

June 2022

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Recommended Citation

Vincent, Lanny (2022) "A Jesuit Way of Innovating?," *Jesuit Higher Education: A Journal*: Vol. 11: No. 1, Article 8.

DOI: <https://doi.org/10.53309/2164-7666.1399>

Available at: <https://epublications.regis.edu/jhe/vol11/iss1/8>

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A Jesuit Way of Innovating?

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Abstract

Innovation and entrepreneurship (I&E) initiatives have taken root in colleges and universities over the past several decades. I&E centers, relatively commonplace on campuses in the United States, are now sprouting up in European universities. I&E initiatives are not confined to centers or business schools, but extend throughout curricular, co-curricular and extra-curricular efforts in schools of engineering and colleges of arts and sciences. Should Jesuit institutions have a distinctive approach and orientation to these initiatives? The following inquiry explores this potential by looking more closely at where and how STEM-based innovating, entrepreneurship, and Jesuit capabilities might intersect; and what might be implied for Jesuit universities and colleges in an increasingly competitive future. The article summarizes research funded by the Ciocca Center for Innovation and Entrepreneurship (Santa Clara University) conducted with eight Jesuit universities in the United States during 2020-2021.¹

What follows could be read as an open letter to those with interests in centers of innovation and entrepreneurship at Jesuit universities.² It proposes a distinctive Jesuit way of proceeding for innovating and entrepreneurial (I&E) efforts, with pedagogical implications for student learning outcomes. For centers at Jesuit universities, this way of proceeding in innovating and entrepreneurial endeavors could be the beginning of a “commons” among these centers and a point of difference for these centers, distinguishing them from their counterparts in other universities. Given the Jesuits’ “this worldly” orientation—“Jesuits were not destined to live apart from the ‘world,’ but rather to find God in the ‘world,’”³ proposing a Jesuit way of innovating may simply be a contemporary expression of the “this worldly” way of proceeding in matters of innovation and entrepreneurship.

Accounting for what might be considered “Jesuit” in these matters requires one to do some homework in the history of the Society.⁴ The history of the Jesuits gives us a deeper understanding of this otherwise elusive approach Jesuits themselves refer to as their “way of proceeding,” at least, deeper than what can be understood from the frequented-but-noncanonical collection of short Latin phrases with varying translations. A current snapshot of what is currently evolving in and around these I&E

centers on Jesuit university campuses, can add to this historical perspective. To that end, some direct samples were taken from eight Jesuit universities in US⁵ The eight universities have active business and engineering programs. Both business and engineering competencies are typically regarded as prerequisite for STEM-based innovating.

This research yielded line of sight to a unique possibility for Jesuit universities—a possibility not directly available to I&E centers of non-Jesuit universities. The possibility for these Jesuit university centers is to explicitly develop and use a common Jesuit way of innovating. Some might say this development is a significant opportunity in and of itself, though neither entrepreneurial nor an innovation per se.

As with most opportunities, barriers of convention will mitigate against seizing the opportunity directly, regardless of its’ inherent pull. In this case the institutional “silos” separating business and engineering education is one such barrier. University I&E centers should straddle both. Innovation *and* entrepreneurship are not the province(s) of business alone, nor engineering alone. Both are required.

Peter Drucker, an early thought leader of modern management theory, observed that the purpose of

a business is to create and serve a customer.⁶ A corollary might well be that the purpose of a company is to establish, build, maintain, and sustain the business. Unfortunately, business and company are used synonymously. It may be more helpful, however, to see the two as interrelated but not synonymous, and likewise, with the frequently paired innovation and entrepreneurship.

STEM-intensive innovating, properly understood, has more to do with actualizing that which enables the purpose of a business—an embodied value proposition that works⁷. Engineering is typically associated with what's required to make such value propositions work in “this world.” Entrepreneurship, on the other hand, has more to do with assembling and organizing the resources (people, money, and organizational capabilities) to serve and sustain relationships with multiple customers—that is, the purpose of a company. While one can effectively and successfully pursue entrepreneurial efforts without innovating, the opposite is highly unlikely. One cannot effectively innovate, particularly with STEM-enabled value propositions, without sufficient entrepreneurship. In other words, university I&E centers without any involvement of science and engineering competencies may be more properly named entrepreneurship centers.

