Building Infrastructure and Capacity for 21st Century Skills:
Summative Evaluation Report

Prepared for

OMSI

Everyday Encounters with Science

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TABLE OF CONTENTS

Project Background

In 2013, OMSI received a two-year Museums for America Community Anchors grant from the Institute of Museum and Library Services (IMLS) for the *Building Infrastructure and Capacity for 21st Century Skills* project. OMSI used this funding as the impetus to improve museum operations through the pursuit of a major technology upgrade that consisted of the purchase, configuration, and customization of an integrated sales system (ISS). OMSI's internal evaluation team, under the direction of Marcie Benne, PhD, conducted a summative evaluation of the *Building Infrastructure and Capacity for 21st Century Skills* project during the final six months of a yearlong no-cost extension.

OMSI developed the project to result in four types of outputs:
1) Relevant staff can generate new data reports on purchasing and engagement behavior,
2) Visitation from online and mobile users exceeds prior years' counts,
3) The online purchasing system user metrics will closely match expected rates for easy to use, highly functional systems, and
4) Revenue from online and mobile sales will exceed prior years' sales.

OMSI additionally expected the project to result in three professional outcomes:
1) Staff will demonstrate qualitative understanding of the utility of integrated data systems,
2) Staff will demonstrate understanding of the value of integrated data for achieving divisional goals, and
3) Senior staff will use metrics derived from integrated data to track the fulfillment of OMSI's strategic vision.

Methodology

The summative evaluation organized the assessment of these outputs and outcomes around three categories: *Technical* – how is the system working, *Functional* – how are staff using the system, and *Strategic* – how is OMSI leveraging the system. These categories guided the summative evaluation's data collection methodologies, recruitment decisions, and goals. The study collected data through the administration of a staff survey, staff interviews, and an internal stakeholder focus group during January and February of 2016. Immediately after each data collection activity, the internal evaluator conducted descriptive statistical analyses of quantitative data and qualitative analyses of survey responses, interview answers, and focus group discussion data to identify emergent response trends.

Evaluation Questions & Findings

Technical
- To what extent is the new ISS online and running?
- To what extent has the new ISS integrated previously isolated functions?
- How many people are using the mobile interface?

At the time of the evaluation's data collection, at a basic level all intended system capabilities, except for gift card functionality, were online and running. The project had also successfully integrated the museum's Guest Services, Inbound, and Outbound Sales teams. However, the project team, comprised of internal staff charged with implementing the project, were still completing and refining several system configurations. The ISS vendor was also still completing a series of custom data reports designed to meet OMSI's unique needs and augment the standard data reports included in the new ISS's

purchase. OMSI's Events division had also elected to retain their previous system, while OMSI additionally contracted both onsite and online gift store retail sales systems to an external third party and was unable to provide an assessment of the number of customers using the mobile interface.

Functional

- Are staff aware of the various capabilities of the new ISS?
- Are staff using the new ISS to its full potential?
- In what ways, if any, do staff value and utilize the new ISS?
- Do staff know more, or can they learn more, about audiences by using the new ISS?

While all of the staff who participated in the summative evaluation were aware of the project, the degree to which they were aware of the new ISS's capabilities varied. In part, this was due to a) how involved they were in the project's multiple phases and b) the differing responsibilities and needs of departments and divisions. The study indicated that OMSI's staff were not using the new ISS to its full potential. This was caused by the irrelevancy of some available features to OMSI's operational practices, OMSI's continued efforts to finalize several component configurations and customizations, and the ISS vendor's pending completion of a series of custom data reports. Yet, the majority of staff were consistently using the new ISS during the completion of their daily tasks and responsibilities. The staff's assessment of the new ISS further indicated that the most important improvements created by this project were increased efficiencies in transaction speeds, customer service, and streamlined internal processes. Both surveyed and interviewed staff similarly reported that time related sales items (primarily OMSI's Empirical Theater show times) were the ISS functions that were least useful or hardest to use. The new ISS's enhancement of staff's ability to know or learn more about audiences, however, was more limited than intended, likely because of the pending delivery of data reports and the project team's inability to develop the proposed data strategy plan.

Strategic

- Has the new ISS contributed to more targeted and efficient communications with community members?
- Does the new ISS provide new insights about audiences?
- Has the new ISS contributed to developing a deeper understanding of people's motivations and needs?
- Does the new ISS provide access to new communities?
- Has the new ISS contributed to building the capacity of the organization to better serve the community?
- How is data from the new ISS being used to support institutional goals?

