerging risks to help develop and test crisis management plans
- crisis plans to respond successfully to adversity and achieve enhanced profile
- identified lessons to review and adapt business model to gain competitive advantage

3. Transformational Resilience

- procedures in place to encourage creativity, invention and advancement
- ability to redesign processes and to achieve business innovation
- communication with all interested parties to retain stakeholders during changes
- governance of implementation of changes and measurement of improved performance

4. Contextual Resilience

- continuous alertness and awareness of emerging risks by robust risk radar
- involvement and commitment of stakeholders to identifying opportunities and concerns
- confidence and capability to progress changes and reinvent purpose
- constant awareness of context and willingness to challenge the assumptions

Table E.2: Features of the types of organisational resilience

1. Leadership and Governance

Prevention, Protection and Preparation
Dynamic 'Leadership and Governance' business enabler results in robust implementation of the 'Resources and Assets' and 'Relationships and Networks' principles

2. Business Structure

Response, Recovery and Review
Dynamic 'Business Structure' business enabler results in robust implementation of the 'Rapid Response' and 'Review and Adapt' principles

3. Strategy, Tactics and Operations

Invention, Innovation and Improvement
Dynamic 'Strategy, Tactics and Operations' business enabler results in robust implementation of the 'Redesign Processes' and 'Retain Stakeholders' principles

4. People and Culture

Confidence, Commitment and Capability
Dynamic 'People and Culture' business enabler results in robust implementation of the 'Risk Radar' and 'Reinvent Purpose' principles

Table E.3: Business enablers, outcomes and relationship to the principles

DIGITAL STRATEGY SHOULD BE A REGULAR BOARD AGENDA ITEM

One of the keys to an effective board is that it has a diversity of perspectives, based on a range of skills, knowledge and experience. Many industry sectors will change fundamentally in the next five to six years and a large part of that will be driven by technology. How does the board identify the opportunities and ensure that the risks that come with new ventures are managed within the risk appetite? Some of the best ideas may come from new recruits because they will have been thinking about it before starting a new job. People in the middle, who will be the future leaders, should be the ones thinking about how they can turn these ideas into money rather than avoiding risk. In their view, opportunity and risk are being dealt with elsewhere; they are just doing their job. But business will fail if they don't innovate and they've got to innovate in the IT space and governance as well. Risk appetite must be revisited in parallel with purpose.

The multiple challenges that digital transformation brings to corporate governance functions is briefly summarised at **Table E.4.**

CORPORATE GOVERNANCE CHALLENGES IN THE DIGITAL AGE

The benefits of digital technology have been highlighted by many stakeholders consulted as part of the research, but these may be too hopeful in terms of the impact of technologies on corporate governance. Given the significant implications of digital transformation, the need for enhanced corporate governance has become more critical, characterised by a shift from compliance to legitimacy in the governance approach.

While the governance functions of monitoring, strategy and legitimacy remain valid, they need to be enhanced beyond the traditional approach described in the report as 'legacy governance'. An 'open source' model is required

Shareholder supremacy is no longer appropriate as the leading governance principle in the Digital Age.

Digitally transformed business models require greater attention to the broader environment (or ecosystem) within which the organisation operates, yet the research found that national corporate governance codes are not always keeping up with the pace of change. This adds a further layer of complexity because of the duality of what is required to govern digital transformation and what is mandated by global, regional and national regulatory bodies.

CHALLENGES TO THE MONITORING FUNCTION

Digital technologies can compound the more traditional risks associated with information systems. New monitoring risks take three forms. First, monitoring via digital technologies is often based on "algorithms" that, no matter how sophisticated they might be are based on "learning", using available data, and on "learning sets", which are not always transparent to the final users. The research shows that some company boards often have a "deistic" faith in the "objectivity" of such monitoring capabilities, sometimes with mixed results. Second, the outputs of this automated monitoring are not always fully transparent. Increasingly, even the developers themselves admit that the outcomes of their "learning sets" are unpredictable. As such, digital monitoring systems introduce a new

