

DX 2021

# China Mengniu: Digitizing Milk Production, Distribution and Marketing

TWIMBIT DX RANKING 6

INSIGHTS FOR SUCCESS | IDEAS TO EXECUTE

April 2021

# Twimbit DX Ranking 6



75%  
Define



75%  
Simplify



100%  
Innovate



100%  
Overall



**Industry:** Dairy/Consumer Staples

**Revenue (FY20):** USD 10,856.4 million

**HQ:** Causeway Bay, Hong Kong

**CEO:** LU Minfang

**Purpose:** Every drop of nutrition makes every life thrive.

**Business model innovation:**

O2O/e-commerce/Smart factories/Digital supply chain



## Outcome

China Mengniu Dairy is one of the largest dairy companies in the world. In 2020, the company established its group digitalisation strategy around four key channels viz consumers going online, channels going online, supply chain going online, and management going online. The strategy's key objective is to establish an information system that gradually leads to a data-driven business. Mengniu uses 170 megabytes of data from dairy farms, production and logistics data to provide milk to 90% of the householders in China with the highest efficiency and quality.

## Key highlights

The **"Digital Milk Source"** project in trial operation across six pilot ranches.

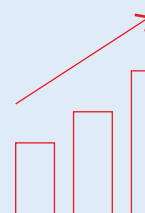


Establishing two smart factories **embracing digital transformation.**

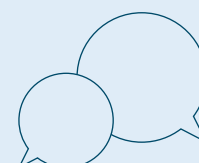
**Smart supply chain** with a visual presentation based on more than 100 indicators.

In 2020, Mengniu was **ranked 8th on the global dairy top 10 report by Rabobank.**

GMV of O2O (Online to offline) model reached RMB 1 Billion (USD 150 million) in H1 2020, up **200% Y-o-Y (Year-on-Year).**



**Created 100,000+ WeChat groups** to drive community buying and achieved RMB 1 Billion (USD 150 million) sales in H1 2020 via these groups.



# Introduction

China Mengniu Dairy began operations in 1999 in the Inner Mongolia Industrial Region, and in two decades, it grew to become one of the world's largest dairy companies. The company did record -5.8% de-growth in its top line for the first half of 2020 on a Y-o-Y basis, but the group revenue on a comparable business basis increased by 9.4% Y-o-Y for the same term to RMB36.8 billion (USD5.6

billion). Mengniu believes digitising the supply chain management system is the crucial link to its digital transformation. It combines cloud computing, big data and other technologies to improve coordination along the entire dairy industrial chain and enable faster growth of the dairy industry and all upstream partners (e.g., Ranches.)

# Transformation

Mengniu has continued its efforts to realise "Project 136" during the period, which aims to assist ranches in achieving cost reductions and enhancing efficiency. The vision includes enhancing operational capabilities by integrating upstream information, technology and resources through three platforms: "Digital Milk Source", "Dairy Cattle Research Institute", and "Aiyangniu". The officially upgraded "Aiyangniu" platform, in particular, has opened up the entire industry. The platform aims to remove sales and purchase barriers across the whole dairy industry's industrial chain, thereby increasing the transparency of material sourcing practices and providing a comprehensive, high limit, inexpensive and convenient supply chain financing solution for upstream and downstream customers.

Key digital initiatives include:

## Digital Milk Source - Smart Farming management platform

This platform framework is a farm operation management solution using IoT devices, cloud computing, big data, artificial intelligence and other information technology.

Two pillars are the foundation of the firm's platform development - dairy enterprises and ranches. It enables the horizontal interconnection of breeding management, health management, milk production management, feeding management, quality

management, veterinary medicine management, and dairy enterprise management and operations.

Apart from these functions, the intelligent platform also facilitates the integration of dairy enterprises, dairy farms and government-industry coordination.



Behind this cup of milk, there is a whopping 170 megabytes of data, including dairy farm data, production data and logistics data. Industrial chain digitalisation allows Mengniu to milk to 90% of China's households with the highest efficiency and quality.