Since OMSI was still awaiting the ISS vendor's completion of several custom data reports, the new system's ability to achieve the desired outcomes related to these questions was still largely unknown. However, the stakeholder focus group participants expect the nearly completed custom *Comprehensive Purchase Report* to mitigate this shortcoming and serve as an important step in meeting these project goals. Evaluation findings additionally indicated that the new ISS supported communications, although it was more effective at supporting internal communication than external customer communications. Staff interviews also suggested that sales staff still generally used their time spent observing visitors of the museum's floor as the basis for understanding audience interests and motivations.

While the project's lack of mobile data and finalized custom data reports limited OMSI's ability to measure its access and services to new and existing communities, efficiencies created by the new ISS resulted in positive gains. The project achieved these gains by a) streamlining internal operating processes, which increased the capacity of the museum Outbound Call Center and b) the identification of needs that resulted in a new project designed to enhance the institution's provision of financial aid. As a cross-functional project by nature, the completion of this project also contributed to the reduction of internal operation silos. Finally, the focus group participants shared that the project contributed to OMSI's institutional goals in three primary ways: it helped inform the pillars of OMSI's Strategic plan; it provided critical project experience and lessons learned, which will support OMSI's completion of its five-year technology infrastructure framework; and it provided an assessment of staff's use of data-driven decision-making.

Recommendations for Consideration Based on Project Findings

1. Complete the new ISS's configurations, implement customized data reports, and continue efforts to improve the utility and impact of the system.

2. To support OMSI's continued use and improvement of the new ISS, OMSI should develop a Sales System Management Plan.

3. To help inform OMSI's strategic development and use of the institution's five-year technology framework plan and key performance indicators (KPIs), OMSI should develop a cross-functional oversight work group for the new ISS or, more broadly, OMSI's technology assets.

4. Utilize lessons learned from challenges encountered during the *Building Infrastructure and Capacity for 21st Century Skill* project to inform and support the development and completion of future technology focused projects.

5. Develop an OMSI Data Strategy Plan.

6. Invest more in empowering staff from all levels of OMSI's operations to utilize data-driven decision-making.

Project Background

As a leading provider of science learning in the Pacific Northwest, the Oregon Museum of Science & Industry (OMSI) serves as a place people turn to, regardless of age or background, to understand and engage in the science behind important issues and innovations of our time. In 2013, OMSI received a two-year, Museums for America Community Anchors grant from the Institute of Museum and Library Services (IMLS) for the *Building Infrastructure and Capacity for 21st Century Skills* project. OMSI used this funding as the impetus to improve museum operations through the pursuit of a major technology upgrade in the form of the purchase, configuration, and customization of an integrated sales system (ISS).

For OMSI, building the museum's technology infrastructure was, and still is, considered a high institutional priority. As an important component of this infrastructure, OMSI perceived the integration of its sales system as essential to achieving its strategic goals of a) building internal capacity to be a trusted educational resource for the community in the 21st Century themes of environment, innovation, and health literacy, and b) developing a deeper understanding of people's motivations and needs and enable OMSI to better serve the community.

Prior to this project's implementation, OMSI's reliance on six disparate sales systems hampered its operations by hindering staff's access to information regarding museum operations, transactions, and other financial data. These sales systems included camps/classes sales, general ticketing, on-site membership sales, online membership sales, on-site store sales, and online store sales. OMSI later reduced this to four systems by contracting its retail sales (on-site and online store sales) to external management. With so many different sales systems, each containing a separate silo of information, it was highly difficult and time consuming to determine what offerings members, visitors, and program participants were using most.

By integrating the remaining sales systems, OMSI aimed to capture and aggregate audiences' transactional data. Through access to this data, OMSI would be able to paint a dynamic picture of the entire member or visitor experience, not just unique visits, and better cater offerings to individual customer's needs. For example, if staff could access data that demonstrated certain members or visitors were interested in purchasing items related to certain topics, OMSI could email these customers information regarding classes, events, or other offerings related to their transactional interests. Through this more nuanced understanding of customer interests, OMSI could more actively support customers' movement toward a deeper level of institutional engagement and scientific understanding.

Completion of the *Building Infrastructure and Capacity for 21st Century Skills* project was divided into four project activities, two of which OMSI achieved by the end of the grant. First, OMSI assessed institutional needs in order to find the sales system most appropriate for its operational structures and requirements. Staff from numerous departments of the museum supported this project activity by providing insight into operational practices and new functions of interest that could enhance their division or department operations. The project team incorporated staff identified specification into a request for proposals from sales system vendors and bid evaluation guidelines. This project activity also included the review of bids and site visits to two institutions using systems of interest, and it ended with the project team's selection of the new ISS software.

