
HOW COMPANIES IN THE NETHERLANDS USE CLOUD FOR INNOVATION

Research findings and market analysis

A JOINT RESEARCH EFFORT BETWEEN WEOLCAN AND ROTTERDAM SCHOOL OF MANAGEMENT



weolcan.
Cloud Strategy | Solutions | Services

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About Weolcan

Weolcan is an independent Cloud consultancy firm offering support to organizations during their transition to become a digital enterprise. To do so we help our customers to formulate a digital or Cloud strategy and select and implement the right (Cloud) solutions to fulfil that strategy. Thus, we automate the automation and by using the latest Cloud technologies we create business value for our customers and accelerate their innovation.

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Are you facilitating Cloud to the potential of innovation?

Research shows that although Cloud technology is maturing substantially, the business potential is yet to be realized by most organizations (Berman et al., 2012). Especially in the context of innovation, companies are often **not** aware of the opportunities that Cloud inherits.

For this reason, Weolcan has taken the initiative to collaborate with the Rotterdam School of Management (RSM) on a research project aimed at identifying how Cloud drives innovation and to what extent the 'digital intelligence' of an organization plays a role. The underlying whitepaper is based on the results of a master's thesis that incorporated a survey and case studies of companies across various industries in the Netherlands.

We wish you a pleasant read.

The Weolcan team.

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1. Insights on Cloud adoption

By most organizations, Cloud is recognized as a maturing technology. Figure 1 shows that most respondents (83%) have adopted Cloud technology over the last years, while only a small number of businesses has not yet significantly adopted Cloud. 24% of the respondents has adopted Cloud *more than two years ago*, 35% *about 2 years ago* and 24% *within the last year*, indicating that there is a trend towards Cloud adoption.

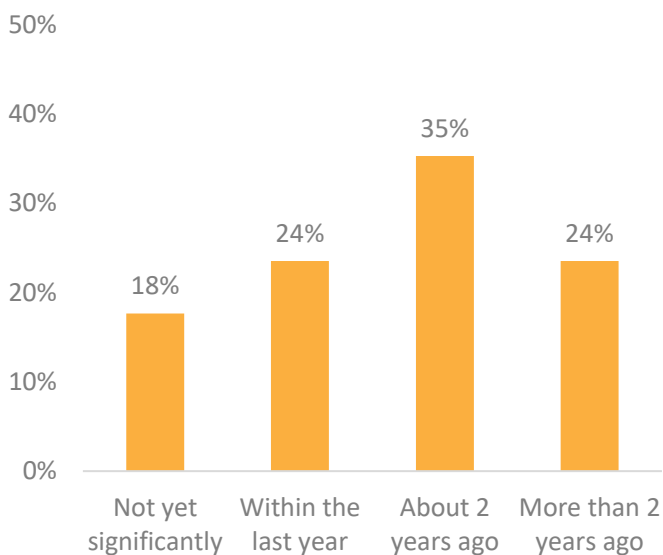


Figure 1: Cloud adoption

Furthermore, Figure 2 shows that Cloud is increasingly adopted throughout the business, whereby the IT department as well as R&D still hold substantial responsibility for technology adoption. However, business departments are on the rise, showing that IT is no longer solely responsible for leading technological advancement. Even employees themselves are starting to build applications on low-code development environments. This new form of employee engagement is also referred to as *citizen development*.

So, as Cloud is increasingly adopted and leveraged throughout organizations, the next question is how companies are taking advantage of the technology in the pursuit of realizing business benefits that ultimately support innovation?