degree of volatility in the organisations. It follows that it might be challenging to build alignment between such (unpredictable) automated monitoring systems and the company's monitoring goals. Third, it is increasingly challenging to monitor risks in the interconnected "organic" ecosystems. For instance, organisations as self-contained entities with well-defined and well-guarded boundaries are becoming less prevalent. Companies increasingly find themselves more and more involved in ecosystems - i.e., the network of suppliers, consumers, and platforms that need to be engaged via digital technologies in order to (co)deliver and enhance the customer value proposition.
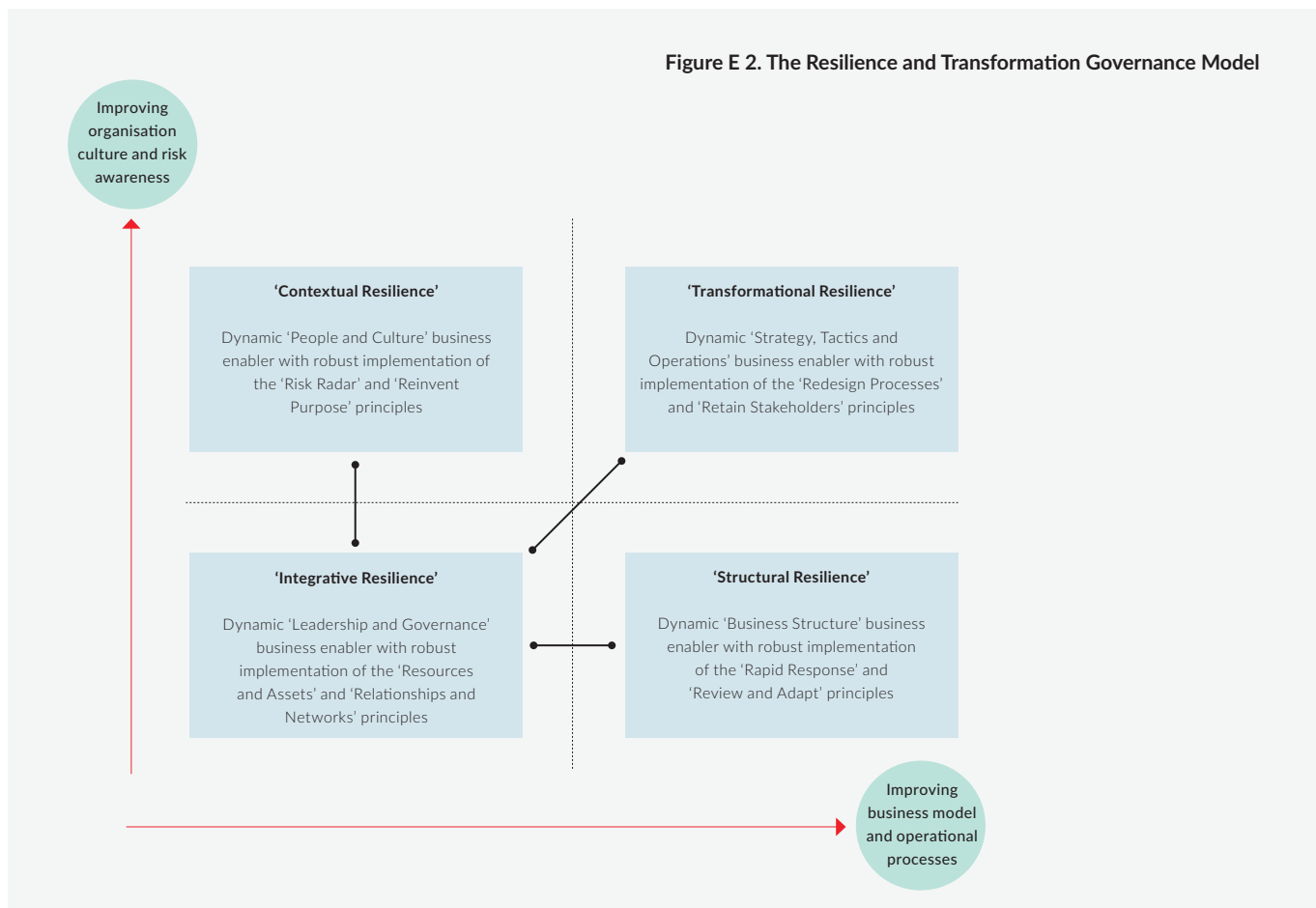
CHALLENGES TO THE STRATEGY FUNCTION

