



Toronto Catholic District School Board (TCDSB)

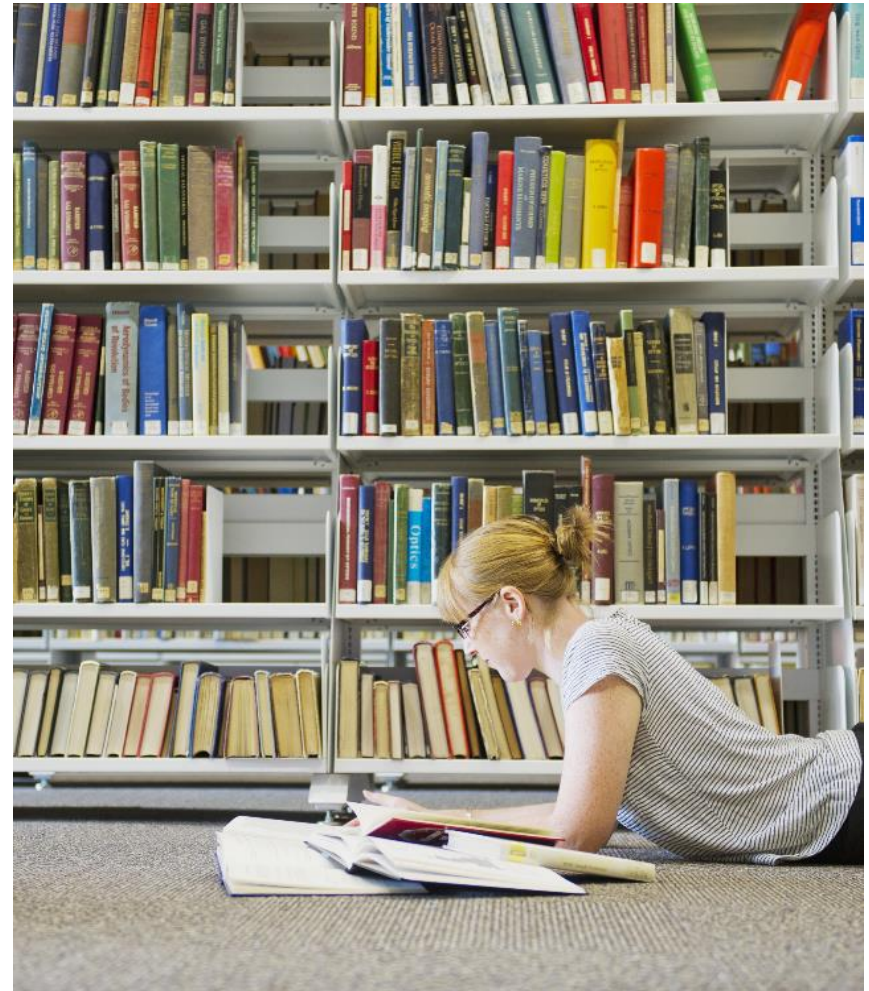
IT Strategy Review

Future IT Strategy

Final

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Background & Context

TCDSB is looking to refresh its existing IT Strategy and Roadmap for the next 3-5 years based on the updated Multi-Year Strategic Plan

Role of IT at TCDSB

Learning
within
Schools

Core Business
Functions

TCDSB's IT services acts as a pillar to its academic and business functions. IT is used to enable learning within the schools as well as an enabler for the delivery of core business services such as Finance and Human Resources for the organization.

TCDSB Information Technology

Project Objectives for TCDSB

Refreshed Multi Year
Strategic Plan

Existing IT Strategy &
Customer Inputs

Budget, Legal and other
constraints



Refreshed IT Strategy & Roadmap

'Quick Wins' to obtain immediate
benefits and business value

Project Overview

Deloitte undertook a multi-step approach to gather data, and identify relevant risks which form the basis of the overall recommendations towards TCDSB's strategic plan.

Data Gathering

**Workshops with
key individuals
from identified
functional
groups**

**Identified
Document
Review**

Deloitte took a multi-step approach to gather data with regards to the current state of IT Services and Support at the Board, consisting of workshops and meetings with the key functional groups, and a review of the current state documentation.

ICT Strategy

The gathered data was then used to identify some key findings and key risks which the Board needs to consider based on their current state. The analysis also reviewed the status of projects from the previous ICT strategy. This information along with some key trends in the education sector, were then used to identify some key recommendations for the Board to consider.

Key Findings

Key Risks

**Current status of previous
plan**

Key Education Trends

Key Recommendations in ICT Strategy

**'Quick Wins' to obtain immediate
benefits and business value &
Implementation Roadmap**

Board's IT Strategy

The IT Strategy is structured into six (6) main sections

Role of ITS in the Board

- ITS, in partnership with the Board, is a ***Strategic Enabler*** and contributes to the initiatives that ***enable modern teaching and learning***

ITS Strategy

- Mission: To advance student and staff achievement and well-being by ***leveraging relevant and enabling technologies*** that motivate learners, fosters inclusion, inspires innovation and builds community

ITS Governance Model and Governing Bodies

- TCDSB ITS uses a ***federated + distributed governance model***
- ***Governing bodies*** improve the decision-making process and streamline authority and accountability

ITS Organization Structure

- The ITS organization structure has ***minimal reporting lines*** to the CIO and has ***empowered leadership***
- ***Enterprise Architecture and PMO competencies*** are critical components of the ITS organization

Project and Portfolio Management

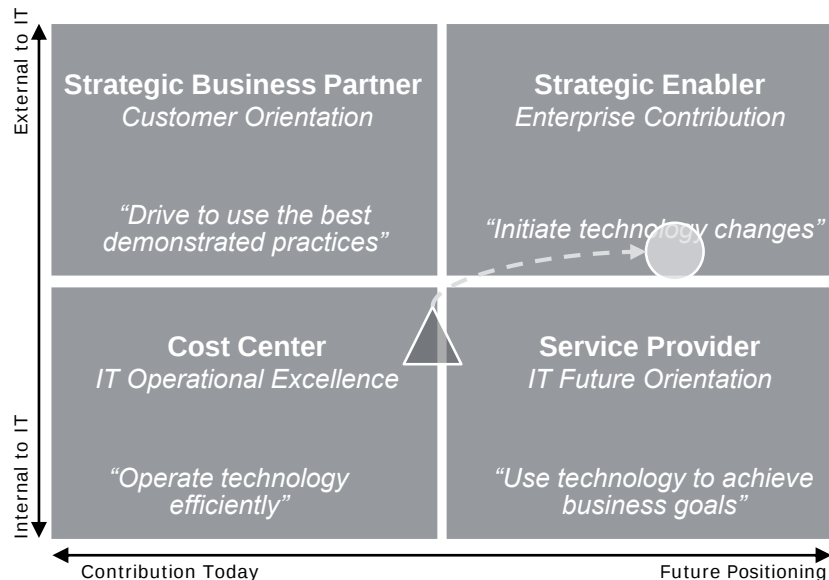
- The five (5) key recommended steps will help TCDSB implement a Project and Portfolio Management strategy throughout the organization

Strategic and Quick-Win Programs

- ITS has to implement 18 recommendations towards achieving its goals and objectives



ITS, in partnership with the Board, is a Strategic Enabler / Service Provider and contributes to initiatives that enable modern work and learning



TCDSB ICT:

- Initiates the changes and ensures technology is used in an effective manner
- Has a transparent culture
- Is integrated with the business, teaching and learning functions
- Works closely with the academic, and business functions to identify pain points and challenges; helps innovate to solve these challenges by using technology in a creative manner
- Defines potential of new IT solutions
- Tolerates some risk taking to encourage creative ideas
- Extends results through new approaches
- Applies research with assured quality
- Is focused on setting standards and processes
- Has a combination of visionary leaders and IT experts
- Manages and delivers on the IT service and solution life cycles



Being a Strategic Enabler / Service Provider, ICT's strategy is to support the Board to realize its mission, vision, and values

Vision	At Toronto Catholic we transform the world through witness, faith, innovation and action.		
Mission	The Toronto Catholic District School Board is an inclusive learning community uniting home, parish and school and rooted in the love of Christ. We educate students to grow in grace and knowledge to lead lives of faith, hope and charity.		
Goals			
	Become a Trusted Strategic Business and Learning Partner	• Proactive, Transparent and Accountable • Technology products and services are aligned with business and learning needs and challenges	
	Champion the adoption of processes and technologies that enable modern work and learning	• Identify new processes and technology solutions for new and currently deployed processes, and advance the technology solutions for operational excellence	
	Establish effective communication strategies to help customers understand offerings and services	• Effectively communicate with partners, business and academic functions to act as the primary services partner for technology serviced delivery • Client focused service and solution offerings including effective communication with clients on how to best utilize the offerings and obtain support	
	Develop employee resource strategy that focuses on IT professional and technical competencies	• Organizational model and capacity aligns with demands • Governance methods to manage and prioritize requests • Knowledge, skills and attitudes are aligned with the Board and IT strategy • Talent recruitment and retention • Succession planning	



Delivering the strategy requires strict adherence to the guiding principles



Become a Trusted Strategic Business and Learning Partner



Champion the adoption of processes and technologies that enable modern work and learning



Establish effective communication strategies to help customers understand offerings and services



Develop employee resource strategy that focuses on IT professional and technical competencies

Guiding Principles / Enablers (who we are, how we work)



People

- Foster a culture of **collaboration, innovation, service excellence and continuous improvement**
- Efficiently utilize our **employees skills, talents and interests**
- **Build technical competencies** on current and emerging technologies
- **Facilitate leadership development** that support capacity building and succession planning
- **Develop and promote technical, soft and project management skills** to facilitate employee growth



Process

- Follow and communicate **governance and operating model that fosters delivery excellence**
- **Transparently engage, collaborate and communicate** with stakeholders
- **Actively manage the technology portfolio** by having stringent and measurable controls to ensure the identified projects are delivered with quality and within scope, timelines and budget
- **Apply project management principles** to the development and management of current and future projects
- **Achieve operational excellence across the Board** by optimizing efficiencies and actively managing technology products, services and operating processes

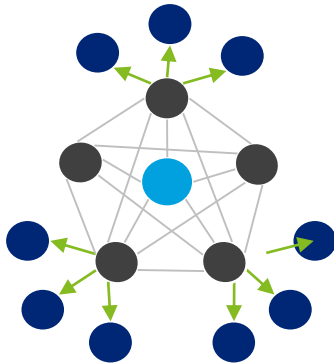


Technology

- Develop and deliver **quality products and services** that are architected to support cross organization integration
- Optimize technology investments to ensure **continued stewardship of the Board resources**
- Promote and deliver **environmentally responsible technology** and practices
- Develop and identify **quality solutions and products to fulfill business and academic needs**
- Review and **enhance current out of the box solutions** for Board needs, **obtain additional solutions** as needed, **retire solutions** which no longer fit Board's technology landscape
- Follow a **cloud first architecture**
- Develop an **enterprise architecture mindset**



TCDSB ICT should continue to use their federated + distributed governance model to improve decision-making and streamline authority and accountability



Federated + Distributed Governance Model

The ICT organization should follow a **federated + distributed governance model** and recognize that appropriate processes, people and relationships must be in place for effective governance

In doing this, ICT will be positioned to:

- **Enable** the development and delivery of an **unified ITS strategy and roadmap**
- **Drive standardization and consistency** of its technology processes
- Offer greater potential for **skills growth and specialization** among IT staff

The distributed + federated model **partially aligns with the current ICT environment** and does not warrant a radical shift in operations

