Technology Tools for Leaders

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Contents

Chapter 1: Design Thinking

Overview

Design thinking refers to the set of procedures used by designers to create solutions to resolve problems. It is often associated with the innovation of products and services within many workplace contexts. It is relevant to technology and leadership, because it will provide a framework for identifying needs, developing solutions, and the maintenance of those solutions over time. An idea is a valuable asset, but planning and protocols need to be structured prior to execution to verify the sustainability and long-term role the idea will have within the future of the organization. Solid leaders need to have these skills and hopefully, you will gain those skills from the course.

History

Watch the short video below from Harvard Business Review, which shares a brief history of design thinking and how it can be used to transform your leadership.

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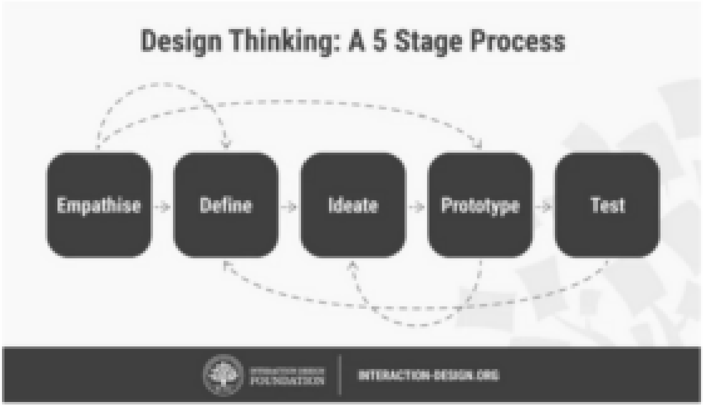
General Framework



The five stages of design thinking.

There is a general framework for design thinking but above all else, remember design thinking is a human-centered design focus. Here are the elements of design thinking outlined by Berman (2019):

- **The people come first.**

- Assess the actual needs of your stakeholders. The people within your organization and possibly the people your organization serves will be affected by the choices. It is important to understand how users will interact with the technology proposed, as their potential interactions (or the lack of!) will likely fuel your eventual decision. Putting the people first goes beyond surveying users, it is also bringing relevant people to the conversation to throughout the process, rather than just at the beginning. The more invested your constituents are, the more successful the initiative!

- **Learn to fail successfully.**
  - The art of failing will be discussed in more detail in Chapter 6. However, the overview is failure does not inhibit success, it can often encourage greater successes when we are forced to pivot and overcome challenges. Design thinking will support a project, offering ways to fail without extensive costs. For example, prototyping a tool

can help identify challenges as well as solutions before it is launched organization-wide.

- **Brainstorming = Idea Generation**
  - Brainstorming is a common technique, to flex your creative muscles as you develop new strategies. Brainstorming, with the added benefit of the human-centered approach, will provide a means for **all** to contribute, giving a voice to those who may not have it otherwise.
- **Creative thinking will invite new solutions.**
  - Once the mindset has shifted from "you cannot fail" to "you have the freedom to fail", there are no limits to the solutions. The freedom and autonomy to creatively address challenges builds connection, increases confidence, and often leads to better results.

Relevance

Technology Tools for Leaders is going to show you the process of design thinking as you develop a program charter, budget, and progress report on a scenario of your choice. Then, you will work through other elements related to technology implementation including communication, failure, continuous improvement, and privacy concerns. You will investigate the technology needs for an organization and then prepare the organization's members for changes in technology, while also developing the initiatives for technology changes which will maximize organizational effectiveness.

Exercises

Before we dive into some design thinking exercises, please remember these rules in relation to brainstorming:

- Defer judgment of all suggestions. Maintain an open mind; nothing is impossible (yet).
- Encourage unique, wild, and innovative ideas.
- Build on the ideas of others.
- While you want to encourage all the ideas, stay focused on the specific initiative.
- Everyone should be respectful in their communication; one person should speak at a time to ensure everyone is heard.
- Offer visuals such as a white board if in person or Google Jam Boards if you are virtual.
- No idea is a bad idea: Track all ideas, high quantities of ideas are expected!

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Supplementary Resources

- How can design thinking help us?
- What is design thinking?

- Health Design Thinking: An innovative approach in public health to define problems and find solutions
- The core of design thinking and its application
- Research on interdisciplinary design thinking and methods based on programmable mechanical metamaterials
- An introduction to design thinking and an application to the challenges of frail, older adults
- Design thinking
- Put design thinking into practice with the open practice library

References

Berman, E. (2019). Your technology outreach adventure. *American Library Association.*

Harvard Business Review (2020). *What is design thinking?* [Video]. YouTube. https://www.youtube.com/watch?v=_WI3B54m6SU

Chapter 2: Program Charter

Overview

A program charter summarizes the benefit of the intended project, including the purpose, goals, key people, potential problems, deadlines, and the budget. The program charter is essential in aligning the vision of the technology with the mission of the organization. Additionally, it provides necessary transparency, to keep all parties involved informed of the project goals and objectives. When proposing new technology, it is important to properly measure the "solution-level" benefits and align those benefits with objectives, as well as long-term returns (Braunschweig, 2019). Learn more about the specifics of the process and the charters alignment by viewing this page on Business Process Management.