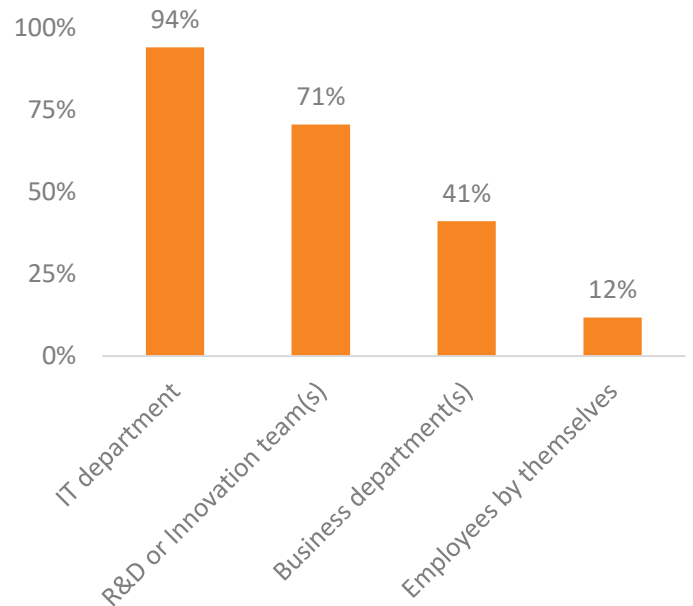


Figure 2: Cloud usage across departments, teams and employees

Level of Cloud adoption

In the case studies, the level of Cloud adoption varied, showing that while some companies are in the conceptual stage, others already heavily utilize Cloud globally. The three quotes below show different levels of Cloud adoption for different cases:

Low adoption: “The situation that we are currently in is still more like a proof of concept stage.”

Moderate adoption: “I think that more than 50% of what we do at the moment is in the Cloud.”

High adoption: “Now we use it really at scale globally in many markets where you would think it doesn't work. We use all the different parts of Cloud, infrastructure, platform, application and business services.”

2. Cloud and Innovation

The case study findings show that technology is increasingly playing a fundamental role in innovation initiatives.

“It (technology) is part of the puzzle and it is an increasing part of the puzzle, because more and more innovations are technology enabled.”

This conclusion is further supported by the survey results (see Figure 3) that show that innovation initiatives are highly depending on technology.

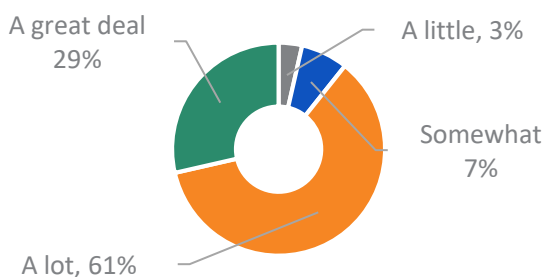


Figure 3: Dependency on technology in innovation initiatives

Technology is one important ingredient in innovation, but as Pisano (2015) states, it is vital for organizations to have an innovation strategy that is geared towards realizing business needs as well. Therefore, it is important that the innovation strategy and its innovation goals are closely aligned with the business strategy. Figure 4 shows that 78% of the respondents either *agree* or *strongly agree* that digital strategy should be part of the overall business strategy. This indicates that there is high level of awareness among the respondents that technology-enabled innovation needs to satisfy business needs.

“So, innovation really is using new possibilities in terms of technology to solve business solutions that add value and maybe even create new opportunities for businesses.”

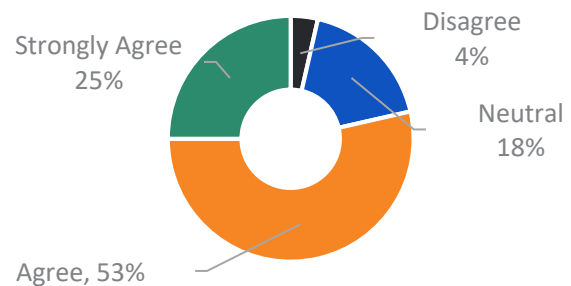


Figure 4: Digital Strategy as part of the Business Strategy

Important advantages and relevant challenges of Cloud have been identified within the scope of the research:

Important Advantages:

- Developing new solutions using PaaS and SaaS components
- Time to market and experimentation.
- Ability to scale up and down
- Global connectivity and delivery models
- Configuration management and maintenance
- Fast access to high quality infrastructure

Relevant challenges:

- Adequate resources and expertise
- Integration issues
- Compliance to standards and regulations
- Managing Cloud spending

To assess innovation, five innovation goals have been identified that satisfy business goals. These are classified as disruptive and sustaining. While disruptive innovation goals are associated with developing new business models and new value-added offerings, sustaining innovation goals are related to enhancing the quality of products and optimizing processes as well as profitability.

Two findings are highlighted (see Figure 5) First, *optimizing cost* is not considered a vital innovation goal, while *optimizing internal and external processes* is most important for companies. Second, disruptive and sustaining innovation goals are equally important, indicating that companies aim to satisfy a wide spectrum of business needs in their innovation initiatives.