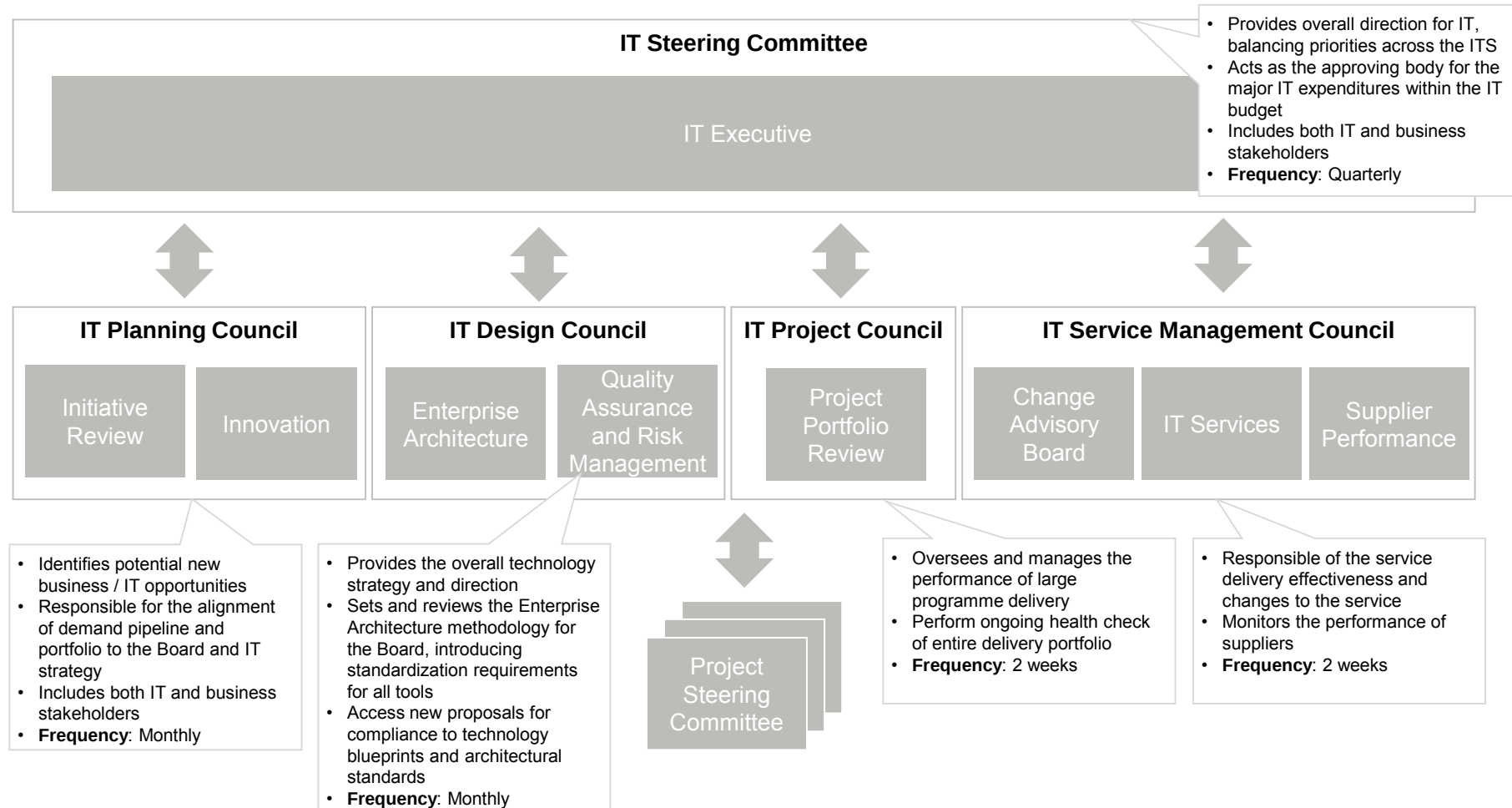
Rationale

The characteristics of the Federated + Distributed ICT governance model has various advantages:

- **Drives common standards** – The model facilitates the implementation of **common standards, policies and processes** across all ICT operations
- **Supportive of culture** – The model encourages **engagement and coordination** between technology personnel across all functions and continues to **support and strengthen the collaborative culture** that exists within the organization
- **Supportive of effective governance** – The model supports an effective governance regime as there is a **closer and at the same time distributed point of accountability for the ICT**



Governance specifies the decision-making authority and accountability to encourage desirable behaviors

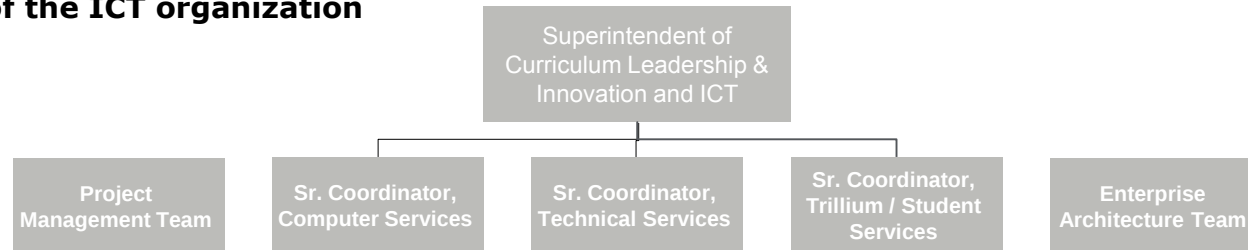


While most of the council's and committee's would be staffed with independent resources at different levels and from within different teams, they would need to work together in order to deliver on the IT Steering Committee's objectives



The ICT organization structure has minimal reporting lines to the ICT superintendent and has empowered leadership

The ICT organization structure has **minimal reporting lines** to the ICT superintendent and **provides more decision making authority** to the **superintendent's direct reports**. In addition, **Enterprise Architecture and Project Management (including Quality Assurance and Change Management) competencies are critical components of the ICT organization**



In doing this, ICT is positioned to:

- Have leadership focus on **ICT Strategy delivery**
- Offer greater potential for **leadership development**
- **Drive standardization and consistency** of its technology processes
- **Drives effectiveness and efficiencies** by **coordinating changes** in technology

The ICT Organization Structure aligns well with the **federated + distributed governance model**

Rationale

The characteristics of this ICT Organization Structure has various advantages:

- **Free Leadership to focus on ICT Strategy** – The model allows leadership to focus on the ICT strategy and overall direction for ICT within the Board
- **Supportive of Federated + Distributed Governance** – The model supports the implementation of governing bodies and processes required to enable the delivery of ICT strategy and roadmap
- **Drives common standards** – The model facilitates the implementation of **common standards, policies and processes** across all technology operations



Project and Portfolio Management (PPM) Assessment and Recommendations

Key Observations

- Proposed technology projects are not prioritized based on a specific criteria aligned with the board strategy, thus limiting the ability to focus on work that drives the Board's strategy
- There is no current Project and Portfolio management process to manage the vast number of technology projects being managed and run by the Board
- The project portfolio is not assessed periodically to evaluate contribution to the Board and IT goals and ensure continued alignment
- Lack of a holistic picture of current and future resource needs make it difficult to plan and identify key resource availability and assignment
- Some foundational components of project management are leveraged, however, the processes are not followed consistently and thoroughly thus limiting clear visibility into health of ongoing projects
- Accountability for projects is not clearly defined and communicated among business stakeholders and ITS
- Lack of a holistic project portfolio management exercise, results in a limited view of the projects taking place within the Board and the problems being solved

High Level Recommendations

- **Implement Enterprise Kanban Board (EKB):** EKB is a work management tool that an ITS organization can use to visualize its portfolio of projects and manage the flow of work through the delivery system
- **Develop the Project Portfolio Strategy:** Develop the Project Portfolio Strategy based on the ITS strategy and have specific objectives and quantifiable targets for the portfolio
- **Develop the Project Prioritization Model:** Develop the value and risk criteria used in the project prioritization process and establish thresholds and constraints
- **Develop an Employee Resourcing Strategy and Plan:** Develop an employee resourcing strategy and plan that highlights current and future resource and skills needed to best achieve the Board and ITS goals
- **Establish an IT Project Management Office (PMO):** Establish an IT Project Management Office (PMO) that initiate projects, monitor progress, measure performance, and facilitate decision making

Benefits

- These recommendations helps create value in three key ways:
 - Improve project evaluation, selection and budgeting processes
 - Improve resource allocation and resolve conflicts from interdependencies among projects
 - Establish greater controls over project execution and outcomes



Programs to “Enable ITS” to achieve the identified goals

	Program	Brief Description	Estimated Duration
A	Establish the Governance Structure	Establish a federated + distributed governance structure that is best suited to TCDSB ITS given its size, products and services provided, and Future Role of ITS	3 months
B	Introduce a Tech Representative at the Director’s council	The Tech Representative role will be a part of the executive Board for the TCDSB and will be responsible for bringing strategic guidance for all IT planning and decision making purposes	6 months
C	Develop the Project Portfolio Strategy	- Develop the project portfolio strategy based on the ITS strategy and have specific objectives and quantifiable targets for the project portfolio - Develop the value and risk criteria used in the project prioritization process and establish thresholds and constraints	2 months
D	Develop a Cloud First Strategy	Develop the tools and methodologies to support the development of a cloud first strategy for new and current solutions, while becoming the single stop shop for all Cloud solutions	6 months
E	Develop an Employee Resourcing Strategy and Plan	Develop an employee resourcing strategy and plan that highlights current and future resource / succession needs to best achieve the Board and ITS goals	6 months
F	Establish an IT Project Management Office (PMO)	Establish an IT Project Management Office (PMO) that initiate projects, monitor progress, measure performance, and facilitate decision making	3 months
G	Establish an Enterprise Architecture Function	Establish an Enterprise Architecture function that will provide the foundational framework to logically organize applications, infrastructure, and data into a standardized set of directives and process which enables ITS service delivery	6 months
H	Establish an ITS Support Model	Establish an ITS support model that ensures support is provided efficiently and as per expectations	3 months



Programs to “Enable ITS” to achieve the identified goals

	Program	Brief Description	Estimated Duration
I	Review the current software strategy	- Review the current applications for rationalization and enhancement to newer versions of the same solution or different solutions to add additional functionality and capabilities - Review should include SAP, eScribe, Web Portal, HCM, Trillium	12 months
J	Develop a Document & Record Management Strategy	Establish a document storage and governance process, identify relevant tools to be used for document storage and retrieval	24 months
K	Enable a Digital mobility/access anywhere strategy	Enhance the current mobility capabilities to beyond mobile phone and Wi-Fi delivery by enhancing applications to work on the multiple platforms and browsers (Digital workplace), and look at enhancing network access, VOIP	12 months
L	Develop an enterprise data analytics culture	Increase the data collection from the different board applications, to be used as an input towards the implementation of a Business Intelligence solution for analytics and predictive modeling	36 months
M	Introduce an Enterprise service management system	Introduce a Board wide system to log and track cases for the delivery of different services to the Board’s various stakeholders	36 months
N	Implement a hardware lifecycle management policy	Implement a policy for the renewal of hardware assets owned by the board and deployed with the various schools, teachers and staff	12 months
O	Implement a Disaster Recovery / Business Continuity Strategy	Disaster Recovery plans provide a step-by-step process for responding to disruptive events. Procedures should be easy-to-use in an effort to recover damaged IT assets.	24 months



Programs to “Enable ITS” to achieve the identified goals

	Program	Brief Description	Estimated Duration
P	Implement a software and hardware vitality plan	- Hardware and software vitality is an important part of the regular maintenance of the Board's infrastructure and software - Maintaining vitality helps ensure the latest versions of software and firmware are deployed, and helps reduce the Board's overall risk and increase security - Review the hardware and software vitality to ensure the Board is either at the latest or latest – 1 version of the software and firmware	12 months
Q	Implement an IT Asset Management Solution	- The Board has a number of physical and software assets which are used to complete all its day to day activities - Currently there is no software solution used to manage the assets in the lifecycles as well as track their usage across the organization - Investigate and implement an IT Asset Management solution to manage the Board's assets	36 months
R	Implement a communication policy	Communicate the policies, its impact and processes to the different stakeholders	6 months

Detailed Recommended Projects



How to read the recommendation details?

