**Emerging Technologies**

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January, 19, 2022

**Introduction:**

Leaders in Information Technology are tasked with identifying and analyzing emerging technologies that will result in a disruptive influence on organizations’ ability to compete and to successfully accomplish their missions. Leaders need to continuously explore emerging organizational leadership trends and communicate the benefits of the changes with stakeholders. Doing this will help support and guide organizations and teams during these exciting modern times. When viewed together, the trends found in emerging *organizational leadership, principles and processes, and technologies* give IT professionals the ability to perform analyses of their organization’s ability to maximize their current technology, and their readiness to embrace beneficial and necessary change in current and emerging technology. A critical analysis of one book for each trend will be given along with some additional research. In this document trends which have more characteristics receive a lengthier critique than those trends that may have less characteristics or traits.

**A. Summary of Societal Impact for Each Trend**

**A.1 Emerging Organizational Leadership Trends**

This section summarizes an organizational leadership trend and its impact on society as supported by the book: *Rocket Man: Elon Musk in His Own Words,* by Jessica Easto. I will explain how Musk has used an emerging organizational leadership trend along with examples from this book.

**Definition**

"Organizational leadership is a management approach in which leaders help set strategic goals for the organization while motivating individuals within the group to successfully carry out assignments in service to those goals (Tokar, 2020)". An organization needs a people-oriented leader who is learned in organizational leadership, who can encourage and drive people to use the talents, skills, and creativity within them to contribute to the organization’s goals. The traits that enable the implementation of this trend which impact organizations and society are problem-solving and decision-making; communicating and listening effectively; relationship and team building; identifying future innovations and opportunities; understanding your business environment and operations; using ethics and integrity; thinking strategically, system-wide, and holistically; and spreading the organizations vision and inspiring others to share it.

***A.1 Critical Analysis Paragraphs***

Problem-solving and decision making are important traits which1 leaders need to have to implement an organizational leadership trend. Musk has shown himself to be an excellent problem solver and decision maker. Musk explained the essence of what it takes to be a great problem solver and decision maker by describing the essence of critical thinking, which many people often fail at. "Do you have the right axioms, are they relevant, and are you making the right conclusions based on those axioms? (Easto, 2017, p.15)”. Asking these questions aids in the practice of clear and sound problem solving and decision making.

Musk demonstrates the ability of communicating and listening effectively. For example, he understands that it is important to hire skilled people to support an organizational leadership trend in his organizations, so he applies these skills in the hiring process. "I really just ask them to tell me the story of their career and some of the tougher problems that they have dealt with, how they dealt with those, and how they made decisions at key transition points (Easto, 2017, p.24)”. Musk will listen to the details and ask effective questions about what the candidates have told him. By communicating in this way, a leader can pick out true talent and choose the best people to join a team.

Musk demonstrates the skills of relationship and team building. He believes that the ability to attract and motivate great people is critical to a company’s success and that if someone can get great people to join the company and collaborate toward the same goals, then the company will have a great product that lots of people will buy it (Easto, 2017, p.21). According to Musk, "A small group of very technically strong people will always beat a large group of moderately strong people (p.23)." Thus, quality people are those who can hold quality of product as a greater goal, than greater product quantities of lesser quality.

Musk demonstrates the skills to identify future innovations and opportunities. In 2002, Musk acquired $180,000,000 and “promptly started pouring it into a seemingly insane venture: SpaceX, a private company that aims to *revolutionize space technology, with the ultimate goal of enabling people to live on other planets* (Easto, 2017, p.5)”. Musk was able to see a venture possibility and work towards it with dogged determination, in the face of countless critics. He holds onto the hope that the future will be different because of the differences he makes for the planet, impacting society.

Musk demonstrates an understanding of his business environment and operations. He is known to be "Deeply involved with every aspect of his companies (Easto, 2017, p.5)". He believes in the importance of understanding the business environment and the cultivation of an environment where “people look forward to coming to work because it’s just so much easier to work hard if you love what you’re doing (p.23)”. Musk is so involved in understanding the operations of the business that he will teach himself what he does not already know so that he understands it well (p.5).

Musk displays a genuine interest in the betterment of humanity through integrity and ethics, and he demonstrates the ability to think strategically, system-wide, and holistically. "I care a lot about the truth of things…If you’re going to come up with some solution, then the truthis really, really important (Easto, 2017, p.20)". Musk shows the admirable character trait of seeming “unambiguously dedicated to contributing solutions for the betterment of humankind and to ensuring that the future of humanity is a bright and inspiring one (p.6)". Musk believes that being open and honest about his work and discoveries is the way to enrich society and move forward innovatively. He even made his patents open source, making them available to anyone (p.5)." Between SolarCity, Tesla Energy, and Tesla Motors, Musk believes he has created a complete solution for all elements of sustainable energy: creation, storage, and transportation (p.5)". Thus, Musk continues to show proof that his innovative endeavors are for the betterment of society, not just one small elite sector of society.

Musk shows the ability to spread the vision of his organizations for the betterment of society and inspires others to share in that vision. In 2004, Musk joined Tesla Motors and enhanced the vision “*to accelerate the world’s transition to sustainable energy* by making fully electric cars that are practical, fun, fast, beautiful, and available to everyone (Easto, 2017, p.5)". Creating a new and inspiring vision and then motivating people to share in that vision are skills that have made Musk as successful as he is today.