In this section of the course, you will work through Lesson 1 and Lesson 2 of "Manage a Project with Digital Tools". You will develop a program charter related to the scenario selected in Week 1. Then, you'll submit it to your focus group and receive helpful feedback.

Planning Technology-Based Outreach

As you begin planning your technology-based outreach it is important to remember several key factors.

- Verify the program you are developing aligns with the mission detailed in the technology scenario. If for example you are shifting people to remote work, make sure the technology purchased to support the endeavor is not superfluous and all employees have equal access to the same things.
- Recognize who you are intending to serve, understand the profile of the key persons affected. How you communicate with a specific population will vary greatly. Consider the difference between speaking to senior executives in technology as opposed to senior executives in a library system; it is likely how you communicate will be different. Convey your message well, in an appropriate manner which all can understand, but do not condescend.
    - Beyond the standard conversations, it will likely be beneficial to have more personal conversations in small groups or with individuals to understand needs. Developing rapport with those involved will promote successful inclusion and acceptance of the program; you may even find advocates to the cause which you can use to bolster the program implementation.
- Consider the amount of training and practice required in order to become proficient in the use of a specific form of technology. Even just switching from a corded keyboard to a

wireless one can require some troubleshooting. Here are some questions to consider when implementing new technology, adapted from Berman (2019):

- How "robust" is it? Will it travel well? Is it waterproof? Does it need a case, bag, or another form of protection?
- How easy is it to use? Is it accessible for all users? Will all personnel be able to use the tool without accommodations?
- Can you add security elements to the resources to prevent theft?

Review the following questions, to begin planning for the program implementation adapted from Berman (2019).

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Framework

Below is a sample of the project charter you will be creating as part of Lesson 2 in the Google Certificate. Select each of the hot spots to learn more about each component of the charter document.

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Executive Summary/Brief

One more document to be aware of when preparing for a project is the executive summary, also known as an executive brief. The document provides an overview of the technology while also informing the audience of your research. An executive summary will include the following items:

- Overview: A concise explanation as to why the technology should be used.
- Problem Identification: Roughly a paragraph which documents the problem, using outside sources to support your perspective.
- Solution Explanation: Provide one to two paragraphs where you explain how your solution will solve the problem. Cite relevant examples where possible.
- Highlights: Provide research insights as to how the integration of the technology can be successful for the specific situation. You can combine written information with a properly formatted table to highlight the appropriate information.

- Keys to Success: Share a framework for how you implement the technology, including measurable steps.
- Conclusion: Conclude the summary with final thoughts, wrapping up the proposal.

Supplementary Resources

- Business process management/charter for alignment
- Team project management tools and strategies
- The role of technology-based education and teacher professional development in english as a foreign language classes
- Exploring educational planning, teacher beliefs, and teacher practices during the pandemic: A study of science and technology-based universities in China
- Using technology in short-term experiential activities
- Examining the impact of technology overload at the workplace
- Preparing workplaces for digital transformation: An integrative review and framework of multi-level factors
- Individualizing workplace learning with digital technologies
- Reviewing simulation technology: Implications for workplace training
- Workplace 4.0: Exploring the implications of technology adoption in digital manufacturing on a sustainable workforce

References

Berman, E. (2019). Your technology outreach adventure. *American Library Association.*

Braunschweigh, D. (2019). *Business process management.*

Wikiversity. Retrieved on May 25, 2023 https://en.wikiversity.org/wiki/Business_process_management/Charter_for_alignment

Doerr, J. (2019). *Why the secret to success is setting the right goals* [Video]. YouTube. https://www.youtube.com/watch?v=L4N1q4RNi9I

TED Audio Collective (2022). *How to rethink a bad decision* [Video]. YouTube. https://www.youtube.com/watch?v=T2zWjQBz-2k

Chapter 3: Budgeting for New Technology

After determining what equipment and software are needed, the next step is to decide how much to spend, how to best acquire it, and what vendors best met the business's criteria.

How much to spend

No business has unlimited resources. For technology acquisition it is critical to determine your needs and return on investment (ROI). Some additional considerations include:

- Which choices cover most of the businesses needs? Multiple platforms can lead to lost data and increased potential for downtime and compatibility issues.
- What choices make the most sense from a user-need standpoint? The technology should unnoticeable to customers and users.

