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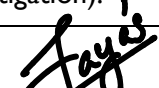## ASSESSMENT COVER SHEET

1. Personal Details

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Campus	Darwin Campus
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MBIS401 Information Systems and Strategy
Individual Case Study Analysis - *Report*

Ayesh Jayasekara - CIM12137

Executive Summary

This report contains the findings on the existing information systems used by **AVIS Car & Truck Rentals.** Critical analysis & evaluation into their current information system shortcomings, advantages and how it has helped the organization to achieve operational excellence and gain a competitive advantage among the rivals is further discussed.

An alternative approach into mitigating such shortcoming with other technological solutions are also suggested based on the critical analysis conducted. A range of methods were used to arrive in to conclusions including first-hand experiences, consuming publicly available information and similar research publications where appropriate & relevant.

With evidence to threats imposed by the industry competitors, the need of timely review of internal operations and market segmentation requirements are suggested as an entry point to mitigating those threats.

Preliminary research indications of clear margin for improvements with application of various information systems and technologies which is elaborated in detail on this documentation.

Contents

Introduction

AVIS Car & Truck Rental

AVIS Car Rental (AVIS) began their operations in the year 1946 with only 3 cars in their fleet in 2 local locations in the United States of America (USA). Along the years of growth followed by inception, AVIS was able to grow rapidly as it ended up being the second-largest rental car operator within the USA in it's first decade of operations.

According to Avis Rent A Car System, LLC, 2024, AVIS was also the first rental cars operator to locate within an airport. The founder *Warren Avis*, was a pilot who faced transportation difficulties once he lands in an airport saw an unexplored business opportunity which lead to the idea of rental cars companies operating within an airport altogether.

Purpose of the critical analysis

This critical analysis was conducted around the existing information systems architecture and their benefits and shortcomings aligning with their business goals and growth targets. An alternative approach to mitigate the identified issues are also discussed in details with references, examples, experiences as required.

AVIS - Organizational Overview

Background

AVIS has been through multiple episodes of growth, expansion and is presently a subsidiary of *Avis Budget Group* and operates on 5500 locations worldwide that includes 165 countries. It is also publicly listed entity trading as *CAR*, NASDAQ.

According to public opinion (Wikipedia contributors, 2024), Avis Car Rental was the *first* company in the USA to use a computerized system named **Wizard** to track their customers and rental agreements which was novelty application of information systems within the trade.

This system was then used to generate a Personal Identifiable Information (PII) code for their customers which is known as **Wizard Code** of a customer. With the help of this system, AVIS was able to keep a track of their loyal customers and provide personally crafted rental rates which is still in use as at today.

These are solid examples how AVIS was leading their trade with innovative information systems and early adopting technologies compared to its rival organizations.

Culture & Structure

AVIS is multinational organization and is a subsidiary of a group, therefore company culture is highly organized and hierarchical in its formation. The environment is open and welcoming for anyone who wants to make an impact on the company goals with highly flexible and strong leadership traits.

As per (Avis Rent A Car System, LLC, 2024) the company slogan that reads " **We Try Harder.** " was adopted in 1963 elaborates the collective effort to get better at what they are doing & is highly incorporated in to its culture.

Business Activities

Two types of business activities can be identified and classified in to primary and secondary as elaborated below.

Primary Activities

- Inbound logistics - functions relating to fleet acquiring, procurement, maintenance etc.

- Core operation - reservations, rental agreements, billing & invoicing etc.

- Outbound logistics - handling returns, refueling & preventive servicing of the fleet

- Marketing & Sales - brand promotions, cross sales, tourism programs etc.

- Customer service - customer grievances, profile maintenance etc.

Secondary Activities

- Processing insurance claims, repairs & stock keeping of consumable resources

- Human resource management & training

- Infrastructure maintenance

Use of Information Technology

AVIS like any other rental car operator in modern standards, AVIS rely heavily on information systems to keep a track of their assets and customers. On the surface, it may seem as easy as keeping a track of their vehicles but the real world complexities has tested their core system to it's very limits. A car (or a vehicle for that matter), is a moveable asset and is constantly on the move as the company makes their revenue out of them. This means these assets needs to be tracked & traced to ensure that optimal revenue is generated and revenue loss is minimized.