**A.2 Emerging Principles and Processes**

In this section I will summarize a principles and processes trend and its impact on society as supported by the book: *What to Do When Machines Do Everything: How to Get Ahead in a World of AI, Algorithms, Bots, and Big Data,* by Malcolm Frank, Paul Roehrig, and Ben Pring. Emerging best practices in principle and process in the many different areas of business including human resources, accounting, and marketing and especially information technology which one year could be embracing processes such as system development lifecycles but the following year they can be exploring agile development teams (WGU, 2022). This section includes guiding principles which make up process management and when implemented in an organization, these principles meet several critical factors for success. This especially encompasses the principles of business, process, knowledge, and rules (InformIT, 2001). Some factors which enable the implementation of this trend impacting organizations and society are *Business change must be performance driven; Business change must be stakeholder based; Business processes must be managed holistically; Process renewal initiatives must inspire shared insight; Business change is all about people; and Business change is a journey, not a destination (2001).*

***A.2 Critical Analysis Paragraphs***

Business change must be performance driven which simply means that the change must be made with the goal to increase performance. For example, before the dawn of computers and every advancing technology, teachers had a lot of work on their hands because tasks had to be accomplished manually and tediously, but modern technology changed this. “The worker can double down on the more human elements of the job, double output, or greatly increase quality of delivery. For example, automation…can make that teacher much more effective (Frank, et al., 2017, p. 40)”. Thus, with the help of modern computers and software, a teacher’s job is enhanced and his or her job performance is significantly increased, resulting in a positive impact on society.

Business change must be stakeholder based, which means that anyone who can be affected by the change must be considered and the change should affect them positively. “This explains the explosion of *design thinking* in corporate IT circles, given that these interfaces must fit the way in which your customers, partners, and employees wish to use them… (Frank et al., 2017, p. 53)”. Without the user’s needs being considered, the change will cause a negative effect because of frustrated customers and the app creator will lose business. Society is positively impacted when products or services are bettering people’s lives.

Business processes must be managed holistically which means, as mentioned above, that anyone who can be affected by the change must be considered and the change should affect them positively. It also means that the change-makers need to understand how the change will affect everyone and everything that could be connected to the change, including departments, partners, employees, customers, and society. Those companies which are making progress in this area are following this principle, because they can recognize the “holistic connection between all the plays: automation enables enhancement, discovery uncovers how to achieve abundance… (Frank, et al., 2017, p. 191). Thus, a good leader in an organization could make decisions based on the holistic positive affects they may have and not allow some emotional reason to keep the changes from happening. For example, one may be hesitant to implement a change because it will affect a method or process that the company has been using for years, which the employees are used to and comfortable with, but if the change is made it will affect all the departments, partners, employees, and customers.

Everyone has their preferred way of doing things. A manual process can be an old familiar way someone is used to, and there could be a modern equivalent introduced by modern technology which will require some training and getting used to, but in the long run it will save time and execute the process more efficiently. The process must inspire shared insight meaning everyone involved understand the benefit plus what they want out of it is possible if different parties work together. “Data and insight…increase in value the more you use them…However, combining one piece of data from your operations with another from a customer or business partner could yield huge benefits (Frank, et al., 2017, p. 60).” It can provide a new way of connecting with society.

Business change should be all about the people which means that as long as changes are benefiting them, people will support the change. Any change that can help people improve their lives, can receive support from them. For example, Discovery leaders realized that winning meant keeping people healthy with the aid of technology, “coupled with a sophisticated benefit system for members, to lower health risks while building a successful business (Frank, et al., 2017, p.117)”. Thus, a good leader initiates changes, not just for the sake of change in an organization but considers how that change will positively affect any people involved.

Business Change is a journey, not a Destination. This means that a leader in an organization needs to have a plan of how to support the change once it is implemented. This includes a concept of *creative destruction* or “the tendency for industrial change to continuously destroy old economic structures and create new ones (Frank, et al., 2017, p. 96)”. When it is time to change again, a good leader should have creativity and flexibility to transition from one change to the next, and never assume that a change will last forever, because an organization needs to evolve as people’s needs and expectations in society are changing.

**A.3 Emerging Technology Trends**

In this section I will summarize an emerging technology trend and its impact on society as supported by the book: *Disruptive Technologies: Understand Evaluate Respond*, by Paul Armstrong. “Emerging technologies are technologies whose development, practical applications, or both are still largely unrealized, such that they are figuratively emerging into prominence from a background of nonexistence or obscurity (Wikipedia, 2022)”. Emerging technology trends don not necessarily have to be technologies that have never existed before, they could also be technologies that have existed already to some small degree, but that no one really gave much attention too because the possibilities of relevance had not yet been discovered. The characteristics of an emerging technology trend are *radical novelty, relatively fast growth, coherence, prominent impact, and uncertainty and ambiguity.*

***A.3 Critical Analysis Paragraphs***

An emerging technology trend impacts society by having the trait of a radical novelty, which affects the foundational nature of something, the idea of which, is way beyond what people have understood before. It is a new or dramatically improved thing that appears to be new, in which people could see possibility without knowing how it will happen, what changes it will make, or whether it should be feared. “The most common offender is lack of understanding about the idea itself; either the presentation is poor, or the idea is too complex, and the company would prefer to defer and give a quick ‘no’ rather than challenge and exert more energy on it (Armstrong, 2017, p. 115)”. Many circumstances could impact the way people accept or perceive a radical novelty. Perhaps, for people to accept a radical novelty if has to provide some benefit to the world that will impact them for the better.

An emerging technology trend impacts society by having the characteristic of relatively fast growth. “Change can come fast, and big changes can happen but there will most likely be lots of small changes (Armstrong, 2017, p. 37)”. Emerging technologies have the tendencies to *go viral* or take off at an amazingly fast growth rate. If people see the importance and benefit of an emerging technology, they will support it and champion its growth.

