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The Conceptual Access-NeTwORk (CANTOR) Thesis: Theorizing the Development or Success of New Internet-Based Products, Services, or Technologies

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ABSTRACT

For any new internet-based product, service, or technology to succeed, it must satisfy the criterion of providing access to or creating a network of possible users, products, and services. This is the Conceptual Access-Network (CANTOR) Thesis proposed. In addition to the main issues of success and how and why internet technology evolves, the principle can also meet the objective of explaining what underlies a range of traditional and nontraditional technologies beyond the internet. Through qualitative exploration, the tenets of the access-network thesis are applied to natural and synthetic forms of endocrine substances including insulin and highways. A discussion of technologically generated knowledge is included, as well as how phenomenotechnique can be used to establish a communication path between technology and what it produces. Dr. Stanley Milgram's intimate stranger phenomenon which was first explored in 1967, before the internet existed, will ultimately be distorted by the future of internet-based technologies. As previously discovered or established concepts are combined or permuted, the future will display numerous manifestations, combinations, and permutations. We conclude that successful internet-based products, services, or technologies simply would not work without an access network. From this article, we have gained a better understanding of the current development stage of internet-based products and technology, thereby enabling society to better anticipate the future of internet-based products and technology, highlight significant ethical considerations, and avoid unwanted outcomes.

INTRODUCTION

Various factors contribute to the success of Internet-based products and services. A more sophisticated study is needed to examine the key success factors for internet-based business models. Lee and Cata (2005) identified several critical factors for online performance in the insurance industry, including the availability of websites, organizational support, and business integration. In general, the papers suggest that organizational support, customer behavior, and decision support satisfaction play important roles in the success of internet-based products. That notwithstanding, I contend that there is another aspect that connects the factors: communication.

Although compared to internet and communication technology (ICT) use, face-to-face and phone use for family communication were associated with significantly greater levels of perceived well-being (Wang et al, 2015), technology usage in families is still high (Tadpatrikar, Sharma, & Viswanath, 2021). Because internet technology facilitates communication (Diomidous, et al., 2016), the use of the internet significantly increases the time and frequency of communicative encounters with friends and family (Li, Ning, Xia, Guo, & Liu, 2022). Furthermore, despite misunderstandings developing when families communicate online via the social media site Facebook (Lopez & Cuarteros,

2019), online communication with friends and families has a protective influence on developing clinical depression in the elderly (Nakagomi, Shiba, Kondo, and Kawachi, 2020). In fact, phone calls and texting (including through social media apps) have been shown to be positively correlated with well-being (Liu, Baumeister, Yang, and Hu, 2019). There are also gender differences in patterns of internet use (Wibowo, W., Sari, N. P., Wilantari, R. N., & Abdul-Rahman, S. (2021) and internet use affects academic outcomes (Cahyo, Fariz, and Lestari, 2020). Despite a small negative effect on mental health (Meier & Reinecke, 2021), social networks are ubiquitous (Verduyn, Ybarra, Resibois, Jonides, and Cross, 2017), social media is part of the innovative process of modern society (Petrova & Pervukhina, 2022), and social media plays a significant role in current human lifestyle (Wong et al., 2017) altering the circulation of the communication, as well (Gupta, Katiyar, & Goel, 2022). Additionally, the development of the internet has led to the use of slang to communicate with the younger generation (Galiullina & Wright, 2021).

Communication may be promoted or increased through the effectiveness and effect of technologies like the internet and the social web, which comprises community-driven web services that foster social interaction (Colomo-Palacios, Soto-Acosta, Ramayah, & Russ, 2013). Whether between people or between humans and machines (Papsdorf, 2015), the occurrence of communication as a result of technology engagement deems the engagement a communicative act, whether it is employed to inform a nation's inhabitants about candidates during a presidential campaign or merely to look for a long-lost friend's profile on social media. A communicative act is one that is performed with the intention of evoking an act that it is not or is the cause of. Because technology engagement is done with the goal of achieving some act(ion) that it neither impacts nor constitutes, I argue that technological engagement differs from a perlocution in no important manner according to speech act theory.

