ENTREPRENEURSHIP, DISRUPTION, AND THE **PEACE OF GOD**

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ABSTRACT

For the first time in human history, technological innovation is occurring at a rate that is outpacing the ability of individuals and societies to adapt to the changes. Much of this innovative disruption is occurring in the Bio-Robo-Info-Nano-Energy (BRINE) arenas.[1] In this essay we will briefly explore some of the major disruptions that are currently redefining the business landscape, specific challenges these disruptions are creating, and various interventions that we can anticipate coming from the Christian community. Given the uncertain nature of technological trajectories and their impact, the discussion is intended to be catalytic rather than exhaustive.

INTRODUCTION

It is a valuable thing for us to anticipate many of the exciting and stressful disruptions that are both created by and have a profound impact on the modern business world. Ours is no different than past generations who created new futures and then had to adapt to flourish in the resulting new reality. The entrepreneurship that creates these new futures is a multidimensional field encompassing problem/opportunity recognition, invention, innovation, and value creation through new products or services, new processes and capabilities, and the launching of new organizations.

Our Western society often glorifies the role of the entrepreneur and praises the many ways in which entrepreneurs benefit society. But those same activities create disruption in society as well. Most people are aware of the creative destruction dynamic, if not in name, at least in practice. Automobiles displaced horses and buggies. The World Wide Web obsolesced the travel agencies. iTunes transformed the music publishing and distribution industries. Examples of this tension between old and new technologies abound. Most people believe that the cost to society from the loss of jobs related to the destruction of old technologies is offset by the gains of new jobs, resource efficiencies, and improvements to the quality of life brought by the new. But what happens when the pace of this change is so accelerated that society does not have time to take advantage of the benefits before the cycle of disruption comes back around?

In this essay we will briefly explore some of the major disruptions that are currently redefining the business landscape, specific challenges these disruptions are creating, and various interventions that we can anticipate coming from the Christian community. While this discussion is not meant to be comprehensive or exhaustive on the subject, it is intended to be both a conversation generator, and a solution catalyst.

▶ THE GREATEST CHALLENGE WE FACE

CYCLE OF CREATIVE ADAPTATION

"...the attempt to upgrade Homo sapiens is likely to change the world beyond recognition in this century. Scientific research and technological developments are moving at a far faster rate than most of us can grasp." [2]

As a species created by God to work the earth that He has prepared for us, the evolution of human civilization has unfolded along an amazing trajectory. While civilizations have enjoyed the fruits of their creative labor for millennia, the life of the average citizen has not always been much disrupted by the impact of innovations and discoveries that plays out over several generations. In fact, the typical historical patterns of innovation have looked something like this (See **Figure 1** also):

1. **Socio-Technical Equilibrium**: Human life is lived, learned and understood according to existing technologies, routines, and norms. Historically, this state exists for several generations.[3]
2. **Technological Disruption**: Entrepreneurial, inventive, and innovative processes introduce new possibilities into the midst of these technologies, routines, and norms. This a relatively brief, disruptive period of time.[4]
3. **Social Adaptation**: Human and societal adaptation occurs over a reasonable period of time, and

subsequent generations understand and live life according to these newly established patterns. Entrepreneurship, invention, and innovation continues accordingly,[5] with adaptation creating the new socio-technical equilibrium that lasts longer than the time to the next disruptive innovation.

For example, Gutenberg's printing press emerged in the 15th century as a disruptive technological innovation that had a profound impact on many societies over many generations.[6] This technology reduced the need for oral traditions – a critical source of knowledge and culture in many societies – and created the impetus for increased literacy across most cultures. Across several generations, adaptation occurred in the form of increased literacy, writing, and the flow of ideas across borders. Across the same generations, the unfolding adaptation of this technology created legal entanglements such as copyrights battles, libel, plagiarism, as well as social challenges in the form of censorship, book burnings, and propaganda.[7] Over the course of generations – centuries – such adaptation is easily accommodated (relatively speaking). We can trace the impact of the printing press through the Rennaisance, the Enlightenment, and the American and French Revolutions – right up to the next great disruptive technological innovations that launched the Industrial Revolution.

THE CYCLE OF CREATIVE DISRUPTION

As we know, the innovative/adaptive process is not as easy as the pattern above might suggest. Schumpeter's terminology of creative destruction highlights the disruptive nature of innovation.[8] As humans created in the image of a God of order, shalom, and sabbath rest, we rightly want to live out our productive, God-honoring lives with a great appreciation for the blessings of technology and the joy that innovation can bring.[9] This requires at least two specific steps:

1. Time to learn and **adapt** to technological/innovative developments.
2. Time to peacefully **enjoy** the comfort of a new technological reality.
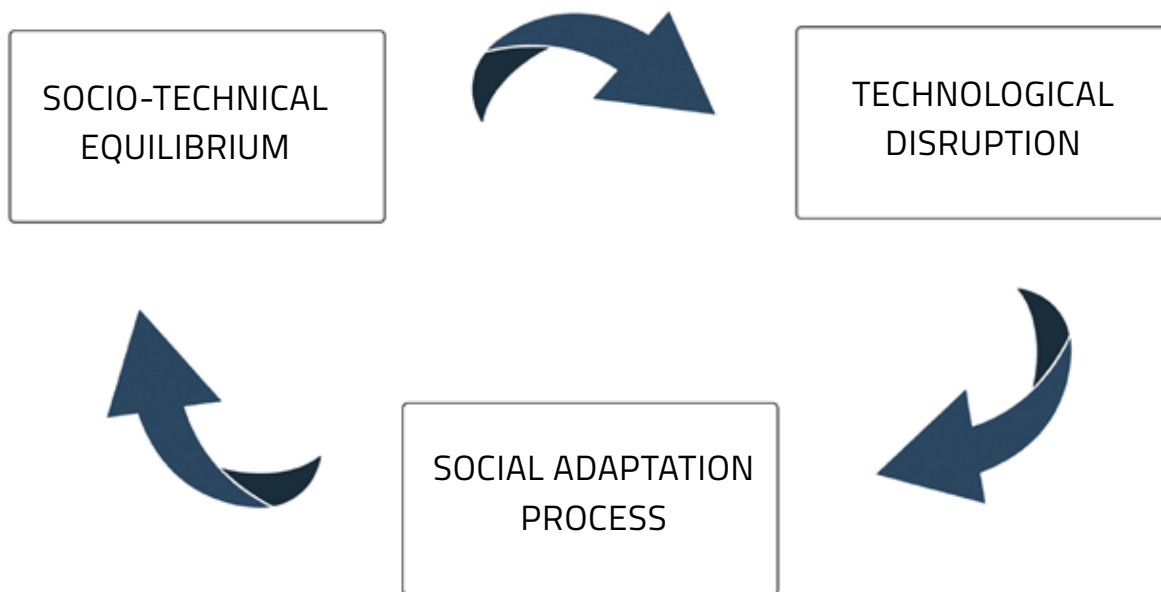
FIGURE 1
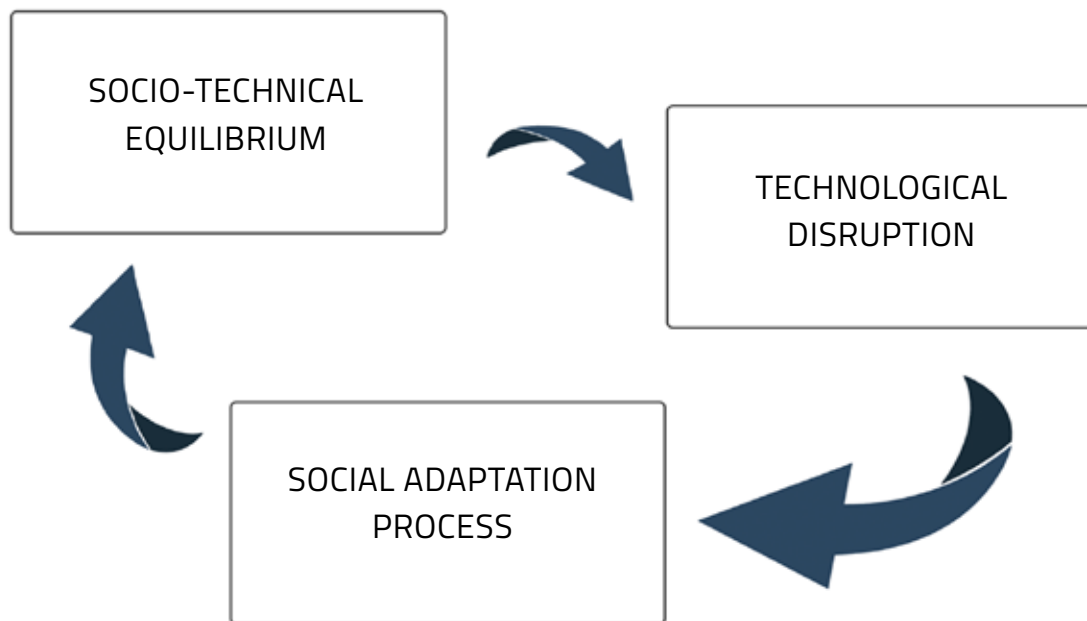## CYCLE OF CREATIVE ADAPTATION

FIGURE 2
CYCLE OF CREATIVE DISRUPTION

Historically speaking, technological change has occurred at an increasing pace over time. That is, each generation of entrepreneurs has created new and better methods and processes for creating the next generation of innovations.[10] While innovation is a typically positive part of the human experience, *it also has a disruptive effect on multiple aspects of life*.[11] The best way of understanding this impact is to consider that, while technological innovation and human's ability to adapt have both accelerated over time, human adaptation has finally fallen behind the pace of technological change .

In the post-industrial Molecular Age,[12] entrepreneurship is driving significant technological change, such that society is impacted every 5 to 7 years, according to Eric Teller.[13] In comparison, Teller further notes that human adaptation has also accelerated but only to approximately 10-15 years. In a sense, the Cycle of Creative *Adaptation* shown in Fig. 1 becomes a Cycle of Creative *Disruption*, given the shorter duration between Equilibrium and Technological Disruption (see **Figure 2** and note the shorter arrow between socio-technical equilibrium and technological disruption).

Friedman asked "...[I]f it is true that it now takes us ten to fifteen years to understand a new technology and then build out new laws and regulations to safeguard society, how do we regulate when the technology has come and gone in five to seven years? This is a problem."[14] Indeed, it is. While innovation is critical and necessary, the ability of humans to adapt to that change – both individually and collectively – is the capacity that ensures such change to be more beneficial than harmful.

