Business Scenario: Building an

Elementary School

Table of Contents

[Executive Summary 4](#_Toc58706838)

[Description of Organization and IT Department 4](#_Toc58706839)

[Purpose, Values, and Context 4](#_Toc58706840)

[Goals 4](#_Toc58706841)

[Services Offered by IT Department 4](#_Toc58706842)

[Incident Management 5](#_Toc58706843)

[Change Management 5](#_Toc58706844)

[User Device Management and Security 6](#_Toc58706845)

[Datacenter Operations 7](#_Toc58706846)

[Budgeting 7](#_Toc58706847)

[Process Review & Assessment 8](#_Toc58706848)

[New IT Services Offered 8](#_Toc58706849)

[Community forum 8](#_Toc58706850)

[Live chat/ Emergency help 9](#_Toc58706851)

[Help desk ticketing system 9](#_Toc58706852)

[Saturday school 9](#_Toc58706853)

[Assessment Analysis 9](#_Toc58706854)

[Service Areas to Assess 9](#_Toc58706855)

[Helpdesk 9](#_Toc58706856)

[Training 10](#_Toc58706857)

[Device Support 10](#_Toc58706858)

[Key Performance Indicator 11](#_Toc58706859)

[Recommendations 11](#_Toc58706860)

[Conclusion 11](#_Toc58706861)

# Executive Summary

Dewsmouth Elementary School is a school focused on offering students and teachers

This report focuses on Teaching and learning management, IT helpdesk management at Dewsmouth Elementary School. The helpdesk will provide support on devices used in school, incidents reported by users, and provide essential training to the users and teachers. The helpdesk will address incidents via phone or web. IT helpdesk will try to resolve incidents within time as per SLA agreement. The helpdesk will provide support on devices like desktop, iPads, Laptop. The helpdesk will also encourage users to submit the customer surveys to improve the services.

# Description of Organization and IT Department

## Purpose, Values, and Context

Mission Statement: Our mission at Dewsmouth Elementary School is to provide a safe environment for students to achieve academic excellence, build community, and learn critical thinking and leadership skills.

The purpose of the IT department is to use technology to execute this mission statement. Technology will be an integral part of this school and will be an important part of how students learn, as Dewsmouth offers hybrid and online learning for elementary school students (K-5).

Dewsmouth values academic excellence and community, and therefore expects its students and staff to reflect that. The school promotes this though its alternative and flexible learning methods.

## Goals

Our goals for the IT department for this organization are as follows:

* Train staff in the technologies, students, administrative, and teachers will be using.
* Build committee/information systems to monitor student improvement
* Streamline and confidential teacher-to-parent communication
* Websites/software and admissions
* Streamline administrative processes for school management and teachers
* Offer online learning for students

# Services Offered by IT Department

Technology is essential to teaching and learning in every school district, as learning can be impacted without reliable IT infrastructure and processes in place. ITIL is a set of directive guidelines that guide IT teams through certain IT implementations and management processes. The goal of ITIL framework is a reduction in incidents, problems support requests, and improvement of incident resolution times.

The mission of IT Service Strategy is to decide on a strategy to serve users. It assesses the customer needs and provide the IT services to organization and what capabilities need to be developed. Its goal is to make the organization think and act in a strategic manner.

## Incident Management

Incident management is closely aligned with the service desk, which is the single point of contact for all users communicating with IT. Our IT Department will maintain a single point of contact for all technical issues via a help desk portal. When a service is disrupted or fails to deliver the promised performance during normal service hours, it is essential to restore the service to normal operation as quickly as possible. The incident management system will utilize tickets from the help desk and will be addressed according to priority. We will ensure administrators, teachers, and even students must receive IT support promptly.

In some cases, users cannot afford to wait for IT support. For example- computer network outage is affecting learning environments. So, we will strive for zero or minimal MTTRS so that users have minimal downtime. Through transparent processes and channels of service, incidents (and service requests) can be triaged and escalated as required by the situation. Lower resolution times means those on the receiving end of the service get higher quality. We will be concentrating on following activities:

* + Incident identification
  + Incident logging
  + Incident categorization
  + Incident prioritization
  + Initial diagnosis
  + Escalation, as necessary, to level 2 support
  + Incident resolution
  + Incident closure
  + Communication with the user community throughout the life of the incident

## Change Management

Change management is the process of preparing an organization for the upcoming change, creating an implementation plan for leading change in schools, and implementing the change.

The resolution of an incident may require the raising of a change request. Also, since a large percentage of incidents are known to be caused by implementation of changes, the number of incidents caused by change is a key performance indicator for change management.

The IT team will be creating a Request for change and the team will get approval from management on implementing those changes. If higher management and users agree for the changes then IT team will implement those changes during off hours. After the changes are implemented successfully then users will test the changes. In case, they have any issues so they will raise incident and submit to IT team.

## User Device Management and Security

Securing an infrastructure of user devices is becoming more complex task, the growing number of device models, their types (Desktop, iPads, Laptop) and the number of simultaneously supported operating systems. All this requires an integrated approach to the management of end user devices. A lack of unified management not only leads to the uncontrolled growth of the number of incidents and calls on the first line of support, but also increases the cost of the incidents’ resolution and the risks related to information security.