An emerging technology trend impacts society by having the characteristics of coherence. So, “four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system (Armstrong, 2017, p. 55)”. An emerging technology continues to offer the same benefits, evolve to offer the same benefits in a new way or *new* benefits that surpass and improve the old. People perceive and accept it as a beneficial part of their lives and continue to support it over time.

An emerging technology trend impacts society by having the characteristics of being prominently impactful. It strongly and noticeably stands out as an important part of people’s lives. “These technologies alone have the potential to impact business through increased customer spending thanks to more trustworthy online purchases and more expendable income because of lower bills (Armstrong, 2017, p. 178)”. The *way* an emerging technology is *introduced* to someone could have a tremendous impact on whether they want to accept it, whether they see it something that they could benefit from, and whether they could trust it.

An emerging technology trend impacts society by having the characteristics of uncertainty and ambiguity. It can be noted that “such behavior can be a positive thing that some thrive on, multiple changes (especially in a short time period) can cause uncertainty within employees (Armstrong, 2017, p. 65)”. The timeframe in which emerging technology changes are introduced to employees could have a tremendous impact on the whether they want to accept it, whether they see it as something that they could benefit from, and whether they could trust it.

**B. Summary of Risks Associated with Implementation of Each Trend**

**B.1 Emerging Organizational Leadership Trends**

This section summarizes risks associated with an emerging organizational leadership trend implementation, including likelihood, severity, and mitigation strategies for each of the risks identified, as described in *Rocket Man: Elon Musk in His Own Words,* by Jessica Easto.

***B.1 Critical Analysis Paragraphs***

A problem-solving and decision-making risk is repeated or final failure even after applying problem-solving and decision-making skills the right way. Musk says that "There must also be an allowance for failure because if you are trying something new, necessarily there is some chance it will not work (Easto, 2017, p.26)". Musk acknowledges that failure is a possibility, but he never gives up. To continue to benefit society, one must try again or try something new.

Another risk is that a team member can become psychologically hindered or discouraged if that team member is delivered a message in the wrong tone or format. Musk says that “If you punish people too much for failure, then they will respond accordingly, and the innovation you get will be very incrementalist (Easto, 2017, p.26)". That’s why it is important to listen to people and understand their side of the story, before making one-sided decisions that could negatively impact organizations and society.

Some risks involved with relationship and team building are that people’s personalities will be overlooked and they will be discouraged from innovation by harsh censorship. Elon musk says, "The biggest mistake in general that I’ve made…is to put too much of a weighting on somebody’s talent and not enough on their personality…I’ve made the mistake of thinking that sometimes it’s just about the brain (Easto, 2017, p.24)". Leaders need to be careful that they are taking people’s personalities into account, while they are trying to build relationships and teams that can impact organizations and society.

Another risk is not identifying future innovations and opportunities and missing the change for innovation. "Musk is a maverick and a visionary, one with the rare ability to identify and navigate problems of almost incomprehensible scale and complexity—despite high barriers of entry and the risk of almost certain failure (Easto, 2017, p.5)". People with a closed mindset, cannot adopt easily to change. When a problem arises, a good leader needs to see how this problem can steer the organization in a better direction.

Another risk is misunderstanding the business environment and operations. “Musk taught himself rocket science, became the company’s chief designer, and set out to take the first step toward making life multiplanetary: reducing the cost of space travel (Easto, 2017, p.5)". Some leaders are too intimidated to hire people who are smarter than themselves in certain areas. It is important to find talented and smart people to join an innovative team. If the right candidate cannot be found to fill the position, then a good leader is willing to learn the skills needed or designate someone else to learn them.

Another risk is the fear of disclosing information that can benefit society, out of greed and a lack of ethics. “Tesla’s patents are also open source, which makes them available to anyone who wishes to benefit from them and under-scores Musk’s mission-driven, not money-driven, motives (Easto, 2017, p.5)". A true leader who wants to impact society and make the world a better place, will share information that really should not be kept secret for an elite group of privileged people.

Another risk is failing to think strategically, system-wide, and holistically. A true leader needs to be a visionary. Some leaders make the mistake of being so focused on one problem or milestone, that they fail to remember the big picture. “Between SolarCity, Tesla Energy, and Tesla Motors, Musk believes he has created a complete solution for all elements of sustainable energy: creation, storage, and transportation (Easto, 2017, p.5)". The *big picture* for Musk is the genuine benefit of society.

Another risk is failing to spread the organization’s vision and inspire others to share in that vison. To prevent this, Musk advises: “Establish an expectation of innovation, and the compensation structure must reflect that…The risk-reward must be balanced and favor taking bold moves. Otherwise, it will not happen. (Easto, 2017, p.26)". A leader who keeps the vison to himself and orders people around without letting them know why or sharing the big picture, is a risk to an organization’s successful growth.

**B.2 Emerging Principles and Processes**

This section summarizes risks associated with an emerging principles and processes trend implementation, including likelihood, severity, and mitigation strategies for each of the risks identified, as described in *What to Do When Machines Do Everything: How to Get Ahead in a World of AI, Algorithms, Bots, and Big Data,* by Malcolm Frank, Paul Roehrig, and Ben Pring.

***B.2 Critical Analysis Paragraphs***

A business change can be a risk to employees if it increases performance, while taking away employee’s jobs. “Most analyses look at automation and technology solely as a job destroyer (Frank, et al., 2017, p. 35)”. While changes in an organization can lead to someone’s job being replaced by a machine or task, people with open minds could recognize that jobs have been created by the implementation of technology as well.