- Owner – Who within TCDSB would have overall responsibility for the implementation of the recommendation, and would have responsibility to drive the recommendation from inception to implementation
- Estimated Duration – Expected duration for the implementation of the recommendation for an organization of TCDSB's size and IT maturity
- Value – Business and Technical value / returns obtained as a result of implementing the recommendation
 - High – indicates a high return of value, and would help move TCDSB move forward towards its strategic goals the most
 - Medium – indicates a medium return of value, would move TCDSB forward towards its strategic goals but not as much as a high value recommendation
 - Low – indicates a low return of value, would move TCDSB forward by a smaller return compared to a medium value recommendation
- Effort – Amount of effort in terms of time and costs needed to implement the recommendation
 - High – indicates that either the cost of implementation or timeline for implementation of the recommendation is high due to there being a need for a specialized skill or resources
 - Medium – indicates that either the cost of implementation or timeline for implementation is of medium cost
 - Low – indicates that either the cost of implementation or timeline for implementation is lower or shorter compared to other recommendations and can be implemented either really quickly or with a very low cost or both
- Key Activities – Provides a summary of the possible steps that TCDSB and the recommendation owner would need to plan and take in order to implement the recommendation



A: Establish the Governance Structure

A	Establish the Governance Structure	Owner (Person, Governing Body)	Superintendent, ICT		
Details	- Establish a federated + distributed governance structure that is best suited to TCDSB ITS given its size, products and services provided, and Future Role of ITS - Establish decision-making authority and accountability through governing committees / councils - In doing this, ITS will be positioned to: - Enable the delivery of unified ITS strategy and roadmap - Drive standardization and consistency of its technology processes - Offer greater potential for skills growth and specialization among ITS staff				
Estimated Duration	3 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	Medium
Key Activities					

The creation of an overarching IT governance council will need to be made for the entire overall organization in order to set a standard for members and to ensure that there is a strategic alignment of technology with the Board's goals. Underneath this central governance council there will be smaller governance councils for each of the different functions that will instill the objectives of the main council to their respective teams. There will also be several project steering committees to ensure that the direction and timeliness of different projects are following standards and that issues are resolved quickly.

Steps that need to be taken in order to refine the IT governance structure include:

1. Identify the roles and responsibilities for all attendees of the proposed governing bodies
2. Develop a communication plan to communicate the changes and impacts to the key stakeholders in the Board
3. Define the frequency and agenda of the meetings
4. Execute the communication plan and implement governance structures

The enhancement of the IT governance structure will require:

- The attendance of the tech representative and the leadership of both the academic and IT side to be present at the meetings of the main IT council
- The attendance of the tech representative and the leads of Technical Services as well as IT Infrastructure and Operations to be present at the sub council
- No dependencies on other projects exist

Note: Activities are based on a high level estimate and may be refined at a later date



B: Introduce a Tech Representative at the Director's council

B	Introduce a Tech Representative at the Director's council	Owner (Person, Governing Body)	Superintendent, ICT		
Details	- The Tech Representative role will be a part of the Director's council for TCDSB and will be responsible for bringing strategic guidance for all IT planning and decision making purposes - The Tech Representative will be responsible for executing the Board's IT Vision and Strategic Roadmap as well as being an advisor to the Board with regards to IT/technology matters - The role would be cross-functional to act as an advisor and a bridge to different academic and strategic units to ensure a strong uptake of technology as well as to ensure funding and utilization of current solutions				
Estimated Duration	6 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	Medium
Key Activities					

In order to fill the Tech Representative role members of the organization will need to:

- Develop a business case for the reasons why the organization requires a Tech Representative (e.g. to ensure the alignment of the IT Strategy with the overall strategy of the Board, to communicate the Board's IT Strategic Roadmap to all stakeholders)
- Present the business case for appropriate approvals
- Identify individuals within the organization who can take on this role or if needed the external resourcing strategy
- Identify impacts to the organization and develop a communication strategy
- Execute resourcing strategy and select the candidate for the role
- Execute the communications plan

In addition to the representation at other councils such as education council, having a tech representative at the Director's council would ensure IT is abreast of any programs (IT impacting or dependent) and is involved from program planning. In addition, it will help ensure that any new programs or projects are aligned with the strategic direction of ICT and the Board. While presence at the Director's council can help ensure IT is playing a strategic role within the organization, there also needs to be additional involvement of IT representatives within the other governance councils and decision making processes, to ensure project prioritization, planning and funding takes into account ICT's current budget, capacity and roadmap.

Note: Activities are based on a high level estimate and may be refined at a later date



C: Develop the Project Portfolio Strategy

C	Develop the Project Portfolio Strategy		Owner (Person, Governing Body)	Project Management Office	
Details		- Develop the project portfolio strategy based on the ITS strategy and have specific objectives and quantifiable targets for the project portfolio - Develop the value and risk criteria used in the project prioritization process and establish thresholds and constraints			
Estimated Duration		2 months	Value (High, Medium, Low)	Medium	Effort (High, Medium, Low) Medium
Key Activities					

Developing an overall project portfolio strategy, will help ITS guide the selection and direction of the projects for the various academic and business units. The following activities would need to be completed to setup the strategy:

- Establish a project scoping, estimation, monitoring and scoring methodology to be used for the project portfolio
 - Determine a project scoping methodology which will be used to scope and define the objectives of all current and future projects
 - Develop a project estimation framework, which can be used to estimate the project timeline and plan against
 - Develop a monitoring strategy to continuously collect information, track the progress of a project and report on it
 - Develop a scoring methodology which can be used to score the current and future projects and use this information to confirm staffing, resources and timelines
- Establish the throughput and delivery capacity for ITS to deliver on the Board's projects
- Develop a project scoring methodology
- Identify the Strategic Alignment for the projects and update scoring accordingly
- Score the projects to be delivered

Gartner identifies the following products as leading IT Project and Portfolio Management solutions, which TCDSB should consider – Planview Enterprise, CA Technologies PPM, Changepoint, Microsoft Project Server

Note: Activities are based on a high level estimate and may be refined at a later date



D: Develop a Cloud First Strategy

D	Develop a Cloud First Strategy		Owner (Person, Governing Body)	Enterprise Architecture	
Details	- Develop the tools and methodologies to support the development of a cloud first strategy for new and current solutions, while becoming the single stop shop for all Cloud solutions - The TCDSB needs to look at the cloud as a possible solution to many of its data storage and sharing problems. Utilizing the cloud will be able to solve most of the IT Infrastructure Management issues the board faces				
	Estimated Duration	6 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)
Key Activities					

Steps to develop a cloud implementation strategy include:

1. Educate the IT staff on cloud and its related technologies
2. Educate the rest of the organizations to the advantages of using the cloud
3. Introduce IT as the one stop shop for all technology related solutions, to ensure the Board can benefit from economies of scale, and a common brokerage model
4. Develop a cloud strategy, and review the current applications and their ability to move to the cloud
5. Make it "cloud first" for any new projects: when a new application is needed, start by considering cloud-based solutions first
6. Move test and development to the public cloud
7. Review the IT maintenance schedule
8. Utilize the project planning team to identify workloads to migrate
9. Hire an expert provider to spearhead the project who can assist with tasks from risk assessment to strategy development
10. Plan for ongoing cloud support needs
11. Build the migration and integration project plan

Using IT as the common brokerage for all infrastructure and solution needs will ensure the Board does not have shadow IT within the Board i.e. the business does not go and purchase services directly from vendors with little attention being paid to security, enterprise architecture and achieving economies of scale.

Note: Activities are based on a high level estimate and may be refined at a later date



E: Develop an Employee Resourcing Strategy and Plan

E	Develop an Employee Resourcing Strategy and Plan		Owner (Person, Governing Body)	Superintendent, ICT, HR	
Details		- Develop an employee resourcing strategy and plan that highlights current and future resource / succession needs to best achieve the Board and ITS goals - Establish the succession planning process that ensures that knowledge and expertise are transferred to others in the organization			
Estimated Duration	6 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	Medium
Key Activities					

Key steps to develop an employee resourcing plan:

1. Link Strategic and Workforce Planning Decisions to develop staffing needs including identifying full time v/s contractor needs
2. Analyze and identify skills and resourcing gaps
3. Identify Talent Pools: Assess competency and skill levels of current workforce
4. Develop Succession Strategies:
 - Identify retention and development/learning strategies including coaching/ mentoring and assessment/ feedback
 - Implement Succession Strategies
 - Implement development/learning strategies (e.g., planned job assignments, formal development)

As a part of the employee resourcing strategy, develop an employee growth /retention plan as well:

- Conduct a Self-assessment: A manager and employee sit down to explore his or her knowledge, skills and abilities, as well as past experiences, accomplishments and interests.
- Individualized career map: Create an individualized career map that involves identifying other positions within the organization that the employee may be interested in. The position may be a lateral move into a different job family or a promotion. In either case, the position should capitalize on the employee's past experiences, interests and motivation while at the same time requiring the employee to develop a certain degree of new knowledge, skills and abilities (KSAs) to give him or her something to work toward and stay engaged.
- Training plan: Develop an individual training and certification plan with employees to ensure there is continuous updation of their skills and soft skills. Track their progress on the plan and use as a part of their growth plan.

Note: Activities are based on a high level estimate and may be refined at a later date



F: Establish an IT Project Management Office (PMO)

F	Establish an IT Project Management Office (PMO)	Owner (Person, Governing Body)	Superintendent, ICT		
Details	- Establish an IT Project Management Office (PMO) that initiate projects, monitor progress, measure performance, and facilitate decision making - Introduce Quality Assurance (QA) and Change Management (CM) capabilities within the Project Management Office to ensure Quality Assurance and Change Management are a core part of any program or project delivery				
Estimated Duration	3 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	High
Key Activities					

In order to create this office, staff who possess key competencies in project management and staff who are interested in taking on project management responsibilities will be brought in from their respective teams. This newly created team will be informal as no changes will be made to existing departments. Some key initiatives that this group can undertake can include: creating repositories for documentation material, introducing standards and processes to enhance project management methodology and reporting metrics, and creating a detailed dashboard which outlines ongoing projects, resource allocations, budget variance, define quality assurance and change management processes.