What entrepreneurial and innovative trajectories represent the next likely technological disruptions that will have the most profound effects on business and the workplace? Kadtke and Wells coined the acronym "BRINE" to identify the areas of impending disruptive innovation.[15] Friedman quotes Wells on this subject:

> ...change is not just happening in the information domain. Biotechnology is changing even faster than information; robotics and autonomous systems are becoming ubiquitous; nanotechnology is poised to affect a range of commercially useful areas, from new materials to energy storage, and energy itself

is undergoing profound changes affecting all of society. Collectively, the rates of technological change in just these five areas – bio, robo, info, nano, and energy (BRINE, for short) – pose legal, ethical, policy, operational, and strategic opportunities, and risks, that no company or individual can address alone.[16]

That is, we are in the midst of an entrepreneurial era leading to disruptive technological change that will impact individuals and organizations as they interact with every aspect of modern life, from medicine to energy to work routines to job design to consumer materials to security to food to home comforts. Disruptions on this scale, given that innovation is occurring faster than humans have been historically able to adapt, will create numerous challenges that we will be wise to consider.

> **While technological innovation and human's ability to adapt have both accelerated over time, human adaptation has finally fallen behind the pace of technological change**

▶ CHALLENGES

If indeed the entrepreneurially inspired transformations that we are experiencing are centered in the areas of BRINE technologies, we can seek to anticipate the challenges to be encountered in the future. While the art of anticipation is an inexact one, we can note that the innovation–adaptation gap is likely to impact specific aspects of business life. Three stand out for us to examine: jobs/careers, human interaction, and work/life balance. These factors have a most immediate effect on Christian business practitioners, as we will discuss.

CHALLENGES TO JOBS AND CAREERS

Naturally we would expect rapid innovation and technological change to have an impact on job market opportunities and career paths. Nonetheless, it is not easy to predict precisely how BRINE technological advances will redefine job opportunities, since the innovative paths themselves are still developing. It is likely that Industrial Age and Information Age jobs will continue to dominate job markets for the next decade,[17] but as BRINE-related innovations become normalized across societies, jobs will shift to BRINE-related businesses, product/service distributors, support organizations,

and complementary fields.[18]

At least two major challenges exist relating to occupational shifts. First, any disruptive shift in the job market puts established workers at a disadvantage, as was seen in the shift from agrarian to industrial, industrial to service, and service to information societies. As jobs begin to disappear in industrial sectors, workers in those organizations will become vulnerable until they are able to re-train or re-educate into new job sectors. Second, as BRINE-related disruptions re-shape the job market, newly advanced educational and skill requirements will leave many workers unable to compete for anything more than relatively low-skill, service-oriented jobs. Some have referred to this emerging group as the class of "techno peasants."[19] Moving millions of workers through re-training and re-education and creating the best opportunities for the class of techno peasants thus constitute one of the greatest challenges of the BRINE age.

CHALLENGES TO HUMAN INTERACTION

Another aspect of society likely to be heavily impacted by trending technological advance is the frequency and manner of human interaction. If current innovative trends continue, humans will interact both *more continuously* and *less meaningfully* in the next two decades.[20] Communication is trending more global, instantaneous, and effortless. That is, information innovations continue to ease human interaction, regardless of location, and to enhance the ability to interact/communicate in real-time (e.g., streaming; live) without having to do much more than pushing a button or speaking a voice command.

The quarantines that accompanied the COVID-19 pandemic forced people across the globe to find new ways to work together, interact with one another, and even worship together. Companies such as Zoom capitalized on this opportunity, providing ways for approximately 100 million new customers to interact while also experiencing a drastic rise in stock price. The result of this forced adoption of remote work opened the eyes of many workers who realized they could be as productive at home as in the office. Employers now strug-

gle to draw workers back into the workplace, even though studies show that working remotely might diminish collaborative networks, especially among siloed remote workers.[21]

As we can see, such innovations have many possible positive outcomes, but are also challenging in the sense that such technologically enhanced communication capabilities may come at the cost of real-life human connection. We have all encountered the effects of a new generation of people who communicate and interact through social media and computer applications, with actual human contact becoming an extended casualty of those less meaningful – and often contrived – virtual interactions. A recent, powerful TED Talk by Tristan Harris explored the specific intent of application and media companies to control users' minds through habit formation and monopolization of attention.[22] In a similar vein, an intriguing episode of the technological futures series, *Black Mirror*, anticipates how modern societies will look when human interactions are dominated by the incessant hunt for social media rewards.[23] As entrepreneurship leads to advanced communication innovations, the challenges they create will increase.

> **Christian marketplace actors [must] create order amid chaos and alleviate uncertainties in the new [disruptive] environment .**

CHALLENGES TO WORK-LIFE BALANCE

While "work-life balance" can mean many different things,[24] we are specifically interested in the healthy balance (perceived or real) between people's work time and effort (on the one hand) and their non-work-related time and experiences (on the other hand). We share two specific concerns related to how trending technological entrepreneurship impacts life in the near-future:

1. Continuous Tethering. First, such advances make it increasingly difficult to separate work and other aspects of life. While BRINE advances aim to make our world more efficient and "better" (whatever "better" is understood to mean), there is a high likelihood that the boundaries between our formal workspace and our non-workspaces will become more and more blurry, until human identity is inextricably intertwined with one's job, career, and organizational membership. The increased access between workers and their organizations, jobs, and clients will create competitive pressure to respond to requests in real time. For example, a combination of biotech and informational advances may make it possible for health care providers to interact with patients 24/7, just as innovations in the nanotechnology world will create constant, systemic monitoring of the human body.[25] In this scenario, will health-care providers be always "on-call"?

