



SHALOM AND MORAL IMAGINATION FOR BUSINESS TECHNOLOGISTS

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Abstract: This essay addresses the problem “What are the ethical implications from a biblical perspective as technological changes reshape stakeholder relationships?” It characterizes the effects of technological change upon stakeholder relationships in microeconomic terms, so that various technologies can be understood in terms of their implications. It then describes the Christian ethical concept of “shalom,” and explores some of its implications for stakeholder relationships with biblical grounding. It next explores the microeconomic stakeholder implications of technological change in terms of shalom. It finally discusses moral imagination as a practical technique for understanding the ethical implications of a novel situation, envisioning practical and moral alternatives, and selecting an optimal alternative. This essay contributes to Christian business ethics by applying an exegetical approach to shalom to a class of contemporary business ethics problems (i.e., technological innovation), thereby overcoming the hermeneutical distance between the horizons of Scripture and contemporary business technology. It also contributes to Christian management practice by specifying a practical approach to identifying and solving ethical problems posed by technological innovation.

Introduction

As Christians strive to be salt and light¹ in the organizations in which they work, they will encounter technological change that influences the form and goals of that work.² Although these changes are driven by scientific and engineering innovation, their influences and impacts are cultural,³ and Christians therefore must discern⁴ whether and how such changes fulfill the cultural mandate to “fill the earth and subdue it.”⁵ Do these changes, in their implications for a person’s relationship with her- or himself, with God, with other people, or with the natural world, contribute to the peaceful interdependence among these (i.e., shalom)⁶, or do they disrupt that shalom? That is, do they qualify as “culpable shalom-breaking,” or sin?⁷

I will suggest in this essay that technology can contribute positively to human life in social and economic terms, but that some of its applications are exploitative or idolatrous rather than contributory. I will then argue that Christians should strive in their stakeholder relationships for “shalom,” that is, the peace between a person and God, others, her- or himself, and the natural world that is described in Scripture as God’s will for His creation. I will next explain how some technological shifts in stakeholder relationships are consistent with that shalom, and others are not. I will finally argue that moral imagination is one way that Christians may realize opportunities to be salt and light⁸ in the organizations in which they work, by recognizing stakeholder relationships that lack shalom and reconfiguring them so that they can enjoy such peace.

Technology and Value Creation

Every technology is invented to do something, at the very least to amuse its creator or its user. Therefore, all technologies embody their inventors’ intentions;⁹ in addition to unanticipated “off-label” uses, a technology does what it was invented for, to some better or worse extent. In particular, technology tends to serve the interests of one stakeholder group, capital, more reliably than it serves the interests of other stakeholders,¹⁰ because capital funds the research, development, production, and distribution of a given technology. Technologies that do not benefit capital are not funded through the development and launch cycle. So although some technologies are developed by and for other stakeholders (as workers may create new tools, or consumers may build freeware), most technologies need to earn a return on their funders’ investments. In particular, this phenomenon explains the paradox of increasing prevalence of labor-saving technologies in workplaces around the world, while hours worked and wage growth have stagnated for many workers: labor-saving technologies are not typically developed, purchased, and implemented to help workers make more money with less

effort, but instead are intended to help the purchasers of that capital equipment make more money with less labor (or less-expensive labor).¹¹

There are three ways that a new technology can generate value for its owner or seller. One is by creating value for the user, as the user is able to do something heretofore difficult or impossible, or is simply able to do something faster or better. A dishwasher does something that people have done for centuries, but vastly reduces the time that people spend at it, and in many cases does a better job. An airplane makes transcontinental travel (or even some daylong business trips to another state) possible, when the time required for these activities would have once been prohibitive. These things have value, and that value is divided between the user, the owner, the seller, and the inventor; for instance, if I value getting from Chicago to Los Angeles at the start of March in a matter of hours rather than days more than I value \$500, then I buy the ticket and take my flight. If that time savings was worth \$1200 to me, then the \$1200 of value created by the technology is divided into \$700 of consumer surplus¹² and \$500 of producer surplus¹³ (assuming that the seat would be flown empty if I hadn’t bought it, so selling it to me is a pure \$500 gain to the airline). The airline in turn leased an airplane in anticipation of selling seats on it, whose value exceeded the cost of leasing and operating the airplane . . . and Boeing designed and built the airplane in anticipation of selling it for more than its all-in cost to the company. Everybody wins. So far, so good.