In order to establish the PMO the following steps need to be done:

- Define roles and responsibilities for all members of the group
- Identify existing staff who have PM, QA and CM expertise and develop a communication plan for other members who would like to join the working group
- Perform an assessment of the current standards, processes, tools and templates
- Research formal tools and processes that can be used to generate specific reports
- Develop recommendations and execute PM, QA and CM standards on an ongoing basis
- Initiate vendor and service management processes as a part of the PMO activities
- Identify the need for additional resources, while trying to maintain a 1 PM for every 3-4 major programs ratio

The establishment of a Project Management Working Group will require:

- Interest of existing team members to join this group and be a part of PM, QA and CM activities
- Ability and time to take training for interested team members
- Ability and time to deliver training to interested potential team members

Note: Activities are based on a high level estimate and may be refined at a later date



G: Establish an Enterprise Architecture Structure

G	Establish an Enterprise Architecture Function	Owner (Person, Governing Body)	Superintendent, ICT		
Details	Establish an Enterprise Architecture function that will provide the foundational framework to logically organize applications, infrastructure, and data into a standardized set of directives and process which enables ITS service delivery				
Estimated Duration	6 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	Medium
Key Activities					

The Enterprise Architecture function can be created through existing IT personnel resources with the designated staff being given additional tasks and responsibilities i.e. undergoing an organization redesign or by recruiting additional resources. The structure of the team will consist of an Enterprise Architecture Lead, Solution Architects, Infrastructure Architects and Project Teams. The Enterprise Architecture Lead role will be responsible for developing and managing the Board's IT Enterprise Architecture. This role will manage the Solution Architects and the Infrastructure Architects who will be taken from a resource pool within the Technical Services teams. These teams will then manage project teams who can be taken from the remaining IT staff and resources.

Steps that can be taken to establish this function include:

- Define roles and responsibilities for members of the Enterprise Architecture team
- Identify existing staff who have competencies required for each role
- Identify skills gaps and address through training or recruitment
- Assign enterprise architecture roles and responsibilities to identified staff resources
- Ongoing review and enforcement of the architecture processes and standards

The establishment and maintenance of an Enterprise Architecture function will require:

- Training to address skills gaps
- Capacity of existing staff to work on EA tasks with no impact on their day to day responsibilities
- Recruitment of additional resources to support EA tasks

Note: Activities are based on a high level estimate and may be refined at a later date



H: Establish an ITS Support Model

H	Establish an ITS Support Model	Owner (Person, Governing Body)	Senior Coordinators, ICT		
Details	- Establish an enhanced ITS support model that ensures support is provided efficiently and as per expectations - Develop support plans for business v/s academic staff, and provide trainings to staff on new hardware and software technologies				
Estimated Duration	3 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	Medium
Key Activities					

Steps that TCDSB can undertake to improve the support model are as follows:

1. Identify all of the services that IT support provides to all members of the organization
2. Identify and clarify roles and responsibilities that each member of the help desk and technicians possess
3. Develop and define service level objectives (SLOs) and key performance indicators (KPIs) for all major technology services
4. Monitor performance against these objectives on a frequent basis
5. Enhance the current IT Support Model that outlines the processes, workflows, support levels, and tools used for providing support to technology service users
6. Create a budget plan and develop a roadmap and implementation timeline for this update to the model
7. Create a reporting tool that will identify key indicators (e.g. most frequent issues, calls logged per day, and resolution times)
8. Develop a communication plan to communicate the changes to the technology support model and service level objectives
9. Communicate to all stakeholders of the organization and emphasize that tickets that are not logged in the ITSM system will not be looked at and therefore not be resolved
10. Conduct training for newly issued initiatives for the IT support staff
11. Develop and implement a process for ongoing review and continuous improvement of IT services including collecting information for further analysis (using the analytics solution) to identify areas where additional support is needed

The success of this initiative will depend on:

- The ability and resources to train the support staff
- Efficient use of staffing resources to alleviate current workload and to be able to implement the new changes
- The cooperation of all members of the TCDSB to understand and adhere to the communication plan

Note: Activities are based on a high level estimate and may be refined at a later date



I: Review the current software strategy

I	Review the current software strategy		Owner (Person, Governing Body)	Superintendent, ICT	
Details	- Review the current applications for rationalization and enhancement to newer versions of the same solution or different solutions to add additional functionality and capabilities - Review should include SAP, eScribe, Web Portal, HCM, Trillium				
	Estimated Duration	12 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)
Key Activities					

Some of the Board's solutions do not fully support the business needs for the various business units, a few of these are by design, while some are due to new features added by vendors in newer versions of the products. ITS should conduct an analysis to review the capabilities and features of the software solutions being used against the expected functionality the solutions are expected to resolve. The review should include SAP, eScribe, Web Portal, Document Management Systems, Human Capital Management Systems, etc. ITS should follow the following steps to review and update the current strategy:

1. Identify all the software solutions being used by the Board, as well as additional tools requested by the business
2. Identify the different features and capabilities of the various software solutions being used or planned for usage
3. Develop the different business needs which these solutions are designed to solve, work with the business units to identify the different functions and activities the tools are used for
4. Perform a gap analysis to identify the appropriate set of solutions which would need to be selected in order to fulfil the business' mandate
5. Identify and request the funding needed in order to undertake the required changes

The board is also leveraging Trillium to offer student services. As Trillium has been purchased by another vendor who has indicated a lack of interest in continuing with the development of the solution, the Board should take the following steps on an immediate basis:

1. Work with the relevant academic and business functions to identify the relevant business needs for the student information system solution
2. Conduct a market scan of potential solutions, and perform a review of the possible solutions against the requirements
3. Select and deploy the appropriate solution to replace Trillium

Note: Activities are based on a high level estimate and may be refined at a later date



J: Develop a Document & Record Management Strategy

J	Develop a Document & Record Management Strategy	Owner (Person, Governing Body)	Enterprise Architecture
Details	Establish a document storage and governance process, identify relevant tools to be used for document storage and retrieval		
Estimated Duration	24 months	Value (High, Medium, Low)	High
			Effort (High, Medium, Low)
			High
Key Activities			

Steps to develop a document & record management strategy include:

1. Develop a governance process for the storage of documents and reports
2. Develop a data classification model for the different types of data generated by the organization
3. Identify the business requirements for a document management system
4. Conduct a RFP process to identify an appropriate solution which can fulfil the Board's requirements
5. Deploy the Document Management System via a PoC
6. Collect results from the PoC, which can then be used to update the solution offering
7. Deploy the solution for all employees

As a part of the Document Management Strategy, the Board should look to deploy additional information and communication strategies to communicate with the employees,

- The Board should identify the most commonly raised issues, which can be solved by a self service process and deploy a set of frequently asked questions
- The Board should upload process documents in a central location on the Document Management System and make it available for all employees to refer
- Create how to videos to help employees solve some frequent issues (especially with Trillium, SAP, etc.)
- Workflows can also be implemented as a part of the solution, to enable an automated approval process to be setup

Record keeping should be an essential component of the solution to ensure student records especially on special education are not lost

Note: Activities are based on a high level estimate and may be refined at a later date



K: Enable a Digital mobility/access anywhere strategy

K	Enable a Digital mobility/access anywhere strategy		Owner (Person, Governing Body)	Superintendent, ICT	
Details		Enhance the current mobility capabilities to beyond mobile phone and Wi-Fi delivery by enhancing applications to work on the multiple platforms and browsers (Digital Workplace), and look at enhancing network access, VOIP			
Estimated Duration	36 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	High
Key Activities					

Board employees currently do not enjoy a consistent experience in accessing the various Board resources required by them to do their jobs. Most resources are accessible from Board computing devices (when they work), and are not accessible through other devices including Board provided handhelds. The Board and ITS must take the following steps to enable mobility and provide a consistent experience for the employees:

1. Review the current Wi-Fi deployment for fidelity and ease of access, ensuring it is available at all schools and all required locations within the schools and administrative offices
2. Review the bandwidth consumption at the various Board sites, identify the additional bandwidth requirements and work with the vendor to upgrade the available bandwidth. If required, the Board should consider introducing QoS to improve availability of bandwidth for critical functionality
3. Introduce VoIP based phone lines for all employees, including introducing a software based dialer on laptops versus actual physical hard phones
4. Expand the availability and services provided by the Board's Citrix solution, to enable employees to access all Board resources even while using a non-Board device
5. Introduce either mobile based websites or applications for employees to access relevant student and teaching data from their Board provided mobile phones when required

The Board would also need to work through an RFP process to identify the costs of implementing these solutions and budget for them as required.

Note: Activities are based on a high level estimate and may be refined at a later date

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L: Develop an enterprise data analytics culture

L	Develop an enterprise data analytics culture	Owner (Person, Governing Body)	Superintendent, ICT
Details	Increase the data collection from the different board applications, to be used as an input towards the implementation of a Business Intelligence solution for analytics and predictive modeling		
Estimated Duration	36 months	Value (High, Medium, Low)	High
		Effort (High, Medium, Low)	High
Key Activities			

The Board collects a vast amount of data ranging from student scores to education delivered; in addition from a shared services perspective they also collect information on the types of challenges faced by employees to deliver their work. The Board should look at developing a data analytics culture within the organization, and can follow the following steps to achieve the same:

1. Identify the various types and sources of data being collected by the business
2. Identify additional sources of data not being currently collected, which could be used for analytics
3. Develop a metadata and big data architecture
4. Run a proof of concept to identify insights from the data already collected by the Board
5. Deploy a big data solution to analyze the different data the Board has and to develop insights to improve education

The Board should look at leveraging the analytical solution to analyze the various incoming calls to the IT Support Help Desk, create a staffing model based on high and low peaks of service demand from their customers and work to update staffing as needed, including bringing in external contractors during peak periods. The analyzed data can also help the Board identify the common areas where help is required by the employees, and create self help guides and how to videos to help employees resolve some of these issues on their own and without raising support cases

Note: Activities are based on a high level estimate and may be refined at a later date

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M: Introduce an Enterprise service management system

M	Introduce an Enterprise service management system	Owner (Person, Governing Body)	Superintendent, ICT, Governance Council		
Details	- Introduce a Board wide system to log and track cases for the delivery of different services to the Board’s various stakeholders - Heat is an old system with limited functionality that should be upgraded so that it tracks all IT tickets - Currently the IT ticketing system is not used across the board and is therefore not able to accurately track all issues throughout the organization - Optimize the IT Service Desk				
Estimated Duration	36 months	Value (High, Medium, Low)	High	Effort (High, Medium, Low)	High
Key Activities					

The steps needed to upgrade the ITSM software to an enterprise wide solution include:

1. Identify your precise needs: The Board needs to identify the business needs from the solution including for special services
2. Evaluate service providers to identify which ones meet your needs and requirements as well as budget demands
3. Create a rough schedule: flexibility is important in reaching goals and planning out upgrades to make constant progress
4. Provide training to IT support and create training materials for end users for creating and submitting tickets

The steps needed to introduce a Board wide case management system:

1. Use a governance committee to setup a common understanding of the case management system and its leverage for all service staff including Special Education Services, HR/Payroll, Business Services, Planning and Facilities
2. Develop a plan that includes the deployment of the case management system

Steps to optimize the IT Service Desk:

1. Remove Sources of Waste to Become Effective and Efficient, examples of waste include:
 - Movement of work, information and materials: On-site visits to resolve incidents that could be resolved remotely
 - Unnecessary physical movement: printing information from one place, then re-entering it in another place
 - Reworking to correct mistakes: help desk interventions that were not done correctly or that do not solve problems
2. Try to eliminate these sources of waste by creating a value stream map which shows the flow of a process, highlighting information, inputs, outputs, controls and cycle times
3. Always start the process of value streams with the to-be state, then draft the value stream with the desired state
4. Generate recommendations and prioritize solutions and then create an improvement roadmap

Note: Activities are based on a high level estimate and may be refined at a later date



N: Implement a hardware lifecycle management policy

N	Implement a hardware lifecycle management policy	Owner (Person, Governing Body)	Superintendent, ICT		
Details	• Implement a policy for the renewal of hardware assets owned by the board and deployed with the various schools, teachers and staff • A standardized refresh process to replace end-of-life devices and infrastructure on a 3-5 year cycle should be developed • A standard IT device catalogue should also be implemented				
Estimated Duration	12 months	Value (High, Medium, Low)	Medium	Effort (High, Medium, Low)	Medium
Key Activities					

Steps to update the device refresh plan:

1. Determine: Determine the technology awareness within the organization and perform a health check of the landscape
2. Design: Identify refresh candidates and options. Build a refresh strategy that includes how the technology is going to work, roadmaps, and risks involved
3. Develop: Once the overall refresh strategy is built, the next step is to plan for its implementation. This includes developing a detailed solution design, test planning, and building a Proof of Concept (PoC)
4. Deploy: Execute the strategy by testing and training the IT team to ensure that they know how to support the devices. Also, provide training guides for staff who will be using the devices. Rollout the new technology to the end users. Ensure to communicate that non standard devices will not receive IT support under any circumstance
5. Deliver: Decommission the old devices and capture feedback to improve solution designs in the future

Not implementing a hardware lifecycle strategy carries a high risk for the Board and introduces it to risks of poor performance, frequent breakdowns and increasing support costs.

