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Technological Transformation

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A unique turning point

The combination of technological advancement and a younger generation of investment professionals coming up the ranks is leading to enhanced collaboration, greater productivity and improved efficiency across the investment industry.

As technology continues to improve and tools become more sophisticated, adapting to this new world and integrating these developments into an organization becomes a vital element of future success.

Peter Zangari, Global Head of Research and Product Development at MSCI has been observing the changes this progress is bringing about and outlines the growth the industry is experiencing as a result. He explains the impact of having access to technology and a keen understanding of what this technology can do: “This younger generation which will be much more productive than previous generations due to their access to data, to hardware and software which people could have only imagined a generation and a half ago.

“In the sphere of investing, it means professionals will be more productive and more efficient at coming up with ideas, acting on those ideas, researching them and building portfolios based on them. Explaining an investment thesis to clients using technology will also be simpler. So, I see a much more efficient and productive world.”

As time goes on, technology continues to advance and impact our daily professional lives. In the investment arena in particular, technology around the way data is both created and consumed has played an important role. The way this data is consumed is also changing. Zangari notes: “You’re seeing increased usage and adoption of open source programming language which sometimes falls under the banner of data science.”



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>
> **Peter Zangari, MSCI**

From a research perspective, technological advancements can give investment professionals the ability to carry out research more effectively. This means they do it faster and come to conclusions quicker. “People can more easily identify whether to continue pursuing a particular line of research or not. Therefore, these technologies help get you to that decision point a lot quicker,” Zangari points out.Discussing the internal processes at MSCI, Zangari explains how although the firm carries out research using data science, its clients come from various investment disciplines and they are all interested in these technological developments. “They are starting to use these technologies within their institutions to either help automate historically highly manual tasks or to help build portfolios more efficiently,” he says.

Greater collaboration

The increased usage and availability of technological tools also encourages greater collaboration across teams within organizations. Zangari uses MSCI as an example. He says how historically, the firm operated in a decentralised, siloed manner with each team working independently, which hindered shared collaboration. This is now changing driven by the move to using open sourced collaborative tools.

Zangari elaborates: “You have one platform that everyone uses which is based on programming languages being taught at university and high school. Therefore, the younger professionals who come into the organization are excited and engaged in using it. At MSCI we now do a much better job of sharing our research across teams and the whole organization. We are now brain storming ideas across the organization and this has been facilitated by a generational change combined with newer technologies.”

Another positive consequence of this development is that it breaks down barriers to creativity. Greater efficiency allows investment professionals more time and freedom to pursue tasks they otherwise may not have been able to.

“One of the many ways we serve clients at MSCI is we build risk factor models. In the past it could take several months, even years to produce a risk model, first working on the research behind it, then implementing the technology to deliver to clients. Although it’s hard to generalise, this process now takes a matter of weeks, so in the time they have saved, professionals can do a myriad of other things – consider new risk modelling techniques, and spend more time with clients on the use and application of risk models,” Zangari notes.

The enhanced collaboration will also lead to better risk management across an organization. According to Zangari: “The very best risk management teams will be leveraging these new technologies to better manage risk across their whole organization. They will have the ability to collaborate, share information and discuss risk on an enterprise level.”

He adds that having information presented in a simple, straightforward manner, as a result of these new tools, will allow risk managers to get to the root of their concerns more quickly than they had in the past. The data will make any key issues obvious in the first instance which means risk managers can move into problem-solving mode a lot more swiftly than before when they time would have been eaten up in trying to isolate the issues.

Hiring changes

The availability of new technologies is also leading to a sea change in the demands of firms looking to hire investment professionals and build a strong team. Zangari comments: “there will be a greater emphasis on technical skills. Even if you’re not directly involved in using computer languages, individuals need to be aware of them and appreciate what technology can enable them to do.”

As a result, the profile of a potential employee is shifting as the understanding, appreciation and usage of technology climbs to the top of a hiring company's wish list. "It's being driven by both demand and supply," says Zangari, "the supply side is increasingly because students are learning these computer languages in school and on the demand side, employers are thinking of the skills they need to be more productive, profitable and scalable using technologies."

But technical skill does not mean being mechanical. Creativity, cautions Zangari, will be vital. Having the ability to be creative with the technology will be a key building block in the workforce of the future. He emphasises: "I need to underscore the importance of creativity – the human element. This is why you need people alongside the robots or technology. As the workforce becomes more technical, the need for creativity in terms of how to use technology to build portfolios in a better way, to manage risk better, to drive down cost, to expand margins, to be more effective and engaging in the sales process...these are the areas in which creativity is going to be key."