Information Sytems - Core Problem Statement

Adding to the complexities these assets are moved by customers where a good margin of assets does not return to its original location meaning each asset is dynamic in its very ownership. In other words, these vehicles are ultimately owned by the rental company but their actual logical ownership (i.e. to which location this vehicle belongs to) is dynamic and complex in nature which is the founding concept of the **Wizard** information system. The Wizard system solves problem of tracking and tracing who has what and who rented which asset for how long etc.

However, the operation complexity does not end there. Vehicles or moveable properties in nature are subject to value depreciation, accidents etc. which is not tracked or traced by Wizard system.

Also, the concept of assets Vs liabilities apply little differently to a rental company as liability is an asset, meaning further complex operational information systems to track the vehicle (asset) age, mileage, cosmetic & mechanical conditions in order to avoid losses at the time of decommissioning fleet.

Existing Information Technology Systems - Analysis

As discussed in the previous chapter, car rental companies have complex requirements over simple business processes hence the need for integrated information systems are required to sustain the business operations efficiently. In this analysis an in-depth assessment is carried out on operational level information systems which is being used in over 5500 outlet locations across the world.

Following information systems are used for daily tasks at any of the locations.

- Wizard - core asset management system

- WAND - modernized web-based Wizard extension system

- PhotoProofed - asset condition reports

- Communication Systems - generic intra location communications

- Medallia - Customer satisfaction track & trace system

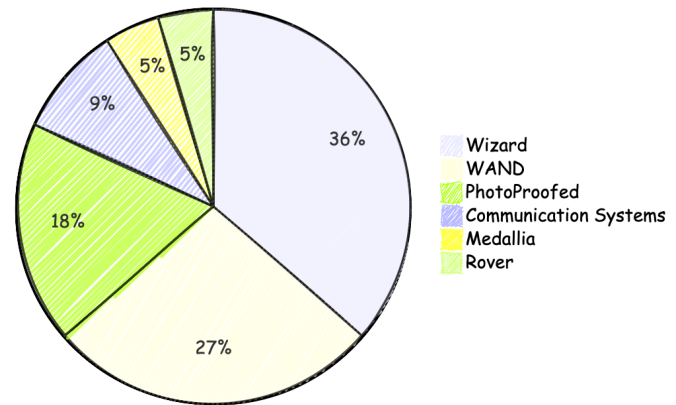- Rover - Stock-take system for asset management

Figure 1 is an overview on how much of percentage of work being carried out on each of those information systems on a regular 8-hour shift run.

Figure 1: Work load distribution of a Rental Sales Agent

Wizard - Core Operation Management

Each of moving assets including vehicles, baby seats, GPS modules etc. are inventoried and indexed within this system. Certain management reports can also be generated but is limited to a command line interface as this is a legacy system running on a centralized server.

WAND - Modernized Wizard Extention

A web-based application that was developed recently for ease of use and to reduce learning curve for Wizard system. Provides mobile friendly web interface that is accessed through Apple iPad devices fixed at customer service counters to capture and generate digital rental agreements.

PhotoProofed - Asset Condition Report

Subscription based service to capture 360 degrees photos of vehicles and related accidents to keep a track of assest status and documentary evidence of customer incurred accident damages. This system is available as a mobile application and is fixed at wash bay facility and rental sales counters. Upon drafting a rental contract, agent then pushes the vehicle condition report to the respective customer in an auto generated email.

Medallia - Customer Feedback

Cloud based software for tracking customer satisfaction and rating for each individual rental agreement. Used to track & trace both good and bad experiences of the customers and also used as a input for branch performance report.

Rover - Stock keeping

Simple mobile application tool to scan barcodes placed in vehicle windscreens to perform inventory tasks periodically. This tool is only used at location with over 200+ vehicles in the active fleet as sorting through keys to perform inventory is prone to human error.

Generic Communication Systems

O365 package is used for internal communications that enables emails, instant messaging features for intra location communications.

Impact of New IT Systems - Past & Present

AVIS, throughout their timeline has been through phases of change. During this process of evolving and changing business needs, a wide range of new technologies were incorporated as described earlier.