Note: Activities are based on a high level estimate and may be refined at a later date

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O: Implement a disaster recovery / business continuity strategy

O	Implement a disaster recovery / business continuity strategy		Owner (Person, Governing Body)	Superintendent, ICT	
Details		Disaster Recovery plans provide a step-by-step process for responding to disruptive events. Procedures should be easy-to-use in an effort to recover damaged IT assets.			
Estimated Duration	24 months	Value (High, Medium, Low)	Medium	Effort (High, Medium, Low)	Medium
Key Activities					

Steps to develop the disaster recovery plan:

- Before a detailed recovery plan can be generated a business impact analysis should be conducted to identify the IT services that support the organization's critical business activities. In addition a review of the Board's Business Continuity Plan should be done to ensure the Disaster Recovery plan is in support of the Board's BCP plan
- This project should be organized with acknowledgements to timeline, resources, and expected output
- Risk assessment should be conducted regularly and the backup site facility should be checked upon regularly
- Onsite and Offsite Backup and Recovery procedures should be reviewed, special care should be taken to review cloud based recovery options as well
- Develop of a Disaster Recovery Plan which includes the roles of staff members, communication plans, and scenario plans
- Conduct regular testing of the plan
- Maintenance and periodic inspection of the Plan through updates and review should be conducted on an ongoing basis

Update the Board's Business Continuity Plan

- ICT should take into consideration the Board's Business Continuity Plan while developing the disaster recovery plan
- Post the creation and updatation of the disaster recovery plan, ICT needs to leverage with the owners of the Board's Business Continuity Plan to update the plan and link it closely with the Disaster Recovery plan so that the two might work hand in hand in case of a disaster

Note: Activities are based on a high level estimate and may be refined at a later date



P: Implement a software / hardware vitality plan

P	Implement a software / hardware currency plan	Owner (Person, Governing Body)	Superintendent, ICT		
Details	- Hardware and software vitality is an important part of the regular maintenance of the Boards infrastructure and software - Maintaining vitality helps ensure the latest versions of software and firmware are deployed, and helps reduce the Board’s overall risk and increase security - Review the hardware and software vitality to ensure the Board is either at the latest or latest – 1 version of the software and firmware				
Estimated Duration	12 months	Value (High, Medium, Low)	Medium	Effort (High, Medium, Low)	Medium
Key Activities					

Steps to develop a vitality plan:

1. Conduct a application and hardware inventory exercise of all the deployed software and hardware within the Board
2. Identify the latest versions of the software's and applicable firmware's for each of the identified solutions
3. Perform a diff between the latest version features and capabilities versus the currently deployed versions
4. Analyze the information to come up with an update plan to bring the application and firmware currency to the latest acceptable solution option for the Board
5. Perform the upgrades and updates as required

Note: Activities are based on a high level estimate and may be refined at a later date

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Q: Implement an IT Asset Management Solution

Q	Implement an IT Asset Management Solution		Owner (Person, Governing Body)	Superintendent, ICT	
Details		• The Board has a number of physical and software assets which are used to complete all its day to day activities • Currently there is no software solution used to manage the assets in the lifecycles as well as track their usage across the organization • Investigate and implement an IT Asset Management solution to manage the Board’s assets			
Estimated Duration	36 months	Value (High, Medium, Low)	Medium	Effort (High, Medium, Low)	High
Key Activities					

The Board should look to deploy an IT Asset Management Solution to track the various IT assets deployed by it with the various employees. This solution would need to work with the current SAP solution leveraged by the Board to track employees and their roles. The Board should take the following steps to deploy an IT Asset Management solution:

1. Identify the types of assets being leveraged by the Board in order to perform its duties
2. Identify the asset lifecycles for the various assets identified
3. Based on the identified assets and lifecycles processes, issue an RFP to identify a solution to be deployed
4. Deploy the Asset Management Solution
5. Transfer all the Asset Management data to the solution
6. Leverage the solution to track the various IT assets and assign them to the various Board employees as needed

Note: Activities are based on a high level estimate and may be refined at a later date

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R: Implement a communication policy

R	Implement a communication policy		Owner (Person, Governing Body)	Superintendent, ICT	
Details		Current communication processes both internally and externally are leading to challenges that result in increased costs and impaired service performance. Better communication processes need to be put in place to drive productivity			
Estimated Duration	6 months	Value (High, Medium, Low)	Medium	Effort (High, Medium, Low)	Low
Key Activities					

Steps to develop an improved communication plan

- Communicate directly with targeted staff in order to get the message across clearly and succinctly. Address why the information required is critical
- Send out concise messages to get the information across and use a central location on the intranet to upload and make available relevant information on commonly raised requests and tickets
- Require status reports from employees to determine what they have accomplished during the week. This will help monitor progress on incomplete projects.

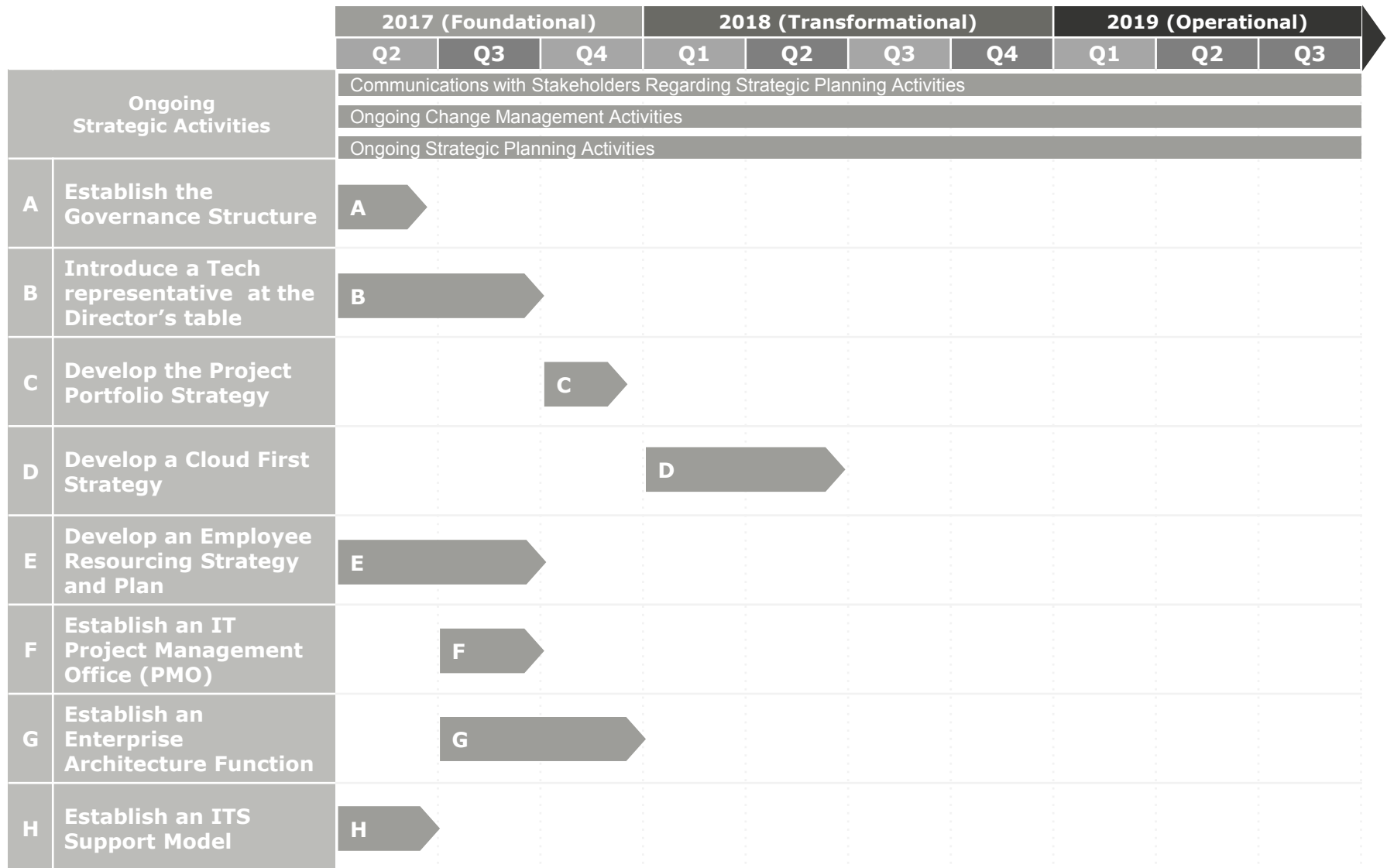
Note: Activities are based on a high level estimate and may be refined at a later date

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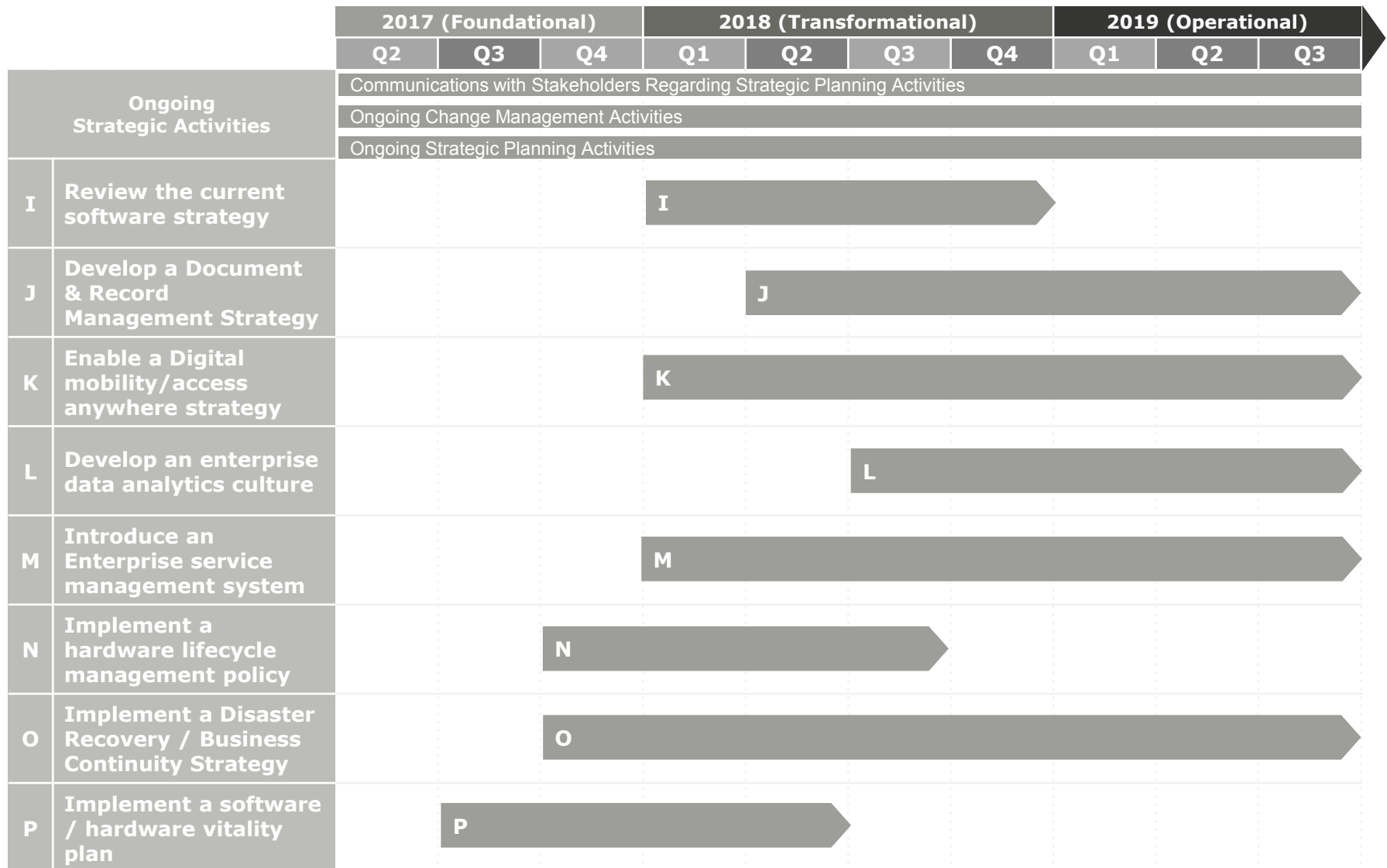
Program Timeline