Business change can be a risk when it benefits one stakeholder, but not another. For example, a business who implements self-checkout systems could save money by laying off one or more persons who are no longer needed. Even though “automation does not equal immediate job loss…some jobs are certainly eliminated (Frank, et al., 2017, p. 35)”. This has become a growing concern especially among those who have experienced this kind of job loss firsthand.

A business process could be a risk when not managed holistically so that the actions or steps taken to incorporate change, do not provide benefit, or are not able to be sustained. Practically implemented changes should be based on specific business processes and customer experiences. It is best to “start at the process-and-experience level and imagine how the process can be restructured and reinvented with digital. Getting this backward… can be a prescription for failure (Frank, et al., p. 173)”. The change should deliver improved benefits to make the lives of everyone involved better and bettering society.

A process renewal initiatives risk is that people’s ignorance of the benefits of the change, could hinder the success of it. “Achieving the goals of automation is too important to allow failure to happen due to the intransigence of employees whose skills and experience are no longer a good fit for work infused with systems of intelligence (Frank, et al., 2017, p.104)”. A good leader will be able to decide to continue with a change that will benefit the organization, even if it means that some employees need to be laid off.

Business change should be all about the people which means that if changes are benefiting the people, they will support the change. Therefore, “people’s experiences should be assessed to avoid heading into a knowledge-process industrial accident (Frank, et al., p. 106)”. An organization may implement change to keep up with a competitor, but if they do not take into account the people who will be affected by the same type of changes occurring in the company as that of the competitors’, then the results could impact people negatively.

Business change can be a risk when made without a plan to support that change. For example, a company who previously relied on manual processes who decides to modernize their team and introduce a new laptop for every team member, needs to have a way to support this new technology so that they will be less vulnerable to security threats. “All the questions around security, privacy, and compliance must be resolved…” (Frank, et al., p. 106)”. If they did not have a department dedicated to IT personnel, then the business may have to introduce one, or hire IT professionals. It can be risky when the company decides to just let the computers be used without doing anything to ensure that the company is defended against any technology or security threats on account of this new change.

**B.3 Emerging Technology Trends**

This section summarizes risks associated with an emerging technology trend implementation, including likelihood, severity, and mitigation strategies for each of the risks identified, as described in *Rocket Man: Elon Musk in His Own Words,* by Jessica Easto.

***B.3 Critical Analysis Paragraphs***

Some risks associated with an emerging technology trend implementation, including likelihood, severity, and mitigation strategies for each of the risks identified are closed-mindedness to emerging technology and implementing too many changes in too short a period of time.

Organizations who counter-attach emerging technology changes run the risk of closed-mindedness towards the amazing possibilities and benefits of emerging-technologies. “Being open means employees have the right information they need at all times, thus lowering risks when it comes to the product and personnel (Armstrong, 2017, p. 133)”. Organizations can mitigate the risks of closed-mindedness to emerging technology trends by being open-minded about them and conducting any necessary research.

Another risk Organizations face in implementing emerging technologies is making too many changes in too short a time. As mentioned in the *Uncertainty and Ambiguity* section above, “while such behavior can be a positive thing that some thrive on, multiple changes (especially in a short time period) can cause uncertainty within employees (Armstrong, 2017, p. 65)”. The timeframe in which emerging technology changes are introduced to employees could have a tremendous impact on the whether they want to accept it, whether they see it as something that they could benefit from, and whether they could trust it.

**C. Description of Experience and Applicability in Academic and Professional Life for Each Trend**

**C.1 Emerging Organizational Leadership Trends**

This section describes how an emerging organizational leadership trend applies to the experiences I have had in my academic or professional life.

***C.1 Critical Analysis Paragraphs***

I have realized as a software development student and also as a private contractor, that problem-solving and decision-making skills have a different meaning than what many people think. For example, to be a competent problem-solver and decision maker, to many people, means that we need to hold all the information and skills within us at the time we are solving the problem or making the decision – but nobody knows how to do everything.

I have realized that if I am trying to solve a software problem that I have never solved, there is a certain way that works well for me. First, I will try to understand what the problem is and perhaps see if I could re-create the problem, then I will recall whether I have solved a similar problem before, then I will use the *trail and failure* approach to see if I could solve the problem or make considerable progress in 15 minutes or less. If I cannot, then I reach out for help, by researching it or reaching out to a colleague with more experience.

I have learned by experience that without communicating and listening effectively, a team is not a real team. There is no group effort, but instead separate individuals all trying to figure out problems on their own and competing for approval. Communicating and listening effectively should occur wherever there is uncertainty through talking, email, texting, or any acceptable method of communication. Working in information technology, I have learned to never *assume* something, but find out the truth of the matter before acting.

Before being a team member, a person is just that. We all have feelings, gifts, and emotions, personalities and characters that are meant to support each other. I have learned as an IT professional to communicate professionally and kindly with people even if I don’t necessarily find it easy to talk to them because of some personality clash etc.… It can be disappointing, though, when people do not respond the same way and continue to be rude or non-communicative. I have learned that some activities could aid in building relationship such as going to get a coffee together during a break. I have also learned that complimenting a person’s talents and making them feel appreciated always breaks ice.

As a software development contractor, I have learned that sometimes a client may not know exactly how they want their system designed or what elements should be involved. I assist them by helping them to identify future innovations and opportunities for their company. Based on this they can then understand the specifics that they will need as part of their new system.

