Professor Hsieh raises a number of important issues in addressing the question “who is responsible for reconstructing an ethical compass?” in the context of our modern economy, where entire categories of employment seem to be disappearing with the relentless advance of Artificial Intelligence and machine learning, where privacy seems to have disappeared as every aspect of our lives is recorded, and where the dominance of social media seems to have undermined so much of the “inclusive society”, with its respect for the common good, its stability of identity and its culture of encounter. If younger generations, shaped from childhood by the digital revolution, feel no need for any kind of ethical compass in a world where everything can be bought and sold, where the poor can be ignored and the weak despised, then these really are urgent and practical issues. To answer Professor Hsieh’s question, there is something very different about the digital age.

Who is responsible? With whose mandate? At the risk of over-simplifying, I think Professor Hsieh looks above all to the state and to business associations and leaders, while not excluding anyone from responsibility. But perhaps, as Pope Francis has suggested, we should look to our “local and even personal” responsibility to face this great challenge. Governments, business leaders, professional associations and even our educational institutions have failed, and may well continue to fail, to take it seriously, because consumers themselves want more “digital dopamine” in their lives, without realising that their brains are being rewired.

Sean Parker, credited as pivotal in turning Facebook from a college project into today’s social media giant, has made it abundantly clear that from its very beginning, Facebook set out to exploit a weakness in human psychology (the dopamine reaction behind a “social-validation feedback loop”) in order to make its online experience addictive, and saw as its greatest challenge the conversion of those potential users who placed a greater value on their real-life interactions. Justin Rosenstein, who invented Facebook’s “like” button, has mostly disconnected himself from social media because of their engineered addictive features and “continuous partial attention”. Nir Eyal, author of “Hooked: How to Build Habit-Forming Products” has programmed time limits to internet access at home to protect his family and, unusually for an insider, asks if the technological manipulation of social media users might be immoral. Former Google employees Tristan Harris and James Williams have set up the Time Well Spent advocacy group to encourage resistance to the way technology platforms “hijack our minds”.

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1 Pope Francis, address to the CAPP Foundation, 20 May 2017.
2 Pope Francis, address to the Fortune-Time Global Forum, 3 December 2016.
6 Paul Lewis “Our Minds Can Be Hijacked – the tech insiders who fear a smartphone dystopia” https://www.theguardian.com/technology/2017/oct/05/smartphone-addiction-silicon-valley-dystopia
7 See http://humanetech.com
Professor Hsieh cites the example of business schools as an interesting case. He describes two opposing views of the responsibilities of business schools: that they should teach knowledge and techniques, and so be neutral with regard to ethics, or that they are like law schools or medical schools, training professionals who must abide by a code of ethics, and so cannot be neutral. He does not take sides here. There are similarities with the work of the investment analyst, who is expected to keep to the business and financial aspects of an investment proposal, but for whom “the very absence of a reference to ethics is a kind of message itself”. Many cases of conflict come to mind, for example the valuation of investment opportunities in ethically controversial industries such as tobacco, drinks, mining, arms manufacturing, or pharmaceuticals - or for that matter, financing financial entities linked to repressive regimes.

In regulated financial markets, there is for investment analysts an easy answer to the question “who is responsible?” for an ethical compass, reconstructed or otherwise. Governments and central banks police the activities of banks and investment managers, providing guidelines, standards of practice and handbooks for market participants, with sanctions and potentially severe penalties for unethical behaviour. In addition, investment analysts often follow self-imposed ethical guidelines, for example the CFA Code of Ethics and Standard of Practice Handbook. While commendable in its generality, the CFA Code of Ethics is perhaps not the clearest guide for those seeking an ethical compass, as it requires that investment analysts “act with integrity, competence, diligence, respect and in an ethical manner”. There is no mention in the Code or the Handbook of the issues raised by Pope Francis, or indeed of many of the concerns of the Christian Social Doctrine. There is very little guidance as to how to frame an investment valuation in the context of an ethically controversial proposal. It turns out that the regulators do not take sides on most ethical issues, and their regulations often “do not bite” in areas of ethical concern.

Once considered influential and - inasmuch as they helped create transparency and liquidity in financial markets - useful, investment analysts (as opposed to credit analysts) are now a dying breed. Gone are the days (it was the 1960s) when investment analysts like George Soros would make lonely research visits to understand European insurers, and I doubt we will see again the likes of Warren Buffett: he is surely the finest ever investment analyst (even though he never published any of his research), he is by any measure the most successful individual investor, and he is an exemplary benefactor. Conditions are not promising for the many analysts who have to comment on quarterly company results as well as understanding longer term industry dynamics. This is thanks to the trend towards passive investing, to the spread of algorithmic trading, and to new regulations (such as MIFID II in Europe) which secure competitive benefits for the biggest banks and fund managers, who can offer customers “zero-cost” expertise. Like the investigative journalists who are being squeezed out of their industry by the shrinking demand for printed newspapers (and by the shrinking attention span of their online readers), many investment analysts are facing job cuts, while fund managers and banks prefer to hire trading software programmers.