And “Quick Wins”

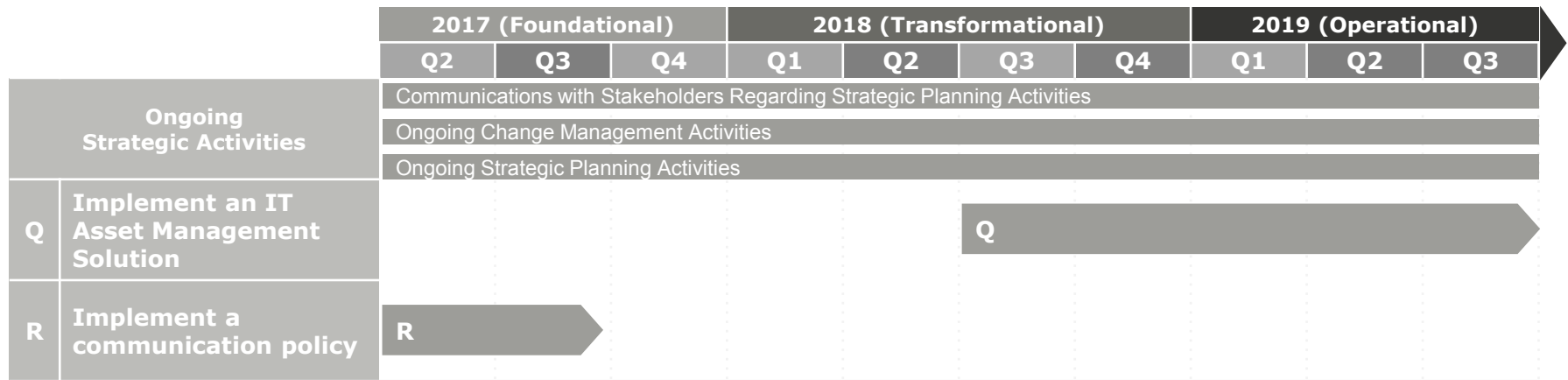
ITS Strategic Roadmap



ITS Strategic Roadmap



ITS Strategic Roadmap



Based on the roadmap and prioritization, the following initiatives were identified as the high-value “quick-wins” for the Board

Initiative	Initiative Name	Value	Effort
A	Establish the Governance Structure	H	M
B	Introduce a Tech representative at the Director’s table	H	M
C	Develop the Project Portfolio Strategy	M	M
D	Develop a Cloud First Strategy	H	M
E	Develop an Employee Resourcing Strategy and Plan	H	M
F	Establish an IT Project Management Office (PMO)	H	H
G	Establish an Enterprise Architecture Function	H	M
H	Establish an ITS Support Model	H	M
I	Review the current software strategy	H	H
J	Develop a Document & Record Management Strategy	H	H
K	Enable a Digital mobility/access anywhere strategy	H	H
L	Develop an enterprise data analytics culture	H	H
M	Introduce an Enterprise service management system	H	H
N	Implement a hardware lifecycle management policy	M	M
O	Implement a Disaster Recovery / Business Continuity Strategy	M	M
P	Implement a software / hardware vitality plan	M	M
Q	Implement an IT Asset Management Solution	M	H
R	Implement a communication policy	M	L



H = High; M = Medium; L = Low

Next Steps

1. Meet with the Board leadership on the future direction of ITS
2. Seek approval from the Board leadership and Human Resources on the changes required to the ITS organization structure
3. Communicate the future direction of ITS and the defined strategy within and outside of ITS
4. Define the governing body member roles and responsibilities and establish a federated + distributed governance structure
5. Communicate the ITS governance structure to the key stakeholders in the Board and schools (about the change and how the change will impact them)
6. Define responsibilities of new / updated roles required to deliver on the ITS strategy

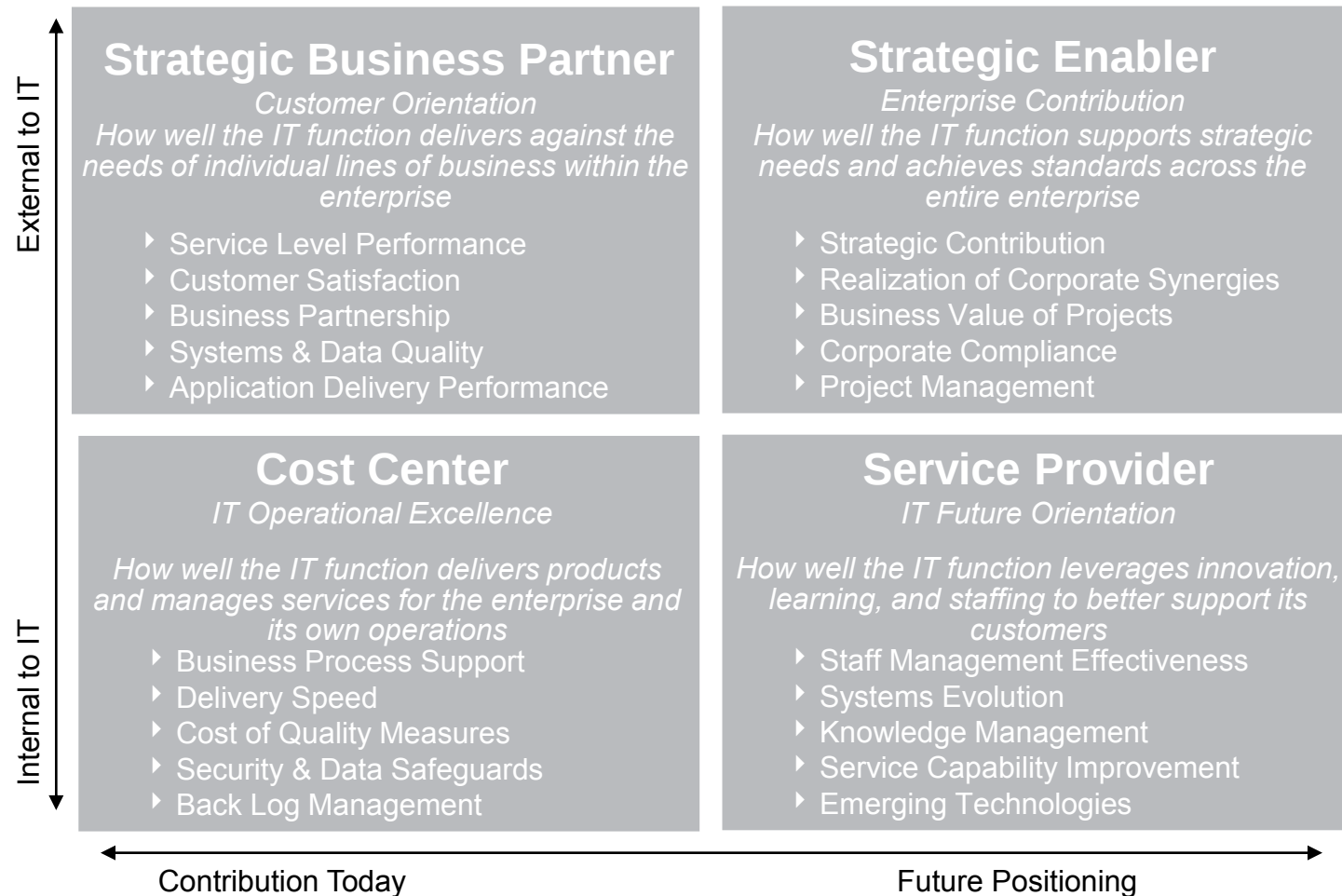
Appendix

Key Frameworks



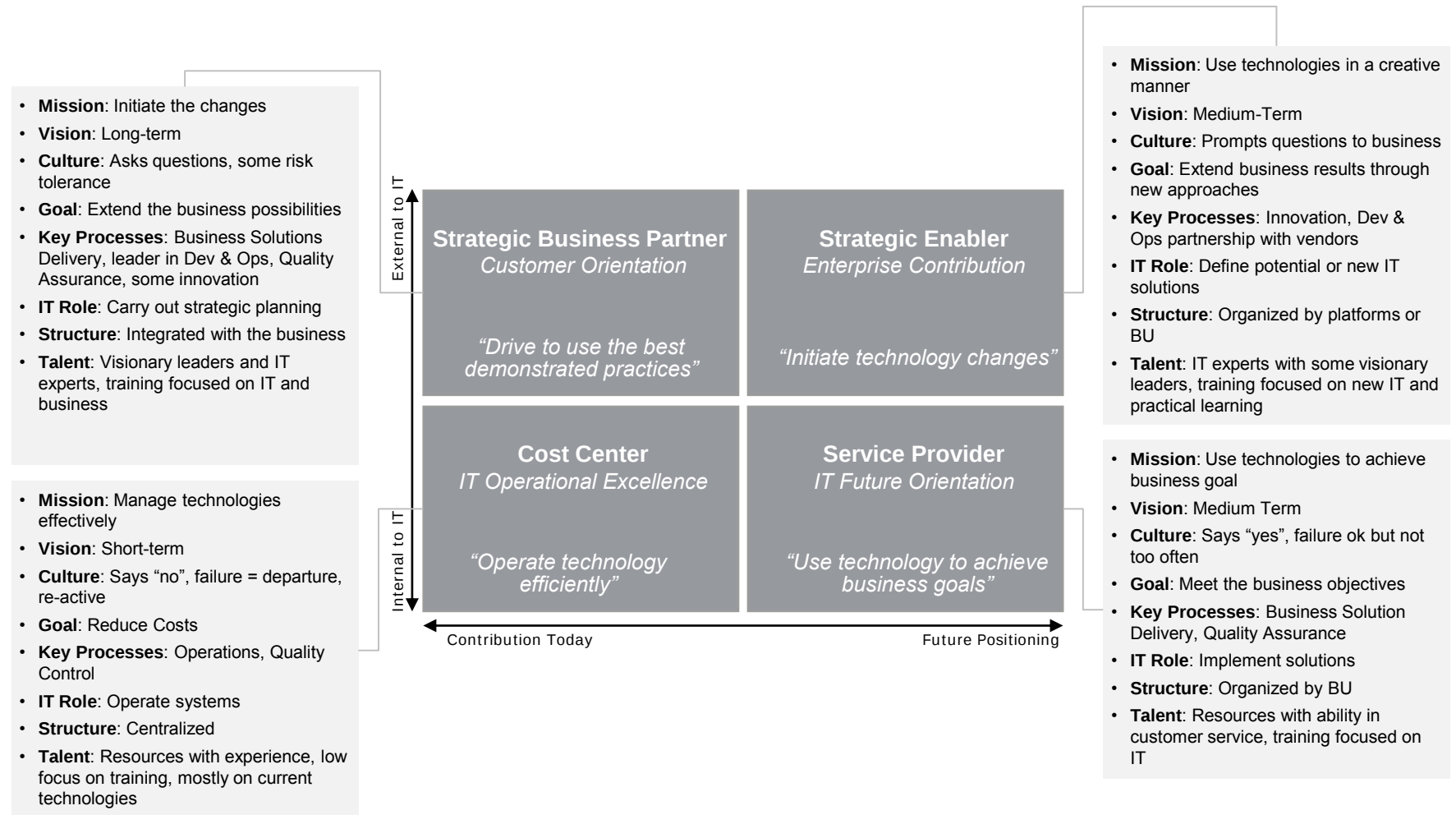
Deloitte's Role of IT Framework

Deloitte's Role of IT Framework was developed to help clarify target interactions with the business





