BUSI 621

FIRM ANALYSIS REPORT

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1. Introduction

Aquicore, Inc. is a startup company founded in 2011 with headquarters in Washington DC. With *Energy Management* as its focus area, it offers Aquicore which is a cloud-based real-time energy management software that allows users to analyze their energy data on one centralized platform. Operating as the "FitBit" for *Commercial Real Estate*, Aquicore aspires to provide the complete portfolio of solutions for managing real estate utilities. It covers aspects such as energy monitoring, meter management, tenant billing as well as provides feedback on optimal usage.

2. Technology

Cloud based infrastructure: This infrastructure helps them integrate the data collected from multiple meters and submeters and track the real time utilization of energy based utilities. The data collected is formatted and processed for the platform to develop useful insights.

IOT based metering: IOT enabled meters and submeters that interconnect with each other and internet and sense even the smallest energy particle being utilized and controls through sensors the utilization of energy, optimizes the performance and automatic tenant billing without any room for errors.

Big Data and Machine Learning algorithms: These algorithms are the crux of the whole platform and services provided by it. These algorithms help in making optimal utility predictions based on historical data and weather conditions throughout the day and compiling a comprehensive report of utility consumption on each floor, unit and equipment level.

3. Value Proposition

Aquicore's mission is to "*connect physical environments and devices to cloud-based software applications that help stakeholders build more comfortable, sustainable and profitable global environments*". Operating under a mix of the "Product Leadership" and "Customer Intimacy" value disciplines, Aquicore adds value to consumers by primarily *reducing energy consumption costs by processing real-time data*.

2. Through **AQ-Optimization** platform Aquicore provides capability to forecast the expected energy usage on a daily basis from the historical data and current weather pattern. This also helps in evaluating and tracking the usage graph. If the usage goes beyond the expected usage for such a weather condition then it alerts for additional attention towards utilization.

3. **AQ-Tenant Billing**, a tenant invoicing process that allows users to quickly provide tenants with accurate bills using **AQ-Metering** arrangement that incorporates office metering, hardware sub-metering, and space and occupant sub-metering capabilities to track data from every source in real time.

4. **AQ-Enterprise** systems that enables users to customize their energy management solution using dashboards. Mobile Dashboards enable instant access to building or portfolio data on any mobile device allowing users to keep track of what's happening across every building in their portfolio.

5. Integrating with wider platforms such as Urjanet and Angus Systems expands Aquicore's capabilities by enabling work order execution as well as utility data capture from within the application.

4. Industry analysis

a. Energy management information systems market

The global EMIS market has grew to nearly $57.5 billion in 2014. This market is expected to grow at a five-year compound annual growth rate (CAGR) of 3.8% from 2015 to 2020, from 59.9 billion in 2015 to nearly $72.1 billion in 2020, from $27.9 billion in 2015 to $29.1 billion by 2020. Favorable government initiatives such as the 'Better Building initiative' by the Federal government along with stringent LEED requirements for efficient energy utilization in commercial buildings are estimated to be the key factors responsible for high market penetration in the market. With energy disclosure norms becoming mandatory for commercial sectors in the U.S. coupled with favorable government initiatives such as the energy-information software initiatives across various building portfolios is anticipated to drive market growth over the forecast period.

b. Main competitors

Following are the competitors in the broader Commercial Real Estate industry:

1. Mach energy: Oakland, California

With a steady income of around $5M and a small employee size of 34, Mach energy has not acquired any other companies. It offers various services like Tenant Billing which is automated with error reporting. It also performs budgeting and variance reporting. It does so by looking at the variance of energy consumption with weather. It also provides a customizable dashboard which is cloud based.

2. Enernoc: Boston, Massachusetts

Enernoc is the largest player in the market with revenues over $400 Million. It a relatively large firm with 294 employees and was recently acquired by the Enel group. Enernoc itself has acquired a lot of companies in the past, examples of which are Pulse Energy, World Energy Solutions, Inc. and EnTech USB,Inc. After getting acquired by Enel, it is steadily growing again with revenues over $400M in revenues. Some of the services offered by Enernoc include: Demand Response, Compliance and Sustainability Reporting, Energy Intelligence System

3. BuildingIQ :- San Mateo, California

BuildingIQ has reported revenue of over $11.6 Million so far. It is a medium sized firm that has raised a total of $31.6M in four rounds of funding. The services offered by BuildingIQ include Predictive Control which aims to provide 24/7 optimized control. It also offers Demand Response that is uniquely tailored for every building. It offers a unique version of Demand response in the sense that it automatically controls the BMS down to the zone. The entire capability of automated measurement and verification is cloud based.

6. Zero to One by Peter Thiel

Every startup needs to ask a set of 7 questions which determines if the startup will be able to achieve good results in the coming years.

