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A Portfolio-Based Approach to Managing a Network of Automated Photo Studios: FinTech Tools for Offline Infrastructure

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Abstract

Networks of automated photo studios and other self-service solutions are traditionally perceived as offline infrastructure, where location, rent, and technical reliability of equipment are considered the key factors. However, when scaling to dozens or hundreds of locations, such projects begin to resemble a financial portfolio in which each location has its own risk and return profile. This article examines the experience of managing a network of automated photo studios launched in the United States and expanded to approximately 30 regions with further entry into Europe, viewed through a FinTech lens: portfolio analysis, risk modeling, scenario planning, and data-driven management. It demonstrates how tools commonly used in commercial lending and financial analytics can be applied to offline network management, increasing resilience and scalability.

Keywords: Automated Photo Studios; Fintech; Portfolio Approach; Risk Management; Location Analysis; Unit Economics; USA; Europe; Self-Service

1. Introduction

Automated photo studios belong to the class of self-service solutions in which users independently complete the entire service journey—from selecting a shooting scenario to payment and receiving a digital or printed result. Such projects are positioned as technology-driven, yet remain highly "physical": they require real space, equipment, maintenance, and interaction with property owners.

With a small number of locations, managing such a network remains largely intuitive and personalized. However, when expanding to dozens of regions, the situation changes fundamentally:

- A single studio becomes the minimal unit of a portfolio;
- Regional clusters turn into segments with their own demand and risk profiles;
- The overall network begins to behave like an investment portfolio with distributed cash flows.

The experience of Artjoms Blazko—who combined work in commercial lending and financial analytics with the launch and development of a network of automated photo studios in the United States and Europe—demonstrates how FinTech tools can be embedded into the management of offline infrastructure.

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2. The Network as a Portfolio: The Core Concept

The portfolio approach is based on the idea that there is no "perfect" location or ideal market. Instead, portfolios always combine assets with different levels of risk and return, and the manager's task is not to find a single perfect asset, but to balance the overall set.

Applied to a network of photo studios, this means:

- a location = an asset with parameters such as investment size, revenue, volatility, and operational risk;
- a region = a portfolio segment combining locations with similar consumer behavior and unit economics;
- the network = a portfolio whose stability depends not only on average metrics, but also on the distribution of risks.

In practice, this leads to the need to:

- systematically collect data for each studio (foot traffic, revenue, failure frequency, service mix);
- build aggregated regional reports;
- identify groups of locations: core "anchor" studios, growing ones, and experimental sites.

This creates the foundation for further financial and risk analysis.

3. Location Risk Profiles: From Intuition to Scoring

The traditional approach to selecting an offline location is often based on experience and intuition: "there is a lot of foot traffic here," or "the rent is favorable." A FinTech-driven approach requires formalization and scoring.

For each potential location, the following are assessed:

- **Quantitative parameters:** pedestrian traffic, time-of-day and day-of-week flows, proximity to demand generators (government service centers, universities, business districts);
- **Qualitative parameters:** audience profile (students, office workers, tourists), presence of competing services, lease agreement specifics;
- **Regulatory and operational factors:** placement requirements, restrictions on nighttime operations, infrastructure quality.

These parameters can be combined into a location scoring model, assigning each site a score and a risk class. In the operation of a photo studio network, for example, three levels may be distinguished:

- **Low risk:** proven stable traffic, a clear demand profile, and validated formats;
- **Medium risk:** strong assumptions, but without a long observation history;
- **High risk:** new formats, unconventional locations, or markets with unpredictable demand.

A portfolio-based approach implies setting limits on the share of high-risk locations and regularly revising scoring assessments as new data accumulates.

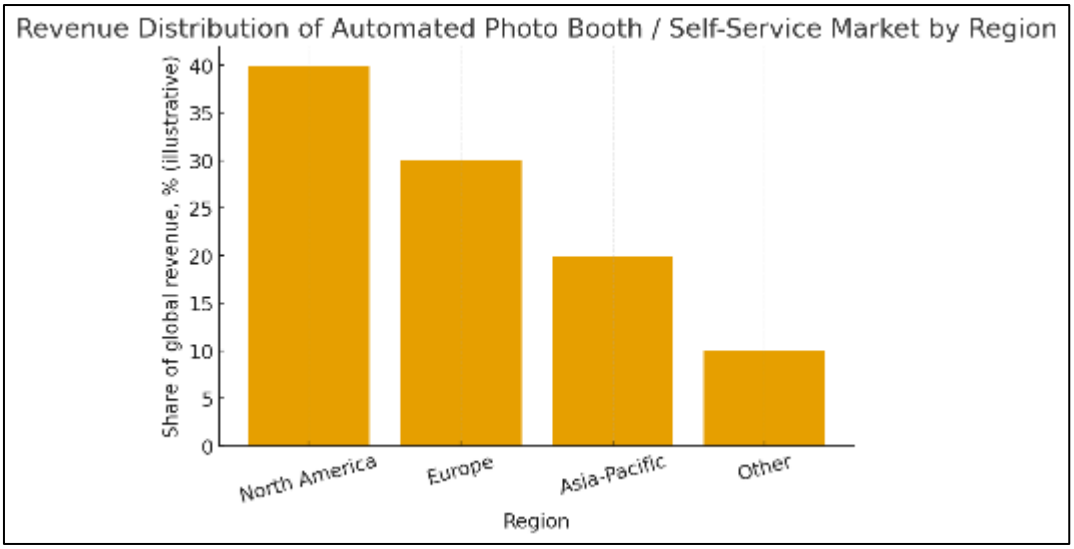

Figure 1 Revenue distribution of the automated photo booth/self-service market by region