The objective of the second activity was software implementation. During this project phase, vendor representatives came to OMSI to become familiar with departmental needs, operational structures, and support the new ISS's installation. OMSI staff additionally used this time to migrate data to the new ISS, configure and debug the system, and pursue additional customizations as needed. Finally, this project activity phase included training staff to use the new ISS.

OMSI did not achieve the final two project activities over the course of the grant period. The project team was unable to complete these activities, which included the development of an integrated awareness campaign for OMSI's online/mobile sites and a data strategy plan, because the needs of the second project activity proved far more time and resource intensive than originally anticipated.

Summative Evaluation

OMSI's internal evaluation team, under the direction of Marcie Benne, PhD, conducted a summative evaluation of the *Building Infrastructure and Capacity for 21st Century Skills* project. To assess the extent to which the project developed and implemented key products and achieved project goals, the summative evaluation examined OMSI's achievement of the following specified outputs and professional outcomes.

OMSI developed the project to result in four types of outputs:

1)   Relevant staff can generate new data reports on purchasing and engagement behavior,

2)   Visitation from online and mobile users exceeds prior years' counts,

3)   The online purchasing system user metrics will closely match expected rates for easy to use, highly functional systems, and

4)   Revenue from online and mobile sales will exceed prior years' sales.

OMSI additionally expected the project to result in three professional outcomes:

1)   Staff will demonstrate qualitative understanding of the utility of integrated data systems,

2)   Staff will demonstrate understanding of the value of integrated data for achieving divisional goals, and

3)   Senior staff will use metrics derived from integrated data to track the fulfillment of OMSI's strategic vision.

Evaluation Questions

The summative evaluation organized the assessment of these outputs and outcomes around three areas: *Technical* – how is the system working, *Functional* – how are staff using the system, and *Strategic* – how is OMSI leveraging the system. Summative evaluation questions associated with each area are as follows:

Technical	- To what extent is the new ISS online and running? - To what extent has the new ISS integrated previously isolated functions? - How many people are using the mobile interface?

Functional	- Are staff aware of the various capabilities of the new ISS? - Are staff using the new ISS to its full potential? - In what ways, if any, do staff value and utilize the new ISS? - Do staff know more, or can they learn more, about audiences by using the new ISS?

Strategic	- Has the new ISS contributed to more targeted and efficient communications with community members? - Does the new ISS provide new insights about audiences? - Has the new ISS contributed to developing a deeper understanding of people's motivations and needs? - Does the new ISS provide access to new communities? - Has the new ISS contributed to building the capacity of the organization to better serve the community? - How is data from the new ISS being used to support institutional goals?

Surveys, staff interviews, and an internal stakeholder focus group informed the summative evaluation. Three basic categories, technical, functional, and strategic, further helped organize data collection methodologies, recruitment, and goals.

The summative evaluation collected information regarding the technical development and implementation of the project during three interviews with project team members (additional details regarding all summative evaluation participants can be found in the report's *Participant* section). These interviews occurred during a five-day period in the beginning of January 2016. During these approximately one hour interviews, the interviewees responded to sixteen questions (a copy of the interview protocol is included in this report as Appendix 1), which provided insight into project decision-making and technical aspects of the new integrated sales system's (ISS) design.

The summative evaluation collected data regarding the functional aspects of the project through two methods: 1) a targeted staff survey and 2) two staff interviews. The internal evaluator, with guidance from the project team and OMSI managers, designed the 27-question, online survey, and it was administered to OMSI staff employed in six departments or divisions during a one week period in February 2016. The project's evaluation questions, project details captured in various project documents, and feedback collected during interviews and focus group data collection activities also informed survey question development (a copy of the survey is included in this report as Appendix 4).

The survey collected information regarding respondents' demographics and assessed their awareness of and participation in various project phases. More specifically, the survey targeted information regarding staff's general use of the new ISS, its impact on daily museum operations and communication, and staff's access to information. It is important to note, that during the project's implementation, a departmental reorganization occurred due to strategic planning efforts and a high level of staff turnover within several sales sectors, which limited the degree to which the survey could prompt comparisons of the new ISS to previous systems used throughout the museum.

