NoSQL databases are a type of database management system that does not use the traditional table-based structure of relational databases. NoSQL databases offer more flexible data models, enabling efficient handling of varied data types and structures. Document-based, key-value stores, column-family stores, and graph databases are the four primary categories of NoSQL databases (hiteshreddy2181, 2023, cited in Vatjalainen, p. 5).

Within the document-based category, MongoDB is one of the most popular NoSQL databases. Vatjalainen (2023, p. 5) cites hiteshreddy2181’s research (2023) that MongoDB creates documents using open formats like XML and JSON. Because each document is made up of key-value pairs, the schema is flexible enough to support the creation of dynamic data structures. MongoDB is well-suited for use cases that require large-scale data handling, such as big data applications, real-time analytics, and content management systems. One of the key advantages of MongoDB is its ability to scale horizontally, which improves the performance and efficiently distributes read and write (Gu et al, 2015). This makes MongoDB ideal for handling high traffic loads or large amounts of data. MongoDB has a rich query language. It can replace the majority of SQL queries and supports regular expressions, conditional operators, and queries on arrays and embedded documents (Gu et al., 2015). MongoDB is particularly useful in agile development environments where changes to the data model are frequent.

In summary, MongoDB and NoSQL databases provide a high-performance, scalable, and adaptable substitute for conventional relational databases, particularly for managing unstructured or semi-structured data in contemporary distributed applications.

Vatjalainen, A. (2023) *SQL versus NoSQL: Comparison Case MySQL versus MongoDB*. <https://www.theseus.fi/bitstream/handle/10024/811109/Vatjalainen_Anna.pdf?sequence=2>

Gu, Y. *et al.* (2015) 'Application of NoSQL Database MongoDB,' *IEEE* [Preprint]. https://doi.org/10.1109/icce-tw.2015.7216831.