Adaptive Organizational Transformation of Agribusiness Companies

An Integrated Assessment Approach

Tetyana Lepeyko · Malik Qasimzade · Yuliia Baliuk

Simon Kuznets Kharkiv National University of Economics

Research Problem and Objective

Digitalization reshapes value creation, coordination and decision-making.

Agribusiness faces volatile markets, logistics disruptions and sustainability pressures.

Research objective: develop and test an integrated assessment of adaptive organizational transformation.

Conceptual Foundation

Business model → logic of value creation

Organizational structure → roles, processes and coordination

Digital environment → information, connectivity and decision support

Adaptability emerges from the interaction of all three.

Empirical Design: Eight Companies

AGCO · Bayer · Bunge · CHS

Dole · Louis Dreyfus Company (LDC) · Nutrien · Syngenta

Seven comparison areas:

Production · Logistics · Service · Inventory

Quality · Sustainability · Customer orientation

Integrated Assessment Method

$$T = 0.25\,E + 0.25\,F + 0.25\,C + 0.25\,I$$

E — operating efficiency (relative profitability)

F — organizational flexibility (response speed)

C — competitiveness (relative market share)

I — digital ecosystem integration (digitized processes)

Comparative Results: Transformation Index



Different Digitalization Trajectories

AGCO, Bayer, Nutrien, Syngenta: production and services

Bunge, CHS, LDC: logistics, trading and inventory

Dole: traceability, quality and sustainability

No universal transformation pathway exists.

Generalized Adaptive Transformation Model

DIGITAL INFRASTRUCTURE + FLEXIBLE PROCESSES

DATA ANALYTICS + PARTNER ECOSYSTEMS

CUSTOMER-ORIENTED MANAGEMENT

INNOVATION DEVELOPMENT

Enablers: change culture, transparency, collaboration, continuous improvement

Interpretation and Limitations

Strong performance requires balance across four dimensions.

The index is a diagnostic and benchmarking tool—not a causal test.

Limitations: heterogeneous sample; equal weights; cross-sectional comparison.

Next steps: sensitivity analysis, longitudinal data and resilience metrics.

Conclusions and Implications

Digital transformation = coordinated organizational renewal.

Nutrien (0.81), Bunge (0.80), CHS (0.80) lead the comparison.

The six-component model supports transformation diagnostics.

For Ukraine: consider logistics continuity, energy autonomy, cybersecurity and resilience.