In addition to quantitative and qualitative survey data regarding new ISS's functionality, the summative evaluation collected qualitative interview data from two members of OMSI's sales staff. The internal evaluator conducted both approximately 45-minute interviews during the first two weeks of January 2016. During the interviews, the participants responded to fifteen questions regarding their awareness of the project, training, and assessment of the new sale system's functions and operational impact (a copy of the interview protocol is included in this report as Appendix 2).

The final category of data collected during this summative evaluation pertained to the strategic goals and impacts of OMSI's integration of its sales system and adoption of the new ISS. A focus group with internal strategic stakeholders representing departments impacted by the project and various perspectives of the museum's leadership was the primary source of this data. An eleven-question focus group protocol (see Appendix 3) guided the discussion, which explored the project's successes and weaknesses, current and pending outcomes, lessons learned, and continued implications for OMSI's operational and technological development.

<u>Analysis</u>

Immediately after each data collection activity, the internal evaluator conducted preliminary data analyses. Survey data analyses included descriptive statistical analyses of quantitative data, which additionally examined whether responses collected from specific business sectors impacted final, full sample results. Qualitative data analyses, which included open-ended survey responses, interview answers, and focus group discussion data, resulted in the identification of emergent response trends. These emergent qualitative analyses explored various aspects of the project and contextualized quantitative survey data.

<u>Participants</u>

Technical Staff Interviews
OMSI's internal evaluator recruited the technical interview participants from the internal *Building Infrastructure and Capacity for 21st Century Skills*' project team. These three staff interviewees were selected specifically because of their longstanding project participation (although at varying levels), project knowledge, and contributions, specifically in regards the project's technical development and implementation.

Functional Staff Survey
The internal evaluator, with the support of various department and division managers, administered the survey to 36 staff members representing six business sectors of the museum's operations: Development, Finance, Events, Guest Services, Inbound Sales, and Outbound Sales. These sectors of museums operations were targeted for survey recruitment because they were identified during the proposal's development as groups that would be most impacted by OMSI's integration of its sales systems and adoption of the new software.

As the project's development and implementation progressed, however, OMSI's Events division determined that retaining their previous sales system was more advantageous to their operational needs. OMSI's Development team's access to information collected by the new ISS to date has also been minimal. Yet, to assess the degree to which the new ISS integrated OMSI's general sales operations and broadened access to information, they were still included within this data collection activity. Despite these varying degrees of project involvement and impact, Table 1 demonstrates that the staff's response rate was generally high and the wide range in the number of staff employed in each sector.

Table 1. Survey Response

Sector	Number of Staff Invited to Respond	Number of Respondents	Response Rate
Development	3	1	33.3%
Finance	3	3	100.0%
Events	5	5	100.0%
Guest Services	18	13	72.2%
Inbound Sales	5	5	100.0%
Outbound Sales	2	2	100.0%
Total	36	29	80.6%

*Three staff members partially completed the survey as well. However, since these respondents did not provide information beyond basic demographics, they were not included in the evaluation's data collection sample.

Figure 1 and 2 further demonstrate the percentage of the 29 staff respondents employed in each surveyed sector of museum operations and how long they have been employed at OMSI. More than half (56%) of the respondents reported working at OMSI for less than two years, and all but one of these respondents were located in one of three sales sectors (Guest Services, Inbound Sales, and Outbound Sales). Consequently, OMSI employed less than half of the survey respondents at the time of the project's initiation, and the majority of its frontline sales staff never experienced the previous sales systems. Nearly three-fourths (72.4%) of the respondents reported that they were also full time employees, while a third (34.5%) of staff respondents reported that their position included the management or supervision of other OMSI staff.
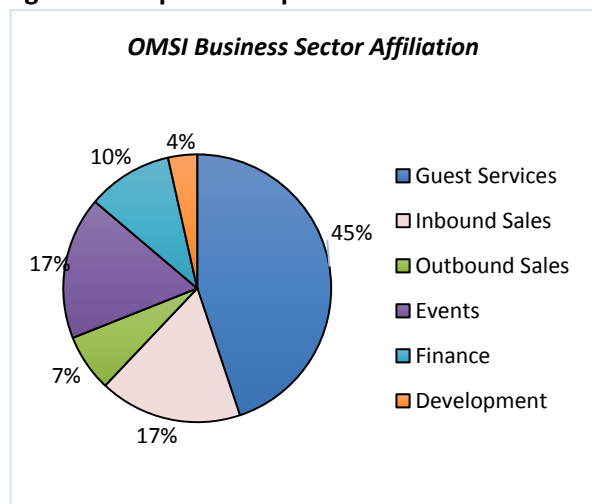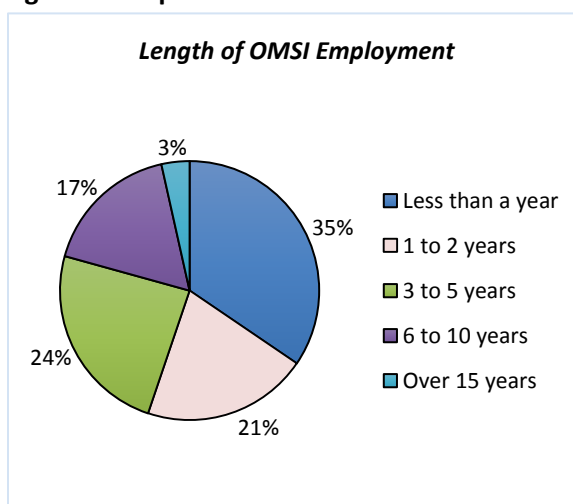
Figure 1. Respondents per Business Sector