Additionally, the prominent position progress holds in the “this worldly” mission of the Jesuits since their beginning suggests that I&E centers of Jesuit universities should include the engineering and/or STEM embodiments enabling incarnate dimensions of progress.⁸ Without a physical and/or working embodiment or realization, progress remains other worldly, divorced from a grounded, deployed, and “this worldly” Jesuit way of proceeding. In short, science, engineering, and business mindsets should be fully represented in the orientation of a Jesuit I&E center. For example, the on-going relationship between Seattle University and Haitians has enabled access to safe drinking water for a medical clinic in the Port-a-Prince areas after the 2010 earthquake by activating unused reverse osmosis filters (one of nine projects since 2010). These on-going efforts of Seattle University with the local efforts in the Port-a-Prince area have been sustained to a significant degree by the transfer of scientific and engineering know-how residing in Seattle but

transferred effectively to the “this world” of Port-a-Prince. While the know-how resided in Seattle engineering competencies, the know-why resided in engaged participants of Port-a-Prince, and both those with the know-how and those with the know-why combined their minds and hearts in an on-going effort that continues to create value for the people of Port-a-Prince.

What might be a Jesuit way of innovating?⁹ Might it be the unique combination of three Jesuit assets which, when combined, show up in what matters most “to the end-user” in I&E—learning applied to creating value or knowledge-creation for new value where it matters most.¹⁰ The three assets to consider are: the practice of accompanied discernment, the process of inclusive-empathetic collaboration, and a purpose beyond self-interests, whether the “self” is an individual or a corporate enterprise. A brief description of each is warranted before getting to their combinatorial distinctiveness and potency.

Practice of accompanied discernment

Perhaps the most expected of the Jesuit assets relevant to I&E is accompanied discernment. It's an exercise regime—a regular workout routine—not for the body but for the soul. However, it was never designed for the sole purpose to feel better spiritually. Rather, it was designed for making discerning choices between two or more viable paths—a frequent and persistently challenging occurrence for innovators and entrepreneurs, by the way—originally associated with an individual considering their vocational future.

This workout routine for the soul, is not recommended (or possible) to do alone.

Accompaniment is key, particularly the accompaniment of a trusted friend—one who can get through to you with those kinds of messages you would rather not receive. Despite the persistent myth of the lone entrepreneur or the solo inventor, this kind of accompaniment is essential to the iterative, collaborative, and developmental process of innovating and entrepreneurial endeavors. Think Roy and Walt (Disney), Gates and Allen (Microsoft), Bill and Dave (HP), Jobs and Wozniak (Apple), Bill and Dr. Bob (AA), Millard and Linda Fuller, along

with Clarence Jordan (Habitat for Humanity), and so forth.

What needs to be discerned, according to St. Ignatius, is the “movement of the spirits,” or, in more contemporary parlance, we might refer to as tacit realities—the “more to it than meets the eye.” Where volatility, uncertainty, complexity, and ambiguity (VUCA) have become normative, both risk and opportunities emerge but can easily be missed without accompanied discernment.¹¹ To differentiate the opportunities from the threats, discernment is essential. Peter Drucker referred to it a bit more clinically when he described innovation as first and foremost a diagnostic discipline.

This practice is embodied in many ways: in the regular practice of *hansei* manifested in Japanese companies seeking to innovate, in Drucker’s admonition to manage one’s self, or in Chris Lowney’s linking self-knowledge and success.¹² *The Spiritual Exercises* expresses it this way: “progress will be in proportion to [one’s] surrender of self-love and of one’s own will and interests.”¹³ One of the clearest expressions of this was eloquently expressed in one of the early affirmations of the People of the Way, recognizing the radical self-emptying (*kenosis*) of Jesus himself.¹⁴ In other words, one must regularly ask oneself: how am I keeping my own ego in-check? Am I walking with at least one trusted other who will provide honest, even if sometimes hard to swallow, feedback? This is essential to the ongoing practice of accompanied discernment, whether in the contexts of innovating, entrepreneurship or matters of a more religious or spiritual nature.