But, there are other ways to create value for the owner or seller of a technology. One is by using the technology to appropriate more of the other party’s surplus. For instance, as I surf the web and browse new winter coats, the servers hosting the pages I visit may recognize my physical location as being populated mostly by people of a certain socioeconomic status. In anticipation of my estimated greater will and ability to pay for a new coat, those servers present me with higher prices than they present to visitors from lower-income zip codes. That technology creates value for the user (i.e., the website I visit), and the seller (the developer of the software), but not for me. Similarly, I may use OpenTable to book restaurant reservations; restaurants pay OpenTable to manage their reservations, and to direct diners to them, both of which have value to the restaurant. But perhaps I use OpenTable to reserve a table right before walking into the restaurant that I was about to enter anyway, just to garner reward points in the application. I can use those points for a gift certificate in a few months. But the restaurant has directly paid OpenTable (and indirectly paid me) for something that was going to happen anyway. OpenTable and I have cooperated to exploit the restaurant.

Finally, technology may be used to generate value by creating or obscuring externalities. Factory automation raises productivity in part because machines do the work of some people, so that the people who remain produce

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more total value of goods with less labor overall. Factory automation also raises productivity by pacing the remaining people, who must keep up with the machines. In some workplaces, people run the machines. In other workplaces, the machines run the people.¹⁴ (This is not unique to auto-parts plants; salespeople whose work has been automated by a Customer Relationship Management software package may experience something quite similar). The people may or may not be paid any more than before the automation. They may also take risks with their own safety to keep up with the sociotechnical systems in which they work.¹⁵ To the extent that this cost of higher productivity (i.e., workers exerting greater uncompensated effort, or taking risks with their own safety) is not borne by the owners of the newly-automated organization; it is external to their system of costs and benefits, so economists call it an "externality"¹⁶. Similarly, the replacement of help desk staff with "self serve" technical support saves money for whatever organization once sustained the cost center of the help desk, but did so by pushing the work of resolving issues to the users.

So, there are many ways that technology can be used to generate value for its inventors, sellers, owners, and users. But not all of those ways center upon the creation of economic value; some of them rely significantly or wholly on the redistribution of economic value. And some technologies exploit users or others in ways that are subtle, or that even enlist users in the exploitation of others for the benefit of a technology's inventors or owners.

Shalom for Stakeholders

What, then, should Christians do to be salt and light¹⁷ when faced with technological changes in the workplace? I argue here that a Christian's ethical orientation should be toward shalom¹⁸, that is, peace with God, self, others, and creation. Such peace is not merely a lack of conflict, but rather entails a set of dispositions, actions, and relationships conducive to individual and collective thriving. Such thriving includes virtues that are familiar to many businesspeople as valuable for success in nearly any organization. Prudence¹⁹, diligence²⁰, thrift²¹, integrity²², and generosity²³ are repeatedly commended in the Wisdom

literature of the Old Testament, and were as valuable for the ruling and commercial classes then as they are today.²⁴ Shalom can be understood in part as an economic order in which the creation mandate of Genesis 1:28-30 is fulfilled by humans laboring in ways both toilsome and creative, to meet their own and each other's needs through production and exchange. It even seems that market exchange and free enterprise are, in limited ways, consistent with that shalom.²⁵ However, shalom is also a theme in the prophetic literature of the Old Testament²⁶ where deceptive, coercive, and exploitative business practices are repeatedly condemned²⁷, but the inclusion of the excluded and the restoration of the fallen is also repeatedly promised.²⁸ This God-given order for human life is normative for all relationships, and culpable violation of that order is sin.²⁹

What are the specific requirements of shalom for business? Unfortunately, while humans can know something of God's intended order with the enlightenment of the Holy Spirit, through both the study of the created world and the study of the Scriptures, human sinfulness obscures that order in both cases.³⁰ Therefore circumspection is always proper when attempting to elaborate the meaning of shalom for any domain of human life.³¹ Even so, a number of practices seem consistent with Biblical teaching on business practices.