4. Financial Modeling and Scenario Analysis

Financial analytics and lending traditionally rely on a scenario-based approach: base, optimistic, and stress scenarios. In managing a network of automated photo studios, this tool makes it possible to assess the project's resilience to external shocks in advance.

For each studio and region, models are built that take into account:

- Expected foot traffic and conversion into paid sessions;
- Dynamics of the average ticket size;
- The structure of variable and fixed costs;
- Potential changes in rental rates and maintenance service costs.

The **base scenario** relies on current observations and moderate growth.

The **optimistic scenario** assumes successful promotion, expansion of the service lineup, and positive effects from brand recognition.
The **stress scenario** models a decline in demand, rising costs, and/or temporary closure of certain locations.

The results of scenario analysis are used to:

- Make decisions on launching new locations;
- Set internal investment limits for specific segments;
- Prepare anti-crisis action plans (relocation of studios, renegotiation of lease agreements, adjustments to pricing policies).

5. Data and Automation as the Core of the FinTech Approach

One of the key principles of FinTech projects is a strong focus on data and automation. In the case of automated photo studios, this is implemented across several levels.

5.1. Technical Monitoring

Each studio's equipment is connected to a remote monitoring system that tracks device status, errors, and downtime. This enables rapid response to technical incidents and minimizes revenue losses.

5.2. Business Analytics

The analytics system aggregates data on transactions, service types, and workload by hour and day of the week. Based on this data, the following are produced:

- Revenue and margin reports;
- Regional comparisons;
- Assessments of marketing activity effectiveness.

5.3. Decision-Making Tools

Data is used not only for reporting, but also for management decisions, including:

- Selecting promotion and discount formats;
- Adjusting pricing for different segments;
- Defining priorities for maintenance and studio upgrades.

The more automated the chain "data collection → analysis → action" becomes, the closer the offline network moves toward an ideal FinTech product, where decisions are based on measurable metrics rather than fragmented impressions.

6. International Scaling: Additional Risks and Opportunities

Expanding the network beyond the United States into European locations adds another layer of complexity to traditional operational and financial challenges—international risk.

Key factors include:

- Differences in consumer behavior: attitudes toward self-service solutions and willingness to use automated services for ID photos and personal content;
- Regulatory differences: personal data protection requirements, rules for placing equipment in public spaces, and standards for official document photos;
- Currency risks and payment infrastructure specifics.

A FinTech background facilitates work with these challenges, drawing on approaches commonly used in international financial operations and cross-border projects.

Scaling is carried out in stages:

- testing several locations in a new country;
- adapting products and interfaces to local requirements;
- analyzing unit economics and user behavior;
- only then expanding the presence.

This approach helps avoid abrupt and irreversible decisions, preserving flexibility and controlled growth.

7. Synergy Between Financial Analysis and Product Management

Artyom Blazko's experience in the banking sector and financial analytics does not replace product competencies, but it creates a strong foundation for decision-making at the intersection of business, technology, and processes.

In managing a network of automated photo studios, this synergy is reflected in several aspects:

- A clear understanding of cash flow structure and payback periods;
- The ability to view each location and region not only as a "point of sale," but as a portfolio element;
- The capacity to communicate with investors and partners using the language of metrics and scenarios, not only product and marketing narratives;
- A focus on long-term sustainability rather than short-term growth alone.

This combination of financial and product thinking is particularly valuable in projects at the intersection of offline infrastructure and digital technologies, where the risk of scaling and planning errors is especially high.

8. Conclusion

As they grow, networks of automated photo studios and other self-service solutions increasingly resemble financial portfolios that require a systematic approach to risk, return, and capital management.

The portfolio approach, location scoring, scenario analysis, and data-driven management are tools originating from the world of FinTech and commercial lending, yet they prove exceptionally useful in the context of offline businesses.

The experience of Artyom Blazko shows that:

- The fintech approach is applicable not only to digital products, but also to physical infrastructure;
- Discipline in data and unit economics enables the construction of sustainable growth models;
- International scaling requires the same risk management tools as cross-border financial operations;
- The combination of financial analytics and product management creates a solid foundation for projects operating at the boundary between the offline and digital worlds.

For both researchers and practitioners, this serves as an example of how financial technology ideas and methods extend far beyond traditional banking and payment services.

Compliance with ethical standards

Disclosure of conflict of interest

The author declares that there are no competing interests.

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