2. Peaceless Professions. Second, the previously mentioned pace of change in technological innovation will likely create stresses and anxieties related to humans' inability to adapt continuously to the changes such innovation will bring. As entrepreneurial developments in each of the BRINE sectors create new jobs, technologies, manufacturing processes, and skill requirements,[26] the ability of humans to live in peace with their environment will be severely challenged. As robotics, automation, software, and other technologies perform the work that humans have had to perform, the resulting learning curves and displacement will certainly make it difficult for people to become comfortable and feel competent in the workspace. Even those whose jobs involve creating new, disruptive technologies will not be able to escape the demands and stresses of staying on top of the advancements.

▶ POINTS OF INTERVENTION

As humans work through any given ten-fifteen-year adaptation period, those of us in the realm of Christian business and academics must be a leading voice in thinking through the impact of these challenges, and how to mitigate them in ways that are consistent with technological trajectories while, at the same time, consistent with eternal biblical principles. The mediating effect of these interventions is il-

FIGURE 3
BELIEVERS' INTERVENTIONS IMPACT ON CREATIVE DISRUPTION
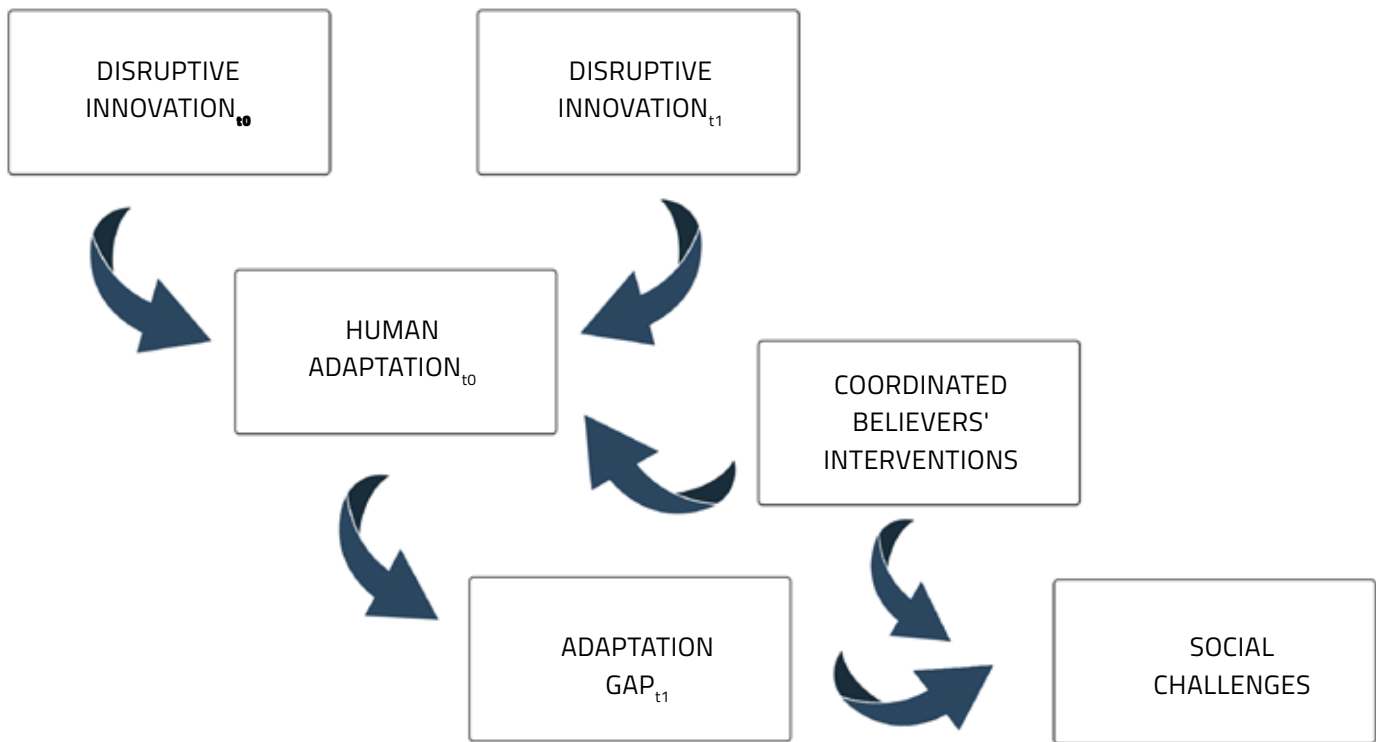
lustrated in **Figure 3**.

As illustrated in Fig. 3, the second disruptive innovation$_{t1}$ occurs before human adaptation is completed for the previous disruptive innovation$_{t0}$. The adaptation gap creates social challenges in various areas of life including work, jobs, careers, etc., as discussed earlier. What should occur next is a series of coordinated interventions by Christian (and other) marketplace actors to create order amid chaos and alleviate uncertainties in this environment . It should be noted that the suggestions provided below are intended to stimulate thinking and conversation and are not intended to be comprehensive. In the light of the present and coming upheaval, our interventions stem from two realities – *some things must change, and some things never change*. We begin by looking at some of the things that must change, even in the face of human evolution.

▶ SOME THINGS THAT MUST CHANGE

Some things must change in the light of technological upheaval. This, we believe, is where business leadership has an opportunity to create uncommon value. We must begin by considering how we, as marketplace ministers in the midst of the changes discussed above, might need to adjust accordingly. While we certainly cannot fathom all possibilities, we can indeed note a few expected adjustments in light of market changes. We will simply begin the discussion here by reacting to some of the changes explored earlier.

