| **IT Risk Scenario: Failure to Appreciate Value of Emerging Technologies** | | | |
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| 1. **Risk Scenario Description** | | | |
| **Risk Scenario Title** | The organization fails to appreciate the value and potential (new functionality, process optimization) of new technologies | | |
| **Risk Type** | 1-Product delivery; 6-Product & service costs | | |
| **Risk Scenario Category** | Emerging technologies and innovation: Inability to exploit new technologies into innovative processes and products | | |
| **Risk Scenario Reference** | 16B | | |
| **Risk Statement** | The enterprise incurs important opportunity costs by not adopting in a timely manner a new software/technology platform. | | |
| **Risk Owner** | Portfolio Manager/CIO/CTO/CDO | **Risk Oversight** | IT Governance Board  Architecture Board  Steering Committee (Programs/Projects)  Chief Risk Officer (CRO) |

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| 1. **Risk Scenario Components** | | | |
| **Actor/Threat Community** | Unintentional insider | | |
| **Intent/ Motivation** | The event is unintentional in nature and is due to awareness and knowledge gaps of industry trends using new technologies. | | |
| **Threat Event** | The threat is complex and can be caused by many factors, including:   * Increase in opportunity and operational cost against industry index * Loss of market share due to new products and services not meeting expectations * Losing advantage to competitors because product is not meeting business needs or not achieving targeted benefits discussed in business case. * Inadequate automation in products and services for long-impact goodwill * Gap in skills and competency of staff | | |
| **Assets/Resources** | Products and services portfolio, new innovative products | | |
| **Consequence** | * Productivity has not improved in line with the industry trend. * Cost of response may become high in terms of opportunity loss, due to product low performance. * Competitive advantage is lost to competitors, resulting in market share loss. | | |
| **Impact Dimensions (potential forms of loss)** | * Productivity | Productivity suffers due to lack of automation and self-service options, due to delays. |
| * Cost of Response | Cost increases with time due to inadequate number of skilled and competent staff and benefits not available. |
| * Replacement Cost | N/A |
| * Competitive Advantage | Competitive advantage is lost due to delay in delivery of new tech-based products and services. |
| * Reputation | Reputation suffers due to delay in delivery of new tech-based products and service. |
| * Fines and Judgements | N/A |
| **Timing** | * The **duration** of change in processes and functionality can be a longer time than expected and can incur continuous strain due to ineffective and inefficient delivery of envisaged new services. However, the service-level impact improves business competency in meeting the expectations of customers. * Dependence on traditional methods and legacy products remains, and their inefficient services impact customer morale negatively. * The adverse response to thechange to new technology endures for a long time, while the system is being set to the desired level. | | |

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| 1. **Risk Scenario Scope & Extent** | | |
| **Extent of the Scenario** | **Worst Case** | Optimizing the use of technology by adopting emerging technology to meet the business requirements may affect profitability adversely, while the industry trend of adopting new technology grows with time. The loss of market share, reputation and advantages cannot be recovered in the short run. |
| **Typical or Most Likely Case** | IT adopts the strategy to evaluate and assess products and services to align them with the business by changing processes and functions to match those envisaged in the business plan. This strategy can deliver value after the changes are made. Change management of the implementation process and functions development and testing leads to delivery of expected benefits. |
| **Best Case** | Addressing concerns about deviation from enterprise goals and targets helps with planning and organizing implementation and delivers results quicker. Fast expected results are delivered when business stakeholders participate in process and functional architectural change reviews, communication and practices are effective, priority order is adopted, and competent resources are used. |
| **Assumptions** | * The investments in new technology are made without monitoring and support for change. * Communication on awareness of benefits of new technology products is ineffective. * Best practices and frameworks used by competitors and industry are ignored. * Advancement in technology may increase market share. * Advancement in technology helps to improve efficiency and productivity. | |