Perlocution, according to the speech act theory pioneered by Austin (1962) and Searle (1969), is an act of speech or writing that has as its goal some act(ion) but neither affects nor constitutes the action (Al-Hindawi, 2014). However, technological

participation, such as texting or emailing, is not the same as speaking or writing and cannot be characterized as a perlocution. So we have two options: a) create a new independent term that accounts for technological involvement, or b) change the present concept of perlocution. Nonetheless, because an act of speaking or writing, like technological involvement, is considered a communicative act, changing the present definition of a notion would be easier. Thus, by broadening the concept of perlocution to include this uncommon instance, the amended definition reads "a [communicative act] that has as its goal some action but neither effects nor constitutes the action," putting technological involvement in the framework of speech act theory.

As a communicative act, technology engagement produces either unidirectional communication, such as watching television or listening to the radio, or bidirectional communication, such as text messaging or email. Successful communication, whether unidirectional or bidirectional, is dependent on the notions of access and network.

Merriam-Webster defines access as the freedom or capacity to get or utilize something (Access, 2016). Among the most widely used definitions of the term network are system, link, and group (Network – Definition of Network by Merriam-Webster, 2016). Generally, networks increase efficiency (Bub, 2011). If effective communication is dependent on access and network principles, and internet-based technology, products, or services, then successful internet-based technology, products, or services depend on communication, then internet-based technology, products, or services are transitively dependent on access and network principles! Furthermore, we understand that the greater the access or network, the better the communication. Moreover, greater communication equals more successful communication. Naturally, this raises the question of whether this holds true for internet-based technology, products, or services because greater access and network indicate better communication and better communication suggests more successful communication. I contend that there is a positive relationship between network availability and the success of internet-based technologies, goods, and services such as the Internet of Things which allows

objects to communicate (Chopra, Kunal-Gupta, & Lambora, 2019).

A better understanding of the internet and its repercussions is urgently needed to safeguard society. The present article attempts to determine the connections that exist among successful internet-based technology, products, and services. Addressing the connections and identifying commonalities brings us one step closer to appreciating them scientifically with the ultimate goal of being able to predict its trends and behavior. It is imperative that society appreciates what has happened and is occurring to gain insight into what will happen as it pertains to the internet technology, products, and services. Our purpose then is to provide a framework for developing an appreciation of internet-based technologies, products, and services through the concepts of access and network that are shared amongst those that are successful.

METHODS

For this qualitative exploration, the theme that was the focus concerned the ways in which to uniformly understand the internet-based successful products and services. The manner in which we approached in this article is through a presentation of arguments and evidence of the concepts of access and network. The sample of articles chosen was one of convenience. In addition, ideas that developed were based on theories from various disciplines with the intention of reducing the processes to issues related to access and network. The University at Buffalo libraries were used for the research and was the source of the material reviewed. The main query terms were internet, communication, access, and network. Only freely accessible articles in English were considered. Concepts deemed important were included to provide explanations for, and contrast between concepts that were pertinent to the author's research, which allowed for the development of context for the framework of this work. Both the recent literature and seminal works were considered based on value and relevance to the topic and not solely on the date.

RESULTS AND DISCUSSION

The Case for Access and Network

To provide a framework for developing an appreciation of internet-based technologies,

products and services through the concepts of access and network, it is crucial to understand their interconnection. Both the concept of access and the concept of the network are so interconnected that no one can genuinely be considered to have preceded the other. Thus, to adhere to the concept of parsimony in theory building and assessment (Swanson & Chermack, 2013) and conserve space, any arguments thought experiments or examples I use for either access or network are purposeful and could have been prepared for either.

The phrase conceptual refers to literal and metaphorical interpretations of the concepts of access and network, as well as their context. That is, while one may actually have access to resources, which is limited to physical proximity and verifiable by touch, the same cannot be true about access to information, knowledge, or ideas. Claiming access by engaging with someone known to have knowledge in person, over the phone, or through a letter does not diminish closeness at all, and it is just as conceptual as access to supplies.