Process of inclusive, empathetic collaboration

While regularly practicing discernment with a trusted other enables interior serenity for external clarity (and possibly a way to recenter on the common good in I&E), process has more to do with getting things done with and for others. Practice may be more akin to an individual’s skill, habits, and ability to self-regulate. Process on the other hand, is more akin to a collaborative capability—the ability to work with and for others.

Collaborative capability is certainly not unique to the Jesuit way of proceeding. Though it is

presupposed in the Jesuit way of proceeding, this is not just any kind of collaboration. It is a kind of collaboration which is both inclusive and empathetic, perhaps even more radically empathetic than design thinking’s recognition of empathy as being an early, if not first step, in the innovating process.¹⁵ A contemporary expression of the Jesuit interest in collaboration was voiced in 2017 by Arturo Sosa, the present Superior General of the Jesuits, when he said:

We Jesuits seek to collaborate in the development of creative thinking that may propel the new age of Humanity towards social justice, dignity and peace. We wish to do this always in partnership and in collaboration with others. We have no desire to develop a thinking peculiar to ourselves, to be characterized as “Jesuit thinking.” We participate in a collective intellectual creation because we know that we are limited and have wide variations even among ourselves.¹⁶

Or listen closely to how Dana Markus describes the Vacancy Collaborative at Saint Louis University Law School:

An explicit part of the work plan of the Vacancy Collaborative has much to do with engaging the community, an essential principle of which is meeting people where they are already—meeting and doing what represents points of gathering and shared meaning making. Interestingly enough this principle is also operative in my teaching of students—I am more effective in teaching and they (students) are able to learn more, and better, if I meet each where each one is to begin with. While this may resonate with a Jesuit principle, it is essentially a practical and effective necessity, both with each individual student and each neighborhood community.¹⁷

In a nutshell, meeting people where they are and collaborating with and for others, especially for the common good, saturate a kind of collaboration that may be distinctly Jesuit, and without which can too easily devolve into mere coordination and cooperation on projects that

may not be concerned with improving humanity over the long term.¹⁸

Purpose beyond self-interest

What innovating and entrepreneurial efforts aim for is value, and value—at least instrumental value—is context-dependent. Understanding context, and empathizing with those who are living in it, is essential to innovating, entrepreneurial and design thinking.

Worth noting is the place context holds as one of the five elements of the Ignatian Pedagogical Paradigm, perhaps the first of the five.¹⁹ The Jesuit missional strategy of enculturation—understanding and even bringing value to others in their context first before any propagation of (the) faith is undertaken—is another Jesuit embodiment of this basic appreciation for context (e.g., Matteo Ricci’s experience in China). The Jesuits’ enculturation missional strategy is but prior art for the now admired principle of *genchi genbutsu* (translated from the Japanese meaning “go out and see for yourself”) and practiced by advanced innovating systems like Toyota’s and others.²⁰

Understanding context and bringing value to those found there is of central interest to both the Jesuit way of proceeding and I&E. Bahram Roughani (Loyola of Maryland) captured this well in his observation that

how one contextualizes may be what separates the Jesuit viewpoint from others. And how the success of any development or problem-solving effort is measured is a significant, though often subtle, dimension of context. For example, for a business, measuring performance is in part about money made (profit, revenue, etc.). The Jesuit perspective may bring another point of view to this measurement of value. So much of what I learned in how to bring an entrepreneurial mindset to physics students centered on helping them learn what’s involved in defining the problem. As Kettering once said, “A problem well stated is a problem half solved.” Or, in like manner, Einstein said, “If I have an

hour to solve a problem, I will spend 55 minutes defining it.” Kettering and Einstein were not describing a Jesuit way of innovating, but the wisdom of their insights may be well understood by the Jesuit orientation.²¹

That I&E, design thinking, and the Jesuit way of proceeding recognize the importance of understanding context and empathizing with those there may be merely coincidental convergence with what works. However, choosing which contexts to understand and give our time, attention, and devotion to may be where there is an important difference. For example, innovators and entrepreneurs funded by venture capitalists might choose to focus their entrepreneurial and innovating efforts on contexts in which they believe there to be a greater financial return and would not do otherwise. If a Jesuit way of proceeding were to influence their choices, however, other kinds of contexts may rival those with the singular promise of financial return. In short, the choice of context for the entrepreneur innovator should be quite different with a Jesuit way of proceeding. This is a matter of choosing a context (and purpose) beyond self-interest, including those interests beyond those of shareholders alone.