**LU Minfang,**  
CEO, Mengniu



# Transformation

**Impact:** In 2019, as part of its Digital Milk Source project, Mengniu piloted six dairy farms, where the coordination platform provided the dairy farms with more comprehensive data support. The project also helped standardise the farm management process, refine daily operations and refined the cost per kilogram of milk, leading to a more competent dairy farm management and improved performance.

- 25% increase in operating service efficiency since the product launch.
- 40% improvement in management analysis efficiency.
- 18% improvement in dairy farm business efficiency.

## Smart manufacturing

As a pilot demonstration enterprise and a fundamental support unit for the intelligent manufacturing of dairy products designated by the Ministry of Industry and Information Technology (MIIT) of China, Mengniu has established two new model factories of intelligent manufacturing and digitalisation in the dairy industry. These two factories, the Gaoke and Jinhua plants, passed the ministry's acceptance inspection in February 2019. Mengniu received RMB45 million (USD 6.75 million) of state support funding to enable comprehensive applications of intelligent manufacturing digitalisation in the two smart factories.

Mengniu's pilot digital factories have empowerment by integrating an automated operational technology (OT) data acquisition platform and the Manufacturing Execution Systems (MES). These digital functions enable sophisticated production, process automation, information digitalisation and management transparency.

The firm's intelligent manufacturing project became one of the first recipients of the Intelligent Manufacturing Benchmark Enterprise title from MIIT, China, in October 2019. Mengniu was the only enterprise in the dairy industry to receive such a distinction alongside eight other companies, including AVIC Aircraft, Haier Group and CATL.

Since the system's launch, which continuously digitalises manual reporting, the Jinhua plant's electronic reporting rate has exceeded 33%.

## Consumer insights

Mengniu and Alibaba signed a strategic cooperation agreement on 7 September 2017. On one end, this enabled both parties to respond better to the opportunities and challenges under new retail. Mengniu and Alibaba could also narrow in and stay close to consumers' buying scenarios and behaviour via a series of in-depth cooperation, which helped the firms practice a consumer-centric concept.

In 2019, Mengniu continued to work closely with Alibaba to build a panoramic consumer insight system that leverages the big data system to promote retail and development (R&D). This system would better suit consumers' needs and enable more accurate market placements.

Together, the companies also carried out a series of new retail innovation projects driven by data and technology to explore new buying scenarios that appeal to young consumers. These digital explorations on the consumer front have advanced continuous innovation for Mengniu in its business model, R&D and production processes, forming a virtuous interactive consumption cycle.

# Transformation

## Key Outcomes:

- Completed five functional modules, including sales prediction, layout optimisation, accurate scheduling, intelligent ordering and large-screen display.
- Establishing a logistics optimisation model that integrates manual work and intelligent applications.
- Achieved optimal transportation and warehouse site selection based on big data analysis to increase logistics efficiency and boost regional sales.

# Strategy

In 2020, Mengniu established its digitalisation strategy management committee and digital strategy project team to focus on its primary targets. The strategy specifically involved the integration of channels and generation of synergies between members of the front-line supply chain, thereby realising its Four Online goals:

- Consumers going online
- Channels going online
- Supply chain going online
- Management going online

## Consumer going online:

The newly added *digitalised precise advertising placement system* for Mengniu reached completion at the end of April.

The seamless matching of the system with the company's digitalised marketing strategy resulted in the precise launch of advertising and marketing efforts according to consumer data, as well as enhanced media exposure and conversion rate of clicks.

# New growth and performance

The company deployed online to offline (O2O) omnichannel in the first quarter to deal with COVID-19 induced excess inventory. Partnerships and sales through online channels led to 200% Y-o-Y growth in O2O GMV to RMB1 billion (USD150 million) in the first half of 2020. The company also created over 100,000 WeChat groups, which drove community buying and achieved RMB 1 billion (USD150 million) in sales for the first half of 2020 as well. Apart from that, Mengniu established two new intelligent factories in Gaoke and Jinhua to boost data-driven production and apply extensive IoT, Big data and robotics to drive product growth.