ADDRESSING THE CHALLENGES TO JOBS AND CAREERS.

As noted above, the job/skill/career shifts caused by

BRINE-related advances are disruptive and are likely to leave many potential workers unable to compete for anything beyond menial, low-skill, minimum-wage jobs, if they can work at all. As the body of Christ anticipates such changes, we are obligated to consider at least two types of activities.

1. First, we would do well to begin by assessing the potential impact of these changes on our own work environments and our colleagues for whom we have some responsibility. How will these people be affected amid job and career volatility? How will our organizations prepare for any possible disruptions? How many in our work family are vulnerable to falling into the category of "techno peasants"? Such an assessment will create conversation about how our organization will be stronger to live out its mission in the future marketplace. As followers of Christ, we have a special obligation to protect the weak and vulnerable, through intentional acts of anticipation, interpretation, intervention, and adaptation aimed at alleviating the impact of the challenges created by disruptive technologies, as will be discussed below.

2. Second, the ministry of adaptation. Based on organizational assessments, Christ-centered (including marketplace) ministries need to be ready to participate in adaptation programs, with Christian businesspeople leading the effort. Christian business leaders must be prepared both to engage their own organizations in navigating the adaptation process, as well as serving the larger community in overcoming the consequences of market and social upheaval. At the very least, these coordinated efforts will likely include assistance that can be provided to those who have already been (or are likely to be) impacted by job/career upheavals brought about by innovative trajectories. This includes the re-training and re-education already discussed, as well as a broader effort to build assistance programs for that sector of the population constrained by education and skills gaps. They are not likely to overcome without such assistance. Many of these efforts cannot be accomplished by business leaders alone. They require coordination with churches and other ministries.

Coordinated efforts like these will provide a greater capacity to train and employ a new generation of servants in the body of Christ. Kyle Garman suggests that the modern entrepreneurial and innovative changes discussed earlier have resulted in three major consequences: movement from knowledge scarcity to knowledge abundance, replacement of human workers by robots and AI to perform repetitive task jobs, and the emergence of a strong gig economy.[27] In the midst of this shift – and the adaptational challenges it has caused – Garman offers up what he believes is an urgent solution – the teaching and development of an entrepreneurial mindset in the emerging generation of workers.

Garman defines entrepreneurial mindset as "a set of attitudes, behaviors, and skills" aimed at opportunity recognition and development.[28] Thus, we understand entrepreneurial mindset as that which seeks and sees opportunities to create solutions and bring these solutions to fruition in new businesses, products/services, and processes. While Garman focuses on Gen Z students and workers, the process of helping all displaced workers will be aided to the extent that such workers are taught to think in terms of entrepreneurship, problem-solving, and value creation, as an alternative to the Industrial Age skill- and mind-sets for which previous generations have been primarily prepared. We note that it is also possible (likely) that a burgeoning entrepreneurial mindset in the marketplace may accelerate the pace of technological innovation. Thus, the solution creates its own challenges.

In general, Christian businesspeople and other believers will play a vital role in building ministries to a newly displaced class of workers. This may include designing job categories that can incorporate their existing skills, training in the entrepreneurial mindset that fits workers for modern job markets, and other ministries that assist in employability adaptation. For example, the businesspeople and ministers of Venture Church in Keller, Texas have partnered to create a business incubator where members and other Christians in the community can gain the knowledge and mentoring needed to create local businesses.

ADDRESSING THE CHALLENGES TO HUMAN INTERACTION.

As noted above, human interactions are at risk of becoming both more frequent and less meaningful as a result of technological innovations and usage. Human interaction is a critically important part of God's design. To the extent, however, that modern innovations have a negative impact on the nature of human interactions, we must expect that humans will be harmed in their reflection of God's image as relational

beings.[29] Naturally, technology can enhance communication frequency and speed. Yet it also eliminates privacy boundaries, provides an opportunity to create and exploit false personae, and diminishes the frequency of meaningful human contact.

Given that communication and interaction technologies pose problematic challenges for employees and consumers, our response must consider these two key stakeholders. That is, we must at the very least engage in interventions that:

1. Ensure *employees* have consistent opportunities to engage in meaningful human interaction, both professional and cultural.
2. Ensure our products and services – and marketing efforts – include information and opportunities aimed at protecting *customers*' relational well-being.

A special example of these challenges involves the proliferation of digital technology in online/distance learning programs. Volumes have been written about the glories to be had in the online learning space – lowered (some) costs, convenience for working students, accessibility of coursework, access to digital content, comfort in communications for more introverted students, etc. But the online/distance learning environment has its costs as well. Because many of these costs are more suspected than proven – reduction in academic standards, diminution of faculty interaction with students, of student-student interactions, reduction in dynamic learning potential (due to no face-to-face contact), ease of cheating, asynchronous connection, etc. – we must endeavor to understand the cost-benefit equation that realistically defines this tradeoff. In essence we may suspect that the lack of human interaction in the online learning environment – as well as in the increasingly digitized and automated workplace – has a net negative impact on the humans involved in the enterprise. Whether through traditional online education, massive online open courses, or immersive learning experiences, we are far from truly understanding how these technologies will transform and take center stage in the coming industry-education partnership.

ADDRESSING THE CHALLENGES TO WORK-LIFE BALANCE.