Whether or not the Defense Advanced Research Project Agency (DARPA) realized how profound the concepts underpinning what would eventually become the internet were, connecting computers to gain the ability to upload and download data to and from any of them eventually left its mark on the universe thanks to the tenets of access and network. The ideas of access and network are crucial not just to internet-related matters, but also to the concept of technology in general. Furthermore, the ideas of access and network are intrinsically pluralistic, implying more than one item. That example, it would be fairly strange to think of anything as something that accesses itself or networks with the same. Instantiating either an instance of access or a network now indicates that the contiguous component or its derivatives were previously unaccessed. However, because it is impossible to not have access to one's own body, this produces a paradox.

Regardless, they may be ineffective in reaching their purpose as the object of their access. Whether the issue is the movement of a paralyzed limb or the memory of a deceased loved one, the following stays true: unless the limb has been entirely severed, it is always a part of one's body to which access must be granted even if it cannot be

moved (e.g., due to neurotmesis). *Nota Bene*, there is no access to the limb's movement; only the limb itself.

Conversely, because the memory of a deceased loved one arises from, but is not reductively comparable to, a part of one's body—namely, hippocampus engram cells in the brain that store memories (Tonegawa, Morrissey, & Kitamura, 2018)—access to the memory itself is indirect. Because of the indirect nature of the access, attempts at memory recovery are occasionally futile. As a result, it is clear that access varies for and among immaterial items such as concepts or memories.

In contrast to tangible items on or as part of one, such as congenital limbs, access to information as ideas or secrets never occurs immediately. Even if a spy's computer is sealed in a vault that a thief cannot break into, the thief may have access to the vault's entrance or the computer itself, but not to the information. In other words, while it is feasible to deny access to immaterial objects, direct access is impossible! Furthermore, even access to knowledge from one's own ideas must be indirect. We have them and know what they are, but they are not the sensory data packets that encode episodic experiences and are stored in engram cells as memories of ideas.

A pure idea may be a product of or driven by sensory data, but it is neither the sensory data itself nor its effect. For example, if a thought is the product of sensory input, then ideas are totally causally related to sensory data and are repeatable. When considered, there is some evidence that ideas are consequences of sensory data causes. Based on the mental health literature on the association between sadness and a lack of light, I believe that thoughts are partially and indirectly produced by sensory data (Henriquez-Sanchez, et al., 2014). It is important to note that I claim the relationship is just partial and indirect since other factors are at play. Furthermore, I believe that once depressed, what are deemed depressive symptoms (e.g., sad thoughts) may be the true cause of sadness rather than its result. If I am accurate, depression is caused directly by depressive thoughts, which are caused directly by low levels of light. Regardless, depression would thus be indirectly tied to light.

There are at least two important domains for access, each with two potential states (i.e., y/n):

access proper and success. When someone gains access to anything, it is usually for a specific reason. When that goal is met by actively accessing, access is considered successful. Failure to fulfill a purpose, on the other hand, does not indicate that there was no access; it merely deems the access that happened ineffectively.

Assume that law enforcement personnel were waiting inside a vault that criminals had broken into, foiling their goal by arresting everyone. Despite the fact that the thieves failed in their mission, they were apprehended since they had access! The reason I argue that failing to satisfy the purpose of the access is not the same as not having access is that success at one's purpose of the access is not the same as success in access that enabled fulfillment of the purpose feasible. Furthermore, talking about “accessing a purpose” is grammatically incorrect. A goal, while immaterial like knowledge, is distinct in that it cannot be obtained directly or indirectly!

The reader should now understand the conceptual variety of access. We illustrated our adaptability by exploring how access relates to five distinct scenarios: material attached, material unattached, immaterial unattached information memory, immaterial unattached information memory thinking, and the goal of immaterial unattached information memory thought. Access and network stand out as good notions around which to build theory because of their diversity and resilience. Furthermore, no successful internet-based business, product, or technology has failed to meet the access and network requirements. Based on this observation, one might deduce that access and network are critical elements for the long-term viability of newly developed Internet-based businesses, services, and technology. The author offers the *Conceptual Access-NeTwORk Thesis* to appropriately reflect the link between the success of new Internet-based technologies, goods, and services and the amount to which they meet the ideas of access and network. The thesis is abbreviated CANTOR in honor of the nineteenth-century German mathematician for all of his contributions to knowledge and comprehension.

