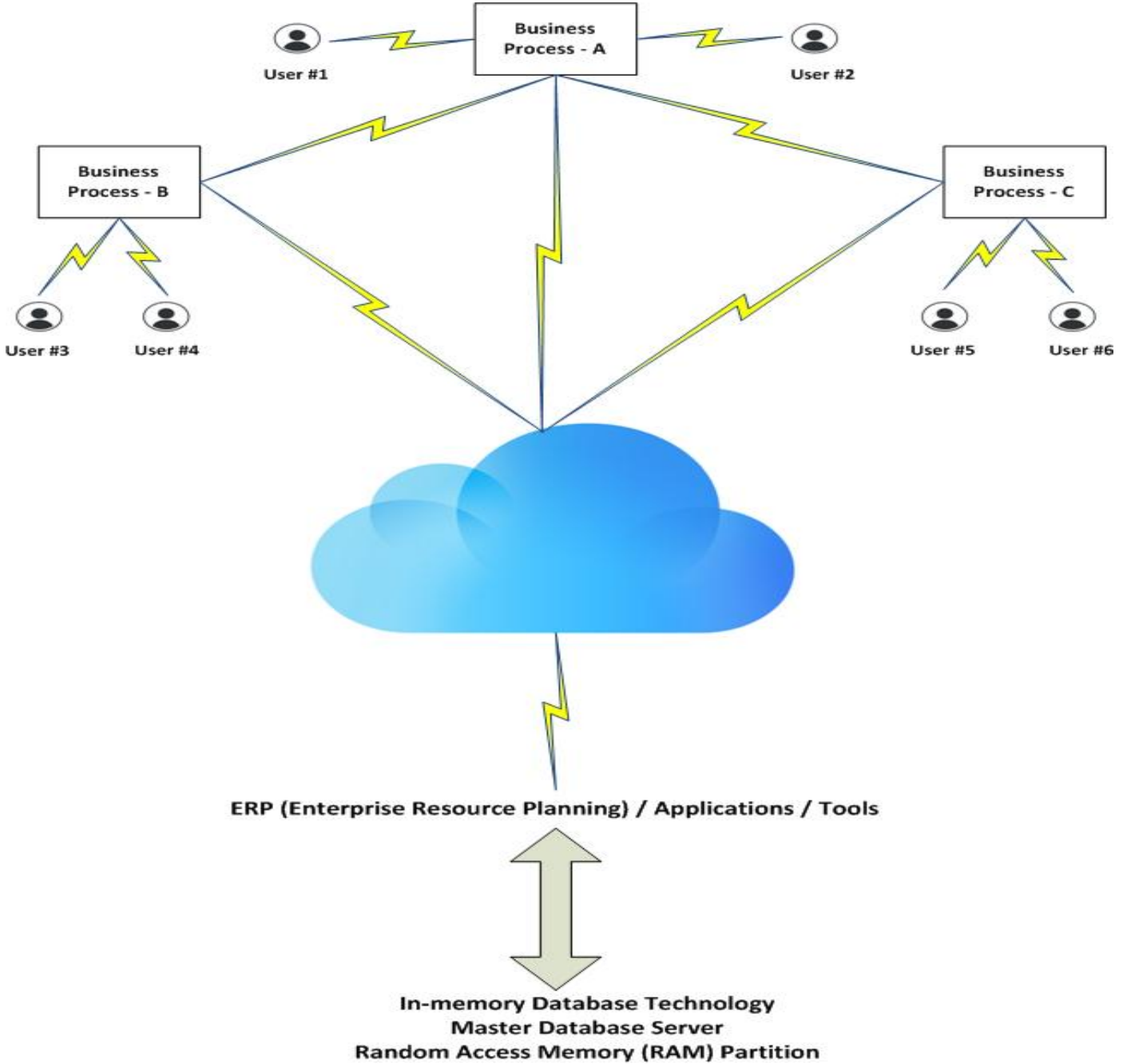
Understanding the role of in-memory database technology on business process reengineering

Abstract:

An Alpha Organisation Structure



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In-memory Database (IMDB) Technology, Business Process Reengineering (BPR), & Problem Statement

Problem Statement:

Little is known about how in-memory database technologies prompt on organisational business process reengineering...