In general, a business exists to serve its customers with products and services that promote human flourishing, to provide its employees with the means of livelihood through meaningful and creative work, and to provide investors with a return on their investment.³² The first two purposes especially are consistent with the creation mandate of Genesis 1, and therefore ought generally to take precedence over the third purpose; while all three are good and necessary, the third is generally to be satisfied while the first two are to be maximized.³³ Moreover, the theme of humble and caring service in the best interest of others is a consistent theme in the Gospel of Luke³⁴, which contains a preponderance of the teaching on economic activity in the New Testament.³⁵ Jesus even spoke about³⁶ and Himself demonstrates³⁷ a reversal of roles in which the master serves the servants³⁸, indicating that mutual service is a crucial aspect of God's intended order among people. As products and services today are typically provided by businesses rather than furnished through home

production by household laborers, it seems appropriate to extend this ethos of mutual service to today's employment relationships and supplier-customer relationships.³⁹

Moreover, another theme in Luke's Gospel is declining to create patronage relationships in which one person or organization becomes a dependent client of another.⁴⁰ Patronage was widespread in the Roman empire, and savvy heads of households (or their servants entrusted with management responsibilities) sought opportunities to expand their patronage networks.⁴¹ Client households, having become dependent upon the patronage of a more powerful household, could then be exploited for economic rents⁴², whether providing goods or services at a discount or purchasing them at a markup. Contemporary franchisees, or firms subject to the demands of a controlling shareholder, or organizations that have a few powerful customers or suppliers, sometimes experience similar patronage relationships in which their patron demands additional purchases of slow-moving inventory, or the reduction of headcount to fund larger dividends, or renegotiations of payment terms. Yet Jesus spoke of freeing people from patronage when He quoted from Isaiah while speaking in the synagogue at Nazareth⁴³... declined to become a patron of a Roman centurion who clearly understood that his request for the healing of his own servant would make him a client of Jesus⁴⁴...and instructed His disciples not to enter patron-client relationships when He sent them into the countryside.⁴⁵ Patronage does not seem to be consistent with shalom.

These principles offer some guidance for the Christian businessperson evaluating a technological innovation. As discussed in the prior section, a technology often generates economic value for its inventor or seller in one of three ways: creating value for the user, enabling the user or owner to capture more of another party's surplus in economic transactions, or imposing or obscuring externalities that shift some of the owner's or user's costs to another party. Each one can be evaluated in terms of shalom.

Evaluating value creation through technology in terms of shalom

Creating economic value for users seems non-controversial, and in strictly economic terms it is. However, recall that any technology embodies the values of its inventor.⁴⁶ Moreover, the designer's intentions and the values that shape them may sometimes be embodied subtly in a given technology, so that they come to be taken for granted as "the way it works" for users.⁴⁷ For instance, social media users who become accustomed to photographically documenting their joys, sorrows, outfits, and meals online for a growing audience of followers and "friends" may with little consideration start to think of those events in their lives as the basis of a competition, providing them with readily-measurable status, and the social media provider with motivated and creative drivers of site traffic and

advertising revenue. Users may adopt a technology for reasons that are apparent to them, but come to be influenced by the underlying values of its inventors in other ways without realizing it.⁴⁸

The values that create economic value ought to be appropriated discerningly, because economic value may itself become a consideration that overwhelms all other values. This is a caution that is familiar to many Christians, as "the love of money is a root of all kinds of evil. Some people, eager for money, have wandered from the faith and pierced themselves with many griefs."⁴⁹ While money is clearly useful for purchasing a variety of goods and services that contribute to human wellbeing, failing to discipline the accumulation of capital with the question "how much is enough?" is the sine qua non of greed.⁵⁰ Yet the reduction of the range of other human goods to some quantifiable measure of utility, for which money is a convenient though rough proxy, is both the key to the power of rational management⁵¹ and its greatest weakness.⁵² That reduction allows a score to be kept, which separates winners from losers and good ideas from impractical ones; it also has the advantages of simplifying accountability and motivating both managers and the managed, and coordinating interests and incentives across a range of stakeholders who are presumed in the final accounting to simply want more capital for themselves.⁵³ Yet human wellbeing cannot be reduced to a single linear measure of utility⁵⁴, and attempts to manage as if it could ignore the other irreducible qualities of work done well⁵⁵, deny participants in business practices the opportunity to enact their virtues⁵⁶, debase the relationships among people who are presumed to be only using one another⁵⁷, and ultimately foster an unsustainable economy of appropriation and exploitation.⁵⁸ To the extent that technology fosters both efficiency and control, using it could be construed as contributing to the rationalization sketched above -that is, to the idolatry of money.