The "blending" of the digital and physical world triggers the need for a whole new set of resources and capabilities, such as information management, collaboration and orchestration, while reducing the value of many legacy resources and capabilities. Digital transformation challenges the very core of the "assets" of an organisation and, as such, puts an ever-increasing pressure on boards in terms of their involvement in strategy and strategic decision-making. Digital transformation brings forward a new innovation paradigm whereby innovation will come at the intersection of once disconnected knowledge domains. The emergence of popular acronyms such as Fintech, Agritech, etc. is associated with entrepreneurial ventures that are created at the intersection of once disconnected industries, with often "disruptive" outcomes. As such, digital transformation increases the need for knowledge diversity, both for "born digital" and traditional organisations. Therefore, boards that traditionally involve members with a high level of specialisation in functional areas such as finance, accounting, marketing etc. may not have a right set of skills to respond to strategic challenges across the domains. The energetic pace of change driven by digital technologies requires organisations and boards to adopt a culture of constant change and experimentation.

Functions of Corporate Governance	Challenges presented by digitalisation
Monitoring function	● Misplaced confidence in computer-based monitoring processes and capabilities ● Results and outputs of automated monitoring are not always fully transparent ● Increasingly challenging to monitor risks in the inter-connected networks
Strategy function	● New set of resources and capabilities, such as information management ● Boards may not have skills to respond to strategic challenges across the domains ● Companies need to adopt a culture of constant change and experimentation
Legitimacy function	● What is legal in one institutional setting may be completely non-compliant in another ● New strategies and business models are often deployed in a regulatory "vacuum" ● Ambiguity about what failures might affect the effectiveness of legitimacy functions

Table E.4: Corporate governance challenges in the digital age   Source: Filatotchev and Lanzolla, 2018

Figure E 2. The Resilience and Transformation Governance Model

Improving organisation culture and risk awareness

'Contextual Resilience'

Dynamic 'People and Culture' business enabler with robust implementation of the 'Risk Radar' and 'Reinvent Purpose' principles

'Transformational Resilience'

Dynamic 'Strategy, Tactics and Operations' business enabler with robust implementation of the 'Redesign Processes' and 'Retain Stakeholders' principles

'Integrative Resilience'

Dynamic 'Leadership and Governance' business enabler with robust implementation of the 'Resources and Assets' and 'Relationships and Networks' principles

'Structural Resilience'

Dynamic 'Business Structure' business enabler with robust implementation of the 'Rapid Response' and 'Review and Adapt' principles

Improving business model and operational processes

CHALLENGES TO THE LEGITIMACY FUNCTION

Digital business models are often designed to operate across national jurisdictions and are exposed to what institutional theorists call "poly-centric institutional settings". What is considered legal in one institutional setting may be completely non-compliant in another. By moving their business into new institutional domains outside traditional regulation, organisations take a huge gamble that their new business models will be unconditionally accepted by stakeholders. This gamble may not always pay off, and governance mechanisms will not always account for a potential loss of legitimacy even when strategic decisions are perfectly compliant with existing rules and regulations in a specific jurisdiction. New strategies and business models are often deployed in a regulatory "vacuum". But a lack of regulation today does not mean that regulatory or law enforcement agencies won't interfere with an emerging industry in the future. This creates a significant challenge for governance legitimacy functions to be forward-looking in order to anticipate when and how a newly created market segment may be subject to a regulatory response. An example is the evolving regulation around data privacy. The institutional "vacuum" challenge is augmented by another concurrent phenomenon: digital transformation is challenging even received legacy regulatory wisdom about what

constitutes "market failure". Regulation normally targets areas where the government agencies perceive a "market failure". However, there is growing ambiguity about what these failures might be and this significantly impacts the effectiveness of the legitimacy functions. Depending on which orientation the regulator(s) take, organisations might find themselves grappling with completely different regulatory frameworks from what had been expected.

