Use Case: Business Intelligence "New Generation" for a "Zero Latency" Organization (When Decisional and Operational BI Are Fully Embedded)

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1 Introduction

Business Intelligence link to an EDA (Event Driven Architecture) for a "Zero Latency Organization"

2 What for?

"To Serve Every Day Thousand of Dreams"
When the operational performance is a key success factor to deliver the expected customer on site experience (where the dreams come through), the monitoring of this performance in order to anticipate and take the right action is mandatory.

The Business Intelligence link to and Event Driven Architecture in conjunction with business process, is the corner stone of the monitoring of the on site activity.

This is achieved via predictive analysis, near-real-time traffic monitoring and performance management.

3 Key Issue

What are the factors that lead to successful strategic deployment of business intelligence and information management?

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P.-J. Benghozi, D. Krob, & F. Rowe (Eds.): *Digital Enterp. Des. & Manage. 2013*, AISC 205, pp. 1–7.
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4 What You Need to Know

Disneyland Paris built a world-class Business Intelligence environment, which provides customer-focused strategic and near-real-time operational insight to a broad set of users. Business activity is predicted and continuously monitored against key performance indicators (KPI's). Unexpected traffic patterns and congestion in the parks are quickly identified and addressed. As with most successful BI projects, best practices were involved in the project, such as a strong focus on business problems over technology, sticking to pre-defined infrastructure standards and reliance on a BI competency center.

Disneyland Paris, located near Paris, was opened in 1992 and has become the most frequented tourist destination in Europe, with over 16 million (in 2012) visitors per year. Its business goes beyond the theme parks to include hotels, shops and restaurants.

Disneyland Paris has long understood that customer satisfaction is a key business metric.

Each day is different at Disneyland Paris. While crowds move in predictable patterns that vary with the season and day of the week, a cloudy day or sudden rain storm can create unpredictable traffic flows.

Business Technology (IT) department at Disneyland Paris embarked on an OPM (Operational Performance Management) project to provide "real time" information and alerts about operational business activity to the operational managers, so they could become aware of urgent conditions, make fact-based decisions and take immediate action. The project was a partnership between the BT organization and line-of-business users. An OCC (Operation Control Center) and distribution system was planned to monitor the global operational activity. To Disneyland Paris, building the OPM application was more than just a project — it was a cultural change that embraced real-time information as a way for it to become more customer-centric and to be better achieving its motto **"to serve every day, thousands of dreams**."

5 Challenge

Disneyland Paris was faced with a challenge was driven by technical and business issues, but also a change in operational activity monitoring culture (move from an on site manager skill/local context based decision to a solution fact based decision monitored by the OCC).

- A key business requirement was to reduce customer waiting time wherever possible.
- Cultural changes were driven by a workplace that required action based on, and workers were made more accountable for their **zero-latency decision** (is a decision where the action latency is align on business process timing) operational efficiency, which was continuously measured. Along with increased awareness came a degree of autonomous authority to correct problems at the local level. In effect, everyone was to be made responsible for customer satisfaction.