I have worked as an unofficial team leader at an alarm monitoring company and experienced first-hand the dangers of misunderstanding the business environment and operations. The CEO decided to make changes to out department’s system, without consulting or considering how we operated on a day-to-day basis. This negatively affected the team, and the team members began to voice their concerns to me, because they were too afraid to disagree with the changes or express their discomfort to the CEO. I ended up having a private meeting with him to let him know what was going on and because of this he initiated some training sessions for our department to answer questions or concerns, and to aid in the transition.

As an IT professional, I have engaged in the practice of integrity and ethics. I have learned to do the right thing even when its hard or it could make me look bad. There have been times when a supervisor asked the team about a mistake that was found or something that was misplaced or forgotten. I knew that telling the truth was the only option for me because that’s just who I am. I owned up to it, and I found that instead of looking bad, I gained more respect from my supervisor, and received privileged jobs like being tasked with auditing the entire workorder system.

As an IT student, I must constantly remind myself that I am on a journey to improve my skills and personal capital to benefit society. It’s not just to get a job or create one project or sell one app. For me the big picture is that time is passing fast, and I want to contribute to technological innovation for the betterment of society and leave behind a true legacy.

As part of a team working at an organization, new employees would join the company and watch and learn while I trained them in the tools they needed to use. Spreading the organizations’ vison and inspiring others to share in that vison is more than just training someone. I would take them to the snack room and get them a coffee and talk to them about how the company started and the mission and spirit of it. I also showed it by a professional, cheerful, focused, and encouraging attitude.

**C.2 Emerging Principles and Processes**

This section describes how an emerging principles and processes trend applies to the experiences I have had in my academic or professional life.

***C.2 Critical Analysis Paragraphs***

I once had a summer job working for a bookstore who processed orders online manually and had a system of separate spreadsheets for keeping track of orders. There were 4 separate employees working on the spreadsheets at the same time and there were constant data errors due to the manual entry process. I figured out a way to make the program we were using, automatically adjust the spreadsheet so that we didn’t have to do it manually anymore. The other employees were so used to doing things the old way that they felt threatened by the idea of the change and my ingenuity was overlooked and even admonished.

It was only a summer job, so I just dealt with it, but it made me realize that some people are not very accepting of technology updates, and they will only miss out on opportunities for growth because of it. While I was working for an alarm monitoring company, they decided to implement a new VOIP calling system which automatically called a customer according to an algorithm that they set up to compete with another larger alarm company. I didn’t get to choose which customer to call. Sometimes the same customer would be called 8 times in one day. The leaders in charge, should have considered how these customers would feel who received so many phone calls and in day. They also failed to consider how the employees would feel when they got yelled at by angry customers.

While I was working for the same alarm monitoring company, employees who were using the automated calling system to call customers started to hesitate making phone calls because the customers were angry. Employees felt embarrassed to be calling the same customer so many times in one day. As a result of this performance decreased instead of increasing.

The alarm monitoring company that I worked for made changes based on what they saw working for a larger more experienced competitor with a different client base and different circumstances. They tried to mimic the larger company, without considering how it would affect the employees and the customers. They should have considered all stakeholders before implementing the changes.

A process renewal initiatives risk is that people’s ignorance of the benefits of the change, could hinder the success of it. “Achieving the goals of automation is too important to allow failure to happen due to the intransigence of employees whose skills and experience are no longer a good fit for work infused with systems of intelligence (Frank, et al., 2017, p.104)”. A good leader will be able to decide to continue with a change that will benefit the organization, even if it means that some employees need to be laid off.

**C.3 Emerging Technology Trends**

This section describes how an emerging technology trend applies to the experiences I have had in my academic or professional life.

***C.3 Critical Analysis Paragraphs***

To compliment my academic studies, I gained access to virtual simulation courses online where I was able to work with the parts of computers while gaining IT and networking skills. This virtualization of the *hands-on* approach greatly accelerated my learning and was an enjoyable experience because my mind was opened to the benefits that emerging technologies had for me.

While working for an alarm monitoring company three changes happened in a very short period that made it difficult for me to keep up with my job. First, new employees were being added to the department on a weekly basis that I needed to help train, changes were made to the VOIP calling system which made the phones automatically dial customers 8-12 times per day, and we were instructed to start using fake names instead of our real names for leaving messages on customers phones. The leaders in the organization began to put aside integrity in an attempt to become more like their larger competitors and introduced technologies too quickly which frustrated the employees and the customers. As a result, employees and customers became frustrated and the company lost employees and customers because of it.

**D. Justification for Implementation of Aspects of Each Trend within an Organization**

**D.1 Emerging Organizational Leadership Trends**

This section justifies how aspects of an emerging organizational leadership trend can be implemented in an organization, using research to support these claims.

***D.1 Critical Analysis Paragraphs***

Problem-solving and decision-making skills can be demonstrated by using a good decision-making process with steps that include defining and clarifying the issue, gathering facts and understanding causes, thinking about or brainstorming possible options and solutions, considering the pros and cons, selecting the best options, and explaining decisions to those involved and affected (BusinessBalls, 2021). Each person has a problem-solving technique that works best for him or her, but every good problem solver follows similar steps.

Team leaders as well as other team members can only benefit from communicating and listening affectively. “Listening is key to all effective communication, without the ability to listen effectively, messages are easily misunderstood. As a result, communication breaks down and the sender of the message can easily become frustrated or irritated (Skills You Need, 2022)”. Modern technology has introduced so many ways of communicating, that there should be no excuse for not communicating.

Relationship and team building in an organization can be carried out by implementing practices of team bonding. Once way of doing this is providing opportunities for teamwork and boosting team performance. “Team building activities…work to improve workplace projects that involve teamwork because it helps the teams understand each other better (TeamBonding, 2022)”. When members can understand each other better, the team spirit improves and so does communication and productivity.