The Theory of the Conceptual Access Network (Cantor) Thesis

A new Internet-based product, service, or technology's success is dependent on the

effectiveness with which it provides access to or builds a network of potential customers, products, or services, according to the Conceptual Access-NeTwORk Thesis (CANTOR). I define internet-based as being conducted over the internet, and I mean that the technological goods and services being considered must include it as an optional, if not mandatory, component.

According to the relational form of the idea, a high level of success for an internet-based technology, product, or service corresponds with a high level of access-network feasible with that technology, product, or service. Nonetheless, a low degree of failure of internet-based technology, goods, or services correlates negatively with a high degree of access-network achievable. Correlation, no matter how presented, does not prove causality. Nonetheless, in the instance of CANTOR, I contend that the correlational link is causal.

According to research, people are social animals that can empathize with others in two ways: emotionally and cognitively (Penttila, 2019). That is, empathy is best defined by the ability to feel what others feel and perceive things from their point of view. People, on the other hand, require access to networks with other humans to sympathize with one another! So, if an internet-based technology, product, or service provides customers with a high degree of access and network that they already want due to their social nature as humans, then customers will access and network to a high degree through the technology, product, or service as well, resulting in a high degree of success.

The only scope condition is defined by what counts as "internet-based." By internet-based, I mean that the technological goods or services under consideration must incorporate the internet as an optional, if not mandatory, aspect. The current personal genomics explosion, as typified by 23andme, would have been anticipated by CANTOR when employed as a framework for understanding. CANTOR, on the other hand, may have been utilized to help generate the notion of personal genomic services, goods, and technology focused on making internet-based alternatives available. Consumers would have access to enhanced knowledge about their exome, distant family connections, and other genealogical adjuncts that would meet access-network criteria exceedingly well.

Furthermore, CANTOR explains why the Internet of Things (IoT) has thrived. The Internet of Things (IoT) is a combination of technologies that connects everything, from everyday things to more complex networked devices (Benazzouz, Munilla, Gunalp, Gallissot, & Gurgun, 2014). Conveniences such as home automation have become a reality thanks to the Internet of Things running on access and network principles. Once experimentally proven, CANTOR may be used to forecast which innovations, goods, or services will succeed, and it may be used to produce sustainable concepts for new products and organizations before any significant investment phase begins.

A learning organization occurs among organizational systems to provide a needed service or product (Swanson & Chermack, 2013). If this is true, then CANTOR's utility as a framework includes not only informing which ideas for technology, services, or products satisfy access-network criteria and which technologies, products, and services already on the market will ultimately succeed but also facilitating the creation of one new ultimately successful long-term sustainable business organization for every genuinely novel idea it helps generate!

I am now working on making the notions of access and network operational. My objective will be to develop a measuring and diagnosis tool that will reveal the CANTOR status of enterprises, technology, goods, or services both before and after they hit the market.

Contributing The following studies and theories influenced the development of CANTOR: Respect for authority, Small world studies involving social networks and connection, as well as six degrees of separation, are all based on Stanley Milgram's work, Social construction of (scientific) knowledge (SCK) to some extent. Instrumentation and instrumentalism are terms used interchangeably. Phenomenotechnique and technologically created objects of knowledge (Latour & Woolgar, 1987) and Information theory are pragmatic philosophical systems that regard ideas to be instruments that should direct human activities and their value is determined by their success. I believe that developing or constructing objects of knowledge is not the same as creating ex nihilo.

The intersection and integration of contributing ideas that operationalize the definition, purpose, and assumptions of an applied field constitute a core theory. The heart of the CANTOR thesis is Network, Constructing, Instrumentation, and ideas from instrumentalism, information and technology, and success. Among the useful concepts and theories that contribute to the heart of CANTOR, Phenomenotechnique and the Social Construction of Scientific Knowledge (SSK) connect the most seamlessly, possibly sparking CANTOR. The possibility derives from a person having access to technological instruments such as a microscope and using their training and network to make the object of knowledge! This interaction, while not full, might support the beginnings of a notion or an access-network principle.