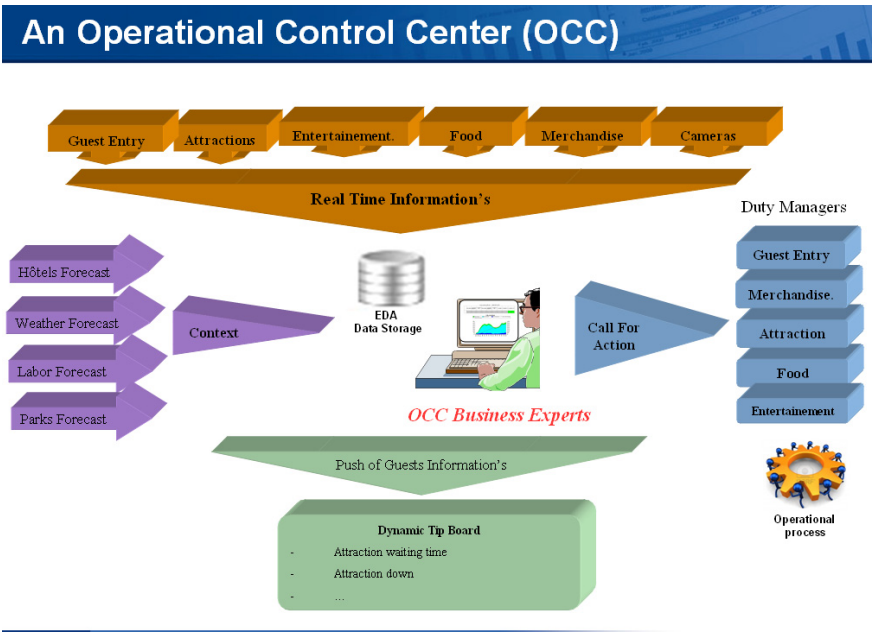

Fig. 1 The Operational Control Center

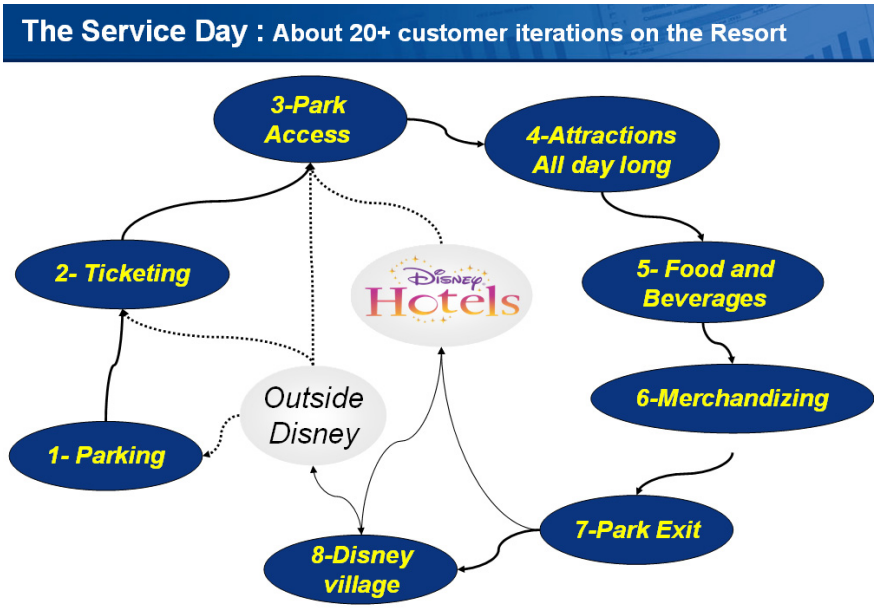

Fig. 2 On site customer interactions

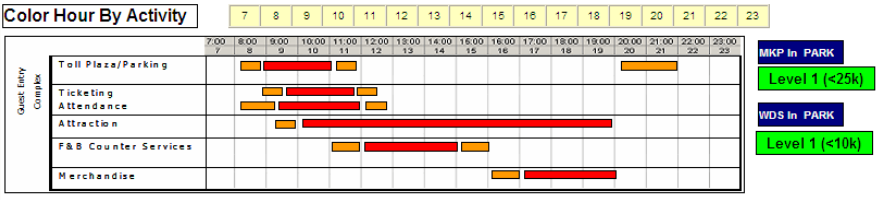

Fig. 3 The daily activity workflow by peak period (in orange & red)

6 Approach

Disneyland Paris took a multilevel approach to implement the operational performance management solution and processes. An operational control center was created in order to provide a global view of the on site activity (parks, restaurants, shops…). The Information latency is aligned to business process timing (time needed to implement a corrective action), which is near real time. The operational control center is staffed with expert from each line of business in order to anticipate the collateral effect of a local issue.

As part as the operational performance management solution, the employees can have access to their operational performance metrics against the goals of their own department and others. The solution is also available on mobile devices, allowing the managers to receive alerts and high-level reporting.

The project leverages the same BI tools that Disneyland Paris uses for its standard reporting solution. An engineering study confirmed that the system components (network, operational systems, data integration tools and reporting tools) would perform well under low-latency conditions (moving less data but more frequently). Data is gathered from hotels, ticket windows, food service outlets, merchandise stores and attractions. Acceptable report performance is achieved by accessing some of the data directly from transaction systems, and other from the decisional systems. The data model for operational reporting has been standardized across all sources. The only raw data collected is date & time, location, transaction count and associated revenue. All metrics and KPIs are derived from the simple data model, but this leads to powerful indicators. For example, shop productivity is determined by correlating the percentage of cash drawers that are opened within a five-minute window, with the number of people that entered the shop. Short-term history is maintained by the solution. The business rule logic performs threshold analysis of metrics and generates alerts. Overnight, the history from that day is loaded into a data mart for use in predicting future traffic patterns and a new local modelization & forecast is executed every hour, in order to realign the targets with the current operational environment (i.e. variance in term of parks attendance)

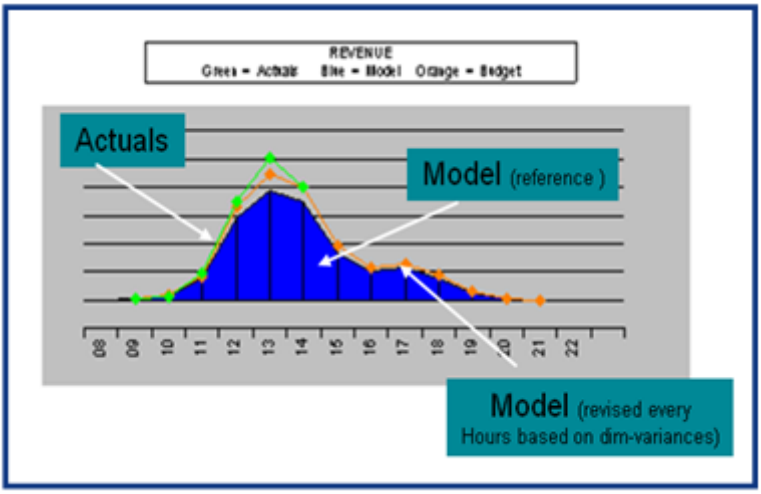

Fig. 4 Dash board showing the current activity (actuals) against the predictive models