Identifying future innovation and opportunities can be implemented in an organization by implementing innovation teams. “Innovation teams withing companies can help facilitate that, whether they are internal or external, such as consultancies or innovation accelerators, are commonplace among companies looking for growth opportunities (Miteva, 2021)”.

A couple of ways to understanding an organizations business environment and operations can be to defining the components of the internal and the external business environments and defining which factors inside the economic environment affect business (BCcampus, 2022). Leaders should gain an understanding of how things operate. For example, managers need to understand how the environment is changing and the impact it could have on business (2020). A good leader understands the importance of growing with the environment so that the organization can keep up with the changes and not fall behind due to a lack of understanding the need to change.

Integrity in the workplace can be practiced and encouraged when people gain a certain level of trust in the organization, their team and in their own abilities. “Integrity in the workplace comes in many forms, but above all refers to having upstanding character traits and work ethics including sound judgment, honesty, dependability, and loyalty (MichaelPage, 2022)”. Integrity can be fostered by being open and honest with the team and keeping a professional attitude, while leading by example.

Thinking strategically, system-wide, and holistically can be practiced in an organization by implementing *systems thinking,* which is a “holistic way to investigate factors and interactions that could contribute to a possible outcome(Morganelli, 2020)”. It is a mindset that provides and understanding of how different teams of individuals can work together by understanding and implement better processes to accomplish just about anything (2020).

Spreading the organizations vision and inspiring others to share in that vision, will make a leader “better able to imagine a vision for the future and inspire others to find their roles in creating this future (Mugavin, 2021)”. This can be practiced by achieving clarity around the organization’s ideal future to better understand it and explain it to others, and by understanding others’ aspirations for the future and how enlisting in the vision of the organization can help them achieve those aspirations (Mugavin, 2021).

**D.2 Emerging Principles and Processes**

This section justifies how aspects of an emerging principles and processes trend can be implemented in an organization, using research to support these claims.

***D.2 Critical Analysis Paragraphs***

An organization can implement performance driven business change by implementing measurements. “All the things we do, we should do for a reason, and a measurement allows us to know if we are acting consistently with the reason (InfromIT, 2001)”. For example, important performance indicators for automobile companies are profit and market share? An organization can determine whether profit or market share increase if they can apply the proper measurements, helping them to determine the change is increasing performance.

An organization can implement stakeholder-based change by recognizing “that the organization doesn’t exist only for its own purposes-it must serve a larger community than itself (InformIT, 2001)”. When a leader properly considers and evaluates the stakeholders involved in the change, the change could only bring about an increased value in the relationship stakeholders have with an organization.

An organization can implement holistically managed processes so that anyone who can be affected by the change must be considered and the change should affect them positively. There are many approaches to implementing holistically managed process. For example, “process teams manage all from business event …to business outcome. This approach upholds a very strong *customer* orientation and accountability for results…The model is fully traceable, both process-wise and people-wise (InformIT, 2001)”. As mentioned above, change-makers in organizations need to understand how the change will affect everyone and everything that could be connected to the change, including departments, partners, employees, customers, and society.

An organization can implement process renewal initiatives that inspire shared insight in many different ways, but one way is to incorporate accessible knowledge artifacts which are often in the form of explicit documents and are very important because they help bridge the knowledge gab between “*knower* and *solution stakeholder* (InformIT, 2001)”. There is a learning curve involved with change and working closely with or being in the same environment as the *knower* rapidly accelerates the learning curve (2001).

An organization can ensure that business change is all about the people by understanding that if changes are benefiting people, then the people will support the change. For example, an organization is not solely converting technology, data, procedures, or organizations; they are “converting people into enthusiastic supporters and participants who will provide you with a competitive edge that can't be matched. This is one reason that you should encourage the analysis of existing processes (InformIT, 2001)”. Any change which people can be helped to improve their lives, can receive support from them.

An organization can ensure that business change is understood to be a journey rather than a destination. “Doing something small now and learning are more valuable than getting a bigger process right later. Whatever we do, we must be prepared to do it again better on the next go around (InformIT, 2001)”. This means that a leader in an organization needs to have a plan of how to support the change once it is implemented, while being open and flexibility to change again when the necessity arises.

**D.3 Emerging Technology Trends**

This section justifies how aspects of an emerging technology trend can be implemented in an organization, using research to support these claims.

***D.3 Critical Analysis Paragraphs***

An emerging technology trend can be implemented in an organization that has the characteristics of radical novelty, relatively fast growth, coherence, prominent impact, and uncertainty and ambiguity, by investigating technologies that will solve problems; assembling an implementation team to champion the new technology once it is chosen; implementing the technology through a pilot program to work out the kinds and gain buy-in; training employees to use the new tool; and launching, fine-tuning the tool as needed (Kerl, 2020).

An organization can adopt a new technology to provide solutions, searching for all possible solutions as problems arise, communicating problems and solutions to employees, involving stakeholders from all levels, gaining support and feedback, and explaining the advantages and intended outcomes of the implementation (Kerl, 2020).

Initiating an implementation team, will aid in the pursuit of acceptance among employees, so that the scope or importance of preparation are not underestimated. The team will ensure the proper resources are received for the project, while it manages administrative details and conflicting priorities.

A pilot program will serve as a credible demonstration for other departments in the organization and enable the leader to work out any problems such as connecting new technology to old and aligning process for completing tasks using the new technology.Successful implementation requires engaging training sessions that educate and address confusion or resistance. Once the new technology is launched, its performance should be evaluated, fine-tuning the tool to as needed (Kerl, 2020).