Mutualistic Access-Network Symbiosis

Internet and related technologies are not the only applications of Access-Network theory. It is the author's contention that any technological example will undoubtedly be reducible to or entail a Conceptual Access-Network structure. There are several factors that influence our choices for television programming, the effects of television on politics and campaigning, and even the decision to use alternate media such as smartphones. It is important to note that access (to technology or people) and a network (of individuals and technologies) both contribute to the expansion of the other, with each reinforcing and stimulating its development. Thus, conceptual access develops into a network, and the network itself generates access, resulting in a mutualistic connection. The debate over net neutrality is an example of the importance people place on access networks despite the fact that it could apply to any technological communication medium (Cantoni & Danowski, 2015), such as the telephone, television, and radio. It is possible for internet-based products, services, and technologies to fail miserably without being supported by internet networks, either because of a lack of demand or because a lack of communication.

A Framework for Understanding Technologies in Their Context

The lack of access may also be viewed as a driving force in the development of technology in a variety of formats, in addition to the desire to construct an access network being regarded as an

underlying concept or positive framework for development. There are many reasons why technological development may be driven by preventing the emergence of access networks rather than just building, maintaining, or strengthening them. Such negative contexts for access-network innovation include remote access to a server for business or pleasure, online banking, and online shopping. There are countless technologies that are leaves on branches of arguably the largest tree located in the forest of technology. Highways, ladders, scrubbers with long handles, watches, telephones, voicemail systems, radios, televisions, e-readers, the internet, computers, encryption software, and an array of unmentioned technologies are all leaves on branches of this tree known as the Conceptual Access-Network tree.

An Example of Technology in Action

Based on the Access-Network Principle, despite the plethora of technologies manufactured and natural, all of which achieve some specific purpose, few, if any, are designed to provide direct or indirect access to information or to function effectively without the assistance of a network. While traditional technologies and concepts may persist, readers are forced to leave their comfort zones for a moment to consider what may be an uncommon example to them. As Carroll (2017) argued in an influential paper titled "A Comprehensive Definition of Technology from an Ethological Perspective", not only does the example meet the criteria for the comprehensive definition of technology, it also exemplifies the principles of access and network proposed herein and simultaneously satisfies the criteria for the comprehensive definition of technology. There is an unbroken continuum of theoretical connections between all things, even very diverse unconventional technologies, that existed, continue to exist, and will always exist. What might be a more significant example that meets the criteria for both a thorough description of the technology and a conceptual access network? Insulin, for example.

Although it may appear that insulin and a microscope have little in common with one another, television, or the internet, this is not the case. As instances of technology, they all give a way to access information that would otherwise be unavailable via a network. A network, by definition, is a system of interconnected items or people

(Lewis, 2022). ” Take, for example, a television. A network can be formed by connecting just one additional device. Two televisions, on the other hand, would be worthless; television just shows information. However, if you take the opposite of a television, you get a video camera, which is what news broadcasters rely on for their network. As a result, just as heads and tails of the same quarter are inversely connected, a television and a video camera are two sides of the same technical network coin that allows access.

Insulin, in both natural and synthetic versions, gives the body access to the information or energy it requires to thrive or live. If we pause for a moment to analyze the premise of this article, what else would access be, or what else would the network be or be for, if not information? If evolution has taught us anything, it is that information may be encoded in a variety of ways. One of the cleverest methods to encode information is to not encode it! That is, the encoded information can exist even when there is no encoded information! Using the utility in the absence of meaningful information, as a fundamental precaution, danger can be avoided by automatically adjusting to account for a system's failure or malfunction—a notion known as failsafe (Lewis, 2022). As with the binary system used in computer programming, the existence and absence of a single object can therefore represent at least two states.

The presence or lack of insulin indicates one of two states: fed or fasting. The fed state is defined as the presence of insulin, its appropriate availability, and the absence of defects. In this state, the presence of insulin helps us to obtain the energy we require from glucose to survive. However, we are in a fasting state if insulin is lacking, accessible in inadequate amounts, or faulty. The lack of insulin causes a cascade of sequelae that serve as indicators or symptoms of this situation, offering information that the body may utilize to select the next course of action. As we widen and deepen our understanding of technology, we have a greater grasp of the basic ways in which classic examples of technology influence our lives, and the predicate relation words describing them, such as access and network, become much easier to understand. Finally, the conceptual access-network theory implies information both mutually and logically. Whether it be insulin, a microscope, television, or the internet,

this theory and the examples provided suggest something that transcends form or kind and, once fully developed, maybe a conceptual framework that unites everything.