Some considerations to consider from a business and asset standpoint include:

- Existing skill levels and experience of personnel
- Compatibility with current technology
- Physical space available to house new hardware
- Access to needed service providers and local telecommunications

Leasing

Leasing can be a good option if you need to quickly get a lot of equipment, if the equipment you need is very expensive, or has a relatively short usable life. Sometimes software is only available as a subscription or “leasing” model. Leasing can be useful for equipment because there is no need to dispose of the equipment at the end of its useful life. Commercial space can also be leased, so you can rent a place to run your business. In some cases, leasing can actually be less expensive than purchasing with a high-interest loan.

Some leasing benefits:

- Less cash or credit needed upfront
- Short-term leases allow for a way to test out the equipment
- Maintenance is sometimes included at no extra cost
- Lease payments for business assets are typically tax deductible

Potential leasing disadvantages:

- The lifetime cost is normally higher than buying

- Replacing it when the lease is up could be expensive
- Depreciation of leased assets typically are not tax deductible
- Every lease is structured differently. It is import to look carefully at the details of the each agreement

Confirming the details of a lease
There are two general kinds of leases; operating and capital. Since the accounting treatment is different, the kind of lease can have a significant impact on taxes.

Operating lease

- Works like a traditional rental
- Does not get added to the business's balance sheet
- Payments are operational expenses
- Low maintenance, risk, or tax obligations

Capital lease

- Works more like a loan
- Asset is "owned" for accounting purposes
- Added to the balance sheet
- It is possible to claim depreciation and interest expenses
- Requires all maintenance, risk, and tax obligations

There are other considerations. Leases sometimes have buyout options that let you fully purchase the asset at the end of the lease. The length of a lease can vary, and shorter leases typically have higher monthly payments. There are often steep early-termination penalties for leaving the lease early.

It would be worthwhile to have an attorney review a lease before signing, especially if any of the terms or conditions are unclear.

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Buying

Buying equipment is a good option if there is enough cash or credit available and will be using the assets for a long time.

Buying benefits:

- Depreciation is claimable for taxes
- The lifetime cost to buy is usually less than leasing
- The equipment is an asset on the balance sheet

Buying disadvantages:

- More cash or credit needed upfront
- There is less opportunity to "test out" the asset
- Business is fully liable for maintenance and replacement

Buying with cash or credit

If you buying assets with cash, they are owned in-full right away. But it also means there is less cash available to cover operating expenses. It is important to do the accounting legwork to make sure it is feasible to pay with cash.

Loans have some of the same benefits of leases by distributing the total cost over a longer period. However, there are more fees and interest than buying outright with cash.

It is also possible to leverage lines of credit with a bank, or look for other sources to get more funding.

Vendor decision making process

When making any decision involving multiple points of consideration and potential vendors, sometimes it is best to quantify different aspects of the choice. In addition to a traditional spreadsheet, an excellent way to do do this is with a decision matrix. It is a simple, but powerful, tool to help budget managers and stakeholders to narrow down the options and provide clarity.

Each project has different factors to consider. Below is a sample of one way to organize the data:

SCORE EACH SECTION 1-3	QUALITY	RELIABILITY	DELIVERY TIME	COST & LEASE OR PURCHASE?	TECHNOLOGY LIFESPAN	TOTAL
VENDOR 1						
VENDOR 2						
VENDOR 3						
VENDOR 4						

Purchasing surplus goods from the government is an option to consider. Just about any tangible asset a business might need is sold by the government at or below the price on the open market.

When a federal or state agency has extra equipment, seized goods, or foreclosed property, the goods are either transferred to another government agency or sold to the public. These items are sold “as is” by auction or negotiated sale either online, in-person, or both. State governments tend to have a single auction site online, while the federal government has several.

Research for the chapter:

Langerman Panta Rhei. (2017, May 1). *Modern IT management: How to do it budgeting right (lecture 5)* . Langerman Panta Rhei. https://langerman.co.za/modern-it-management-cost-management-lecture-5/. Retrieved July 31, 2023.

U.S. Small Business Administration. (n.d.). *Buy assets and equipment*. U.S. Small Business Administration. https://www.sba.gov/business-guide/manage-your-business/buy-assets-equipment. Retrieved July 31, 2023.

Additional Ideas about Budgeting for Technology

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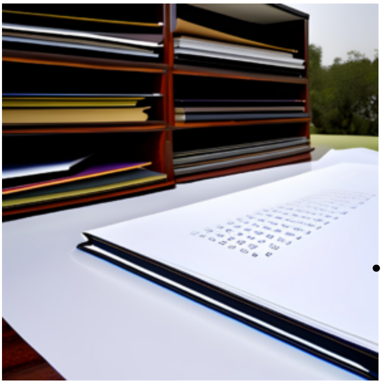
Chapter 4: Progress Report

Overview

A progress report is essential in large projects. Stakeholders in the project want to verify the money, people, and other resources are being used appropriately. Additionally, the stakeholders may have a vested an interest in the outcome and may be interested in further information. Progress reports also act as a method of persuasion: to demonstrate to clients and the administration progress is being made, the project is on time with deadlines (Last).