Environmental considerations

Zangari adds an increased focus on the environment will also have an impact on the way organizations hire staff: "Climate change and climate risk will be very significant and will affect who investment teams employ and the type of skills they look for. For example, environmental sciences and the application of those skills within a portfolio management dimension will become in high demand. It's still early days but I expect it to be a very significant development."

Climate change is area of risk which has been coming under the lens as of late. "Clients need to evaluate climate risk and incorporate those climate change considerations into their portfolio construction. The first step is for clients to be aware of the different analytics involved e.g. carbon footprint, etc, and understanding what their exposure to climate risk is. The second step is about incorporating those analytics and data into the risk analysis they carry out. This is where MSCI helps clients, with integrating the climate change risk analytics into their portfolio construction," Zangari comments.

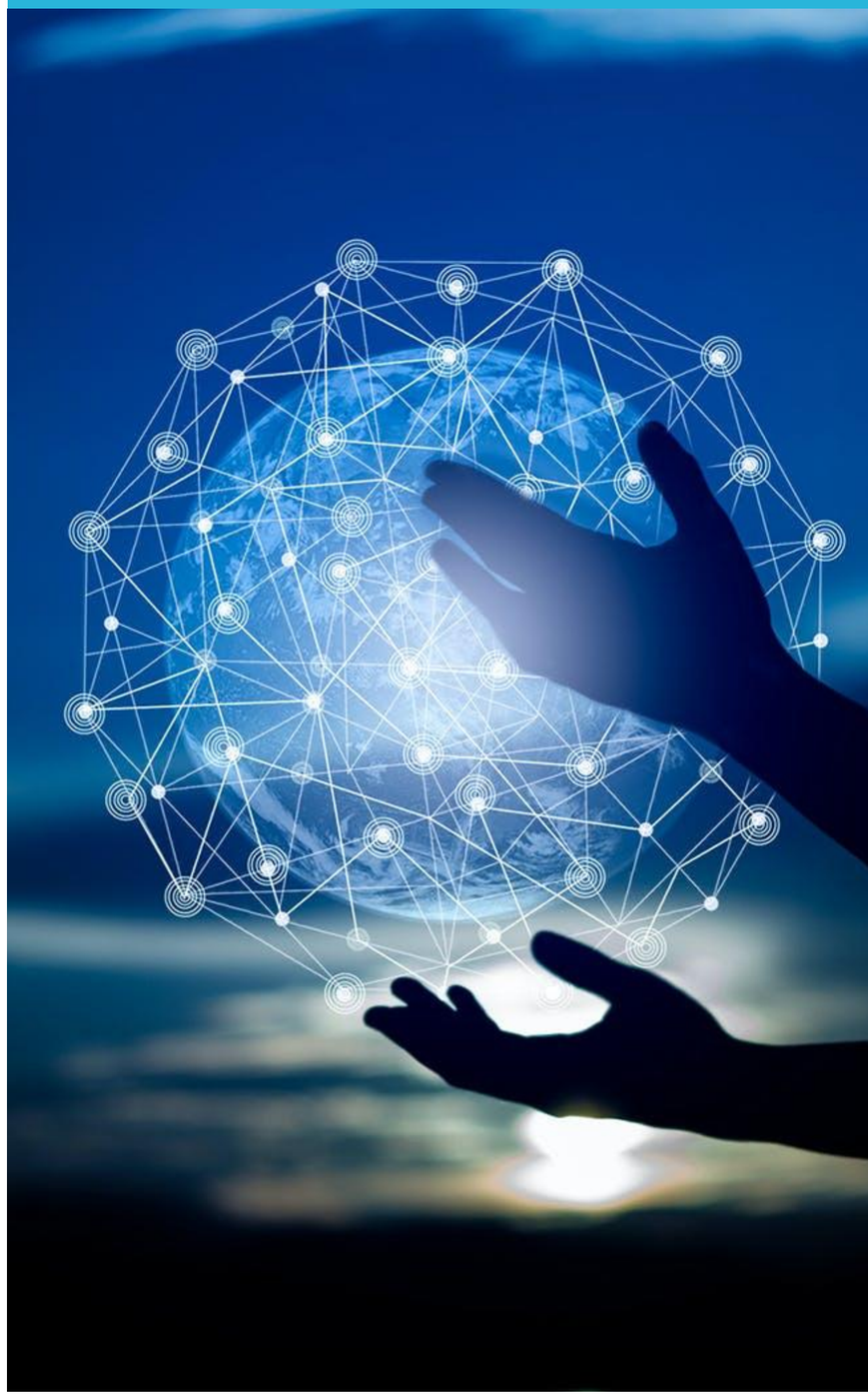
He expects environmental, social and governance factors to form a new pillar of risk management: "Globally, climate risk will be something risk managers must consider when analysing their portfolios, particular over long term horizons. I believe climate risk and ESG will continue to progress along this path and will eventually sit alongside traditional risk factors like credit and counterparty risk."