However, when analysed under the surface, it is evident that the core information system (namely *Wizard*) is still in use after many decades of its inception. Evidently it has been through multiple iterations of refactoring, process improvements, but system categorically falls under legacy information system with its outdated Command Line Access *(CLI)* mode and operational limitations of being a passive information system with no predictive, suggestive features in modern standards.

It can be argued that retention of this legacy system is a result of company culture and internal political norm with addon of resistance to change.

Nevertheless, AVIS was able to attain new technologies to their business processes up to some degree which can be attributed to external environmental factors such as competitor rivalry which forced some of these new technologies to blend in with its core operational system.

Value Chain & IT Systems

On a high level, following primary actives of the business value chain are linked with the respective IT systems described above.

- Inbound Logistics, Operations, Outbound Logistics - The Wizard system is used for functional requirements

- Marketing & Sales - Web based WAND extension

- Customer Services - Medallia and built in analytical tools

Supporting activities are achieved with tools described below.

- Human Resource Management - The Workday software solution is used

- Procurement & Fleet Management - Station Fleet Management & Reporting (*SFMR*) a tailored software solution is used.

Apart from the listed IT solutions, multiple other generic packages such as O365 is being used for daily tasks.

Impact of New IT Systems

A predictive analysis suggests that any new information system would be consumed with higher level of resistance given the company culture and historical circumstances. It must be understood that the company with its solid history, is lead by leaders who are highly experienced in the legacy system and embrace the stability of the core systems. Therefore, any changes to the Wizard system for example must be carefully approached.

In an alternate perspective, the company's ability to move towards a couple of relatively new software solutions such as PhotoProofed shows the dynamic nature of this behavior. At the same time, the operational complexity will be a considerable challenge as the company has a presence in all zones of the world, where different cultures, people may precieve these changes differently.

Porter's Five Forces Model & Operational Excellence

Michael Porter has valuable insights on to how an organization achieve operational excellence through managing certain parameters and how an organization would coexist with other competitors in the same trade.

Porter's Five Forces Model

According to (Magretta, 2012), Porter's Five Forces Model can be illustrated similar to below diagram.
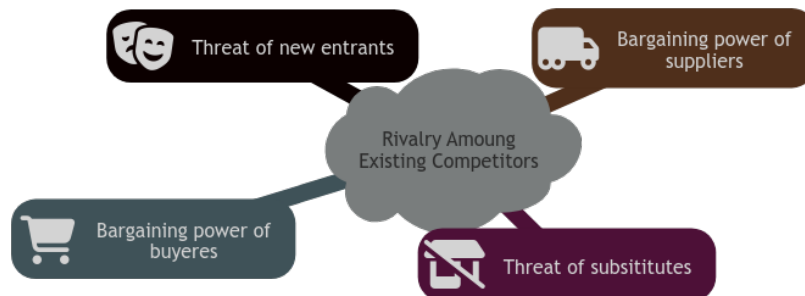

Figure 2: Porter's Five Forces Model

A critical analysis of how AVIS was able to be in control of these parameters is documented below.

Threat of new entrants

Historically the company was able to endure the threat of new entrants as they were able to achieve economies of scale in their early stages with innovative approach of focusing operations near or in airports. However, it is questionable if AVIS was able to retain its standing throughout the years as

they were directly under the threat of growing market capitalization of new peer-to-peer car rental *Turo*. (see Figure 3 on page 12)

Threat of subsitutes

AVIS has a strong relationship with airlines and corporate travellers. This makes AVIS to be in a good standing for most of its recurring customers. However, it continues to face threat of substitutes with multiple other rental car operators focusing on tourism and general mass customer base. It is understood that with their loyal customer base *(As a result of Wizard system and Wizard Code)*, AVIS can maintain its standing firmly in current trends.

