INTEGRATED DIGITAL MANAGEMENT ARCHITECTURE AND TRANSFORMATION READINESS OF AGRIBUSINESS ENTERPRISES

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Research problem and objective

Sectoral challenge

Agribusiness combines spatially distributed assets, seasonal production, biological constraints, volatile markets and complex logistics.

Transformation challenge

Installing ERP, CRM, GIS or cloud solutions alone does not ensure integrated data, coordinated decisions or scalable business value.

STUDY OBJECTIVE

Develop and apply an integrated assessment of digital maturity, transformation readiness, digital-stack integration and Agile readiness across five Ukrainian agribusiness enterprises.

Integrated diagnostic framework

DMI

Current digital maturity

Digitalized processes, analytics and production technologies

DRI

Readiness for change

Governance, capabilities, investment and change management

DIGITAL STACK

Technology integration

ERP · CRM · BI · IoT/GIS · Cloud

AGILE

Organizational flexibility

Culture · Autonomy · Data · IT architecture

Digital Transformation Potential $DTP = \sqrt{(DMI \times DRI)}$

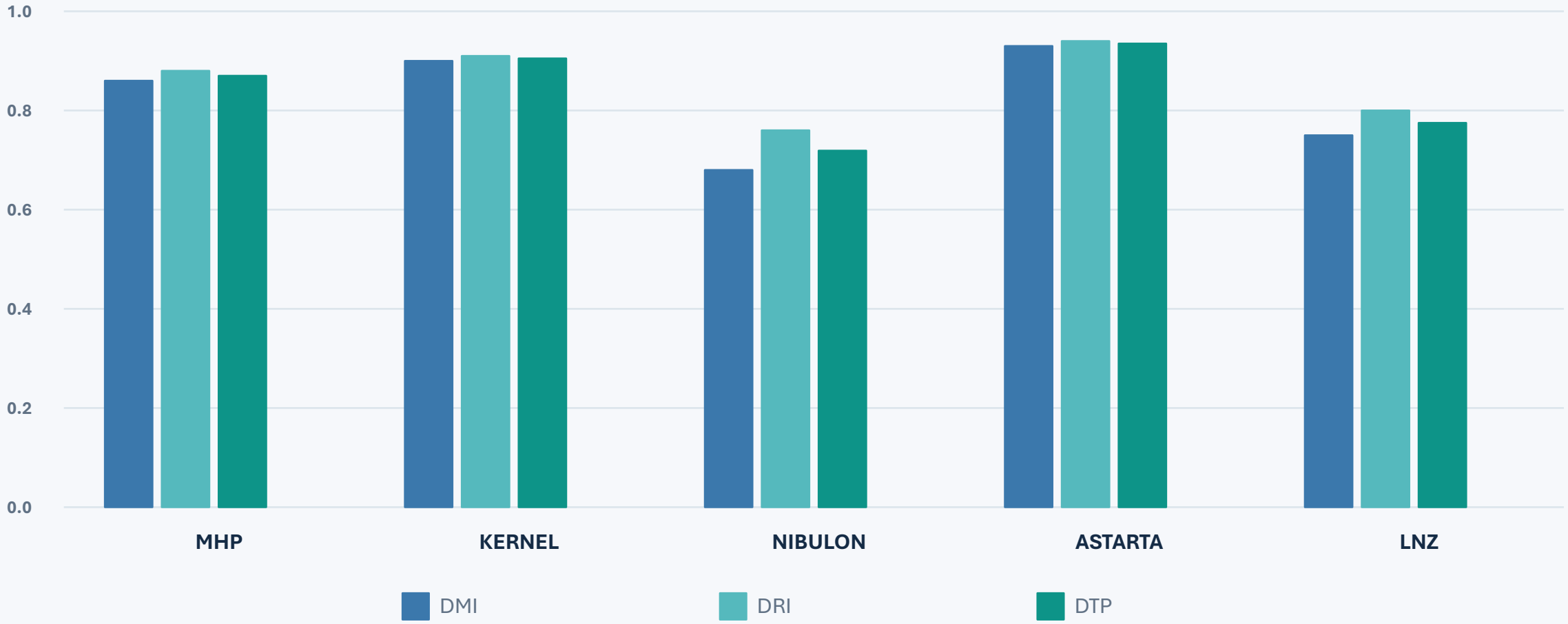
Sample, scoring and interpretation

01	MHP
02	KERNEL-TRADE
03	NIBULON
04	ASTARTA-KYIV
05	LNZ GROUP

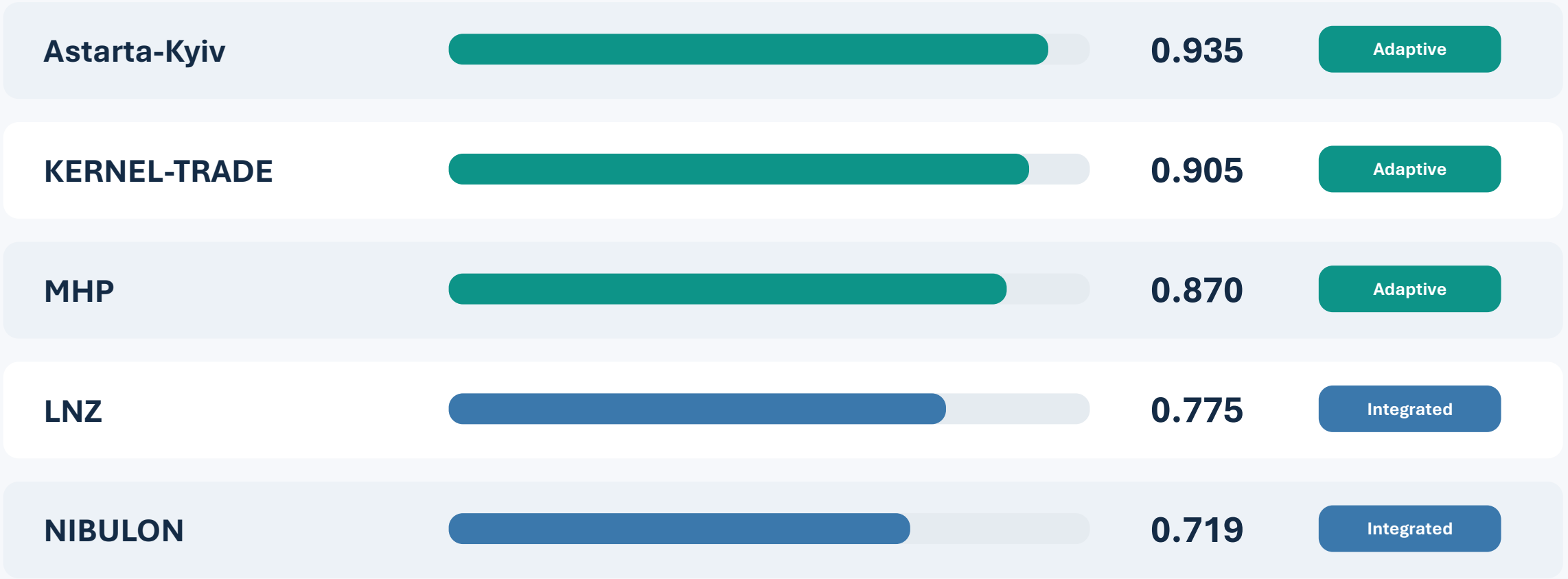
Anchored interpretation scale (0–1)

0.00–0.39	Isolated evidence
0.40–0.59	Pilot / departmental
0.60–0.79	Multiple processes; partial links
0.80–0.89	Broad cross-functional use
0.90–1.00	Enterprise-wide integration