This distinctive aspect of a Jesuit way of innovating likely resides in the location (where) and motivation (why) more than in method (how) of I&E. Location and motivation—where innovations are needed and why—is not only geographic. It is also in choosing to meet others as and where they are with a keen interest in removing what may be hindering the progress of the souls there.

Location is local. Does this simply reflect the Society of Jesus’ shared concern with their namesake’s interest in loving neighbors and enemies, especially as both are close at hand? Perhaps. However, the point may be that choosing where to innovate is inextricably tied to why—one’s motivation for innovating in the first place. And the question of motivation is never far from Jesuit consideration. Greg Konz, S.J. (Fairfield) put it this way, bringing theo-logics to the widely accepted logic of empathy with the end

user that is essential to early moves in design thinking:

What may be distinctly Jesuit at this intersection (innovating, entrepreneurial and Jesuit) is a matter of motivation more than process or approach. Specifically, if there are Jesuit seeds to innovation, these seeds are likely to come not only from the Jesuit's recognition of what the humanities bring, but also a curiosity based on the belief that God is already at work (in what has attracted our curiosity in the first place) and that our job (responsibility) is to get ourselves aligned with that work and further it. Interestingly, this kind of curiosity takes discipline, not unlike the discipline that authentic creativity requires to truly originate something new and valuable.²²

These three—purpose, process, and practice—point to assets with both authentic resonance to the Jesuit way of proceeding and direct relevance to I&E: assets that matter, in and of themselves.

Combinatorial Contexts and Methods

While each of these three assets may be distinct in and of themselves, when combined they represent a potent difference that matters in innovating and entrepreneurial endeavors. There are at least two types of I&E contexts in which this combination can bring this potency and difference. One is a pedagogical context where student learning outcomes are the immediate objectives (e.g., “good grades” from a student’s point of view) and relatively longer-term goals of credentialing (e.g., passing courses, earning academic degrees, etc.). The other is a solution/design context where outcomes (i.e., value created) are sought by clients (problem-owners) on behalf of beneficiaries (e.g., end-users, customers, etc.). That both contexts are relevant to innovating and entrepreneurial efforts often goes unnoticed, unless and until one understands innovation and entrepreneurship through the lens of knowledge-creation.²³ Understood through this lens, the differentiating and relevant characteristic of a Jesuit way of innovating shows itself, whether for pedagogical purposes through the five essentials of the Ignatian Pedagogical Paradigm or for solution

design purposes through the analogous five essentials of design thinking,

Common to the Jesuit universities participating in this exploratory inquiry was the repeated mention of experienced-based learning associated with I&E efforts. Shaped by the needs of commercial or non-profit partners guiding senior design projects (project-based learning), directed by the needs of an underserved community (community-based learning), or inspired by a mission-oriented service project (service-based learning), these beyond-the-classroom experiences seem essential to Jesuit I&E pedagogies. With all the universities of our inquiry, real-world experience was generally recognized as not optional for good I&E pedagogy, at least where student learning is the intended outcome. The “lived experience” of students in these kinds of settings may represent ecologies more necessary for Jesuit I&E learning than other, more classroom-based modalities.