An emerging technology trend can be implemented in an organization that has the characteristics of *uncertainty and ambiguity. “*Emerging technologies are referred to as such because they are not yet fully formed and usually never fully develop a final state of being (Armstrong, 2017, p. 11)”. Changes which introduce emerging technologies that have the characteristics of uncertainty and ambiguity are not necessarily negative changes. By nature, an emerging technology is uncertain an ambiguous, and organizational leaders who are bold enough to introduce them, must be aware that there are risks involved and have an action plan to mitigate those risks.

**E. Identification and Description of Indicators of Successful Application for Each Trend**

**E.1 Emerging Organizational Leadership Trends**

This section identifies the indicators of a successful application of an emerging organizational leadership trend, including any organizational strategies, goals, or key performance indicators (KPIs) that would be positively affected if the trend were successfully implemented in a organization.

***E.1 Critical Analysis Paragraphs***

Indicators of successful application of an organizational leadership trend, including organization strategies, goals, or key performance indicators (KPIs) that would be positively affected if the trend were successfully implemented in an organization, are the presence of the skills that enable the implementation of this trend, which are problem-solving and decision-making; communicating and listening effectively; relationship and team building; identifying future innovations and opportunities; understanding your business environment and operations; using ethics and integrity; thinking strategically, system-wide, and holistically; and, spreading the organizations vision and inspiring others to share it.

Problem-solving and decision-making skills will be practiced by using a good decision-making process. Team leaders will be communicating and listening affectively. Team members can understand each other better, the team spirit will be improved, along with communication and productivity. Future innovation and opportunities will be implemented in an organization for example, through the implementing of innovation teams. Leaders will be able to understand how the environment is changing and the impact it could have on business. Integrity and ethics will be practiced by being leaders who are open and honest with the team, keeping a professional attitude, while leading by example.

A mindset will be present that provides an understanding of how different teams of individuals can work together by understanding and implements better processes to accomplish just about anything. Leaders can form a clear picture around the organization’s ideal future to better understand it and explain it to others, and by understanding others’ aspirations for the future and as they enlist in the vision of the organization. The presence of these traits indicates that the organization leadership trend is being applied successfully in an organization.

**E.2 Emerging Principles and Processes**

This section will discuss how to recognize the successful application of a principle and process trend including any organizational strategies, goals, or key performance indicators that would be positively affected if the trend were successfully implemented in an organization

***E.2 Critical Analysis Paragraphs***

When implemented in an organization, a principles and processes trend can meet several critical factors for success. Some factors which show the implementation of this trend are *business change is performance driven; business change is stakeholder based; business processes are managed holistically; process renewal initiatives inspire shared insight; business change is all about people; and business change is a journey, not a destination (2001).*

An organization who implements a principles and processes trend understands that change must be performance driven which simply means that the changes are made with the goal to increase performance. Workers can put more effort into the more human elements of the job, increase output and increase quality deliveries. Implementing change such as a new technology to aid the human aspect of the job can only make a worker more effective (Frank, et al., 2017, p. 40).

An organization who implements a principles and processes trend makes changes that are stakeholder based, so that anyone who can be affected by the change is considered and the change will affect them positively. For example, when designing apps, the user of the apps should be considered and the whole user interface should be designed according to the way in which users will navigate and utilized it (Frank et al., 2017, p. 53). Organizations can impact society in a positive way when products or services are bettering people’s lives.

An organization who implements a principles and processes trend manages business processes holistically and anyone who can be affected by the change is considered so that the change can affect them positively. Change-makers in the organization understand *how* the change will affect everyone and everything that could be connected to the change, including departments, partners, employees, customers, and society. Organizations who are making progress today recognize a holistic relationship among stakeholder groups and groups in society (Frank, et al., 2017, p. 191). These organizations make decisions based on the holistic positive affects they may have.

An organization who implements a principles and processes trend implements process renewal initiatives that inspire shared insight, so that everyone involved can understand the benefit and what they want out of it is possible if these different parties work together. Organizations can provide new ways of connecting with society when data and insight are shared and increasing in value more as they are used. These organizations take advantage of benefits that result from different pieces of data being combined from separate sources (Frank, et al., 2017, p. 60). It can provide a new way of connecting with society.

An organization who implements a principles and processes trend implements business changes that are all about people, and people support these changes. For example, Discovery leaders realized that winning meant keeping people healthy with the aid of technology, “coupled with a sophisticated benefit system for members, to lower health risks while building a successful business (Frank, et al., 2017, p.117)”. Organizations who implement changes not just for the sake of change in an organization but consider how that change will positively affect any people involved, are making business changes all about people.

An organization who implements a principles and processes trend makes business change a journey, not a destination, and they make plans to support the change once it is implemented. This includes a concept of *creative destruction* or “the tendency for industrial change to continuously destroy old economic structures and create new ones (Frank, et al., 2017, p. 96)”. The organization is flexible enough to transition from one change to the next, and never assumes that a change will last forever.

**E.3 Emerging Technology Trends**

This section identifies the indicators of a successful application of an emerging technology trend, including any organizational strategies, goals, or key performance indicators (KPIs) that would be positively affected if the trend were successfully implemented in a organization.