Progress reports can occur in several ways, they can be live and in person, they could be live and virtual, or it could be a prepared document or set of slides to share with everyone to review on their own time. It is helpful to know how you will be assessed, in order to create content and prepare accordingly. In this week of the course, you will debate the values of one form of presentation over another, complete lesson 5 of the certificate and complete a logic model diagram to meet the goals of the progress report.

Format of a Report



A progress report should include specific elements including what has been accomplished, what is being worked on currently, and what it is anticipated in the future.

- Focus on specific time frames, such as “In the last three months, we met these goals…”, “In the next six months, we aim to meet these goals…”.
- Focus on defined milestones, such as ordering, purchasing, distribution, tech training, etc.
- It may also be beneficial on larger goals of what has been accomplished.
- Consider including the following section: introductions which covered the purpose and scope of the project; a summary of your project and its related history, research gathered, and overall appraisal of the project (Hamlin et al.)

Different Types

A progress report can very in length depending on the size and importance of the project. While you are going to be completing a progress report according to Lesson 5, it can be helpful to be familiar with other forms of progress reports (Last).

- Memo: A short report, somewhat formal, which will be roughly one to four pages.
- Letter: A short, again somewhat formal report, which is shared

with those outside of your organization.
- Formal Report: A longer, more formalized report, which maybe be sent within your organization, but also beyond your organization.
- Presentation: A formal presentation given to your targeted audience.

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Logic Model

In addition to a prepared presentation, a logic model will be created to provide a valuable visual to stakeholders regarding the project. A logic model is a visual representation of a project, much like a flow chart, map, or a table (Department of Health and Human Services). Logic models function as a story about your program, documenting how the changes will impact the intended audience. The model is an engaging tool to connect the stakeholders with the most important parts of the project; you are establishing the impact.

There are some required components for a solid logic model. Review the components below in preparation for the assignment.

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version of the text. You can view it online here: https://pressbooks.palni.org/technologytoolsforleaders/?p=25#h5p-7

References

Berman, E. (2019). Your technology outreach adventure. *American Library Association.*

Canva (2022). *Canva's recording studio* [Video]. YouTube. https://www.youtube.com/watch?v=zxkWpBqNFp4

Department of Health and Human Services (2018). Developing and using a logic model. Retrieved on May 31, 2023 from https://www.cdc.gov/dhdsp/docs/logic_model.pdf

Hamlin, A., Rubio, C., & DeSilver, M. (n.d.). *Progress reports.* Retrieved on May 30, 2023 from https://pressbooks.pub/coccoer/chapter/progress-reports/

IT Project Managers (2021). *Project status report: Simple project progress report template* [Video]. YouTube. https://www.youtube.com/watch?v=wZIiHznFF70

Last, S. (n.d.). *Technical writing essentials.* BC Campus. Retrieved on May 30, 2023 from https://pressbooks.bccampus.ca/technicalwriting/chapter/progressreports/

Piktochart (2022). *Progress report: How to write, structure, and make it visually attractive* [Video]. YouTube. https://www.youtube.com/watch?v=yQTje_GYhb4

Chapter Five: Communication

Change can be tricky in an organization. "Messaging" is critical both for both internal and external communications, be it a Fortune 500 company or small 501c3. It impacts everything from employee buy in and retention to fund development and outreach. Getting ahead of potential misunderstandings is a useful way to save time, money, and aggravation.

Consider the following:

- Snarky comments:
  - You look good for someone your age.
  - You would have made more sales if you sounded like you knew what you were talking about.
- Positive comments:
  - I love your unique outfits!
  - Let's practice some techniques for increasing sales this quarter.

Which example is more motivating and creates a better sense of belonging?

When leaders implement change it impacts the whole staff. Messaging is important. Having staff on board and informed of what changes are coming improves efficiency.

Positive Messages

"Gotta love happy day messages from fellow artists left on random canvases" by kstrandlund is licensed under CC BY-NC 2.0.

Business related messages are sent everyday, sharing information, requesting information or actions, expressing gratitude and so on. Most of the time these are positive or neutral messages even when they involve small complaints or claims where you request that an error be corrected. These are all **direct approach messages**, in which the main idea comes right upfront and details follow. Occasionally, you must communicate bad news in writing, which requires a more careful, indirect approach. All of these situations involve conventions that business professionals follow to minimize miscommunication and its fallout, and thus keep their operation running smoothly.

Please note when action is expected to come of a request, the opening question may not require a question mark. Never forget, however, the importance of saying "please" when asking someone to do something. Notice also that the list in the message body helps break up dense detail, so the request message is more reader friendly. All of the effort that the writer of the above message made to deliver a **reader-centered message** will pay off when the recipient performs the requested procedure exactly according to these clearly worded expectations.