This learning-by-doing is understandable for I&E as it correlates strongly with the “good soil” of Jesus’ parable, the parable Jesus used to reply to his disciples’ question as to why he kept speaking in parables.²⁴ In contrast to the rocky ground, the hard-beaten path, or the thorny brush, in this parable Jesus invites us to consider “good soil,” leaving up to us to imagine what comprises “good soil.” In the 1990’s, many knowledge and technology intensive companies came to recognize the importance of attending to the “tilling and keeping” of the soil of knowledge-creation. The widely admired innovating systems of Toyota, Honda, and other Japanese manufacturers had long since become savvy to it. Since then many corporations have recognized the same thing in their innovating systems. The central insight of these systems makes it clear that it is not what a company knows that leads to sustained innovation and wealth creation. Rather, it’s the company’s ability to create new knowledge where it matters.²⁵ The dynamic mixing or the tilling and keeping of the soil happens in collaborative conversations essential to the process of knowledge creation.

Conclusion

Might society’s enterprises, at least those attempting to innovate, benefit from what the Jesuit way of proceeding has to offer? Might Jesuit

universities benefit from I&E pedagogies more explicitly informed by combinations of these three Jesuit assets to form competent contributors with conscience and compassion? Might applied learning and knowledge-creation efforts provide the “stuff” to construct meaningful bridges between society’s value creating enterprises and the aims of Jesuit universities?

For society in general, choosing where to innovate and why based on something other than financial returns alone might invite consideration of decision criteria based on plumb lines (Amos 7:7-8) before bottom lines. A Jesuit orientation to I&E might offer a deeper appreciation to what is truly human for human-centered design, or a greater “care for our common home” in sustainable, sufficient solutions, or a more inclusive approach to solving, resolving, and absolving unjust social, economic, and technological systems, and a prioritization of natural ecology and human community over market economies. A Jesuit orientation to the value created just might bring a more wholistic understanding of just what value is and should be—just, humane, sustainable, and sufficient. Just innovating. A Jesuit way of innovating just might light allocentric candles in the dark shadows of a self-centered society, or wherever self-interest and self-centered fear takes root. A Jesuit way might clear the way for souls to progress and the hope of faith to discover where God is already moving in this world and co-create value with and for others there. In short, a distinctly Jesuit orientation to I&E might help the souls of current and future innovators and entrepreneurs to discern the difference between the rocky, thorny, or well-trodden paths of imitation in contrast to the “good soil” for innovating.

For students, a Jesuit way of innovating just might “challenge the conservative belief in self-sufficiency in which I was raised” as a recent graduate of Saint Louis University expressed it. It just might inspire students with a vision of “entrepreneurial ventures as vehicles agile enough to more effectively include underrepresented demographics or disenfranchised individuals,” as another recent Saint Louis University graduate is now attempting to do, or “leverage entrepreneurship to build up and grow communities,” as another is trying to do. For

Jesuit business school students aspiring to be entrepreneurs, a Jesuit approach to I&E just might seed their imaginations with being “with and for others” as that which animates the purpose of their business. For Jesuit engineering students aspiring to be entrepreneurial designers, inventors and innovators, a Jesuit way of innovating just might complement their technical imaginations with prophetic, empathetic, and emancipated imaginations as well.²⁶

For the Jesuit university, proposing a Jesuit way of innovating does not intend to imply a pre-packaged solution for I&E. A Jesuit way of innovating aims rather to recognize that any response to change which involves creating new value (i.e., innovating) requires choices to be made within a context, and a Jesuit way of proceeding aims to understand God’s purposes in those contexts and choices. As such, where Jesuit universities may have something unique and compelling to offer society’s I&E efforts is through the intrinsic value that a Jesuit way of innovating may persistently seek, never content with mere transactional or even instrumental value.²⁷

Furthermore, capabilities in both business and engineering education should come together for Jesuit university I&E centers, albeit differently in each case and context, depending upon the requirements of the specific innovating challenge, to be sure. But the “siloed” barriers separating business and engineering education will need to come together to cultivate the “good soil” of an integral ecology (*Laundato Si!*) between them. This will require collaborations beyond mere coordination or cooperation.