Digital transformation potential: DMI, DRI and DTP



DTP segmentation and strategic positions

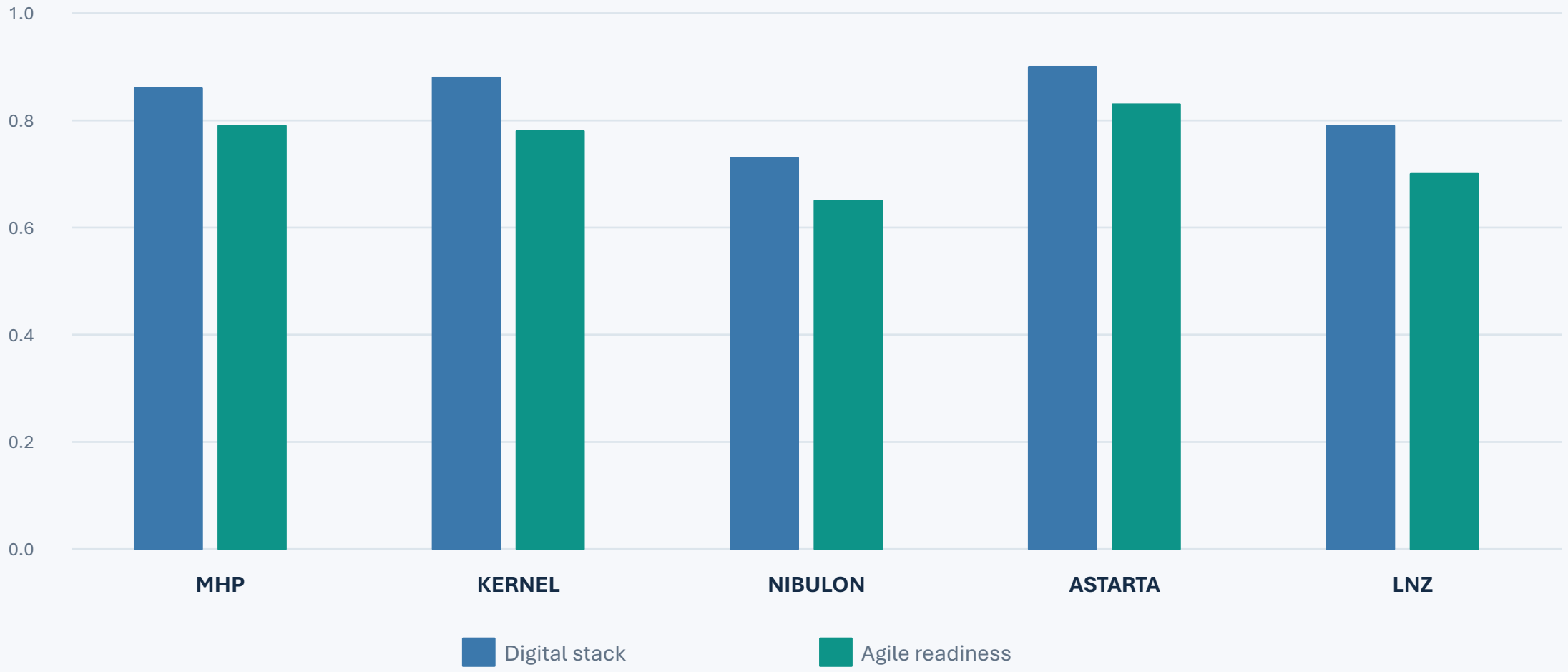


Digital management architecture and integration

ERP ↔ CRM ↔ BI / DATA ↔ IoT / GIS ↔ CLOUD / APIs



Technology stack versus Agile readiness



Differentiated managerial transformation priorities

MHP	Integrate digital channels, data products and supply chains
KERNEL-TRADE	Advance field analytics, GIS/RTK, AI and resource optimization
NIBULON	Consolidate accounting, cloud, BI and logistics processes
ASTARTA-KYIV	Scale AgriChain, optimization and AI analytics
LNZ	Link precision farming with CRM and customer systems

Conclusions and research implications

01

Integration is the decisive issue

Digital solutions generate management value through shared data, process ownership and decision rules.

02

Profiles differ across enterprises

Astarta-Kyiv leads the combined assessment; KERNEL-TRADE and MHP show adaptive potential.

03

Agile complements architecture

Iterative digital-product delivery requires reliable data, modular IT and cross-functional coordination.

04

Validation is the next research step

Longitudinal KPIs, independent scoring and auditable evidence are needed to assess realized outcomes.

Thank you for your attention