Living and working faithfully in the midst of idol-worship has been a challenge for Christians since the New Testament era, and Paul's first letter to the Corinthians provides some helpful guidance.⁵⁹ The cults of the Greco-Roman pantheon permeated the civic and economic life of ancient Corinth, and gatherings of political or trade associations often occurred over meals that incorporated the ritual sacrifice of the entrée to the patron god or goddess of the group before it was served to the guests.⁶⁰ Meat sold in the marketplace or served in a pagan's private home sometimes got the same treatment.⁶¹ Because refusing such food was socially isolating, some Corinthian Christians sought Paul's permission to partake, on the grounds that because the pagan gods were fictional their idols were powerless, and therefore Christians who understood these facts could eat such food with impunity.⁶² Paul instead responded that while it was true that the pagan gods were "nothing at all"⁶³ and "everything is permissible"⁶⁴, "not everything is beneficial."⁶⁵ Christians ought to aspire not to

greater freedom from constraints, but instead to the self-discipline that enables their witness.⁶⁶ Partaking in food that gives the impression of syncretism can confuse fellow Christians and pagan associates alike about the loyalty of the believer to God alone.⁶⁷ Because that confusion has shown itself to be so dangerous throughout the history of God's people⁶⁸, it falls short of the love for others and God (i.e., shalom) proper to believers.⁶⁹ Therefore, while Christians are permitted to freely consume food bought in the marketplace or served in a pagan home without concern for its unknown ritual history, if they are advised that it has a ritual history Christians must refuse such food.⁷⁰

Can Christians use technology in business or otherwise participate in contemporary management without subjecting themselves to idolatry? Paul's guidance recounted above is useful today. Designing, distributing, or using technology that does something that wasn't possible before, or does something better or cheaper than was possible before, would seem to be no less permissible than buying meat instead of bread at the local market. But affirming the reduction of human goods (whether virtues, relationships, or the panoply of non-economic values that stem from the range of human practices) to transactional economic value would seem to be no more permissible than acquiescence in a ritual consecration of a meal. Whether that affirmation consists of using automated services (like self-scanners at the grocery) precisely to avoid personal interaction, or using an online intermediary to choose a hotel on the basis of price and aggregate reviews without reference to the actual content of those reviews, or using gamification ("enhancing services with (motivational) affordances in order to invoke gameful experiences and further behavioral outcomes")⁷¹ to stoke users' competitive instincts and thereby elicit greater efforts⁷², Christians should resist using technology to flatten their business and personal interactions into a series of arm's length economic transactions. In a subsequent section, I will discuss how moral imagination can help Christians to enact shalom in these interactions instead.

Evaluating value appropriation through technology in terms of shalom

The second general form of value creation through technology, capturing a larger share of another party's consumer or producer surplus, is more straightforwardly problematic than the paradoxical benefit and idolatry of economic value creation. Deception and extortion (i.e., coercion) are straightforward ways to capture value from another party in a transaction, and are routinely condemned in Scripture.⁷³ Spearphishing (i.e., sending deceptive messages to email users in order to trick them into revealing their login credentials) and ransomware (i.e., using malicious code to lock a user's computer, and providing the password only upon payment of a ransom) are obviously unethical uses of technology. But more subtly, technology enables the creation of patronage relationships: raising users'

switching costs enables a technology's inventor or seller to subsequently extract economic rents from increasingly dependent users. Limiting the interoperability of software or devices with rival technologies can induce a user to commit to a single provider's platform rather than enjoying several of them, since the hassle of working around incompatibilities or learning one's way around a new user interface or re-creating lost data that doesn't transfer can be overwhelming. For instance, fifty-page user agreements that pop up on an electronic device in the midst of a routine task are one way that such dependence is exploited, since few users will abandon an application or even stop to read the new agreement. Although the dialog box that pops up collects putatively informed consent to gather ever more of the user's personal or behavioral information (to better serve the user with relevant advertising, of course), the threat to otherwise terminate a user's access to a product or service that they are in the midst of using is clearly if gently coercive. Leveraging the value of a product or service to increase users' dependence, and therefore the inventor or seller's future capability to command higher prices / more access to user data / more user tolerance of security or reliability problems / et cetera, is a means of capturing more of the value created by that product or service, that is, appropriating more of a user's consumer surplus. Nehemiah 5 describes a similar dynamic during the reconstruction of Jerusalem's wall during the reign of Artaxerxes, the king of Persia: Jews who lacked the resources to feed their families were sold food or lent money by "nobles and officials" with greater means, but at the cost of selling their daughters into slavery or turning over title to their fields and vineyards.⁷⁴ These nobles were using the value of their available grain to convert freeholding peasants into serfs, that is, becoming the patrons of those clients, the exploitative potential of which transaction was recognized and prohibited in the Mosaic Laws.⁷⁵ Nehemiah himself took offense at this arrangement, publicly berated those responsible, and exacted a pledge both to return the appropriated assets and to refrain from any such appropriations in the future.⁷⁶ Thus, even as the means of fostering dependency have changed since the eras of Nehemiah or Luke, doing so today still seems to be inconsistent with the shalom God intends for His people.