Blurring segments

The application of technology does not discriminate between sectors. As a result, Zangari expects the industry to see hard lines between the retail and institutional parts of the market being blurred. Furthermore, the direction of progress is also being turned on its head. Institutional investors are often considered to be pioneers when it comes to moving into new asset classes or making use of more innovative strategies. However, when it comes to the use of new technology, the institutional arena may well be learning lessons from the retail space.

Zangari envisions considerable changes in this regard: "Similar to how older individuals in their 60s, 70s and 80s learn from their children and grandchildren then the same will happen here. The industry needs to move on from the view of segmenting business into retail and instititional – there are differences between the sectors, but the way technology applies to each of those areas is the same. Therefore, we'll see that cross-over increasingly, going forward."

More importantly, technology in the retail space moves



very quickly – just consider online banking and where that is today. In the institutional space things move a lot slower, because of regulation and other things. But I think over time institutions will begin to interact with portfolios in a similar way to the way retail investors do."

Adapt or die

A cornerstone of success in this brave new world will be the ability to adapt. Zangari advises: "You have to adapt; you have to change and adopt. That is the main lesson the financial industry needs to learn. When your business model or your performance is challenged and when raising assets is difficult, you have to change in a way that enhances what you do. To do that you need to be aware of what you should be focusing on and what the areas of opportunity are. We all know what happens if you don't adapt..."

Zangari also points out the role of cost. He says clients whose business model has been under stress have been seeking ways to reduce their cost to drive efficiencies: "These tools help automate tasks which is very beneficial as it can support them in driving down cost and boosting their efficiency."

However, ahead of making such an investment, organizations need to take stock: "There's a cost of making these investments in technology – whether it's a dollar or time investment firms need to understand these technologies and adapt them to one's organization if they want to make the most out of these tools. If you don't have a good plan around this, you can end up wasting money."

He therefore advises organizations to be prepared and carry out their due diligence ahead of time. This will put them in the best position to leverage these technologies. "Otherwise you may invest money and not get the outcome you expect because the preparation was lacking," he cautions.

Zangari also identifies the possible danger created by a lack of awareness among investors and investment teams of how this technology can help them. "A lack of education is definitely a hindrance. This is why it's important to educate at all levels of an investment organization, whether you're the senior leader, mid-level or a more junior of a team. Actually, in this space, it is the more junior individuals in an institution who are more open to embrace and practice using technology to help institutions move forward."

New ways of doing things also bring with them potential new risks, which is something of which organizations need to be highly cognizant. "The more we rely on something, the greater risk we put into it because we have a higher dependence on it. But although this is a risk, it is one that will continue to be managed because it is inherent in the way we're now operating; this risk and the security around this technology are key aspects of these developments," Zangari concludes. ■



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Peter Zangari, as Global Head of Research and Product Development, sets MSCI's research agenda and drives integration of research into MSCI's products and services to deliver innovative solutions to investment problems. He is a member of the Executive Committee.

Prior to this, Peter served as Head of Analytics at MSCI, responsible for its equity and multi-asset class risk and portfolio management products, and was Head of Equity Portfolio Management Analytics before that. Prior to joining MSCI, Peter held progressively senior-level positions at Goldman Sachs, most recently as the Head of Risk and a member of the leadership team for the Quantitative Investment Strategies ("QIS") business of Goldman Sachs Asset Management ("GSAM"). Prior to joining QIS, Peter was responsible for building out and managing GSAM's proprietary equity risk and attribution platform.

Peter began his career at JP Morgan in the RiskMetrics and company-wide Risk groups, where he conducted extensive research in the areas of market and credit risk. He is one of the original members of RiskMetrics and his work in this area has been widely published. Peter has a Bachelor of Arts degree in Economics from Fordham University and a PhD in economics, with a specialisation in applied Econometrics and Computational Statistics, from Rutgers University.

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