If you expect resistance to your request, an **indirect approach** is more effective. Ideally, you'll make such persuasive pitches in person or on the phone so that you can use a full range of verbal and non-verbal cues. When it's important to present your argument in writing, however, such requests should be clear and easy to spot but buffered by goodwill statements and reasonable justifications.

When responding to information or action requests, simply deliver the needed information or confirm that the action has been or will be completed unless you have good reasons for refusing. Ensure the accuracy of all details and utilize the "you-attitude." Note that sometimes manager approval may be necessary before providing the information. Organizationally, a positive response to an information request delivers the main answer in the opening, proceeds to give more detail in the body if necessary, and ends politely with appreciation and goodwill statements.

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Expressing gratitude

"Congratulations!" by The U.S. Army is licensed under CC BY 2.0.Such messages should be short and simple as well as quick and easy to write. For that reason, not sending them when someone does something nice for you appears ungrateful, rude, and inconsiderate. In fact, sending a thank-you note within 24 hours of interviewing for a job, for example, is not just extra thoughtful but close to being an expected formality. In most situations, email or text is an appropriate medium for sending thank-you messages.

Expressing congratulations

Celebrating the successes of your professional peers shows class and tact. Such messages create positive energy in the workplace and should be all about he person you are congratulating.

Expressing sympathy

Few situations require such sincerity and care with words as expressions of sympathy. Misfortune comes upon us all, and tough times are just a little more tolerable with the support of our friends, family, and community–including those we work with. When the loved-one of a close associate dies, for instance, expressing sympathy for their loss is customary, often with a card, rather than an email or text, signed by everyone in the workplace who knows the bereaved. You can't appreciate email messages the same way you can a collection of cards from people showing they care.

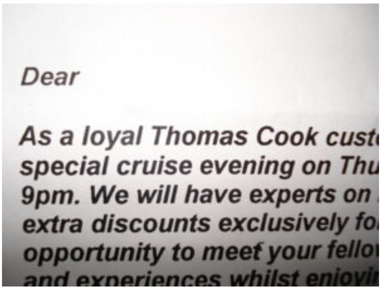
Remember that these messages should be selfless. Offering your condolences in the most respectful, sensitive manner possible is the right thing to do.

Negative Messages

Business doesn't always go smoothly and bad customer experience can have long-lasting consequences. Customers can be disappointed with a faulty product or poor service; shipments might get damaged, lost, or arrive late; or one business might infringe on the rights and freedoms of another. In all such cases, customers or clients are likely to make your company aware of what went wrong and what they want o be done about it. Indeed, it's their consumer right to do so and the business or organization receiving such a message should take it as valuable intelligence on customer expectations that must be met for the business to be viable.

A **claim** explains what went wrong and demands compensation from the offending party while a complaint explains what went wrong and merely demands correction or apology. Minor complaints are best communicated in person, on the phone, or by email (if it's important to have them in writing) so they can be dealt with quickly. More serious complaints or claims are delivered as formal letters to lay down a paper trail in case they need to be used as evidence in a lawsuit.

When customers are reasonable about communicating a problem with a situation or business transaction, the customer service representative or manager dealing with the matter is more likely to respond positively and meet the needs of the client. However, ineffective complaints or claims often merely vent frustrations, issue threats, don'ts say what they want or only vaguely imply it, or demand completely unreasonable compensation. Assume that a business will take your complaint or claim seriously if it's done right because, no matter the industry, companies are rightfully afraid of losing business to negative online reviews. In this day of social media, good customer service is crucial to business survivability. A complaint provides a business with both valuable information about customer expectations and an opportunity to win back a customer–as well as their social network if a good endorsement comes of it from the now-satisfied customer–or else risk losing much more than just the one customer.



"Good customer service" by fairbrand is licensed under CC BY 2.0.

Effective complaints or claims are politely worded and motivated by a desire to right wrongs and save the business relationship. They are best if they remind the business that you have been a loyal customer (if that's true) and really want to keep coming back, but you need them to prove that they value your business after whatever setback prompted the complaint. If the writer of such message strikes the right tone, they can end up getting more than they originally bargained for.

Complaints and claims take the direct approach of message organization even though they arise from dissatisfaction. They follow the usual three-part message organization.

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Message delivery

Most introductory college communications courses require students to create a memo. Why is a form of communication that is so seemingly out-of-date still taught? Simply because email is essentially a memo. Understanding the purpose and procedure for a traditional business memo is an excellent way to know how to create a polished and professional email.

In fact, the main difference between emails and memos is that non-email memos exist on paper and there is one major format difference; the signature.

Paper memos never have a closing and signature. Historically, memos were typed up by stenographers and taken back to a boss for approval the writer would indicate that they really wrote the memo by initialing by his or her name in the paper heading using blue or black ink. This is where the "cc" and "bcc" line came from in an email. Those abbreviations should still be used both in memo writing and when writing business letters. It is also important to note the inclusion of any attachments at the bottom of each letter or memo.