Similarly, imposing negative externalities upon another party also seems problematic. Imposing costs upon another person without compensation is condemned in Scripture, whether by negligently exposing others to risk (i.e., digging a pit and leaving it uncovered, resulting in the death of another person's draft animal)⁷⁷, or by withholding payment from workers.⁷⁸ Patronage, of course, increases the power of someone to leave such costs uncompensated. So technologies that shift foreseen uncompensated costs to others, as through job intensification in automated roles⁷⁹, would seem to be inconsistent with shalom. Technologies that negligently shift unforeseen

uncompensated costs to others, like information systems that increase the accessibility of sensitive information to authorized users but also to hackers in the case of the Equifax breach⁸⁰, would also seem to be inconsistent with shalom.

Moral Imagination

Even recognizing the violations of shalom described above can be difficult for committed Christians. Because technology embodies the values of its designers, often in a way that becomes taken-for-granted by its users and even the designers themselves⁸¹, holding alternative values does not necessarily mean that a designer, seller, or user will recognize the conflict. For Christians, this can be understood as a problem of religious incongruence: the believer's actual beliefs are not entirely coherent with each other or with the faith the believer espouses, and the believer's actions may also be inconsistent with that faith.⁸²

This problem can be overcome in part through moral imagination⁸³, which enables a decision-maker to recognize the moral shortcomings of the status quo and identify preferable alternatives⁸⁴. It occurs in three stages: reproductive imagination, productive imagination, and free reflection.⁸⁵ Reproductive imagination entails constructing a mental model of the situation at hand: what is happening, why it is happening, and the values that give it meaning. Doing this accurately and thoroughly is crucial for seeing "the realities as they actually are, not as they might have been, and not as we wish they were."⁸⁶ This stage is prompted by a "paradigm failure"⁸⁷, in which a person becomes aware that the situation at hand poses problems that her or his set of norms and ways of seeing the problem cannot solve; what is crucial is that it makes explicit the mental models that currently are used to justify the status quo. That step especially can help Christians to realize that something about the status quo is at odds with their faith commitments. Productive imagination then identifies alternatives: How else might the parties involved relate to each other? Why else might that happen? What other values might give those alternative relationships meaning? This stage generates practical and moral alternatives by reconfiguring elements of the reality at hand. Finally, free reflection evaluates these alternatives, by asking whether they are practically and morally appropriate to the situation, using the range of values identified in the productive imagination stage. Free reflection enables the decision-maker to identify an alternative potential reality that is both feasible and morally preferable to the status quo.⁸⁸

Moral imagination has been studied in simulations among part-time MBA students⁸⁹ surveys of businesspeople⁹⁰, and case studies in the field.⁹¹ These have revealed that an organizational culture in which ethics is important has a significant effect on employees' tendency to consider alternatives and evaluate them in ethical terms, though

that effect is strongest for employees who consider ethics less important to their senses of self, while employees for whom ethics is personally important are already more likely to exercise moral imagination and therefore less affected by organizational culture.⁹² Moral attentiveness (a person's tendency to evaluate situations in ethical terms) tends to promote moral imagination, and this relationship is stronger for more creative employees.⁹³ When moral imagination is exercised by businesspeople to realistically assess the inadequacies of the status quo, conceive new configurations of stakeholder relationships, and partner with other organizations to address problems that were unsolvable under the prior status quo, they can overcome problems like sweatshops in the apparel supply chain⁹⁴ or governance, corruption, and environmental impact in petroleum production.⁹⁵