## Channels going online:

The smart network system by Mengniu provides coverage of distributors of its room temperature product business across the nation. It will gradually encompass other business units.

## Supply chain going online:

The company started the smart warehousing (WTO) project as per its plan in H12020. WTO enables it to address the development trends of the warehouse and logistics industry and integrate product warehousing, allocation and delivery operations.




## Management Going Online:

The platform can take up a more significant workload arising from business growth through the addition of functions and optimisation. This very platform will, in turn, contribute to business expansion and resolve difficulties while managing the high cost of obtaining financing for business partners from both the upstream and downstream of the industrial chain. Based on software such as DingTalk, Mengniu has constructed a highly efficient collaborative platform covering the said upstream and downstream of the industrial chain.

# China Mengniu DX Framework

Pillar | Define

Key question | Who we are?

Attributes	Score	China Mengniu
Clearly articulate purpose	100%	<p>The mission for Mengniu is to ensure that every drop of nutrition makes every life thrive.</p> <p>Its mission to nourish the globe lies at the heart of this global dairy giant's transformation strategy.</p>
Sharp focus on outcomes and impact	100%	<p>The China Mengniu Dairy Company Limited, a conglomerate producing over 400 dairy products for more than 70 million customers in China and abroad, is in the midst of a digital revolution.</p> <p>In 2020, Mengniu established its digitalisation strategy management committee to realise "Four Online" goals:</p> <ol style="list-style-type: none"> <li>1. Consumers going online</li> <li>2. Channels going online</li> <li>3. Supply chain going online</li> <li>4. Management going online</li> </ol> <p><b>Key outcomes:</b></p> <ol style="list-style-type: none"> <li>1. Gross Merchandise Value (GMV) of O2O vertical achieved RMB1 billion (USD150 million) Revenue in H1 2020, up 200% Y-o-Y.</li> <li>2. Sales from WeChat community groups crossed RMB 1 billion (USD 150 million) in H1 2020.</li> <li>3. Company launched two smart factories with end-to-end digitised milk production.</li> <li>4. The company filed for over 200 patents and were awarded more than 120+ patents in 2020.</li> </ol>
Culture is the key	50%	<p>On China's Glassdoor equivalent, Kanzhun.com, the company has the following employee rating:</p> <div> <div>  <p>4.1 CEO Approval</p> </div> <div>  <p>3.5 Positive outlook</p> </div> <div>  <p>3.8 Recommend to a friend</p> </div> </div> <p>Mengniu takes people and cultural settings as a fundamental strategic lever for change. In 2019, Mengniu had 37,894 employees, and 90% were local community hires.</p> <p>It creates employment opportunities for local minorities and women in communities across China and other Southeast Asia parts.</p> <ul style="list-style-type: none"> <li>• 63% of employees are women.</li> <li>• One in three employees is a millennial.</li> </ul> <p>The Mengniu trade union holds annual employee congresses and conducts thematic training for new employee representatives every year.</p>



# China Mengniu DX Framework

Pillar | **Simplify**

Key question | **How we operate?**

Attributes	Score	China Mengniu
<b>Flat organisational design</b>	75%	<p>Mengniu is still a long way from creating a pure-play flat structure. However, it is laying the groundwork for creating a more democratic company.</p> <p>In 2019, the company strengthened the management systems of the worker's congress. It established channels for equal consultation, thereby building harmonious labour relations and enterprise management.</p> <p>The company collected 390 proposals from employees representatives, of which 128 are now formally adopted.</p> <p>Mengniu has created a formal communications system for unifying employee voices.</p> <p>It established internal online communication channels and maintained regular communication with democratic party members and other united front personnel to ensure the stability of united front work.</p>
<b>Treat talent scarcer than capital</b>	100%	<p>Employee health and well-being is a key area for Mengniu. Below are some key initiatives taken by the firm:</p> <ol style="list-style-type: none"> <li>1. Implemented 172 improvements in 2019 to improve the work environment. These improvements include lighting, sound and dust particles management.</li> <li>2. Established new systems such as occupational health management systems for taking care of employees.</li> </ol> <p>Mengniu launched an employee well-being program in 2019 to provide comprehensive assistance to employees across all critical areas such as food, lodging, family and child care.</p> <p>Employee care plans last across an individual's lifetime and cover niche segments like youth, women, and senior citizens with fundamentally different needs.</p>
<b>Fast decision-making</b>	75%	<p>Mengniu has a swift decision-making process backed by advanced technology and information systems.</p> <p>Through the 136 Project, Mengniu aims to integrate leading technology, resources and experts worldwide and provide strong technical and funding support for the dairy industry's development so that dairy farms can raise cows without worry.</p> <p>By promoting intelligent supply chains and establishing data models and data insights, Mengniu has reshaped the new online+offline supply chain model and established a nationwide production network, making the traditional dairy industry lighter and thinner.</p>