Purdue OWL has a further explanation and sample memo here: https://owl.purdue.edu/owl/subject_specific_writing/professional_technical_writing/memos/format.html

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Images and visual media such as websites

Communication is increasingly visual. Making your message easy to read and understand is almost as important as what you say. Some useful tips for communication design outside of memos and business letters:

- Never center text.
- Choose simple fonts over more complicated ones.
- Eleven and twelve point fonts are typically the easiest to read in a paragraph.
- If you are using multiple font sizes, make the difference at least two to four font sizes larger or smaller.
- Use italics for titles and foreign languages only.
- Use bold and underlining sparingly.
- Stick to two fonts on a page. If one is a “serif” type, chose a “sans serif” for your other font.
- Don’t use all caps. Screen readers can’t read it and it just looks like shouting in printed material.

Here is a short, but very useful, .pdf that showing how much impact good design has in something as mundane as a contract: http://www.flussobjekte.at/hpall/award/2630/nzknvgh8cz.pdf

Social media and blogs are as important as any formal communication. Not only to are they a way to increase your business presence, they are a great way to quickly undermine your project and lose credibility with your staff and clients. Never put anything “out there”, even privately, that you wouldn’t say in a meeting at work.

A useful resource for anyone who finds themselves needed more instruction on good design should find an inexpensive copy of Robin Williams’ *The Non-designer’s Design Book*. Many libraries have it available: https://www.worldcat.org/title/1036760501

Copyright awareness

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Although of minimal concern when writing a memo, copyright and plagiarism can creep into day-to-day writing thanks to the increasing use of AI. AI is a useful tool to help managers organize thoughts, set up basic communications, and help with refining language. AI isn't plagiarism, but use it carefully for material you represent as something created by you. It is also possible to repurpose training information from different sources. Below are two excellent websites that can help you to stay legal:

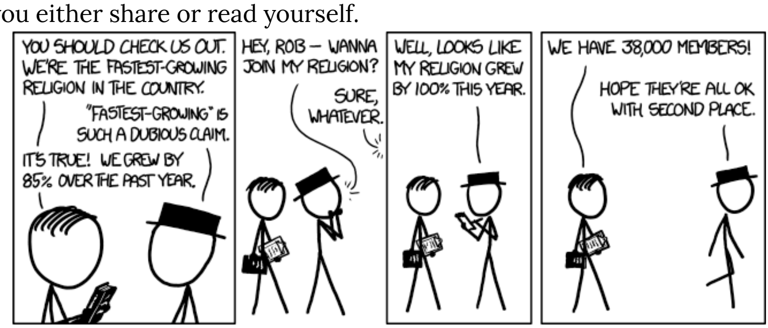
https://creativecommons.org/ and www.copyright.gov

[AI](AI)

Lying with Statistics

So, "lying" is probably too strong of a word choice, but both when creating your communication and when reading information created by others, watch carefully for the perspective and context of the information.

When you are shopping for product, it is nice to see a visual showing the product that you would like to purchase is superior to another. Make sure that you understand the context of any statistic you either share or read yourself.



`Randell Monroe. xkcd. CC BY-NC 2.5.`

Data Pine has an interesting resource about misleading statistics.

References

Ballan, C., & Lotter, M. (n.d.). *Corporate Design and Communications*. .flussobjekte.net. http://www.flussobjekte.at/

Bartisiokas, Potter, and Hylton (2021). *Positive and negative messages*. Libre Texts. Retrieved on July 28, 2023 from https://human.libretexts.org/Courses/Harrisburg_Area_Community_College/Business_Writing_for_Everyday_Use/01%3A_New_Page/1.10%3A_Positive_and_Negative_Messages

Tijerina, T., Arnett, J., Powell, T., Race, C., & Logan, M. (n.d.). *Applications of Technical Writing*. OpenALG. https://alg.manifoldapp.org/read/open-technical-communication/section/ae63b0b2-c5f8-4747-bd36-365f68a55c77

Chapter 6: Failing Successfully

Overview

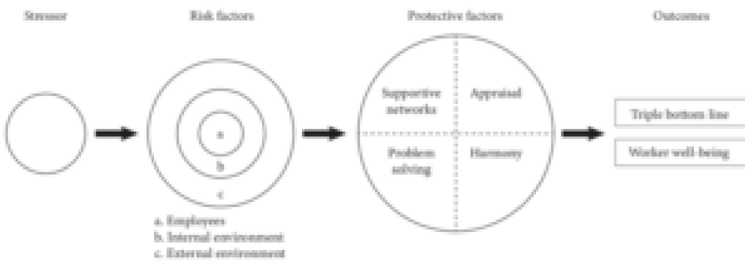
Learning how to fail successfully is almost an art form. Especially with technology involved, failure is a very real possibility. Address your concerns early and develop solutions for overcoming them. It is very likely something will not proceed according to plan. Remember, this is not a reflection on you: it happens! Thankfully, design thinking addresses some of these concerns, releasing us from the traditional, rigid mindset which says failure is not an option. Before jumping into resilience models and strategies for managing and overcoming failure, let's discuss some myths and inspirational role models for failure.