RESILIENCE AND TRANSFORMATION GOVERNANCE

Boards should lead decisions on the implementation of digital strategy and govern the planning, implementation, monitoring and learning stages associated with digital transformation of business models. Consequently, the board agenda should be based in the context of the business enablers. Boards should concentrate on enhancing the enablers to achieve all four types of resilience illustrated at **Figure E.2.**

Corporate governance arrangements need to meet the challenges of the digital revolution. The corporate governance functions of monitoring, strategy and legitimacy remain valid but need to be enhanced. Corporate governance arrangements need to extend beyond the traditional approach, described as 'legacy governance'. Shareholders supremacy is no longer appropriate as the leading

Figure E 3. Resilience and transformation principles and outcomes
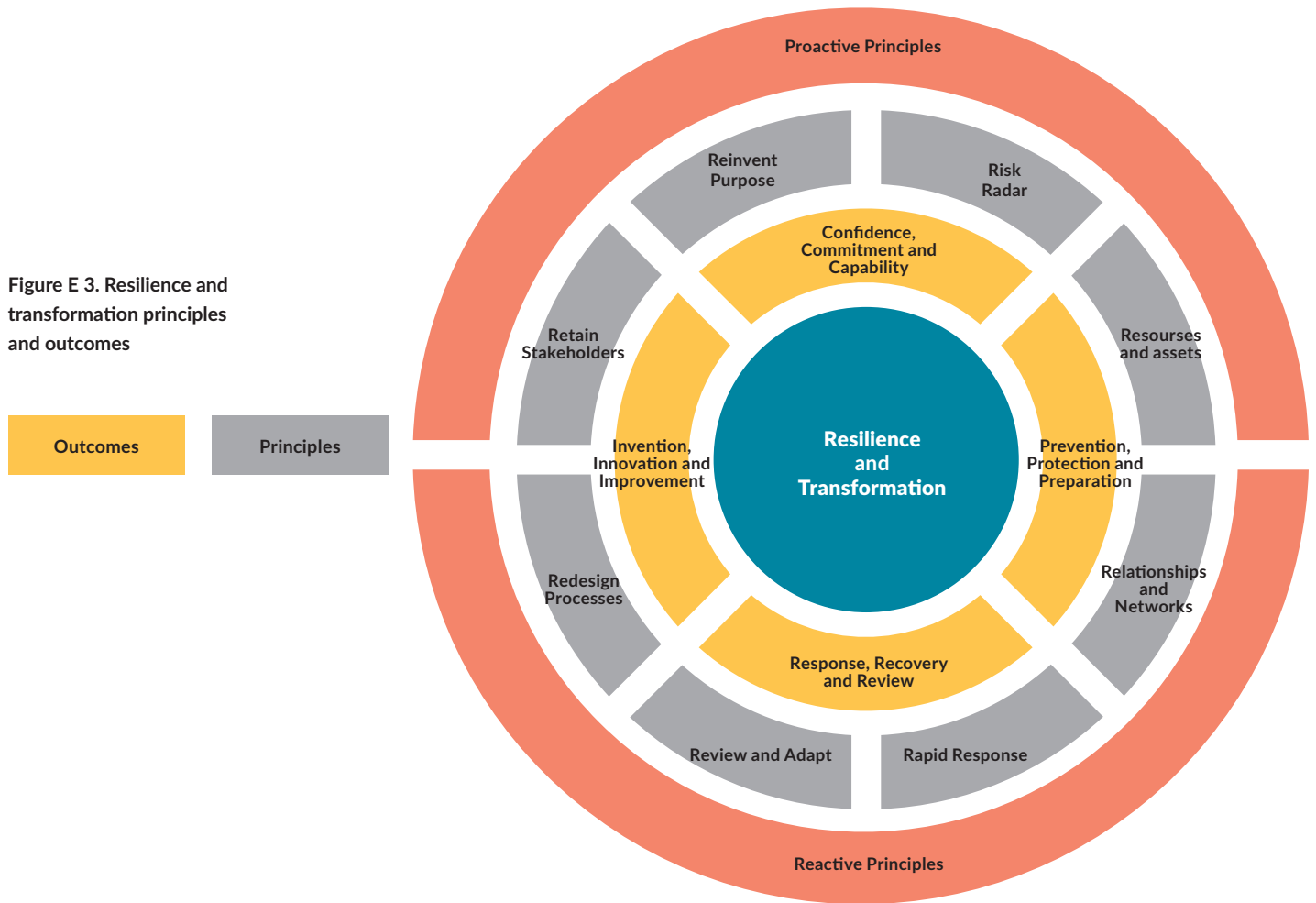
governance principle for the digital age; and an 'open-source' model of corporate governance is required. Digitally transformed business models require greater attention to the broader environment (or ecosystem) within which the organisation operates. Organisations must shift governance arrangements. This is characterised by movement from compliance to legitimacy in the governance approach.