Notwithstanding the influence of the concept of moral imagination in the business ethics literature, some readers may wonder whether the lack of Scriptural references above indicates a reliance upon "hollow and deceptive philosophy, which depends on human tradition ... rather than on Christ."⁹⁶ It is true that the origin of the concept of moral imagination described above is in the philosophy of Immanuel Kant⁹⁷, and not in the Christian tradition. However, the concept of common grace in the Reformed tradition of Protestant Christianity highlights that out of His love for the human race and His merciful will to prevent sin and ignorance from having their full effect, God gives insight even to people who do not know or acknowledge Him.⁹⁸ These insights are useful for thinking clearly and acting prudently, and even correcting Christians' own sinful errors, so it is valuable for Christians to discerningly avail themselves of those insights.⁹⁹

That said, such discernment requires asking whether the concept of moral imagination is at the very least consistent with the witness of Scripture. Bruno Dyck's careful exegesis of the Gospel of Luke with respect to the theme of economic relationships¹⁰⁰ revealed a repeated pattern of four phases of learning and action in the "journey narrative" from Luke 9:51 to Luke 19:40, whereby the disciples came to better understand the implications of Jesus's teachings about the Kingdom of God for daily life. This pattern was repeated three times between Luke 9:51 and Luke 13:30, before being repeated three times in reverse between Luke 14:1 and Luke 19:40. The "reverse cycles" recount "institutional change" (i.e., a shift in social norms and structures, like inviting the poor to a banquet in Luke 14), a "changed way of seeing" the situation (e.g., loving Jesus more than one's own family, also in Luke 14), an "action response," (e.g., welcoming home the prodigal son in Luke 15), and "problem recognition" (e.g., commending the shrewd manager who scattered his master's possessions by writing down his master's accounts receivable, before pointing out that one cannot love both God and money in Luke 16).¹⁰¹ The first stage in the reverse cycle, institutional change, bears some resemblance to

the reproductive imagination that comprehends a technological change to existing relationships within and across workplaces. The second stage, a changed way of seeing, bears a resemblance to the productive imagination that recognizes alternative values to those reified in the status quo and envisions alternative configurations of resources and relationships. The third stage, an action response, is typically seen in the business ethics literature as an outcome of moral imagination rather than a component of it.¹⁰² But pairing faith with works is crucial for Christian discipleship¹⁰³, and Dyck found in his exegetical study of Luke that acting on a changed way of seeing was crucial for the fourth stage in the reverse cycle: the Disciples' realization that the Kingdom of God differed in its values and practices even more than they had realized from the world they knew. Altogether, moral imagination bears some significant resemblance to the stages of the "reverse cycle" whereby the disciples learned to see the Kingdom of God in everyday life, though Luke's journey narrative

emphasized action as a part of the learning cycle rather than as its outcome.

Conclusions

While the moral implications of technological change in business can be difficult to analyze, I have suggested that the Biblical concept of shalom can help. In particular, while technology creates a bewildering array of foreseen and unforeseen effects on human relationships, grouping those effects into three general forms - value creation, value appropriation, and creating or obscuring externalities - makes those effects more analyzable. Shalom highlights that the latter two forms are exploitative of others, and therefore unbiblical, while the first form has idolatrous potential that can also violate shalom. Moral imagination can help Christians to discern the problems associated with new technological applications, and identify ways to

MORAL IMAGINATION: AN EXAMPLE

A Christian manager may identify an opportunity to install self-service checkouts at a chain of retail stores. Exercising reproductive imagination requires assessing the advantages and disadvantages of that opportunity, and the values underlying them. Such automation has a number of advantages: reducing the store's reliance on human laborers who may commit errors in customer service, miss work or show up late, or demand raises, attracting customers who prefer not to interact with other people during their shopping experience, and keeping greater checkout capacity available rather than having to staff up or down at peak times. The values underpinning these advantages include providing a more consistent transactional experience for the customer, reducing several aspects of operational variability, and of course making a return on investment from the prior two. The disadvantages include reducing personal interaction and perhaps relationships with customers, reducing the opportunities available to low-skilled laborers, and reducing the flexibility of the checkout experience to accommodate emergent or unusual customer needs (e.g., questions, or disabilities).