Myths and Inspiration

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://pressbooks.palni.org/technologytoolsforleaders/?p=29#h5p-8

Resilience Models

Resilience is what occurs after challenges, adversity, or failures. Resilience occurs when there is a positive mindset, social supports, and effective coping mechanisms. Resilience models (also called growth mindsets) are a good way to identify strategies to mitigate risk factors, through the use of protective factors. It will improve outcomes as well as worker well-being. Review the image below to learn more about the Resilient Workplace Model (Van Breda, 2011).



Workplace Resilience Model (Van Breda, 2011)

Obstacle Management

> *An interactive H5P element has been excluded from this version of the text. You can view it online here:*
> https://pressbooks.palni.org/technologytoolsforleaders/?p=29#h5p-9

In Bill Wooditch's book: Fail More: Embrace, Learn, and Adapt to Failure as a Way to Success (2019), he shares some quick strategies for managing your obstacles and therefore overcoming the fear of failure, real or imagined:

- **Change your mindset.** Accept the changes, failure, and obstacles, willingly. "Intelligent risks" (Wooditch, 2019) promotes skill-building and pushes us beyond our limits. Anything worth creating will likely have some challenges to face. It's part of the game.

- **Zoom out for the bigger picture.** It is easy to become very invested in a project and too focused on the finer details. Taking the time to detach the emotion from the project and tasks can provide a new perspective and highlight areas for improvement, change, or even new directions.
- **Avoiding failure or obstacles does not change its existence.** It is unavoidable. There will be problems, elements which will try to prevent you from succeed. Dealing with them at the start and preparing for those obstacles will promote success. Social supports, resources, and other strategies are effective ways to manage your obstacles.

Other noteworthy elements to consider (Wooditch, 2019):

- Praise effort, not talent.
- Commit to continuous improvement.
- Interpret challenges as opportunities instead of threats.
- **Again:** failure is not a reflection on you.

References

Wooditch, Bill. 2019. "Break Through the Obstacles That Limit Success." Chap. 4 in Fail More: Embrace, Learn, and Adapt to Failure as a Way to Success. 1st ed. New York: McGraw-Hill Education. https://www-accessengineeringlibrary-com.tuproxy.palni.edu/content/book/9781260441512/chapter/chapter4

Chapter Seven: Continuous Improvement

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https://pressbooks.palni.org/technologytoolsforleaders/?p=31#h5p-14

Continuous improvement and procurement process are well-established ideas. For technology, these processes are especially applicable. The Return on Investment (ROI) has as much to do with how things are implemented as they do with what was purchased.

Some minimal considerations:

- Making the most of what you have in place:
  - make sure to maximize current personnel knowledge; will additional training or new staff be necessary or helpful?
  - consider maintenance costs. Remember to include invisible costs such as web hosting and staff time to implement updates.
- Who on staff is in charge of software updates and hardware maintenance? Are they the only ones who have this knowledge? Is this regularly scheduled?
- Is the existing/new technology being used to its full extent? If not, why? Does it duplicate other software or hardware that can be replaced?
- What are the best practices to implement now that will eliminate issues later. For example, is data collected into a format that will be easy to export later?

End-user and personnel feedback is helpful for making decisions around additional purchases, to increase productivity, and get the most out of the technology. Additionally it can help alleviate staff concerns. This is also critical with public-facing technology. Customers and clients will simply move on if an interface is difficult or non-functioning. Creating a log or form though a platform like Google Forms or Microsoft Forms to report issues is a quick and easy way to quickly collect user suggestions, needs, and to head off potential problems.

Obsolesce. What comes next was likely considered when the initial purchase was made. Will it be an update or upgrade? How can you prolong the life of the technology you have? Both software and hardware companies are increasingly sunsetting products by ceasing to offer updates. Staying current on discontinuation plans may help leaders to plan for a carefully-timed “last update” to give a little more time to determine what comes next.

Appropriate data gathering and cybersecurity are important aspects of continuing improvement. After all, it is not possible to conduct business if a criminal is holding your data hostage.

Cybersecurity

Although sometimes it seems like it, updates aren’t all about increasing vendor profits by creating planned obsolescence. Cybersecurity is a constant threat to businesses.