Bargaining power of suppliers

The main suppliers on this trade would be vehicle makers and other related service provides such as tyre manufacturers, mechanical services providers. AVIS is known for its good selection of vehicles meaning they are not locked in to one specific brand of vehicles with their fleets ranging from smaller economical Toyotas to luxurious BMWs. With this approach, AVIS has successfully mitigated bargaining power of suppliers by maintaining healthy relationship with competitive suppliers

Bargaining power of buyers

The bargaining power of buyers is the most dynamic in nature compared to other forces. AVIS is known to focus heavily on bulk sales compared to general sales. This threat is comparatively managed by offering competitive perks for renters with specialized rates and other perks like extra travel distance inclusions etc. With the advantageous economies of scale, AVIS is able to dampen the threat of powerful bargaining of its buyers.

Shortcomings in comparison to rivals

For any organization regardless their trade, the year 2020 was a survival of the fittest. Therefore, the financial metrics of said financial year could be theoretically used for analysis of weaknesses and strengths.
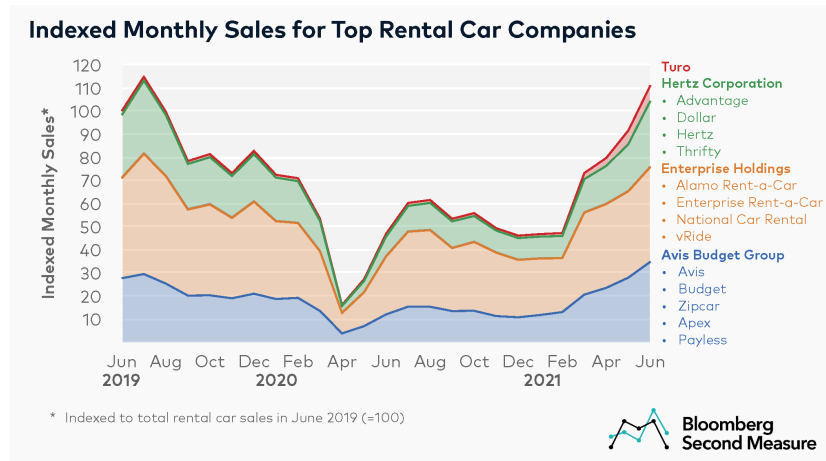

Figure 3: Source: Rental car sales accelerate amid nationwide shortage. (Perri, 2021)

The figure above shows how the selected rival companies behaved in terms of their monthly sale volume. Interestingly, the loss of sale volumes was dramatic for other companies while AVIS was able to dampen the loss compared to others.

Evidently in terms of sales volumes AVIS collectively has overrun by two traditional rental companies. Which highlights AVIS although its solid performance on the founding years, was not successful in sustainable retention of sales.

Weak Response - Peer-To-Peer Rental Company; Turo

Above statics shown on Figure 3 highlights the ***new market entrant***, Turo being on top of all traditional rental companies. It can be attributed to the fact that peer-to-peer rental operators lets their customers pick the vehicle make, model, year compared to traditional rental companies. AVIS (or other traditional operators for that matter) has not identified and responded to this trend effectively. Their current setup of information systems can be identified as a direct limitation when competing with novelty operators such as Turo.

Operational Excellence

In the context of success measurement parameters, the operation excellence is key indicator of how committed a company is to their goals, mission statement and eventually to their clients.

> **Operational excellence is the constant persuit of improved performance and profitability in all areas of your organization. It's a mind-set, not a methodology.**

(Miller, 2014)

AVIS being a pioneer in rental car industry, has shown extensive use of strategical business acquisitions merging with Budget, Zipcar, Apex etc. With clearly defined processes for all primary and secondary value chain tasks with the help of enterprise information systems described above, it has further gained competitive advantage among rivals in their early days.

The company also provides employees an engaging environment to excel and thrive in their tasks regardless of hierarchical position of employees, the worldwide access to employee benefits is one such example.

Innovative information systems continue to project AVIS as a strong competitor on their trade despite of limitations that their current systems possess. This is further emphasised on smart fleet management systems the company has implemented on locations where fleet size is manually unmanageable thus making themselves future-proof to scale as needed on any location without lags.