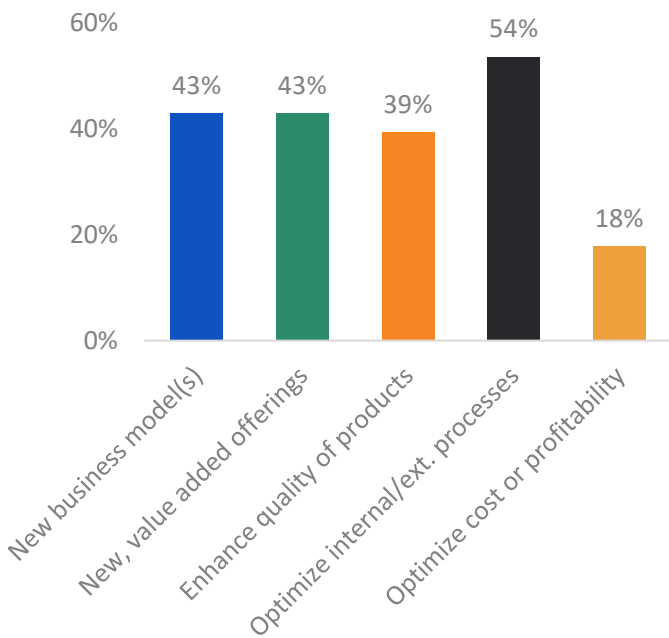


Figure 5: Primary innovation goals

Now that we have synthesized how technology-enabled innovation translates into business needs and evaluated primary innovation goals, how does Cloud fit into the picture? Cloud should be leveraged in innovation initiatives when the technology inherently poses an advantage in realizing business needs.

“So, technology plays a key role in all these things and Cloud in itself is one of the cards we have to play. We play it wherever we think there is an advantage, but we don't play it if there is not an advantage.”

Figure 6 shows the primary uses and objectives of Cloud within organizations that are associated with the previously identified innovation goals.

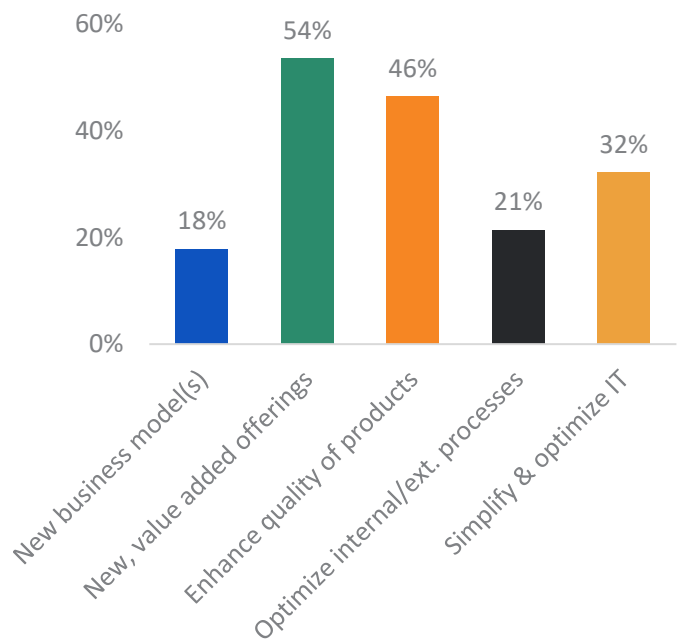


Figure 6: Primary uses and objectives of Cloud

As can be seen, Cloud is especially facilitated to *develop new value-added offerings* (54%) and *enhance the quality of offerings* (46%). This also highlights that Cloud is leveraged to realize disruptive and sustaining innovation goals. Surprisingly, the innovation goal, *development of new business model(s)*, scores low and does not seem to be an innovation goal that can be realized with Cloud. However, the case study has shown that companies are planning to utilize Cloud in the pursuit of this innovation goal heavily in the future which is because Cloud adoption has only recently accelerated, and the full potential of the technology is yet to be realized.

“I think if they are considering new platforms, new applications or doing IT investments then it will be Cloud first.”

3. The differentiator Digital Intelligence

Bughin et al. (2017) has introduced the concept of digital intelligence which is a scoring mechanism that assesses a company’s digital affinity and capabilities. The research concludes that companies with high digital intelligence are not only able to retain higher financial returns, but also fight the pressure of disruption.

Digital Intelligence? What is the fuzz about?

Digital intelligence is measured across 4 dimensions and includes 18 management practices. The four dimensions are described in detail below.