The IT Department will maintain a device cycle schedule that will cycle grade-level devices (iPads, laptops, desktop) every two years to ensure that the latest stable-channel build will be installed. Security and networking hardware will be replaced on a seven-year replacement cycle schedule to adhere to current security standards. This 7 year cycle may also be counter to enterprise industry standards, but stretching the life of enterprise equipment without risking security is vital to K12 environments with tighter budgets.

User Device Management service is targeted to reduce the total cost of ownership of user devices, increase security, standardization level and accessibility through the introduction of an integrated management approach. IT department will be following below activities:

* Initial examination project plan preparation and seek approval from higher management and users
* Review the inventory of end devices (iPads, laptops, desktop)
* Implementation of the process for OS management and device drivers, operating system updates. This includes a staggered update schedule to reduce network strain.
* Gathering requirements for the operating system configuration for users.
* Design and implement solutions for managing end user devices.
* Deployment / modification of the user devices management system and server environment
* Creation and deployment of operating system images and drivers set.
* Deployment of installation and virtual application packages.
* Patch management of server-side infrastructure for user device management.
* Control of the user devices management system updates.
* Management of new user device introduction and decommissioning of old ones.
* IT department will continue to improve the overall level of security through the timely deployment of critical patches and operating system updates.
* Increase user productivity by deploying operating systems with the necessary user settings.
* Establish a uniform approach to the management of operating system, drivers, patches, and critical updates in the company environment, from requirements gathering, to mass automated deployment to user devices.

## Datacenter Operations

A data center is a facility that centralizes an organization’s IT operations and equipment, as well as where it stores, manages, and disseminates its data. Data centers house a network’s most critical systems and are vital to the continuity of daily operations. The school will maintain a data center running file services and backups for students and staff on a currently supported operating system.

The main purpose of a data center is to run core business or mission critical applications and store operational data as well as providing Disaster Recover (DR) facilities. The school will have services like Disaster Recovery, Availability, cloud services. Some components for supporting infrastructure include:

* Uninterruptible Power Sources (UPS) – battery banks, generators and redundant power sources.
* Environmental Control – computer room air conditioners (CRAC), heating, ventilation, and air conditioning (HVAC) systems, and exhaust systems.
* Physical Security Systems – biometrics and video surveillance systems.
* Off-site DR site that is at least 60 miles from the main datacenter.

## Budgeting

This process plans income and expenditure of money for an organization. Planning will be done periodically (usually once a year). Planning is important because it decreases risk of over-spending in the future. The same process controls income and costs incurred on monthly basis.

The IT Department will maintain a budget year-over-year with planned increases to maintain scheduled changes. Higher management keep monitoring the actual spend against the budget planned. They will keep below accounting methods in mind:

* Capital Costs– cost of purchasing something that will become a financial asset, e.g. server.
* Operational Costs– cost incurred from running the services, e.g. electricity invoices, salary, Cloud services (monthly fee for resources required.
* Direct Costs – costs that can be directly applied to a certain service or customer, e.g. purchase of a server that will be used for one service.
* Indirect Costs – costs that cannot be directly allocated to a particular service or customer, e.g. Software license for server which runs several applications or serves several customers.
* Fixed Costs – costs that don’t change with IT service usage or in the short-term, e.g. annual lease contract.
* Variable Costs – costs that vary in the short-term depending how much service is used, e.g. energy consumed to run servers.

## Process Review & Assessment

The IT Department will conduct yearly reviews to evaluate, streamline the process on a regular basis so that they can evaluate areas where the targeted process metrics are not reached. We will be able to maximize the department’s contribution to school’s mission. IT Service management technology creates transparency, collaboration, and improves communication between departments, meaning school districts gain auditing capabilities so they can perform checks and balances to see where any failures are. IT department will be performing the below activities:

* Reviewing and assessing processes used for deploying, maintaining and purchasing equipment to look for areas where costs can be reallocated to improve other areas.
* Results of these assessments will be communicated to school board members and leadership.
* Plan and deliver appropriate communications and training throughout the process for all end users.

# New IT Services Offered

## Community forum

From a survey research on few elementary schools, we observed a clear lack of community and user engagement. The most successful virtual educational institute includes a strong online presence of sharing and collaboration. Building and promoting a common forum where users can post and answer questions. After a user creates a post, other students/teachers/users can comment on the post to provide answers, suggestions, or additional questions. Users can also search the existing posts for answers. The overall intention of the forum is to encourage students to develop their I.Q, knowledge, build sharing nature, learn how to work in a team and find/research their own questions/answers thereby. A team of 2-3 admin of Dewmouth Elementary support team will manage and monitor the forum in regular basis to assist end-users with various questions or concerns that they may have.