As noted above, modern technological advances make it possible to be "at work" at all times and places. As markets in-corporate technological innovations that eliminate work-life boundaries, believers in the market arena must proactively redefine the workspace for themselves and their employees in a way that is consistent with biblical shalom and peace. God specifically drew a line between a time for work and a time for rest, commanding us to celebrate/observe the sabbath consistently.[30] We shall certainly be called to adjust our organizational practices in light of changes in technology and culture, but we must find ways to do so that ensure our (and our employees') work is never a barrier to genuine sabbath rest.

In this context, we would expect Christian (and other) leaders to pursue at least four meaningful interventions:

1. Redefine workspaces around new possibilities, including hybrid and remote work options that allow for productive work while allowing for attention to the rest of "life."
2. Determine communication boundaries (e.g., blackout periods, including hours, days, and/or times of respite) that allows for real 'letting go.'
3. Structuring workflows to ensure a real sabbath can be enjoyed.
4. Ensure that all work participants are able to engage in meaningful work while also disengaging from work as necessary.

For example, faith-based companies such as Techless provides technology resources that help believers maintain healthy boundaries of time and address the negative influences that other technology companies ignore.[31] Techless utilizes a capability-limited "smartphone" that can be used for practical purposes without the distractions created by most smartphone apps.

It becomes imperative for believers to use new technologies, methods, and resources to build a common understanding of what it means to be an integrated follower of Christ in the new marketplace. As we ride the wave of BRINE-type entrepreneurship, we must become exemplars of peace in the same moments as we exhibit innovation and value creation. The real balance we must pursue is that which is inherent in the paradox of *peaceful disruption* – the true shalom of an eternal God in the midst of the seeming chaos of entrepreneurial excitement. Even as we navigate these waters, and work to bring about that which must change, we are encouraged by the fact that some things never change.

SOME THINGS NEVER CHANGE

Three important points seem most critical to guide our thinking as we navigate – and help others navigate – the watershed changes associated with accelerated technological disruption. With these points in mind and in practice, we will be able to assume our roles and take our steps on this quaking landscape. These three immovable points are:

1. We must always live out our love for God and our neighbors;
2. We must always participate in the ministry of reconciliation;
3. We must always seek the Peace of God, and be still, knowing that He is God.

LOVING GOD AND OUR NEIGHBORS

Living out the greatest commandment is not contingent upon time or technology. When queried about which is the greatest commandment, our Lord replied:

"The most important one," answered Jesus, "is this: 'Hear, O Israel: The Lord our God, the Lord is one. Love the Lord your God with all your heart and with all your soul and with all your mind and with all your strength.' The second is this: 'Love your neighbor as yourself.' There is no commandment greater than these." (Mark 12:29-31 NIV)

As we consider the meaning of this command in the context of technological change, we note that the command is not conditional. It is eternal and universal. This should, in fact, give us great relief and peace. Our great and exciting calling then becomes, *how* do I love God more in the midst of this economic upheaval? How do I love my neighbor more as we all struggle to make sense of the new normal, even as it ceases to be normal in the near future? Our approach to adapting to modern technological change must include love – a notion that does not show up in many discussions of entrepreneurship or technological innovation but should. Addressing this issue in strategic planning meetings, product development meetings, marketing initiatives, and other business activities prompts valuable questions such as:

- Do our products and services continuously reflect a love for God and a desire to express that love to our neighbors?
- How might our products/services alleviate our neighbors' adaptation problems caused by ongoing entrepreneurial change?
- How do we balance the benefits of upgrading or adding new technologies with the stresses these changes add to our employees?

PARTNERS IN THE MINISTRY OF RECONCILIATION

It is easy to lose sight of the fact that in living an abundant life that glorifies God we have no greater post-salvation reason to operate in this physical realm than to live according to the call to be Christ's partners in the ministry of reconciliation. As Paul states in 2 Corinthians:

Therefore, if anyone is in Christ, he is a new creation. The old has passed away; behold, the new has come. *All this is from God, who through Christ reconciled us to himself and gave us the ministry of reconciliation*; that is, in Christ God was reconciling the world to himself, not counting their trespasses against them, and *entrusting to us the message of reconciliation. Therefore, we are ambassadors for Christ, God making his appeal through us...* (2 Cor. 5: 17-20a NIV; emphasis added)

God is in the business of reconciling creation to Himself. While it is easy to become distracted by the lights and flash of this world, especially as they shine more brightly and pulse more rapidly, our reason for being here is primarily as ministers of reconciliation. We co-labor with Christ (1 Cor. 3: 9), working to reconcile our neighbors to God through repentance and salvation, to each other through peace-making, and even to themselves.

The means by which God has gifted us to carry out this work is through our vocational calling. For those He has gifted for business, our place of ministry is in the marketplace. We cannot – must not – allow the challenges of modern technological upheaval to distract from or diminish the importance and urgency of this primary mission. Rather, we must search for ways in which we can harness the God-given powers of technological innovations and change to better facilitate ministries, missions, and reconciliation in the marketplace.

As examples, if we understand ourselves to be marketplace ministers of reconciliation, how might that ministry be affected if our neighbors (employees, customers)

lose their sense of peace and stability in a world of constant change and turbulent employment? What types of positive impact might businesspeople create through their products, services, interactions, and presence – impacts that point specifically to the Source of the peace, stability, and hope that we represent? How does the turmoil of a disrupted world create an opportunity for us to bring reconciliation to our own corner of the marketplace?