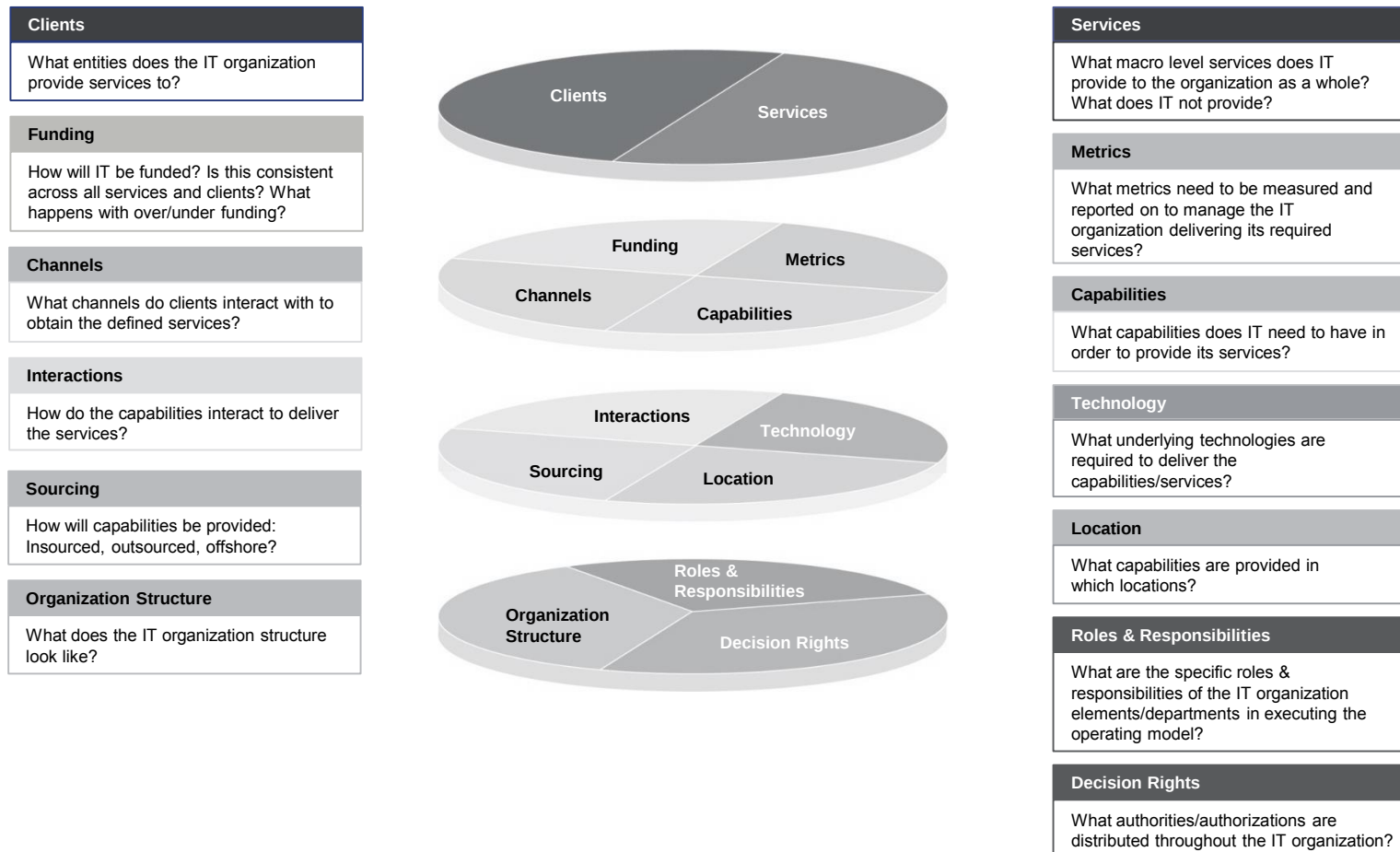
Defining the Future Role of ITS is an important first step in developing an ITS Strategy and Roadmap





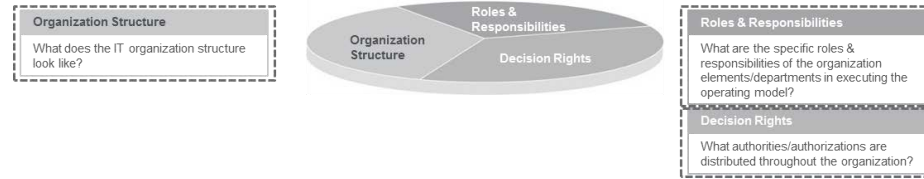
The Operating Model forms a critical link between the Board and ITS strategies and is the requisite foundation to deliver value

The ITS Operating Model depicts the critical dimensions of an effective ITS function including ITS organization, the services it delivers and the manner of this delivery. It's important to note that changes in one dimension may have an impact on other dimensions.





Governance describes the leadership, decision-making structure, processes, and accountability that determine how the ITS organization gets work done



Governance is the “What, Who and How”

- **What** decisions require formal management (i.e. what is ITS governing)
- **Who** is responsible and accountable for making IT decisions (i.e. which ITS governance bodies and roles are responsible and accountable)
- **How** these decisions are made and monitored (i.e. what are the relevant ITS governance processes)

Governance Essential Elements

Management Style

Collaborative
Consensus-Driven
Structured
Controlling
Entrepreneurial

Inform and influence the decision-making process

Management Style

Authorities, Structure and Accountability

Targets and Results

Process, Participation and Timing

Reinforcement

Funding — Activities — Benefits
Decisions

Decisions

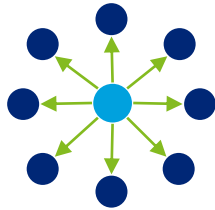
Leadership
Allocating Capital
Monitoring & Control
Policy
Planning
Coordination & Compliance

Drive business and governance objectives

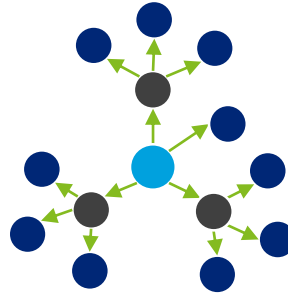
Possible Governance/Organization Models for ITS

Governance Model Continuum

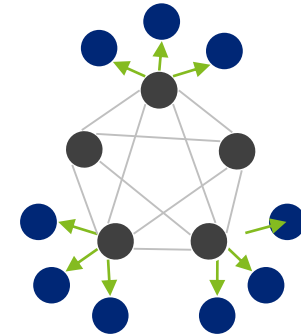
Centralized



Federated



Distributed

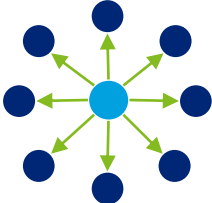
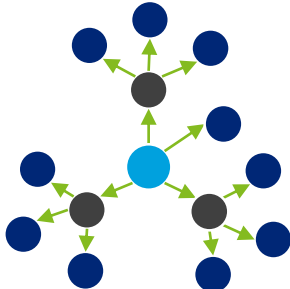
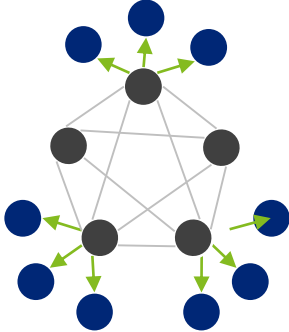


Characteristics

- Central authority guide policies to the various groups
- Decisions made quickly; leads to efficient operations at the expense of individual effectiveness
- Desirable for architecture, other IT-related standard maintenance where efficiency is highly valued
- Generates significant resentment and resistance from those not in the monarchy
- Central authority delivers coordination services, measures, project management and standards to IT groups
- Governance through committees
- Central authority controls back end and cost-related elements (e.g., infrastructure) while IT groups control other elements based on agility
- Large potential for synergies
- Efficiency and effectiveness depends on coordination, sharing of responsibilities and information
- IT groups decide as a group on all common issues, each with veto
- May gain some efficiencies when there is broad consensus
- Decisions made slowly; can easily devolve into anarchy
- Model is inefficient for delivery and management of enterprise-wide solutions