## Live chat/ Emergency help

Generally, educational institution websites only allow users to submit support requests/tickets. The user must then wait on a response which can often take days to receive. To improve the overall user experience, we will implement a live chat functionality on the website where user can reach to an authorized person for prompt responses. The purpose of the live chat is to provide for quick and easy solutions to user inquiries. The live chat icon will be located on the bottom right of all pages of the website thereby providing consistency to the users. Upon selecting the chat icon, a popup window will appear with a form which identifies the user’s question. This will be a conditional form which provides a variety of options to choose from. These options route the user to a Support chat agent. A team of live chat support agents will be employed to answer and monitor incoming chat requests during business hours.

## Help desk ticketing system

We will be implementing a helpdesk ticketing system that will collect and tracks all phone calls, emails, live chat etc. and support users accordingly. The service will also include the option to download a mobile application and submit tickets directly. The ticketing system software would be fully linked to the school’s domain so that students can login through mobile application using the same credentials that they utilize to login to school’s website and various student learning management systems.

## Saturday school

Additionally, we are planning something exceptional and interesting learning on Saturday for students. This will be an optional choice for a student. A sub-page of the website will be created for Saturday school with a list of extra curriculums. Student do not need to pre-register, just need to show up by clicking enter the training option at given time.

# Assessment Analysis

## Service Areas to Assess

For this assessment, we will be looking at the incident management (helpdesk), training, and user device management.

## Helpdesk

The service helpdesk is one of the most important functions of the IT Department. It is the main way that users communicate issues and suggest improvements. It is also what will be used to allow ticket escalation to other levels in the department. It is the main center for incident management cases to be recorded and acted upon.

The helpdesk is also where the knowledge base for technicians and staff is stored, accessed, and added to. This improves the ability of the department to service users and cut down on ticket times.

The helpdesk offers the following:

* Technical knowledge management
* Incident management
* User support
* Regular 8 AM – 4 PM weekday hours
* Reasonable response time

## Training

Our training philosophy is to empower teachers and staff to find creative ways to use their technology in new ways that can support their teaching and their students learning. Training is intended to be used for introduction and building basic concepts around the use of technology. These basic concepts and competency will allow teachers to use these devices and applications as a tool for teaching instead of a specific benchmark that they must use or interact with daily. The training department will be assessed based on the reoccurrence of issues related to the use of the installed devices and using metrics that report device use in hours per day over time. Ideally, devices will have an average use of 2 hours per day, with plenty of flexibility given to day-to-day use. Trainings will be provided on a continuing education basis where a user is never assumed to be an expert on any piece of technology. The key issue that we will try to avoid is for users to feel like they are hindered by the technology or applications in use.

## Device Support

We strive to maintain a safe and effective work environment for our students and staff. To achieve this, we have dedicated systems for students and teachers. For students, we utilize Apple’s Mobile Device Management to restrict the various distracting device privileges, such as the ability to install applications and use AirDrop, in order to keep their learning environment safe and on task. The added benefit of such an implementation is that our IT team can remotely apply updates and patches, as well as adding any necessary applications or software, without needing physical access to a device and ultimately minimizing maintenance costs.

Teachers have access to priority helpdesk support and in-person help sessions to address any issues or questions they may have. The on-site IT staff can provide swift and effective assistance to teachers and enhance the overall value to the organization.

# Key Performance Indicator

Key performance indicators (KPIs) are a measure of performance that enables organizations to obtain information about many relevant factors such as the effectiveness and efficiency of their processes.

* Customer Satisfaction:

We will have customer survey after the call to review the customer satisfaction rate. We will also record number of complaints within the measurement period.

* Percentage of major incidents:

The number of [major incidents](https://www.manageengine.com/products/service-desk/itil-incident-management/major-incident-management.html?int-im-guide-kpis) (Severity-1 incidents) compared to the total number of incidents.

* Average Incident Resolution Time:

The average time for resolving all incidents reported to helpdesk.

* Escalation:

The ticket is escalated to the correct level of support according to the priority of the incident to resolve the issue.

* Resolution within SLA:

Rate of incidents resolved during solution times agreed in SLA

* Cost per ticket:

The average expense pertaining to each ticket.

# Recommendations

* Provide training to every teachers and students on Learning Management System (Schoology, Google Class etc)
* Recommend every teacher to make videos for instruction and taking advantage of available apps such as Screencastify, Screen-o-matic or Flipgrid.
* Optimize and standardize workflow in compliance with ITIL.
* Develop a common platform- online chatting for teacher and student.
* Student motivation and engagement in class may develop with competitive game-based learning.
* The Help Desk is currently open 8:00 AM -4:00 PM Monday to Friday excluding School holidays. One recommendation is to extend the service hours to include Saturday 8.00 AM-12.00 PM.

# Conclusion

In conclusion, Dewsmouth Elementary School seeks to establish a safe, efficient, and intuitive learning environment for both its students and teachers. The measures we implement are designed to bring value to both the company and our students learning experience and we take pride in our utilization of technology in our curriculum.

By implementing these services, Dewsmouth improves the remote interaction between student and teacher and gives teachers the tools to teach most effectively. It also gives teachers the tools needed to improve their knowledge of the technology provided.