***E.3 Critical Analysis Paragraphs***

An organization has successfully applied an emerging technology trend including any organizational strategies, goals, or key performance indicators (KPIs) that would be positively affected if the trend were successfully implemented in an organization**,** if it has th**e** characteristics of an emerging technology trend which are *radical novelty, relatively fast growth, coherence, prominent impact, and uncertainty and ambiguity.*

An organization has successfully implemented a radically novel emerging technology trend, when it impacts society by having the trait of a radical novelty, beyond what people have understood before, and people are accepting and supporting of it. When people are willing to accept a radical novelty because it provides some benefit to the world that will impact them for the better, the implementation was successful.

An organization has successfully implemented an emerging technology trend when it has the characteristic of relatively fast growth. Emerging technologies have the tendencies to *go viral* or take off an amazingly fast growth rate. When people see the importance and benefit of an emerging technology, they will support it and champion its growth, and this is one way an organization can measure the success of the implementation.

An organization has successfully implemented an emerging technology trend when it has the characteristics of coherence, continuing to offer benefits or to improve or evolves to offer the same benefits in a new way or new benefits that surpass and satisfy the old. People perceive the change and accept it as a beneficial part of their lives and continue to support it over time.

An organization has successfully implemented an emerging technology trend when it has the characteristic of being prominently impactful. It strongly and noticeably stands out as an important part of people’s lives. People see it as something that they could benefit from, and they trust it.

An organization has successfully implemented an emerging technology trend when it has the characteristics of uncertainty and ambiguity, yet employees accept it, because they see that it can benefit them, and they trust it.

**F. Evaluation of Short and Long Term Sustainability for Each Trend**

**F.1 Emerging Organizational Leadership Trends**

This section evaluates the short-term benefit or long-term application, the level of market applicability, and organizational relevance for an emerging organizational leadership trend, providing details from *Rocket Man: Elon Musk in His Own Words,* by Jessica Easto to support these claims.

***F.1 Critical Analysis Paragraphs***

A strategic leader is someone who can articulate and instill long-term application, meanwhile providing for short-term benefits from the practice of an organizational leadership trend application. For example, Musk understands that an employee is wasting valuable time sitting through a meeting, if there is nothing in the meeting that pertains to him or his job. " The basic rule for meetings is that unless somebody is getting enormous value from the information they are receiving or they are contributing to the meeting itself, they should not be there (Easto, 2017, p.5)". Musk gives his team members permission to leave the meetings if they feel they are not needed. This way they can be working and not wasting valuable skill and time. Musk understands that long-term productivity will increase from short-term efficiency practices like his meeting rule.

The organizational leadership trend is applicable to all market levels. From batteries to AI to sustainable energy and rockets Elon has proven that an organizational leadership trend can be applied at all market levels. According to Musk, "The ability to attract and motivate great people is critical to the success of a company because a company is a group of people that are assembled to create a product or service. That’s the purpose of a company (Easto, 2017, p.21)”. Elon Musk simplifies what a company is and shows that by application of the organizational leadership trend, not specific to any level is doable. According to Easto, Tesla has revolutionized the manufacturing of the most intricately difficult commercial products on earth, innovated and improved battery technology, competed with giants such as the automotive industry and Big Oil, and was an inventor and builder of practical systems for electric charging and power storage (p.4).

**F.2 Emerging Principles and Processes**

This section evaluates the short-term benefit or long-term application, the level of market applicability, and organizational relevance for an emerging principles and processes trend, providing details from *What to Do When Machines Do Everything: How to Get Ahead in a World of AI, Algorithms, Bots, and Big Data,* by Malcolm Frank, Paul Roehrig, and Ben Pring to support these claims.

***F.2 Critical Analysis Paragraphs***

When organizations implement emerging principles and processed trends, the results will be thriving organizations with people striving to influence and change the world positively. There are short term and long-term benefits to application. “In taking a short-term view… one can think *No way our accounting department will be automated away.* Yet… one can take a 15-year view and think, *no way we will have more than a handful of people processing accounts receivables by 2030* (Frank et al., p. 42)”. While an organization may be implanting a principles and processes trend, when it comes to the pace of transition, there is no real set timeframe that a business can expect the results of a change to last, before it is time to change again.

The trend works for organizations and businesses of all sizes and genres and can be applied in several ways. For example: “Abundance markets… are real, and business leaders are starting to change the competitive landscape by lowering costs, increasing personalization, and unlocking new large-scale opportunities (Frank et al., 164)”. The trend can influence organizations relevance for better or for worse depending on whether they are implementing it correctly, and how much the organization is constantly evolving, making changes as the economy changes, and positively impacting people’s lives.

**F.3 Emerging Technology Trends**

This section evaluates the short-term benefit or long-term application, the level of market applicability, and organizational relevance for an emerging technology trend, providing details from *Disruptive Technologies: Understand Evaluate Respond*, by Paul Armstrong to support these claims.

***F.3 Critical Analysis Paragraphs***

Although an organization may have its eyes set on some benefits of long-term application of the trends, there are short-term benefits that come along the way: “in the context of commercial goals and initiatives along with additional benefits like practical experience … and the opportunity to bring together different departments within the company which may usually operate in silos (Armstrong, 2017, 121)”. An emerging technology implemented in one organization could have completely different benefits as that of another organization for many reasons, including genre and geographical location. “If you have something that is fundamental to your business, spend some time and spend some money – short- and especially long-term benefits will be more visible (p. 154)”.

The implementations benefits will be noticeable when the proper time, research, and resources are used. An emerging technology is applicable at all market levels: “The emerging practice is becoming more and more popular as the benefits are seen throughout organizations and departments (and not just start-ups; small–medium enterprises and big businesses are using this method) (p. 166)”. Therefore, emerging technologies can be used for short-term benefits and long-term application, and they are applicable and relevant at all market levels.

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