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| 1. **Controls to Mitigate the Risk Scenario** | | | | | | |
| **Control Description** | | **Control Type** | **Effect on Impact** | **Effect on Frequency** | **Essential Control** | **Reference** |
| 1 | **EDM02.02 Evaluate value optimization by new technology product and services.**  Continually evaluate the portfolio of I&T-enabled investments, services and assets to determine the likelihood of achieving enterprise objectives and delivering value. Identify and evaluate any changes in direction to management that will optimize value creation. | Preventive | Yes | Yes | Yes | COBIT EDM02.02 |
| 2 | **APO02.01 Understand enterprise context and direction.**  Understand the enterprise context (industry drivers, relevant regulations, basis for competition), its current way of working and its ambition level in terms of digitization. | Preventive | Yes | Yes | Yes | COBIT APO02.01 |
| 3 | **APO02.03 Define target digital capabilities in context of adopted new technology.**  Based on the understanding of enterprise context and direction, define the target I&T products and services and required capabilities. Consider reference standards, best practices and validated emerging technologies. | Preventive | Yes | Yes | Yes | COBIT APO02.03 |
| 4 | **APO02.05 Define the strategic plan and road map.**  Develop a holistic digital strategy, in cooperation with relevant stakeholders, and detail a road map that defines the incremental steps required to achieve the goals and objectives. Ensure focus on the transformation journey through the appointment of a person who helps spearhead the digital transformation and drives alignment between business and I&T. | Preventive | Yes | Yes | Yes | COBIT APO02.05 |
| 5 | **APO02.06 Communicate the I&T strategy and direction about changes by new technology.**  Create awareness and understanding of the business and I&T objectives and direction, as captured in the I&T strategy, through communication to appropriate stakeholders and users throughout the enterprise. | Preventive | Yes | Yes | Yes | COBIT APO02.06 |
| 6 | **APO03.01 Develop the enterprise architecture vision to optimize value of new technology.**  The architecture vision provides a first-cut, high-level description of the baseline and target architectures, covering the business, information, data, application and technology domains. The architecture vision provides the sponsor with a key tool to sell the benefits of the proposed capabilities to stakeholders within the enterprise. The architecture vision describes how the new capabilities (in line with I&T strategy and objectives) will meet enterprise goals and strategic objectives and address stakeholder concerns when implemented. | Preventive | Yes | Yes | Yes | COBIT APO03.01 |

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| 7 | **APO03.03 Select opportunities and solution by use of new technology as envisaged.**  Rationalize the gaps between baseline and target architectures, accounting for both business and technical perspectives, and logically group them into project work packages. Integrate the project with any related I&T-enabled investment programs to ensure that the architectural initiatives are aligned with and enable these initiatives as part of overall enterprise change. Make this a collaborative effort with key enterprise stakeholders from business and IT to assess the enterprise's transformation readiness, and identify opportunities, solutions and all implementation constraints. | Preventive | Yes | Yes | Yes | COBIT APO03.03 |
| 8 | **APO04.01 Create an environment conducive to innovation in use of new technology.**  Create an environment that is conducive to innovation, considering methods such as culture, reward, collaboration, technology forums, and mechanisms to promote and capture employee ideas. | Preventive | Yes | Yes | Yes | COBIT APO04.01 |
| 9 | **APO04.04 Assess the potential of emerging technologies and innovative ideas.**  Analyze identified emerging technologies and/or other I&T innovative suggestions to understand their business potential. Work with stakeholders to validate assumptions on the potential of new technologies and innovation. | Preventive | Yes | Yes | Yes | COBIT APO04.04 |

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| 1. **Key Risk Indicators** | | | |
|  | **Indicator** | **KRI Description** | **Lead/Lag** |
| 1 | Program strategic alignment | Percent of enterprise objectives addressed by the I&T goals/objectives | Lead |
| 2 | Program strategic alignment | Percent of I&T objectives that support the enterprise strategy | Lead |
| 3 | Program strategic alignment | Level of understanding within I&T management of current enterprise organization and context | Lead |
| 4 | Program strategic alignment | Level of knowledge within I&T management of enterprise goals and direction | Lead |
| 5 | Program strategic alignment | Percent of initiatives in the I&T strategy that are self-funding (with financial benefits exceeding costs) | Lead |
| 6 | Stakeholder engagement | Percent of staff satisfied with current capabilities | Lag |
| 7 | Stakeholder engagement | Level of stakeholder support for the digital transformation plan | Lead |
| 8 | Stakeholder engagement | Degree of correspondence between enterprise strategy and I&T strategy and objectives | Lead |
| 9 | Requirements development | Number of identified gaps in models across enterprise, information, data, application and technology architecture domains | Lead |
| 10 | Requirements development | Level of understanding of key stakeholders for I&T and their detailed requirements | Lead |
| 11 | Requirements development | Percent of key enterprise stakeholders from business and IT to assess the enterprise transformation readiness and identify opportunities, solutions and all implementation constraints | Lead |