SEEK THE PEACE OF GOD, AND BE STILL, KNOWING THAT HE IS GOD

In the face of disruption, disequilibrium, and distraction, those of us who *can* make a difference in the marketplace and in our communities are called upon to discern order out of chaos. We must lead others – employees, customers, partners – in the midst of stress and anxiety, to stop, slow down, breathe, and heed the words of the Psalmist:

"Be still, and know that I am God.
I will be exalted among the nations,
I will be exalted in the earth!" (Psalm 46: 10 ESV)

and of the Apostle Paul:

do not be anxious about anything, but in everything by prayer and supplication with thanksgiving let your requests be made known to God. And the peace of God, which surpasses all understanding, will guard your hearts and your minds in Christ Jesus... What you have learned and received and heard and seen in me—practice these things, and the God of peace will be with you. (Phil. 4: 6-7, 9 ESV)

Such a promise is both comforting and encouraging to those who suffer the stress and anxiety of living in a world in which we are constantly behind the pace of change in all aspects of life. As technology, work, and culture re-form around us, we are to be a witness to others about the peace of God, the certitude of His presence, and the promise that we need be anxious of nothing. That is the real treasure of this scriptural promise – that as much as things change around us, God's promises do not change, and we can have peace in His presence. We can be still, knowing that He is God, knowing that He is not surprised by the technological change around us. And most of all, he is not supplanted by our mastering of the very nature that He created. In fact, He commanded that we should exercise dominion over the earth – as His stew-

ards, not as His usurpers. *This is our message to our neighbors – be at peace as we work out our calling in Christ.*

It is in this context that we are able to foster shalom for our organizational participants. More practically speaking, we may:

- Create and/or re-design jobs such that workers face reduced stress. Explore new ways of managing time, and of designing project trajectories.
- Create organizational communications processes that protect work-life balance. As alluded to, Christian businesspeople must create ongoing conversations that invite member input and feedback related to the impact of work processes and new technologies on morale, health, and families.
- Assist organizational members in establishing healthy identity through meaningful connections, beyond hierarchical relationships. If technological change has made communications impersonal (unhuman) and increased uncertainty in workers' identities, organizational interventions might include the development of new social interactions, and a culture of valuing fellowship.

▶ CONCLUSION – WHAT WE CAN DO NOW

The interventions suggested above are simply a first step in considering our collective response to the expanding adaptation gap. We invite conversation on these topics, and we close with a final exhortation to Christian business practitioners to pursue four value-adding paths.

ANTICIPATION

Based on what we have described in this paper regarding the criticality of entrepreneurial innovation and the acceleration of technological disruption, believers in the marketplace will help their stakeholders to the extent that they create routines, processes and tools to explore their industries and the general economy for pending disruptions. Beyond a practitioner's network and own sources, there are several tools that do some of this work for us, such as Non-Obvious,[32] which endeavors to help practitioners connect dots and anticipate the future, and *Wall Street Journal*'s The Future of Everything podcast and newsletter,[33] which aims at identifying

impactful movements and trends across sectors.

INTERPRETATION

Beyond the value of anticipating trends, innovations, and disruptions, leaders must assist their stakeholders in understanding the potential implications of current and pending disruptions. That is, Christian managers and leaders begin the peace-making process by engaging in sense-making. Weick describes this sense-making process as a "springboard to action" helping organizational members understand the environment in which we operate, even as it changes.[34] In the midst of technological and organizational disruption, sense-making that leads to confident action is a valuable ministry.

INTERVENTION

As described in this paper, the adaptation gap creates opportunities for interventions on the part of prepared business leaders. The interventions described herein speak mostly to those business leaders living out a biblical calling in the marketplace, aimed especially at the challenges of job and career disruption, communications and relational diminution, and challenges to work-life balance.

ADAPTATION

Beyond the more immediate interventions that address the disruptions to our stakeholders' lives, Christian business leaders must also create the conversations that lead to personal, organizational, and market adaptations in the face of societal adaptation gaps. If the pace of technological disruption has accelerated, business and other leaders must be the voices of reason where disruptions are chaotic,[35] and work to create adaptations that will otherwise lag. We are indeed agents of order, created in the image of a God of order.

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ABOUT THE AUTHORS

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NOTES

1 James Kadtke and Linton Wells II, "Technology is a Strategic National Security Component," *Signal Magazine* 69 (2015): 27-29.

2 Yuval N. Harari, *Homo Deus: A Brief History of Tomorrow* (New York: Random House, 2016), 20.

3 See Jared Diamond, *Guns, Germs and Steel* (London: Vintage, 1998); and Paul DiMaggio and Walter W. Powell, "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," *American Sociological Review* 48 (April 1983): 147-60.

4 Connie Gersick, "Revolutionary Change Theories: A Multilevel Exploration of the Punctuated Equilibrium Paradigm," *The Academy of Management Review* 16, no. 1 (1991): 10–36; and Josef A. Schumpeter, *Capitalism, Socialism, and Democracy*, (New York: Harper & Brothers, 1942).

5 Thomas Friedman, *Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations* (New York: Farrar, Straus, and Giroux, 2016).