We need more compelling answers to the questions of where to innovate and why, answers beyond the parochial interests of the innovating organization itself. Climate change, injustices, surging populations of displaced persons, sustainable development goals, better ways to “care for our common home,” all await our innovating imaginations and entrepreneurial willingness to develop and embody, in this world, answers to these and other issues. And perhaps, through a Jesuit way of innovating the answers we

can imagine will manifest more purposeful innovations that reside in

- the making of meaning more than money,
- the pursuit of substantive more than superficial value,
- the quest to contribute more than simply be different,
- the fostering of righteous more than merely efficient outcomes,
- the creation of just more than merely commercial success,

- the stewardship of common more than simply shareholders' interests, and
- the kind of growth that is faithful more than acquisitive.

Perhaps a modest next step is for the International Association of Jesuit Universities to form a working group to explore and maybe even develop, or perhaps merely elucidate the Jesuit way that has been quietly well-trod for some time now. ¹⁰

Notes

¹ "Toward a Jesuit Way of Innovating: A Report from an Inquiry of Eight Jesuit Universities in the United States," June 30, 2021, <https://www.scu.edu/media/leavey-school-of-business/ciocca/center/pdfs/Report-on-Jesuit-Way-of-Innovating.pdf>. The eight (from a set of ten) Jesuit universities were Saint Louis, Santa Clara, Loyola of Maryland, Detroit Mercy, Marquette, Seattle, Fairfield, and Gonzaga. The set of ten were selected based on the constraints of funding and those universities with programs in both engineering and business, given the recognition from the corporate world that technologically-intensive innovating requires both business and engineering competencies.

² The interested surely include directors and staff of these I&E centers along with faculty advisors and faculty teaching I&E courses. Faculty and students who engage with these centers as both resources and partners in curricular, co-curricular and even extra-curricular efforts might also be interested. The interested may even extend to university marketing and development staff looking for points of difference in an increasingly competitive ecosystem for students and donors.

³ William A. Barry, S.J. and Robert G. Doherty, S.J., *Contemplatives in Action: The Jesuit Way* (New York: Paulist Press, 2002), 13.

⁴ John W. O'Malley, S.J., *The First Jesuits* (Cambridge, MA: Harvard University Press, 1993); John W. O'Malley, S.J., *The Jesuits: A History from Ignatius to the Present* (Lanham, Rowan & Littlefield, 2014); René Fulop-Miller, *The Power and Secret of the Jesuits*, trans. F.S. Flint and D.R. Tait (Gerald E. Greene, 2014); Ronald Modras, *Ignatian Humanism: A Dynamic Spirituality for the 21st Century* (Chicago: Loyola Press, 2004); Joseph F. Conwell, S.J., *Walking in the Spirit: A Reflection on Jeronimo Nadal's Phrase "Contemplative Likewise in Action"* (St. Louis: The Institute of Jesuit Sources, 2003); and James Martin, S.J., *The Jesuit Guide to Almost Everything: A Spirituality for Real Life* (New York: HarperCollins, 2010).

⁵ "Toward a Jesuit Way of Innovating." From interviews conducted between the Fall of 2020 to Spring of 2021 with

(52 faculty and staff from the following universities: Saint Louis, Santa Clara, Loyola of Maryland, Detroit Mercy, Marquette, Seattle, Fairfield, and Gonzaga.

⁶ Peter Drucker, *Management: Tasks, Responsibilities, Practices* (New York: Harper & Row Publishers, 1974), 61.

⁷ The NSF Report to Congress uses KTI (knowledge and technology intensive) to describe industries (and by inference) innovating within or between these industries as innovating significantly informed by STEM disciplines.

⁸ Antoni M. de Aldama, S.J., *The Formula of the Institute: Notes for a Commentary*, trans. Ignacio Echaniz, S.J., (St. Louis: The Institute of Jesuit Sources, 1990), 8. A similar rationale for the necessity of engineering competencies contributing "this worldliness" can also be found in the necessity of achieving technical feasibility, not just customer desirability and business viability.

⁹ *The Constitutions of the Society of Jesus and Their Complementary Norms* (Saint Louis: Institute of Jesuit Sources, 1996), Part VI, Chapter 3 (215, 1). Worth noting here is a preference for a Jesuit way of innovating, rather than a Jesuit way of entrepreneurship, given in part the strong associations entrepreneurship has in the current vernacular for commercial enterprise and the prohibitions of profit-making enterprise for Jesuits.