Objects of Knowledge Created Technologically: Access-Networks Using Phenomenotechnique

A microscope, while more widely regarded as a technology than insulin but possibly less so than television, is a separate sort of technology that also functions on the access-network paradigm. A microscope, as an example of technology, differs from insulin in several evident ways. For one thing, most of what we know about insulin is new, the outcome of laboratory research instruments, and may be regarded as technologically generated objects of knowledge. Microscopes and everything we know about them are not primarily technological inventions and may be examined directly. As such, microscopes are among the technological tools used by scientists to create these objects in what is known as the social production of knowledge.

The development of knowledge necessitates the use of instruments that allow us access to things we had no idea existed before we used them! That is, only by using a microscope can one become acutely aware of the minutiae of tiny objects and occurrences. Thus, while not going so far as to claim that the state of existence of what we observe with the microscope is causally dependent on our observing it—as it is in Quantum Physics with the Schrodinger's Cat (Yin, 2017) thought experiment our *knowledge* of the state of existence of microscopic objects is causally dependent. Nonetheless, our capacity to know what exists through the use of the microscope is determined by our knowledge of the existence of what is viewed in a broad sense by any of the faculties other than the microscope (*viz.*, the presence of the microscope itself)!

One distinction between the two is that, unlike insulin, which we know can exist without our understanding or consciousness, a microscope cannot. That is, insulin occurs naturally, yet a microscope is not present in nature; consequently, if encountered, it was produced; hence, the creator is aware of its presence. Using a logically analytic onto-epistemological framework, we can see how things like insulin differ more systematically. Assuming, as we stated, "one is aware that insulin may exist but is unaware that it does." This

statement's logical examination will include regimentation and abstraction procedures. Regimentation translates plain language sentences into their logical structure, whereas abstraction eliminates extra-logical elements from the logical structure to obtain a logical form (Peregrin & Svoboda, 2017).

"x is with the knowledge that perhaps w exists, but x is unaware that w exists". Let Kx be a one-place epistemic predicate with the meaning "x is with/with x's knowledge that (i.e., x knows)..." The existence predicate Ex simply reads "x exists." but what we know about microscopes is not primarily the result of technological advancement. The social construction of knowledge gives us access to things we cannot be sure existed before we used the microscope to see them! That is, one can only become aware of the subtleties of tiny organisms and occurrences by using a microscope. Thus, the existence of what is noticed with the microscope is contingent on the existence of what is observed in general by any of the faculties other than the microscope, namely, the presence of the microscope itself. Unfortunately, while the reality of things and occurrences is not literally dependent on the presence of the instrument employed to see them, refuting this assertion is difficult, if not impossible because rebuttal would involve instrumentation. Our ontological and epistemic commitments to microscopic beings and occurrences need the presence of a laboratory microscope, without which access to and knowledge of the cosmos at this scale would be impossible to give.

A range of distinct behaviors occurs in the laboratory setting, culminating in the establishment of scientific facts. Nonetheless, these actions are not always what the general public would anticipate. Without diminishing the significant contributions made by the individuals associated with various discoveries and developments, the reality is much more agonistic, filled with craftwork, and political than there is an objective truth with which scientists of pure heart enlighten us after implementing the scientific method (Latour & Woolgar, 1987, 2013).

Within the scientific sphere, there is a hierarchical structure that is afflicted by the same challenges that are present in any other societal setting. Science is not immune to societal pressure. Furthermore, fact-building is a more realistic description of what happens in science than fact-

finding since objective entities or phenomena involving them would be invisible without material instruments such as that used for fractioning, imaging, or distillation (Latour & Woolgar, 1987, 2013). Because of the hierarchical character of, and political nuances occurring in, the laboratory setting from which the public is sheltered, social dynamics play a key influence in the formation of facts. The phenomenotechnique (Latour & Woolgar, 1987, 2013) describes the link between phenomena, materials, and the technique required.