Integrated Strategy: Company’s digital strategy linked to the overall corporate strategy, centers on customer needs, anticipates digital disruption, and sets a bold, long-term vision.

Culture and Way of Working: Ability to change, including risk appetite, test-and-learn approaches, speed and agility, internal, cross functional collaboration, and the ability to form external partnerships for developing market-leading solutions.

Organization involvement: Clarity of digital related roles & responsibilities, top-down governance, key performance indicators, active leadership involvement well as presence of digital talent and leadership involvement

Technology Capabilities: Ability to experiment and scale-up, integrated customer experience across touch points, platform architectures, data-driven

The survey results show that companies with high digital intelligence (Figure 8) can exploit advantages of Cloud more than companies with low digital intelligence (Figure 7) **today**. However, both, companies with high and low digital intelligence (Figure 7 and 8), have the ambition to exploit Cloud advantages equally in the **future**. This indicates that the respondents have the desire to exploit Cloud advantages more, but only

companies with high digital intelligence have the means to pursue this objective.

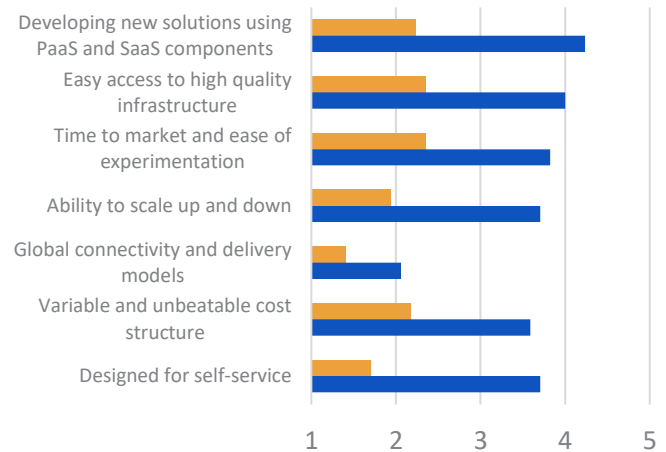


Figure 7 Exploitation of Cloud advantages for companies with low digital intelligence today (orange) vs. future (blue)

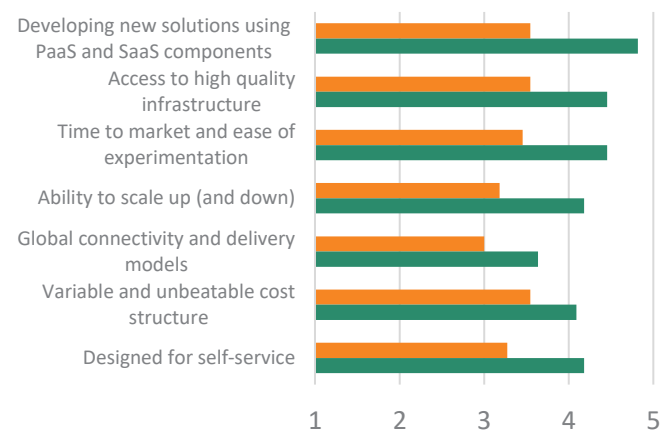


Figure 8: Exploitation of Cloud advantages for companies with high digital intelligence today (orange) vs. future (green)

This conclusion aligns with case study findings and highlights that digital intelligence is a differentiating factor for moving to the Cloud or exploiting its benefits.

“The culture, the lifecycle phase you are in as a company, the way you are structured and organized is a differentiating factor for going to the Cloud.”

4. Managerial takeaways

This report presents relevant insights that can be translated into meaningful managerial takeaways. First, Cloud is adopted more and more among the respondents and spread throughout the organization. Second, innovation is increasingly technology-enabled, but its business execution should be based on strategy that satisfy business needs. Third, primary innovation goals of the respondents have been identified and Cloud

has been investigated in this context, showing that the technology can have disruptive as well as sustaining impact. Especially the development of new value-added offerings and enhancing the quality of products play a huge role, but other innovation goals are yet to be realized. Fourth, the respondents have the ambition to exploit Cloud advantages to the potential of innovation, but digital intelligence is the differentiator for success.

01

Cloud is increasingly adopted and its application ranges from IT to business departments.

02

Technology enabled innovation aims to satisfy business goals and relies on strategic execution.

03

Cloud is increasingly associated with the realization of innovation objectives, but the true potential is yet to be realized.

04

The differentiator for moving to the Cloud or exploiting its advantages is digital intelligence.

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