6 Our thanks to an anonymous reviewer for suggesting this example.

7 S. H. Steinberg, *Five Hundred Years of Printing* (Mineola, NY: Dover Publications, 2017).

8 Schumpeter, *Capitalism, Socialism, and Democracy*.

9 When using the term "technology" here, we are referring not necessarily to computers or electronics, but more broadly to the way(s) we know how to do something, given the tools at our disposal. For example, the ways we know how to heal human injuries and ailments can be understood as medical technology. We can similarly use this definition to understand communication technology, transportation technology, and others. Because such knowledge evolves over time, we can also refer to a "technological regime," or the ways that we know how to do something at a given point in time, given the tools at our disposal. Cf. Giovanni Dosi, "Technological Paradigms and Technological Trajectories: A Suggested Interpretation of the Determinant and Direction of Technological Change," *Research Policy* 11 no. 3 (1982): 147-162; and Richard R. Nelson and Sidney G. Winter, 1982. *An Evolutionary Theory of Economic Change.* (Cambridge, MA: The Belknap Press of Harvard University Press, 1982).

10 See Rita G. McGrath, "The Pace of Technology Adoption is Speeding Up," *Harvard Business Review* (November 25, 2013), https://hbr.org/2013/11/the-pace-of-technology-adoption-is-speeding-up. ; and Jay Samit, *Disrupt Yourself* (London: Pan Macmillan Publishers, 2015).

11 Carla Millar, Martin Lockett, and Ted Ladd, "Disruption: Technology, Innovation and Society," *Technological Forecasting and Social Change* 129 (2018): 254-260.

12 The Molecular Age (economy) is differentiated from the 'Industrial' economy and the 'Information' economy by Christopher Meyer & Stan Davis (*It's Alive: The Coming Convergence of Information, Biology, and Business* [Boston: Crown Business, 2003]) as emerging in the 21st century through the commercialization of scientific and technological breakthroughs at the molecular level. Examples include

13 As recounted in Friedman, *Thank You for Being Late*, 32.

14 ibid, 32-33.

15 Kadtke and Wells, "Technology is a Strategic National Security Component."

16 Friedman, *Thank You for Being Late*, 201.

17 See Madison Hoff, "30 high-paying, fast-growing jobs that are set to boom over the next decade," *Business Insider*, June 2, 2023, https://www.businessinsider.com/best-jobs-future-growth-high-paying-careers-2021-9 ; and Cecilia Seiter, "What are the Fastest-Growing Jobs of 2023?" *Forbes*, Feb. 1, 2023, https://www.forbes.com/advisor/education/fastest-growing-jobs/#:~:text=Fastest%2DGrowing%20Careers%20of%202023,-We've%20listed&text=Jobs%20with%20the%20highest%20projected,photovoltaic%20installers%20and%20physician%20assistants.

18 James Canton, *Future Smart: Managing the Game-Changing Trends that will Transform Your World* (Boston, MA: Da Capo Press, 2016).

19 Meyer and Davis, *It's Alive*.

20 Jacqueline Olds and Richard S. Schwartz, *The Lonely American: Drifting Apart in the Twenty-first Century* (Boston, MA: Beacon Press, 2009).

21 See Longqi Yang, et al., "The Effects of Remote Work on Collaboration Among Information Workers," *Nature Human Behavior*, 6 (2022): 43-54.

22 Tristan Harris, "How a Handful of Tech Companies Control Billions of Minds Every Day," TED Talk, YouTube, 2017, https://www.youtube.com/watch?v=C74amJRp730.

23 E.g., "likes," points, recommendations, etc. Such rewards lead to job opportunities and create relationship boundaries in the dramatization. Netflix, "Nosedive," *Black Mirror* series, Season 3, episode 1, 2017, https://www.netflix.com/watch/80104627?trackId=200257859.

24 E.g., Allison M. Konrad and Robert Mangel, "The impact of work-life programs on firm productivity," *Strategic Management Journal* 21 no. 12 (2000): 1225-1237.

25 Ben Rogers, Jesse Adams, and Sumita Pennathur, *Nanotechnology: The Whole Story* (Boca Raton, FL: CRC Press).

26 E.g., Eric K. Drexler, *Radical Abundance: How a Revolution in Nanotechnology Will Change Civilization* (New York: PublicAffairs Publishers, 2013), especially as regards the impact of nanotechnology development.

27 Kyle Garman, *The Entrepreneurial Mindset: Preparing Our Next Generation for the Future of Work* (Potomic, MD: New Degree Press, 2020).

28 ibid, 23.

29 For example, see Marc Siegel, "Dr. Marc Siegel: Are Wireless Headsets and Social Media a Dangerous Mix for our Teenagers' Health?", *Fox News*, March 17, 2019 https://www.foxnews.com/opinion/dr-marc-siegel-are-bluetooth-and-social-media-a-dangerous-mix-for-our-teenagers-health .

30 George Holden, *The Christian Sabbath* (Madrid: HardPress Ltd.,

2021).

[31] See their solutions at https://techless.com .

[32] www.nonobvious.com

[33] https://www.wsj.com/podcasts/wsj-the-future-of-everything

[34] E.g., Karl E. Weick, Kathleen M. Sutcliffe, and David Obstfeld, "Organizing and the Process of Sensemaking," *Organization Science* 16 no. 4 (2005): 409-421.

[35] See a clear articulation of the tension between necessary entrepreneurial development and the unforeseen consequences of such development at the Future of Life forum, www.futureoflife.com, whose mission states that they are, "Steering transformative technology towards benefitting life and away from extreme large-scale risks." See also Deepa Seetharaman, "Elon Musk, Other AI Experts Call for Pause in Technology's Development," *WSJ Online*, March 29, 2023, https://www.wsj.com/articles/elon-musk-other-ai-bigwigs-call-for-pause-in-technologys-development-56327f.