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10 Warren Buffett, who has donated more than $46 billion to charitable causes since 2000, explains his thinking at [https://givingpledge.org/Pledger.aspx?id=177](https://givingpledge.org/Pledger.aspx?id=177)
It is a sign of the limitless advance of the digital revolution that those same fund managers and banks are now about to face the indignity of having to compete with Amazon for customers, following the recent entry of Alibaba and Tencent into the world of money management\textsuperscript{11}.

Investment analysts are always encouraged to look to the longer-term prospects of an industry or company in making their recommendations. This makes sense, as the further into the future a well-reasoned outlook can be constructed, (hopefully beyond the current economic cycle) the more such an analysis is helpful to investors starved of reliable facts. If we should each be making a contribution to the reconstruction of an ethical compass by looking to our “local and even personal” responsibility, perhaps a few longer-term comments on the problems created by the advance of AI, the disappearance of privacy, and the dominance of social media, adopting some of the criteria used by investment analysts like me, might help.

After all, Warren Buffett’s investment opportunities were always hidden in plain sight and available to competitors. There might be opportunities to reconsider our concepts of economic rationality, to incentivise the pursuit of the common good and solidarity, to promote an inclusive economy and to refine specific ethical criteria for present-day dilemmas, which are similarly hiding in plain sight.

\textit{Some criteria used by investment analysts:}
What is the model? Is it scalable? Are there durable advantages? Do people make a difference? What is the effect of changing financial conditions? What are the specific risks and limits to continued success?

Today, the biggest corporate beneficiaries of the digital revolution have given a new meaning to the concept of scalability. While individuals like Steve Jobs, Sergey Brin, Larry Page, Jeff Bezos and Mark Zuckerberg are seen as visionaries, and many would say geniuses, I would humbly argue that the most important reason why Apple has a market capitalisation today of $897 billion, Google (Alphabet) $761 billion, Amazon $738 billion, and Facebook $524 billion is that they each enjoy a degree of monopolistic power in their core activities, and investors believe that their market position will only strengthen and consolidate in future years. Monopolies are often viewed as morally repugnant. Governments typically regulate their activities and their profit margins. I cannot imagine the future will be any different for these companies, looking further ahead than the short term. As public pressure increasingly forces governments to break up these modern-day “trusts” it seems to me that there must be a golden opportunity here to introduce meaningful protections against the psychological manipulation of users’ wants and desires, as well as effective protections against some of the more extreme abuses of data privacy. Social media platforms are guilty of using techniques which effectively rewire users’ brains and change their decision processes \textit{because they can}, and governments must fight back, even if consumers say they have no problem with the adverse consequences, or with their loss of privacy.

\textsuperscript{11} Gerald Hwang “How Amazon Can Blow Up Asset Management” \url{https://jirisancapital.com/amazon-can-blow-up-asset-management/}
This would be a small but very welcome step in the direction of the common good, but what about small steps toward solidarity and inclusivity in our digital era? Pope Francis has spoken optimistically of the potential for new digital technologies to “create a sense of unity of the human family which can in turn inspire solidarity and serious efforts to ensure a more dignified life for all”\(^1\). This ambition might not be easily realised, as scientific research suggests that a “smartphone dystopia” is the more likely outcome. Finding the right incentives for the younger “digital” generations to make use of an ethical compass might be our best hope.

As Jean Pierre Casey reminds us\(^1\), the Church has always embraced new technologies while understanding their potentially harmful possibilities, and Pope Francis has called for the faithful to “boldly become citizens of the digital world”\(^1\). Dexter Dias’s recent discussion of the “cognitive cost of compassion” is a reminder of how much progress neuroscience in general, and centres like the Harvard Moral Cognition Lab in particular, are making in broadening our scientific understanding of human ethical dilemmas, and how much energy is needed to maintain a moral sensibility\(^1\). Jean Tirole has written elegantly on the overlaps in economics between game theory and information theory on the one hand and advances in psychology on the other\(^1\). Michael Sandel has argued that “altruism, generosity, solidarity and civic spirit are not like commodities that are depleted with use. They are more like muscles that develop and grow stronger with use … To renew our public life we need to exercise them more strenuously”\(^1\). Rewriting the rules for today’s digital platforms will require some considerable political groundswell.

And yet, however unwelcome it might be for the dominant platforms and their lobbyists, I suspect Tirole’s discussion of regulated access and regulatory incentives is pointing in the right direction for those businesses that today are enjoying the accidental benefits of their digital monopoly powers. The interesting question is how the political consensus for this will form and whether a heightened awareness of the ethical issues could accelerate the process. Fifty years ago, few expected public opinion to force governments into progressively outlawing tobacco consumption. Hopefully, the regulation of today’s digital monopolists will come about more quickly, thanks not least to a wider appreciation of the need for an ethical compass.

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\(^1\) Pope Francis, “Communication at the Service of an Authentic Culture of Encounter”, 48\(^{th}\) WCD, 1 June 2014.
\(^1\) Pope Francis, “Communication and Mercy, a Fruitful Encounter”, 50\(^{th}\) WCD, 24 January 2016.
\(^1\) Dexter Dias QC “The Ten Types of Human” (chapter 7) pub. William Heinemann, 2017.