IMDB Technology:

- **Data storage and retrieval** by using random access memory.
- **Prevalent** embedded in enterprise resource planning products.

Why IMDB Technology?

- ✓ **Innovative** in the field of cloud enterprise resource planning.
- ✓ **Enabler** of BDM, BI, & RTA different tools.
- ✓ **Augment** for planning, forecasting, and decision-making in real-time.

Business Process:

- Series of tasks and workflows that are inherent and lead the organisational activities, functions and actions.

Business Process Reengineering:

- Reconsidering and restructuring of business processes' activities.

Why Business Process Reengineering?

- ✓ **Improves** the execution and productivity of the process.
- ✓ **Enhances** critical and contemporary performance of the process.
- ✓ **Manages** complex and expensive activities and practices of the process.
- ✓ **Links** closely with IS and IT functions.

Literature Review, Motivation, Objective, & Significance

Literature Review (Technologies, In-memory Database Technologies & Business Processes):

- Any new technology impacts on business processes' **agility** and **nature** (Scott-Morton, 1991).
- Any new technology impacts on **inter** and **intra** business processes (Dumas et al., 2013).
- Real-time technology enhances **planning, forecasting, and decision making** processes (Mohanty et al., 2013).
- Real-time technology compel organizations in **different directions** and **enable marked shifts** in business processes (Devi et al., 2014).
- **Inflection point** for enterprise applications and will **lead** to improved business processes, better decision making, and new performance standards (Plattner & Zeier, 2012).
- IMDB technology generates **business value** in real-time but often results in disruptive and expensive business processes transformations (Raguseo, 2018).
- IMDB technology lead to continuous business processes **auditing** (Wang & Kogan, 2020).
- IMDB technology enables **artificial intelligence** in business processes (Karunaratne et al., 2020).

Motivation:

- Facilitate organisations to anticipate the way in which their business processes might change prior to the introduction of the IMDB technology.

Objective:

- Provide understanding to anticipate how business processes might be transformed due to IMDB technology so that tedious business processes reengineering work can be planned in terms of cost, time, and business value.

Significance:

- Organisations may not be interested to accept business process reengineering (Huang et al., 2015) and are often reluctant to undertake business process change (Fasna, & Gunatilake, 2020), then by understanding how IMDB technology might put pressure on business processes reengineering to be planned accurately and expensive solution providers' customisation can be reduced.

Question, Methodology (Data Collection, Transcription, Coding, Analysis), & Findings...

Question:

- How does in-memory database technology trigger on organisation's business process reengineering during planning, forecasting, and decision-making activities in real-time?

Methodology:

- Research study is exploratory and empirical in nature hence, using **qualitative** method with **interpretive** approach.
  - **Data Collection, Transcription, Coding, Analysis**
    - **Data Collection** conducting semi-structured open-ended interviews from the managers of different organisations who have simultaneous knowledge of the use of in-memory database technology and various businesses processes activities in their organisations.
    - **Data Transcription and Coding** using NVivo (Qualitative Data Analysis-QDA) software.
    - **Data Analysis** for collected, transcribed, and coded data, following thematic (template) analysis for the emergence of themes during interviews.

Findings:

- After conducting interviews and transcribing, coding, and analysing the interviewees' data, the research study will make substantial theoretical and practical contribution to the different organizations in terms of,
  - ✓ **improved planning, forecasting, and decision-making activities in real-time**

But,

- ✓ ***there is a risk that organisations lose control of the processes reengineering initiatives due to technology solution providers' involvement for processes' customisation***