Predictive modeling is an important aspect of the performance monitoring system. Traffic history and modeling tools are used to predict the crowd volume and flow for each hour of the day. Incoming hotel reservations are part of the model, as this provides a projection several weeks into the future. The model is updated each night, and again at each hour while the park is opens. With hourly updates, the models become more accurate as the day progresses and the impact of unusual patterns can quickly be understood, and adjustments made.

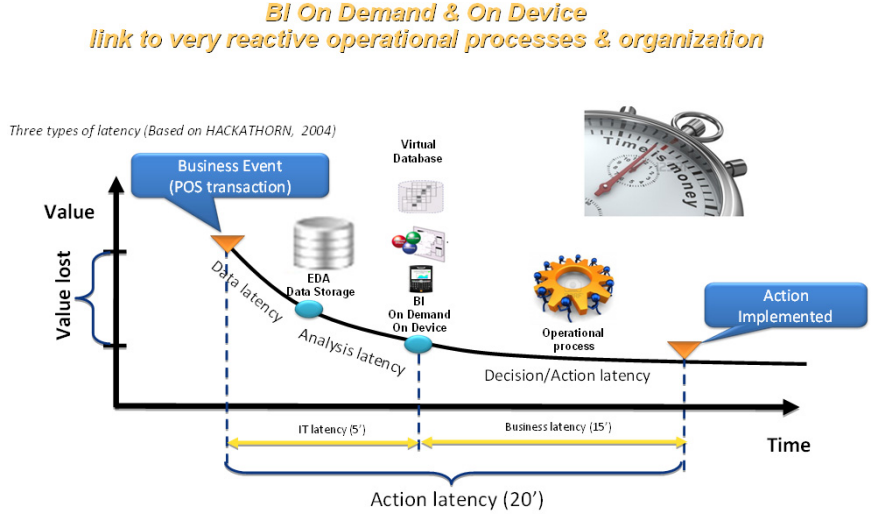

Fig. 5 BI a question of timing & latency

7 Benefits

Customer satisfaction is the primary performance indicator that measures success of the operational performance management project.

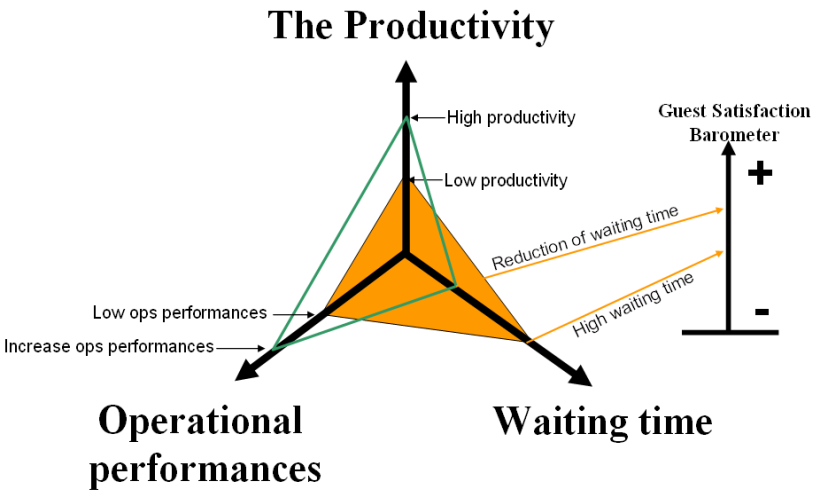

Fig. 6 Increase of the guest satisfaction

The democratization of performance information has changed the culture of Disneyland Paris. The operational performance can be measure against a predicted goal at all times.

8 Critical Success Factors

- Create an information democracy, where information is used and acted on across the organization.
- Provide trusted predictive modeling with sufficient lead times to plan resource schedules.
- Reuse existing IT investments wherever possible while providing sufficient scale and flexibility.
- Define and measure KPIs that align with strategic goals.

9 Lessons Learned

- Predictive modeling and operational information are both required. Modeling helps to anticipate a situation and put operational information into context.

- Process changes are required to gather data in near real time and make it available to decision makers.
- Patience is required to see the potential value, but it is also important to get something useful running quickly, to get the culture changes started and provide continuous value.
- It is important to focus on the process more than the technology. While the reports show baselines, predictions and actual activity, the real value comes from adjusting the business processes and using BI tools to analyze the impact of efficiency experiments.