

# Peering through the hype – assessing suptech tools’ transition from experimentation to supervision<sup>1</sup>

## Executive summary

**Recent episodes of banking stress underscore the need for supervisors to identify issues at an early stage and ensure that financial institutions address them adequately.** However, a lack of adequate resources, such as effective tools, affects supervisory authorities’ ability to act in a timely manner. To address this, aside from making continuous investments in human resources, authorities are also continuing to explore and develop new supervisory tools enabled by new technologies.

**In this context, much hope is pinned on the promise of supervisory technology (suptech) to help enhance supervisory ability.** Suptech is defined as innovative technology used by supervisory authorities to support their work. Many supervisory authorities have been experimenting and developing suptech tools for several years. The development of generative artificial intelligence (GenAI) technology provides further fodder for experiments and an additional boost to the potential of suptech as a transformative force in financial supervision.

**An increasing number of suptech tools have been deployed over the years, but whether they have been effectively embedded in supervisory processes, ie whether they have become critical to supervision, remains unclear.** While the FSI has produced several papers on suptech, the focus has been more on experimentation and development. This has resulted in an understanding of good practices in these areas. When it comes to deployment, some evidence points to challenges that prevent deployed tools from being effectively embedded in supervisory processes. It is important therefore to identify practices that could address these challenges.

**This paper identifies factors that could contribute to making suptech tools critical to supervision.** It synthesises insights from the existing body of work of the FSI on suptech, responses from 32 supervisory authorities to a survey focused on suptech deployment, and interviews with selected authorities. The aim is to help supervisory authorities maximise the potential of their deployed suptech tools to enhance the efficiency and effectiveness of their supervisory processes.

**Successfully deploying a tool does not necessarily translate to the tool becoming critical to supervision.** Supervisory authorities use a range of measures in assessing successful deployment of a tool. These include the level of usage and the time saved by users. When it comes to defining a tool’s criticality to supervision, supervisory authorities are practically unanimous: suptech tools that are critical to supervision are those that are indispensable in carrying out a supervisory process or parts of it.

**Only about half of respondent authorities reported having suptech tools that have become critical to supervision.** This is far fewer than the almost three quarters of respondents that reported having successfully deployed tools. Not surprisingly, the top areas where successfully deployed or critical tools can be found are the same areas where most suptech tools have been deployed so far. These areas are data visualisation, regulatory reporting, financial risk assessment and supervisory automation. Interestingly, fewer than half of the authorities with successfully deployed suptech tools reported having such tools for financial risk assessment, but almost two thirds of authorities with critical tools reported

<sup>1</sup> Jermy Prenio (Jermy.Prenio@bis.org), Bank for International Settlements. I am extremely grateful to Kenton Beerman, Yevgeniy Finegold, Stefan Hohl, Perttu Korhonen, Lukasz Kubicki, Ernest Nizhner, Conor Osborough, Joao Pacheco, Pilar Puig, Monika Spudic, Javier Tarancón and participants of the “BCBS-BISIH-FSI meeting on the use of innovative technology in financial supervision (suptech) – embedding suptech tools in supervision” held on 29-30 May 2024 for insightful comments. Anna Henzmann provided valuable administrative support.

having them for the same purpose. This implies that while it may be challenging to successfully develop and deploy financial risk assessment tools, the impact on supervision could be significant when implemented effectively.

**Supervisory authorities with a suptech strategy are more likely to have suptech tools that are critical to supervision.** Survey responses show that more authorities with a suptech strategy reported having such critical tools, while the opposite is true for authorities without a strategy. The same observation can be made when it comes to successfully deployed tools.

**Suptech tools that have not become critical to supervision face common problems.** These tools typically have limited user accessibility, either because they do not have direct user interfaces or because it takes specialised skills to run these interfaces. Other issues relate to data and on-premises computing power. The latter is influenced in turn by authorities' approaches to their IT infrastructure. Other tools are also very use-case specific and needed to be tweaked for other uses.

**Suptech tools that have become critical to supervision fit naturally into existing supervisory processes by addressing specific pain points.** Tools that add an additional step to supervisory processes or that create another process tend to receive – at best – a lukewarm reception from supervisors. This is especially the case if supervisors do not have an appreciation of the value of these additional steps/processes from the start. This highlights the important role that supervisors should play in identifying suptech tools to develop. At the end of the day, suptech tools should address the needs of supervisors and not introduce things that may only be considered as “nice to have”.

**Critical suptech tools tend to be seamlessly integrated into systems used to carry out supervisory processes.** This allows for straight-through processing of information, with the data collection system able to interface with different analytics applications and tools. This highlights the importance for supervisory authorities of having a holistic and forward-looking approach in planning the IT infrastructure, systems, applications and tools that support supervision, ie their supervision IT ecosystem. The development and deployment of suptech tools should be viewed in the context of this overall ecosystem and not in isolation.

**Critical suptech tools leverage granular data.** Financial authorities that have collected granular data historically are able to develop tools that make it more efficient to organise, interrogate and analyse these data. This in turn makes it easier to extract useful insights from them. Hence, it is important for financial authorities to enhance their data collection practices first before pursuing the benefits of data analytics tools.

**Suptech tools that are critical to supervision are easily accessible by users who have confidence in using them.** Suptech tools that do not have direct user interfaces and require intervention by specialist staff or that do not have user-friendly interfaces create unnecessary “barriers to entry” to their use. In this regard, supervisory authorities are turning to new technologies, such as GenAI, to make suptech tools more accessible to users. However, making sure that suptech tools can be easily accessed by supervisors is not sufficient on its own. Supervisory authorities also need to foster confidence among supervisors to encourage them to use the tools. This involves ensuring that supervisors understand the objectives of the tools, their capabilities and their limitations.

**These insights point to the importance of a process-focused rather than an issues-focused approach to suptech work at the international level.** International experimentation work on suptech is focused on issues like climate-related financial risk and cryptoasset monitoring, which are helpful in illustrating how tools might be developed for specific issues. However, the degree of usability by national authorities could be limited if there is limited consideration of how they supervise these issues. For each issue of interest, it might be important to have a clear understanding of the common steps in supervisory processes and the common challenges national supervisors face in working through these steps. A clear understanding of supervisory process could be useful in the identification of suptech experiments at the international level.