The Access-Network and the Change Process

Compared to the pre-internet era, there has been a significant amount of change. Our discussion of transformation is arguably totally mediated by the idea of improving access or existing networks through the establishment of new networks or the reconfiguration of existing networks. It is important to note that although such a history of change in no way guarantees what we will see in the future, the exponential nature of technological development and expansion (Kurzweil, 2006) provides a guarantee that change will continue. Throughout his life, the author has believed that while change is always beneficial, its outcomes aren't always desirable.

There must be some improvement or decrement in the state of things after a change for it to have occurred. The question is: how can you verify a purported modification if nothing changes afterward? A significant change cannot have occurred if no difference can be seen between the before and after states. Any change that leaves society or its constituents in a better or worse position is a change that can yield information or knowledge, and no matter what the change is, whether it's science, technology, or the internet, it should always be considered a good one.

In cases such as smoking and drinking for decades and losing a job after twenty years of loyalty to an employer, many readers would argue that change is harmful. Change is often viewed as negative, but the author finds that people are mistaking a generally undesirable conclusion for the event itself when they identify it as negative. In both cases, being unemployed and having cancer are bad things, but in the latter case, if one is lucky enough to survive with a new appreciation for life and all of its potential, and in the former case, if one's next job is even better than that lost, the

changes that were thought of as bad were actually quite beneficial. Unless the transition process took place, we could not have improved our position. We can always improve through the process of change, so regardless of the outcome, it should be regarded positively.

A key distinction needs to be made between what we mean by 'change process' and 'change result'. Change in general is beneficial; however, when one considers the context, specific processes or outcomes of change cannot always be as desirable as the general process. It is also important to note that specific examples of how changes are implemented aren't always the same, which implies that sometimes one process is considered beneficial and sometimes the other is considered negative.

To evaluate the real quality of apparent change, we need to understand the specific processes and outcomes of change. Such change might not be comprehended by humans until they see specific examples of how it is implemented or how it is manufactured. The process of losing weight and the outcome of losing weight can differ between two people, for example. In spite of this, losing pounds as a result of a change (i.e., process) is considered good for morbidly obese individuals since it results in weight loss (i.e., product), whereas loss of pounds as a result of a change is considered bad for anorexic individuals because it results in weight loss (i.e., product). We emphasize that products and processes are not intrinsically good or bad, regardless of what they are linked to. There may only be one qualitative characteristic that can be attributed to the product of change (e.g., weight loss is good), depending on the context (e.g., obesity) of a specific situation (e.g., losing weight). Changing the products and services on the internet frequently results in well-received or poorly conceived modifications. It is ultimately the fact that the process of change persists, which implies that the chance for future goods and services to be better remains.

According to the Conceptual Access-Network Thesis, the development and success of future internet-based goods, services, and technologies will be based on creating infrastructure and network access that meets the social needs of potential customers. There is a constant need for products, services, and technologies that revolve around networks and provide some form of access to users.

Access-network permutations can be direct or indirect. Users can connect directly with one another, with products, and with services. In contrast, indirect combinations meet access-network criteria by chaining the user, product, or service through an intermediary service or product. Permutations that are indirect are virtually limitless. They could involve users to products/services to users, or users to products/services to users. The variations in access networks, whether direct or indirect, fulfill customers' social demands for interconnectivity, regardless of whether the user to whom they are linked is someone else.

New and current Internet-based products, services, or technology will enable or provide customers with the perception of experiencing true interconnection between them and their products or services. A feeling of interconnection that can be experienced in real-time through verbal (e.g., audio calls, video calls), non-verbal (texts, chats, IM, photos), or asynchronous modes (e-mail, ecards, e-vites, Amazon e-gifts, etc.). In the future, new Internet technologies will be incorporated more fully into personal social interaction and experience, resulting in more options for communication. In the future, technology will be readily available to assist consumers in engaging in more intimate social interactions than marriage, dating, and personal encounters. Innovative services and products have already made consumers the pacemakers of emerging IT (Leimeister, Österle, & Alter, 2014). For instance, Communication technologies have changed the way libraries as consumers access information (Khan, 2016).