# China Mengniu DX Framework

Pillar | **Innovate**

Key question | **How we grow?**

Attributes	Score	China Mengniu
Explore ecosystems	100%	<p>From its inception, Mengniu has seen the importance of collaborative innovation for long-term development.</p> <p>Mengniu has established a world-leading high-tech research institute and high intelligence production base. The institute and production base brings together 16 domestic and international dairy research institutes, including UC-Davis, Cambridge University, Danone, Chinese Academy of Sciences and China Agricultural University.</p> <p>The company has also established three overseas R&amp;D centres with more than 30 R&amp;D partners around the world.</p> <p><b>Key partners:</b> Mengniu collaborated with China Agricultural University on the development of proprietary strain MN Gup for immunity-related factors.</p> <p>Mengniu established a joint laboratory with Inner Mongolia Agricultural University to conduct functional research on the application of Bifidobacterium M8 from breast milk.</p> <p>The firm collaborated with the Dalian Institute of Chemical Physics of the Chinese Academy of Sciences on the detection of oligosaccharides in breast milk samples from different regions.</p> <p>Mengniu also collaborated with the Peking University Health Science Centre to conduct a research project on the intestinal health of formula-fed infants.</p> <p>Finally, Mengniu conducted clinical trial research on hydrolysed whey protein with multiple AAA hospitals such as the Chinese PLA General Hospital and Hebei People's Hospital.</p>
Driven by tech	100%	<p>"Behind this cup of milk, there is a whopping 170 megabytes of data, including dairy farm data, production data and logistics data. Industrial chain digitalisation allows Mengniu to milk to 90% of China's households with the highest efficiency and quality." – LU Minfang, CEO, Mengniu.</p> <p>Mengniu takes intelligent supply chain management as a key link to its digital transformation. It combines cloud computing, big data and other technologies to improve coordination along the entire dairy industrial chain and achieve faster growth for Mengniu and all its partners.</p> <p><b>Key technology initiatives:</b></p> <ul style="list-style-type: none"> <li>• Smart farming management platform</li> <li>• Smart manufacturing</li> <li>• Consumer Insight</li> <li>• Smart supply chains</li> </ul>



# China Mengniu DX Framework

Pillar | **Innovate**

Key question | **How we grow?**

Attributes	Score	China Mengniu
<b>Accelerate organisation learning</b>	100%	<p>Mengniu has launched systems for managing its company-wide employee training initiatives.</p> <p>These include:</p> <ul style="list-style-type: none"><li>• Mengniu learning &amp; development system</li><li>• Worthit Online training platform</li><li>• Blue Ocean strategic management pipeline program</li></ul> <p><b>Key outcomes:</b></p> <ol style="list-style-type: none"><li>1. 225 learning projects by way of project-based training, which covered 72,392 person-times, with each trainee having received an average of 34.19 credit hours and 2,287 trainees receiving a five-star rating.</li><li>2. Blue Ocean is the group's strategic talent pipeline programme covering 240 senior and middle management members in key positions. Since the start of this programme in 2018, a total of 11 training modules have taken place across 17 business topics.</li></ol>



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