ENABLING ENHANCED RESILIENCE AND TRANSFORMATION
The business enablers define and support the business model for the organisation. They are 'leadership and governance'; 'business structure'; 'strategy, tactics and operations'; and 'people and culture'. As indicated by **Figure E.3**, the enablers can, in combination, be used to support resilience and transformation. The ways in which the business enablers lead to increased resilience and transformation are context specific, as they are dependent on

BOARDS WILL HAVE TO RESKILL AND INTRODUCE NEW MECHANISMS TO ENSURE EFFECTIVE AND EFFICIENT MANAGEMENT AND ULTIMATELY, LEGITIMACY FOR THEIR ORGANISATIONS

the size, nature and complexity of the organisation, as well as the business environment and organisational capabilities

All organisations have these business enablers in place, but the different nature of the enablers in each organisation indicates why there are different roads to resilience and transformation. Every organisation has the capability to achieve increased resilience and digital transformation, but it requires risk professionals, boards and the executive to decide how each of the enablers can be managed, to change the way the organisation views risk management and achievement of increased resilience and successful transformation.

IMPLICATIONS FOR RISK MANAGEMENT PROFESSIONALS
Taking advantage of the new opportunities requires a shift of emphasis in three areas:
1. Better alignment with business priorities: Risk teams need to demonstrate strong business or commercial acumen and engage more intensely with the company's strategic ambitions and major investments. This will sharpen their ability to develop valuable insights into emerging concerns and help scope innovative risk mitigation solutions.
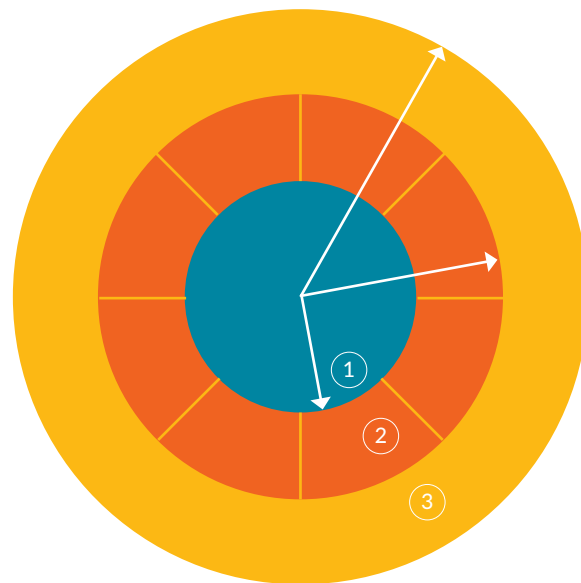
Figure E. 4. Synchronise strategy, tactics and operations clock speeds
Source: Lanzolla, 2018

2. More flexible deployment of resources: Revised analytical methodologies, including the introduction of new data science and automation techniques, should free up capacity in risk teams for more project-based (as opposed to routine) risk work and the provision of advice to business and functional leaders.

3. Greater dynamism in stakeholder engagement: A more creative lens with regard to emerging risks will enable risk teams to engage with institutional and individual biases and blind spots and help build an appreciation of threats for which evidence may be limited or conflicting.

Strategic, tactical and operational technology risks must be synchronised to avoid the creation of lags. Risk management must synchronise the different speeds at which the external context strategic risks, changing business environment tactical risks and internal operational risk run. The job of the risk professional is to challenge the organisation to make sure that lags do not emerge and that all the "clocks" illustrated at **Figure E. 4** are synchronised, move smoothly and in the same direction.

To take this forward, some risk leaders may need to expand their comfort zone. But those who can mesh strategic vision, influencing skills, and technological fluency on top of their core risk-management expertise will be best positioned to help their firms negotiate dynamic risk environments laden with potential shocks and disruption. A

cultural change is required because risk professionals have historically been technical people. There is a need for risk managers to become business partners. They need to go and talk to people and champion the new type of risk. The job of the risk professional will involve challenging the leadership team. Tools such as the risk register might be misleading and give a false sense of confidence. In these legacy governance models based on risk registers, risk used to be concerned with events. Therefore, while organisations may retain a list of 'principal risks', they will move away from risk registers which can become quickly out of date, towards using risk radars, horizon scanning and scenario analysis to identify key risk issues. Typically technically excellent people, risk professionals will need to add new knowledge and skills to become risk professionals who understand context and business, as business partners.

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