The *AVIS Preferred Program* offered to their loyal customers which enables automated check-out can be quoted as a strong example of how AVIS has collectively achieved operational excellence in customer facing processes.
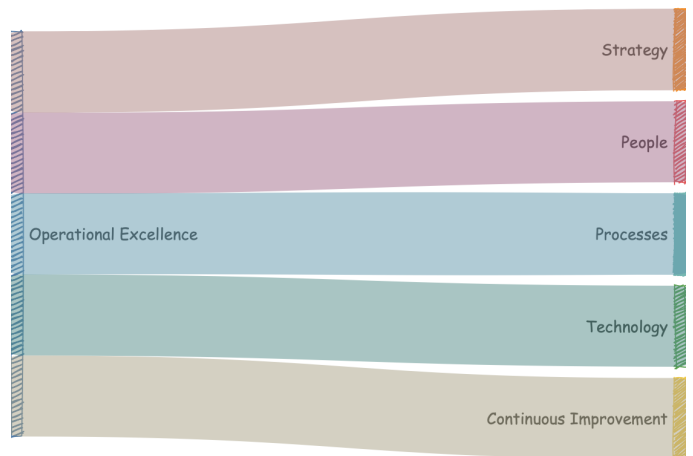

Figure 4: Components of Operation Excelence

Recomendations

In present context, transportation plays a vital role in the economy ever than before with a great deal of work being carried out through digital channels leaving actual travelling limited to unavoidable circumstances or perhaps leisure purposes.

This puts rental car operators on to must-have essential services list of services. Therefore, it is crucial that these operators step out from traditional mode of carrying out their operations and marketing campaigns. This obviously includes penetrating into untouched markets and customer bases rather than relying on a niche category of corporate travellers and holidaymakers.

Moreover, AVIS being a traditional car rental operator is directly threaten by peer-to-peer car rental organizations providing customers with better flexibility of choosing a vehicle for their travel. To address these threatening market behaviour, AVIS must reorganise their strategy to absorb the features of those operators such as letting the customer choose the make, model, year and even perhaps the color of the vehicle that the customer ultimately would take their journey on.

With extensive elaboration on current limitations of their information systems of serving such requests, it is understood that the core information system that AVIS rely on *(namely, Wizard)* must be either phased out or revamped exhaustively. If such revamp is practically challenging, an alternative approach such as a pilot run of proposed new system could be carried out on selected locations to gain organizational trust and confidence to mitigate potential internal resistance and political traits.

Another recommendation could be identified as focusing on green energy vehicles and sustainable environment approach enabling the company to achieve some form of differentiation among rivals whilst the opportunity is available.

It must be further elaborated that these recommendations does carry a time penalty with risk of other operators take the advantage of economies of scale and benefits of early adopters.

Conclusion

This critical analysis focus on the historical performance and present day information systems setup utilized by AVIS Car and Truck Rentals. While identifying commendable innovative approaches in their early years in operation, it is evident that AVIS was not able to keep up to its rivals.

In contrast to competing operators, AVIS has a standing on the loyal customer base across the globe and some strong partnerships with transportation giants in aviation and tourism enabling them to retain their share of market segment through the challenging environment.

With available information on to how they are organized with their information systems, it can be argued that the system design & architecture is falling short to deliver the expectations and to remain comparatively competitive among the rivals and new market entrants.

AVIS must therefore review their existing internal operational strategy and leadership to align with modernized information systems and features that their competing organizations to retain sustainable growth and profitability in years to come.

References

Avis Rent A Car System, LLC. (2024). Avis corporate profile [[Online; accessed 04-November-2024]]. https://www.avis.com/en/about-avis/company-information/corporate-facts

Magretta, J. (2012). *Understanding michael porter [(first edition)]* [https://www.perlego.com/book/837004(visited 2024-11-06)]. Harvard Business Review Press.

Miller, A. (2014). *Redefining operational excellence [(first edition)]* [https://www.perlego.com/book/728250(visited 2024-11-06)]. American Management Association.

Perri, J. (2021). Rental car sales accelerate amid nationwide shortage [[Online; accessed 06-November-2024]]. https://secondmeasure.com/datapoints/top-car-rental-companies-competitors-turo-getaround-hertz-avis-enterprise/

Wikipedia contributors. (2024). Avis car rental — Wikipedia, the free encyclopedia [[Online; accessed 29-October-2024]]. https://en.wikipedia.org/w/index.php?title=Avis_Car_Rental&oldid=1227199334