Intimate Stranger Phenomenon Distortion

In recent years, virtual reality (VR) has gained popularity. Developed in the 1960s by Morton Heilig, the Head Mounted Display or HMD is quickly becoming a mainstream technology (Burdea & Coiffed, 2003). Virtual reality technology and devices are currently found mainly in the gaming industry, but in the near future, they will be used to provide a wide range of social interactive experiences via the internet for personal and social interaction, like Heilig's Sensorama Simulator (1960), which immersed the user in their surroundings with sensory stimuli. The increasing availability of personal genomic products and services that decode individual genomic data through next-generation sequencing will eventually

combine virtual reality with personal genomic information in order to create a new internet-based intimate social experience product or service that uses genetic data to provide extremely nuanced virtual social experiences.

It was the authors' first assumption that the integration of and general access to a network of personal information, before or without the 'personal', would distort the concept of the familiar or intimate stranger (Milgram & Blass, 2010). It's interesting to note that Dr. Milgram is most famous for his social research and small-world experiment, which helped to develop the six degrees of separation hypothesis (Milgram, 1967).

I used the author's Conceptual Access Network Thesis to generate an idea of a distorted intimate stranger phenomenon as a basis for my forecasts for Internet-based products and services in 2017 and beyond, which led to Milgram's original study over fifty years ago. Furthermore, Milgram's invention was two years before the first computer-to-computer communication was enabled by ARPANET, the internet's forerunner (Volti, 2009).

A Reverse Ordering

The distorted intimate stranger phenomenon is a result of early exposure to genetic data before ever meeting or getting to know others. This results in an inversion of order at the core of the distorted intimate stranger phenomenon. Being in possession of this intimate knowledge will be equated with being extremely familiar with someone without actually knowing anything about them. This is an unintended consequence of such a reversal. By removing the awkwardness of not knowing anything about someone when meeting for the first time, it might ease the process of establishing new relationships. In contrast, when used to explain social rejection, it may encourage ignorance and misinterpretation.

A new generation of Internet-based products and services does not necessarily imply a bleak future. In spite of this, he believes that access-network-based products, services, and technologies will initially pose social and professional challenges. In the future, nepotism will be replaced by genetic discrimination, blurring the boundaries between personal, social, and professional life. It is possible that people will use personal information to socially reject each other or lose out to others in their professional careers. Hence, such blurring

might exacerbate existing societal inequities and create new ones as an unintended consequence. Using Internet-based products and services maliciously may readily elicit a desire for revenge in the offended, who may feel justified in killing their former colleagues or targeting those they believe are responsible. Even though this scenario may be distasteful, it would not be possible without access to people and information, or the presence of links between humans and information services via an Internet-based network, as defined by the Conceptual Access-Network Thesis.

CONCLUSION

It is true that satisfying consumer needs is an important part of the development or success of new Internet-based products and services, but the author has argued that its success depends on how well it can provide access to or create a network of potential users, products, and services for it to develop or succeed. In his Conceptual Access-Network Thesis, the author advances this claim.

In the beginning, DARPA's plan to connect computers centered around two concepts: access and network. Throughout the history of the Internet, there have been periods of change, but every Internet-based product or service has been anchored by concepts like access, system, group, and connection.

Despite the fact that the results of the adjustments weren't always better, the process of changing the internet and everything else goes through should be viewed positively regardless of the outcome. To determine the status of outcomes, determine their context, and decide whether a change process is warranted, we need to attribute the qualitative characteristic of good to the opportunity to improve that is provided by the process of change.

The outcome of an internet-based product or service following a change-driven process either allows previous conditions to be fully appreciated for how great they were, at worst acting as a social force driving a reversion back to the former state or, at best, forcing society to disengage from the previous state of affairs by distancing itself since it was much worse than initially thought. It is only through change that previous conditions can be appreciated, since accurate assessment cannot be

accomplished within a situation that is entrenched, no matter how good or bad it may seem.

As far as continuous change and context are concerned, it is ultimately through each that the other can be appreciated and achieved; however, stagnation is always unfavorable because it does not open up opportunities for improvement regardless of the conditions in which society and technology find themselves. Access and network are directly correlated to improvements in internet products and services, according to the Conceptual Access-Network Thesis. Because the internet offers opportunities for development and change, it will always be good regardless of what happens.

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