As inclusion of the excluded is integral to shalom¹⁰⁵, this change would seem to pose some problems. If the Christian manager were to engage in productive imagination, s/he might then consider alternatives: what if the checkout is not a barrier between the customer and the door, but instead is an opportunity to enhance the customer's experience through personalization and relationship? What if the checkout is an important opportunity for unskilled laborers to begin developing knowledge, skills, and relationships that prepare them

to advance to positions of greater responsibility in the store? After all, it is hard to match the transactional efficiency of the internet, so a bricks-and-mortar retailer may want to invest in a more compelling shopping experience rather than a more minimal one. Perhaps installing self-checkout stations but using them to handle peak times, rather than using them as the default checkout option and staffing up manual lines at peak times, would realize such goals. The manager might then engage in free reflection, to consider whether and how the shoppers, checkout clerks, and store owners are better off under such an alternative, and whether shalom is thereby better served. Without training in product knowledge or relationship-building techniques, checkout clerks may find their jobs stultifyingly transactional, and customers may be frustrated by the store's failure to adopt self-checkout. But if checkout clerks are empowered to assist customers with idiosyncratic requests and needs, educated on product attributes and combinations so that they can converse meaningfully with customers about their purchases, and trained on techniques for recognizing whether a customer wants to chat or is in a hurry, then their experiences and the customers' would be enhanced. They would gain opportunities to exercise virtues like love of learning or empathy, and bolster their opportunities for advancement. At least some customers would build cordial or even friendly relationships with checkout clerks. Peace among people and within people would increase, and the Christian manager would thereby enjoy peace with God.

resolve them. Future research on technology and shalom in business might extend this analysis by examining problems of unforeseen consequences of technology adoption, or problems of the appropriateness of control of other people enabled by technology.

In practice, Christians striving to apply new technologies appropriately might apply moral imagination as follows: when faced with an innovation of some sort, the first challenge is to explain what it does, why it works, and why that is valuable. Because technology in business tends to serve the interests of the capital provider who pays for its development and deployment, it is important to specify how the technology creates value: does it do something that wasn't possible before, or perhaps do something familiar somehow better? Does it appropriate economic surplus from other parties, or perhaps impose negative externalities on them? What values, economic or otherwise, are shared by its users, buyers, or others? Asking these questions facilitates reproductive imagination that makes explicit both what works about the status quo, and what might be morally problematic. Next, a Christian decision-maker should engage productive imagination and imagine some alternative configurations. What other values might be prioritized besides the ones identified in the prior stage? In particular, it can be valuable to re-order stakeholders¹⁰⁴: what if the technology in question were being used primarily to enhance the work-lives and material sustenance of the labor force, or to provide a good or service that enables customers to thrive, and only secondarily to generate a return on capital investment? That thought experiment can highlight opportunities to serve customers and labor, and may well also provide adequate or better investment returns. Finally, a Christian decision-maker should do some free reflection to evaluate the alternative configurations imagined in the second stage. Would they be feasible? Would they promote interdependence rather than dependence among stakeholders? Would they embody an ethos of service rather than one of being served? That is, would they promote shalom better than the status quo? Moral imagination can help the Christian businessperson to see alternatives that are more consistent with her or his beliefs, even for unfamiliar technologies.

To increase her or his capacity for moral imagination, a Christian businessperson could take several measures. First, knowledge of Scripture can help her or him to be "transformed by the renewing of [their] mind . . . [to] be able to test and approve what God's will is,"¹⁰⁶ enabling a better evaluation of the shalom of a technological innovation. Second, familiarity with both the experiences

of stakeholders, and the implications of technologies, increases one's capacity for both reproductive and productive imagination. Reading widely, meeting and conversing with a range of people, and taking opportunities to experience different parts of a business all help to develop a wider set of perspectives that can be brought to bear in either form of imagination.¹⁰⁷ Finally, practicing creativity in low-stakes problem-solving, that is, generating novel solutions and evaluating them for their practicality and appropriateness, can bolster one's capability for productive imagination and free reflection on more important problems.

Altogether, while technological change poses challenges for Christians striving to live at peace with God and others, moral imagination can help such Christians to identify opportunities to reconfigure their business practices and relationships in the service of such peace, sometimes even by adopting new technologies!

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NOTES

¹ Matthew 5:13-16. Also Bruno Dyck & Frederick A. Starke, "Looking back and looking ahead: A review of the most frequently cited Biblical texts in the first decade of the JBIB," *Journal of Biblical Integration in Business* (11, 2005), 134-153.

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⁸ Matthew 5:13-16. Also Dyck & Starke.