According to the National Cybersecurity Alliance, many small to medium-sized businesses (SMBs) have the misconception that their data is not valuable and that, in turn, they are unlikely to be the target of a cyberattack. However, 28% of cyberattacks involve small business victims. Schools, heath care organizations, and non-profits are increasingly targeted, as well. All data is valuable. The most common types of cyberattacks include:

> Phishing: Phishing is when cybercriminals send an email or text that appears to be from a legitimate organization or known individual. These emails often entice users to click on a link or open an attachment containing malicious code.
>
> Viruses: Viruses, a type of malware, are harmful programs that spread from computer to computer, giving cyber criminals access to systems.

Ransomware: Ransomware is a type of malware that restricts access to a computer or server until a ransom is paid.

It is worthwhile for managers to assess the threat to their organization. An IT professional is helpful for this, but the government also has tools for cybersecurity risk assessment:

- Federal Communications Commission (FCC) Planning Tool: The FCC offers a cybersecurity planning tool to help you build a strategy based on your unique business needs.
- Cyber Resilience Review: The Department of Homeland Security's (DHS) Cyber Resilience Review is a non-technical assessment to evaluate operational resilience and cybersecurity practices.
- Cyber Hygiene Vulnerability Scanning: DHS also offers free cyber hygiene vulnerability scanning for small businesses.
- Cyber Essentials: Cybersecurity & Infrastructure Security Agency's (CISA) Cyber Essentials is a guide for leaders of small businesses as well as leaders of small and local government agencies to develop an actionable understanding of where to start implementing organizational cybersecurity practices.

While a risk assessment can help develop tailored cybersecurity plans, there are also general best practices that all businesses can adopt to reduce vulnerability to a cyberattack. These include:

- Beefing up existing cybersecurity protections: simple acts like changing passwords with stronger ones made up of random letters, numbers, and special characters can help prevent cybercriminals from gaining access to data
- Using multifactor authentication for accounts and services
- Updating anti-virus software and securing Wi-Fi networks
- Training employees
- Protecting sensitive data and backing up the rest: While firewalls and other tech protections are important to warding

off cyberattacks, physical protections can be just as essential. For example, lock up company laptops when they are not being used to prevent unauthorized access
- Making sure that files are backed up regularly will reduce a business's susceptibility to ransomware attacks

References

Strengthen your cybersecurity. U.S. Small Business Administration. (n.d.). https://www.sba.gov/business-guide/manage-your-business/strengthen-your-cybersecurity

Chapter Eight: Privacy Concerns

Technology Privacy Concerns

"Five Data Privacy Principles from Mozilla (Put on a museum wall) 2014" by vintagedept is licensed under CC BY 2.0.

The very existence of huge electronic file cabinets full of personal information presents a threat to personal privacy. Until recently, financial, medical, tax, and other records were stored in separate computer systems. Computer networks make it easy to pool these data into data warehouses. Also, companies also sell the information they collect from sources like warranty registration cards, credit-card records, registration at websites, personal data forms required to purchase online, and grocery store discount memberships. Telemarketers combine data from different sources to create fairly detailed profiles of consumers.

The September 11, 2001, tragedy and other massive security breaches have raised additional privacy concerns. As a result, the government began looking for ways to improve domestic-intelligence collection and analyze terrorist threats within the United States. Sophisticated database applications that look for hidden patterns in a group of data, a process called data mining, increase the potential for tracking and predicting people's daily activities. Legislators and privacy activists worry that such programs as this and ones that eavesdrop electronically could lead to excessive government surveillance that encroaches on personal privacy. The stakes are much higher as well: errors in data mining by companies in business may only result in a consumer being targeted with inappropriate advertising, whereas a governmental mistake could do untold damage to an unjustly targeted person.

Consumers and privacy advocates are working to block sales of information collected by governments and corporations. For example, they want to prevent state governments from selling driver's license information and supermarkets from collecting and selling information gathered when shoppers use barcoded plastic discount cards.

The challenge to companies is to find a balance between collecting the information they need while at the same time protecting individual consumer rights. Most registration and warranty forms that ask questions about income and interests have a box for consumers to check to prevent the company from selling their names. Many companies now state in their privacy policies that they will not abuse the information they collect. Regulators are taking action against companies that fail to respect consumer privacy.

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The following are useful resources to help leaders assess legal and ethical best practices around privacy.

[Federal]() and [local laws]() around tech privacy

[Initial Privacy Assessment Template]()

[Privacy Impact Assessment Template]()

[Administrative Privacy Impact Assessment Template]()

[Published Privacy Impact Assessments]()

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https://pressbooks.palni.org/technologytoolsforleaders/?p=33#h5p-17

References

Gitman, L. J., McDaniel, C., Shah, A., Reece, M., Koffel, L., Talsma, B., & Hyatt, J. C. (2018, September 19). 13.5 *protecting computers and information – introduction to business*. OpenStax. https://openstax.org/books/introduction-business/pages/13-5-protecting-computers-and-information?query=privacy&target=%7B%22index%22%3A0%2C%22type%22%3A%22search%22%7D#fs-idm249775472