

## The 4<sup>th</sup> Industrial Revolution, Digital Transformation and Patient Centricity: A Leadership View December 15, 2020

If one were to ask people who lived during 1300 to 1600 (i.e., after the Middle Ages) in Florence, Italy: What times are you living in, what would they have answered? Would they have been able to grasp and verbalize the fact that they were living in a fervent period of European cultural which saw the flourishing of classical philosophy, literature and art: The Renaissance? Most likely not.

And if one were to ask the same question today: What times are we living in today, what could we answer? Is there a pervasive reality today, like the Renaissance then, that we need to be aware of and respond to proactively? In this article I will argue that one definitive and disruptive answer to that question, from an economic perspective, would be: We are living in the 4<sup>th</sup> Industrial Revolution. If this holds true, what are the implications in our world of work and how should we respond as leaders?

The 4<sup>th</sup> Industrial Revolution (4-IR) is a term that was coined by the founder and executive chairman of the World Economic Forum, Klaus Schwab<sup>1</sup>. It follows the 3<sup>rd</sup> Industrial Revolution (the digital revolution) and is characterised by the ongoing integration of existing and new technologies in providing new innovative solutions. In our world, it will see the blurring of the boundaries between the physical, digital and biologic world. Practically this implies the fusion of technologies such as advanced connectivity (5G), artificial intelligence, robotics, the internet of things (IOT), the Blockchain, 3D printing, genetic engineering and quantum computing. It is the unique and innovative way in which these technologies will be connected to each other and utilised that drives the 4-IR, and not the singular utilization of the component.

At a social level, the advent of the 4-IR will further see a progressive realization of a shared value system that will be characterised by companies driven more by purpose than profit; companies that can benefit the many, not the few, potentially leading to more social and economic justice. Furthermore, Schwab states that the 4-IR is about velocity, scope and systems impact. And that is the essence of what we are about to experience in our unfolding "Renaissance": the speed of change, the scope of change, and the systems change. Change is expected to be exponential rather than linear.

The Covid-19 pandemic played its part in enhancing these 4-IR disruptions with virtual becoming the norm rather than the exception, telemedicine growth and acceptance and new operating models empowered by the art of the possibility amidst the 4-IR. Thought leaders across the world are voicing similar sentiments about an industry that is resistant to change, yet runs the risk of becoming redundant if ignored<sup>2, 3</sup>.

Given this reality, a framework of the future<sup>4</sup> is adapted to consider how leaders might respond in a prudent and responsible way. While this framework is not conclusive, it does provide a simple and practical way for leaders to see and respond to the opportunities afforded by the 4-IR. The framework consists of three pillars.

### Adopt Virtual

We need a new, creative paradigm of how we can adopt all things digital and virtual and integrate it with our current legacy operating procedures that provides a scientific, patient centric, effective and efficient outcome. Telemedicine, social media as a recruitment tool and data collection tool, remote patient monitoring using wearable devices are a few examples of how one may enter this new world.

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<sup>1</sup> The Fourth Industrial Revolution, Klaus Schwab. ISBN-10: 9781524758868

<sup>2</sup> Donald Deieso, Chairman and CEO of WCG Clinical

<sup>3</sup> Meier et al. Boston Consulting Group, Sep 2020

<sup>4</sup> <https://www.bcg.com/en-mideast/publications/2020/how-the-pandemic-is-redefining-clinical-development>

## Adopt RWE

Real world data and evidence is becoming one of the most important contributions to scientific evidence. The integration of RWE into clinical development and regulatory approvals exist today. The question is: how can we generate “regulatory quality” RWE in the midst of the 4-IR? On the back of the adoption of virtual solution, endless opportunities now exist to reach patients that were previously difficult or even impossible to reach and to generate RWE in an unprecedented way.

## New Operating Models

The disruptive operating models that were seen in the recent clinical development of vaccines are self-evident<sup>5,6</sup>. Given the virtual world we are moving into, leaders should consider their current operating models that served them well during the 3<sup>rd</sup> Industrial Revolution. Do they still apply, given the advent of the 4-IR? Is the operating model still aligned with and supportive of strategy execution. Or is there a new, disruptive way? Answers to these questions are difficult. However, using the metaphor from Meno in the Socratic dialog by Plato: How will we find answers to questions, questions we did not even know exist?

## Leadership Response

If leaders adopt this framework, what might be a prudent leadership response? In short, four responses should be considered.

- i. Digital transformation is a strategic response to an external stimulus which is not in our circle of control or sometimes, our circle of influence. When responding to the 4-IR, consider end to end transformation from a total value chain perspective. In its widest application this means considering the health ecosystem in its entirety and ones role within;
- ii. Reconsider your talent pool and human capital needs required in response to the 4-IR. Data scientists and engineers, UX (end-user experience) designers; data visualization etc. will be central to the transformation process. How does your current HR strategy support this envisioned future?
- iii. Critically review your current operating model and consider whether it will serve you in the progressive realization of the 4-IR. It is safe to assume that the 4-IR will ultimately disrupt our current operating models. It might include building an ecosystem of strategic partnerships, outsourcing services and skills, restructuring into cross-functional teams with data-analytics as a central theme, and adopting agile, creative and adaptable processes.
- iv. Ethical and regulatory considerations will be of paramount importance as one moves to new, previously unknown ways of interacting with patients, data security and ethical data access and use. Pro-active interaction and consultations with ethics boards and regulatory bodies will be important activities to ensure progress within current regulatory frameworks.

## Conclusion

In conclusion, leaders should approach the 4-IR with a mindset of patient centricity and disruptive rather than incremental innovation. The role of leaders will be to become the catalyst of the art of possibility<sup>7</sup>, creativity, innovation and ingenuity. From an operating model perspective we believe that the Team of Teams approach promoted by Stanley McChrystal<sup>8</sup> and One Mission<sup>9</sup> Chris Fussell are essential reads for leaders who wants to adapt new operating models pro-actively.

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<sup>5</sup> 2019 CMR International Pharmaceutical R&D Factbook, Clarivate Analytics.

<sup>6</sup> Development Times and Approval Success Rates for Drugs to Treat Infectious Diseases, *Clinical Pharmacology & Therapeutics*, February 2020.

<sup>7</sup> Benjamin Zander, *The Art of Possibility*. ISBN-10: 0143001221

<sup>8</sup> Stanley McChrystal, *Team of Teams*. ISBN-10: 1591847486

<sup>9</sup> Chris Fussell, *One Mission*. ISBN-10: 0735211535