⁹ Monsma.

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¹¹ Ibid.

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¹⁴ David Hounshell, *From the American System to Mass Production, 1800-1932: The Development of Manufacturing Technology in the United States* (Baltimore, MD: Johns Hopkins University Press, 1984).

¹⁵ Peter Waldman, "Inside Alabama's auto jobs boom: Cheap wages, little training, crushed limbs," *Bloomberg Businessweek* (March 23, 2017). Accessed June 2, 2018 at <https://www.bloomberg.com/news/features/2017-03-23/inside-alabama-s-auto-jobs-boom-cheap-wages-little-training-crushed-limbs>.

¹⁶ Varian.

¹⁷ Matthew 5:13-16. Also Dyck & Starke.

¹⁸ Wolterstorff.

¹⁹ E.g., Proverbs 4, Proverbs 8

²⁰ E.g., Proverbs 6:9-11, Proverbs 10:4-5, Proverbs 10:26

²¹ E.g., Proverbs 6:6-8

²² E.g., Proverbs 10:9, Proverbs 11:1

²³ E.g., Proverbs 11:16-17; Proverbs 11:25

²⁴ Brueggemann.

²⁵ John Bolt, *Economic shalom: A Reformed primer on faith, work, and human flourishing* (Grand Rapids, MI: Christian's Library Press, 2013). Also, for instance, Proverbs 31

²⁶ Brueggemann.

²⁷ E.g., Isaiah 58; Micah 6:9-16; Amos 2 and 4

²⁸ E.g., Isaiah 58; Amos 9:11-15; Micah 7:11-20

²⁹ Plantinga.

³⁰ Bolt.

³¹ Ibid.

³² Jeff Van Duzer, *Why business matters to God (and what still needs to be fixed)* (Downers Grove, IL: IVP Academic, 2010).

³³ Ibid.

³⁴ E.g., Luke 7:1-10; Luke 12:35-38; Luke 12:41-48; Luke 22:24-30, as noted in Bruno Dyck, *Management and the Gospel: Luke's radical message for the first and twenty-first centuries* (New York, NY: Palgrave Macmillan, 2013).

³⁵ Ibid.

³⁶ Luke 12:37

³⁷ Luke 22:27; John 13:1-16

³⁸ See Dyck.

³⁹ See Dyck, and also Van Duzer.

⁴⁰ Dyck.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Luke 4:18-19

⁴⁴ Luke 7:1-10

⁴⁵ Luke 10:1-20. This and the two prior passages in Luke are discussed in Dyck.

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⁴⁷ Perrow.

⁴⁸ Monsma.

⁴⁹ 1 Timothy 6:10 (NIV).

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⁵³ See Davis; Ghoshal; Jensen; and MacIntyre.

⁵⁴ Charles Taylor, "The diversity of goods," in Stanley G. Clarke & Evan Simpson (eds.), *Anti Theory in Ethics and Moral Conservatism* (Albany, NY: State University of New York Press, 1989), 223-240.

⁵⁵ MacIntyre.

⁵⁶ Ibid.

⁵⁷ Ghoshal.

⁵⁸ See Davis; and Ghoshal.

⁵⁹ David E. Garland, "The dispute over food sacrificed to idols (1 Cor. 8:1 – 11:1)," *Perspectives in Religious Studies* (30, 2003), 173-197. The arguments in the remainder of this paragraph are drawn from Garland.

⁶⁰ Garland.

⁶¹ Ibid.

⁶² Ibid.

⁶³ 1 Corinthians 8:4, NIV.

⁶⁴ 1 Corinthians 10:23, NIV.

⁶⁵ 1 Corinthians 10:23, NIV.

⁶⁶ 1 Corinthians 9. Also Garland, 2003.

⁶⁷ See Garland.

⁶⁸ 1 Corinthians 10:1-22. Also Garland.

⁶⁹ 1 Corinthians 8:11-13 and 10:32-33.

⁷⁰ 1 Corinthians 10:25-28.

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⁷³ See for example, Proverbs 20:23 and Ezekiel 22, respectively. Also David Hagenbuch, "Honorable influence," *Christian Business Review* (5, 2017), 5-11.

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⁷⁵ Leviticus 25

⁷⁶ Nehemiah 5:6-14

⁷⁷ Exodus 21:33-34

⁷⁸ Jeremiah 22:13; James 5:4

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