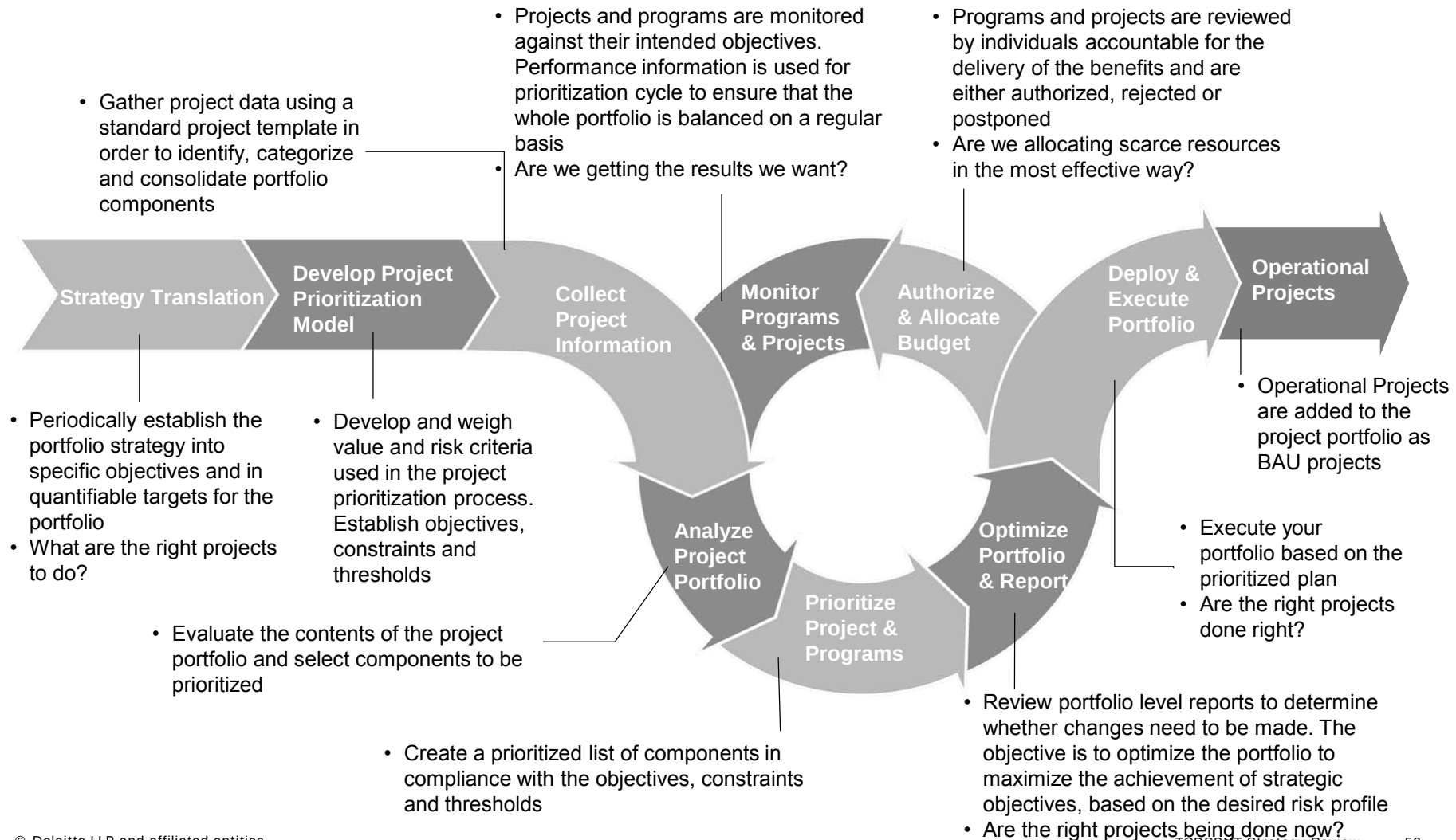
Pros and Cons of Centralized, Federated, and Distributed Governance/ Organization Models

Governance Model Continuum			
	Centralized	Federated	Distributed
			
Pros	• Able to drive economies of scale and achieve reduced costs • Simple reporting structure, allowing for easier controls and supervision • Ideal when specialized resources / knowledge are required • Inherent sharing	• Combines benefits for both centralized and distributed models • Facilitates sharing on certain topics • Gains in resource efficiencies, reduced costs • Balances central and local needs • Drives standardization and consistency of IT processes • Large potential for synergies • Reduces redundancies within organization	• Driven by demand, customer satisfaction, and/or financial metrics • Responsive to local needs • Facilitates sharing • Improves expertise overall • Allows for more flexibility in resource deployment
Cons	• Traditionally less flexible • Organizational efficiency may be a challenge • Isolated from the business • Less responsible to specific needs	• Requires strong governance • Can be viewed as bureaucratic • Potential for slower decisions • Reduces flexibility and agility of standardization of IT services across the organization	• Managerial control and coordination may be more difficult • Potential for frustration • Potential for duplication and thus increased costs • Difficult to share expertise • Architectural diffusion • Isolated best practices



Project Portfolio Management (PPM) is a collection of strategies and applications that integrate people, processes, and technology

Following portfolio management capabilities and processes provide a useful mechanism to analyze current processes

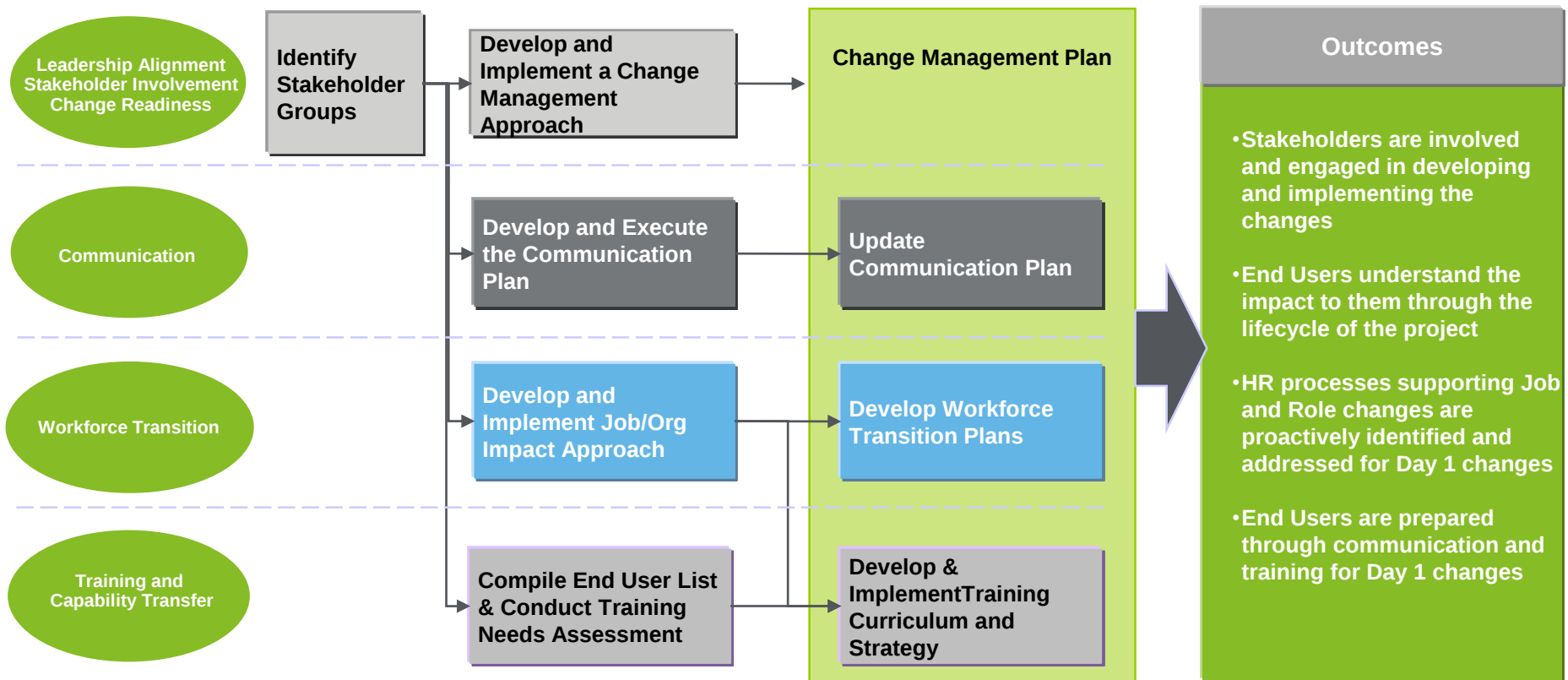


Appendix

Change Management

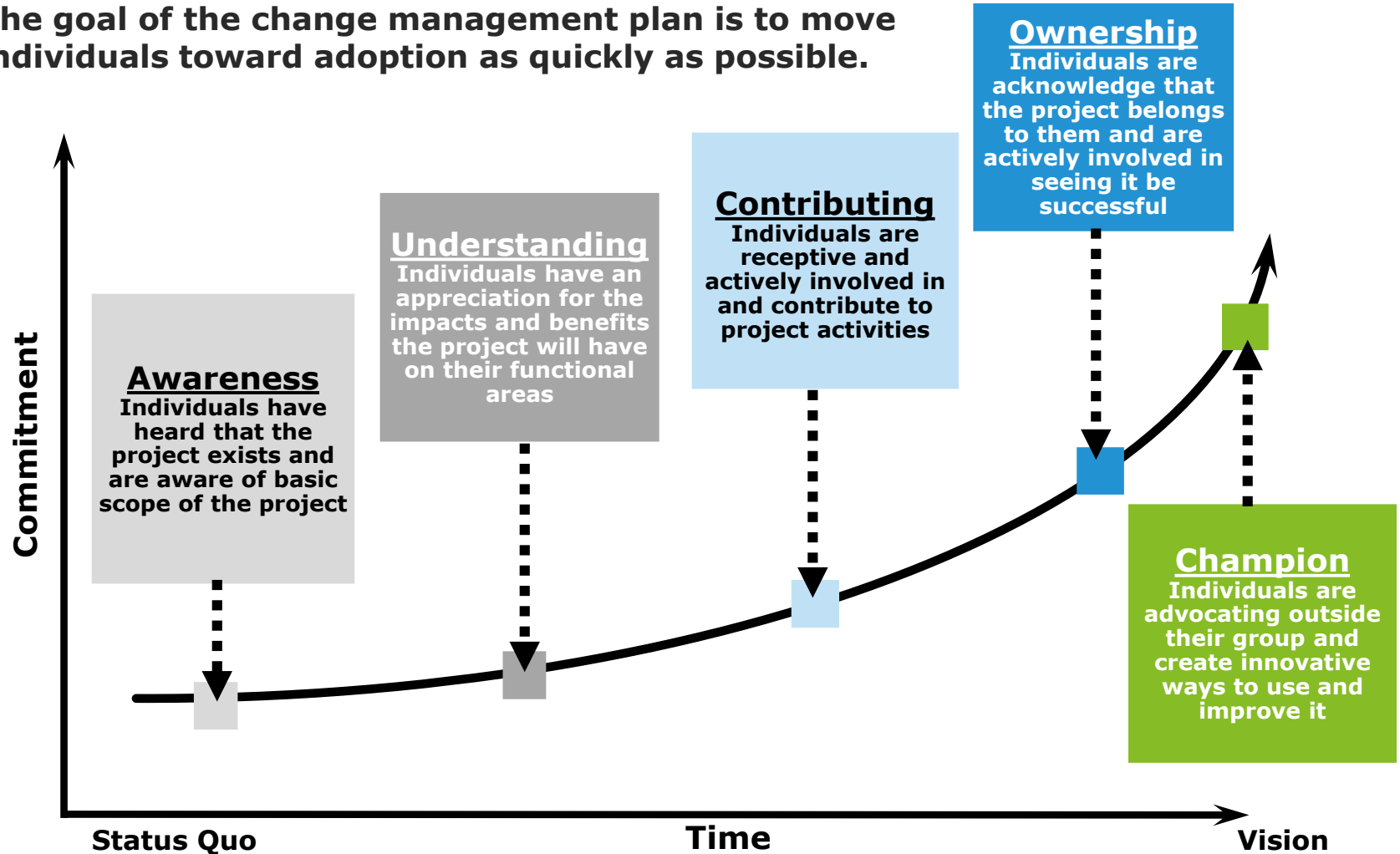
Change Management Approach

The change management approach starts with a clear identification of the user groups and the specific impacts each group will experience as a result of this implementation. The **change readiness plan** will encompass **communication, workforce transition and training** activities designed and executed to address each group's specific needs.



Change Adoption Curve

The goal of the change management plan is to move individuals toward adoption as quickly as possible.



Appendix

Culture Change

Culture Transitions – making successful shifts happen



Phase I

Confirm the culture challenge

- Identify business need and cultural challenge



- Define current profile – i.e. “where you are”. Using various data such as the Deloitte CulturePath assessment tool



Phase II

Define your culture ambition

- Define target culture – i.e., “where you want to be”

- Select levers that will support culture transition

Behaviours



Systems

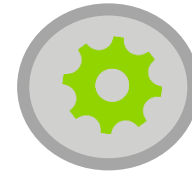


Symbols



- Define culture transition plan

Culture Transition plan



Phase III

Execute and make it stick

- Execute Culture Transition Plan and make it ‘stick’



- Apply different levers to make culture transition stick

- Measure and monitor progress



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