¹⁰ C.K. Prahalad and Gary Hamel, "The Core Competence of the Corporation," *Harvard Business Review* (May-June, 1990); Ikujiro Nonaka and Hirotaka Takeuchi, *The Wise Company: How Companies Create Continuous Innovation* (New York: Oxford University Press, 2019).

¹¹ Patrick Nullens, "From Spirituality to Responsible Leadership: Ignatian Discernment and Theory-U" in *Leading in a VUCA World*, ed. J. Kok and S.C. van den Heuvel (Springer Nature, 2018), 185-207.

¹² James M. Morgan and Jeffrey K. Liker, *The Toyota Product Development System* (New York: Productivity Press, 2006), 208-210; Peter F. Drucker, “Managing Oneself,” *Harvard Business Review* (March/April, 1999), 70; Chris Lowney, *Heroic Leadership: Best Practices from a 450-Year-Old Company that Changed the World* (Chicago: Loyola Press, 2003), 105-111.

¹³ Ignatius, *Spiritual Exercises, A New Translation Based on Studies in the Language of the Autograph*, trans. Louis Puhl, S.J. (Westminster, MD: Newman Press), sec. 189, 78.

¹⁴ Phil. 2:3-8: “Do nothing from selfish ambition or conceit, but in humility regard others as better than ourselves. Let each of you look not to our own interests, but to the interest of others. Let the same mind be in you that was in Christ Jesus who, though he was in the form of God, did not regard equality with God as something to be exploited, but emptied (*kenosis*) himself, taking the form of a slave, being born in human likeness. And being found in human form, he humbled himself and became obedient to the point of death.” (NRSV)

¹⁵ While there are several models of “Design Thinking”, we have in mind the Design Thinking model of IDEO and Stanford’s D-school, comprising of five phases: empathy, define, ideate, prototype and test.

¹⁶ Arturo Sosa, S.J., “Address to the Vidyajyoti Theology Faculty,” (Vidyajyoti College of Theology, Delhi, India, February 18, 2017), 1, http://www.sjweb.info/documents/assj/2017.02.18_Vidyajyoti%20Theology_Faculty.pdf

¹⁷ “Toward a Jesuit Way of Innovating,” 16.

¹⁸ Pedro Arrupe, S.J., “Men and Women for Others” address given to a group of Jesuit high school alumni (1973, Valencia, Spain); Richard J. Baumann, S.J., “Our Jesuit Constitutions: Cooperation as Union,” *Studies in the Spirituality of the Jesuits* 49/4 (Winter, 2017).

¹⁹ *Ignatian Pedagogy: A Practical Approach*, 10, https://www.sjweb.info/documents/education/pedagogy_en.pdf; Tim Brown, S.J. (Loyola University of Maryland), interview by Lanny Vincent, December 16, 2020. Brown pointed directly to the parallels between IDEO’s design thinking framework and the Ignatian Pedagogical Paradigm, citing Tom Kelly and David Kelley, *Creative Confidence: Unleashing the Creative Potential Within Us All* (New York: Currency, 2013.)

²⁰ James M. Morgan and Jeffrey K. Liker, *The Toyota Product Development System: Integrating People, Process, and Technology* (New York: Productivity Press, 2006), 173.

²¹ “Toward a Jesuit Way of Innovating,” 16.

²² “Toward a Jesuit Way of Innovating,” 17.

²³ Ikujiro Nonaka and Hirotaka Takeuchi, *The Wise Company: How Companies Create Continuous Innovation*, (New York: Oxford University Press, 2019).

²⁴ Matt. 13:3-23; Mark 4:1-20; Luke 8:4-16.

²⁵ Ikujiro Nonaka and Hirotaka Takeuchi, *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation* (New York: Oxford University Press, 1995).

²⁶ Lanny Vincent, *Innovation Theology: A Biblical Inquiry and Exploration* (Eugene, OR: Wipf & Stock, 2017), 105-128.

²⁷ Vincent, *Innovation Theology*, 4.