1. **Engineering** Question: Can you create breakthrough technology instead of incremental improvements? 20% improvement is not enough.

Answer: Aquicore's answer to this question is their full stack end to end service capability which they claim to be the best in terms of time to market. However, it is not revolutionary in any manner and competitors offer similar performance with their products.

2. **Timing** Question: Is now the right time to start your particular business?

Answer: There is a shift from energy as a service to energy as a strategy in the corporate setting. With growing demand for accountability from firms on different fronts, energy expenditure has become a focus point. Further, the effects of climate change and government regulations have driven the increasing demand for energy management systems.

3. **Monopoly** Question: Are you starting with a big share of a small market?

Answer: Aquicore owns a big share of a small market but there is no monopoly in this market. By identifying a niche market (Washington DC) to begin operations, Aquicore can build operations and gain expertise before expanding to other locations.

4. **People** Question: Do you have the right team?

Answer: The team is a mixture of technologists led by a Systems manager. They have relative experience in their product industry.

5. **Distribution** Question: Do you have a way to not just create but deliver your product?

Answer: This questions deals with marketing. Currently, Aquicore depends on self initiative to get customers to use their product but has also received a push from the city of DC. With no marketing budget so far, Aquicore will have to develop a marketing strategy if it has to overcome established players in the market as it expands.

6. **Durability** Question: Will your market position be defensible 10 and 20 years into the future?

Answer: The industry dynamics play a role in this aspect. A customer is unlikely to install multiple EMSs for their real estate. Similarly, given their function, EMS systems will process large amounts of data over a long period of time. Data Migration and reconfiguration of sensors/devices will incur switching costs. Hence, there are both high multi-homing costs as well as high switching costs. Aquicore's position is DC is sustainable in the future due to these high switching costs and brand equity or reputation in the market.

7. **Secret** Question: Have you identified a unique opportunity that others don't see?

Answer: No, they have not identified any unique opportunity. Aquicore does not offer any service that is unique to their product.

7. VRIN Analysis

Resource : Open and Extensible Platform (AQ-Enterprise)
- **Valuable (Yes):** For Aquicore, the platform helps it collect data about client operations. For clients, the platform provides details about the energy consumed throughout the enterprise including the building operation and manufacturing process.
- **Rare (No):** The platform's capabilities are available with multiple vendors.
- **Costly to Imitate (No):** With no breakthrough technology currently in existence, multiple startups are exploiting the same technology. Therefore, the platform itself is not costly to imitate.
- **Non-Substitutable (Yes):** Any firm wishing to deliver an energy management system will have to develop their own platform to achieve similar results

**Thus, their platform is NOT a source of sustainable advantage.**

8. Recommendation

From the analysis above, the energy management system industry is undifferentiated and scattered with multiple firms offering similar products. As it expands, Aquicore has to struggle to survive and exceed capabilities of its competitors. Their current offering does not stand out in any form or function. Therefore, we recommend to **Hold the Stock** to see the change in the future.

9. Suggestion
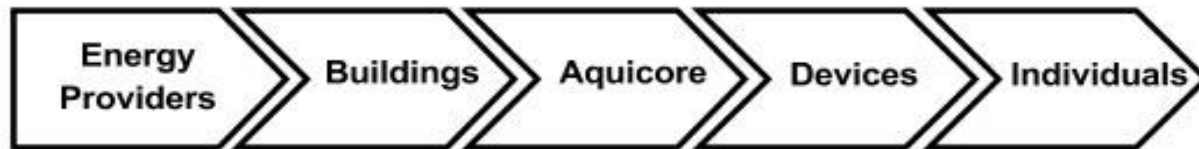
    a. Add "Demand Response" Capability

    b. Collaborate with Solar and Wind Energy Provider

    c. Connect to IoT Devices from Apple and Google Eco-systems

With the advent of Renewable Energy as a standard power source, we recommend Aquicore should invest in Demand Response capabilities in partnership with Renewable Energy Providers. Growing support and dependence on such sources of power (Exhibit 1), both by governments (Renewable Portfolio Standards) as well as corporations (RE100) will only drive the demand for energy management technologies. Demand Response is projected to be a $25 Billion industry with increasing number of providers relying on its capabilities. Looking into the future, data should be primary concern for Aquicore. The more sources of data that Aquicore accesses and optimizes, the more secure its future. Connecting with Energy Providers on one side of the Supply Chain and with Apple's and Google's IOT platforms on the other side will enable Aquicore to access data on every step of the chain.

10. Citations

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11. Appendix

Price Parity for Renewables and Fossil Fuels

The cost of renewable energy has plummeted over the past decade. The dramatic decrease means that the price of energy from renewables projects coming online today is often below the cost of fossil fuels—and below the retail price companies pay for power.