OMSI Business Sector Affiliation

- Guest Services
- Inbound Sales
- Outbound Sales
- Events
- Finance
- Development

Figure 2. Respondents OMSI Tenure

Length of OMSI Employment

- Less than a year
- 1 to 2 years
- 3 to 5 years
- 6 to 10 years
- Over 15 years

Functional Staff Interviews

The internal evaluator, with recommendations from key project personnel, recruited a representative of OMSI's Guest Services staff and a representative of OMSI's Outbound Sales staff to provide additional feedback regarding the functional use of the new ISS. Both employees were selected because of their working knowledge of the new ISS and their employment at OMSI throughout the project's design and implementation.

Strategic Focus Group

The strategic focus group was comprised of four members of OMSI's leadership. The participants represented the perspectives of the museum's Development and Marketing departments and OMSI's senior leadership team. Each participant worked at OMSI throughout the project's development and implementation and had a clear understanding of the museum's strategic priorities and initiatives. With the exception of one participant, who the internal evaluator recruited to replace a member of the project's leadership that had recently left employment at OMSI, all of the participants were involved in the development and implementation of project activities.

RESULTS & DISCUSSION

Technical Evaluation

- To what extent is the new integrated sales system (ISS) online and running?
- To what extent has the new ISS integrated previously isolated functions?
- How many people are using the mobile interface?

At a basic level, all intended system capabilities targeted by The *Building Infrastructure and Capacity for 21st Century Skills* project were online and running except for gift card functionality. The project team, however, was still configuring and customizing (modifying how components are structured and organized) portions of the new ISS to OMSI's specific needs. OMSI was also still waiting for the ISS vendor to complete several custom data reports, which OMSI ordered to augment standard data reports included in the new ISS's purchase. (These reports are the primary mechanism by which the new ISS synthesizes collected data for OMSI staff's use.) The project has also successfully integrated the museum's Guest Services, Inbound, and Outbound Sales teams. OMSI's Events division elected to retain their previous system and OMSI contracted both the onsite and online store retail sales systems to an external third party.

OMSI, however, could not provide an assessment of the number of customers using the mobile interface. This is due to a lack of metrics for tracking the types of interfaces customers use to access OMSI's website and significant challenges that arose from the introduction and configuration of the ecommerce feature of the new ISS. Additionally, as other challenges occurred in the new ISS's implementation, configuration, and customization phases, project objectives related to the system's mobile interface became deprioritized, especially as the new ISS utilized hardwired sales points.

Functional Evaluation

- Are staff aware of the various capabilities of the new ISS?

- Are staff using the new ISS to its full potential?

- In what ways, if any, do staff value and utilize the new ISS?

- Do staff know more, or can they learn more, about audiences by using the new ISS?

All of the surveyed staff had at least heard about the project, but they reported varying degrees of awareness and involvement. Over 60% of surveyed staff reported being either *Very familiar* or *Familiar* with six of ten overarching sales categories, called "sales items," located on the main sales screen. By selecting a specific sales item (i.e. Museum Admission, Planetarium Show Ticketing, or Classes), staff gain access to all of the features and functions needed to complete a transaction related to that category.

A dozen staff members' attendance of the vendor's 2015 User Conference also significantly increased the staff's understanding of the new ISS's capabilities. During the conference, staff participated in numerous sessions regarding the new ISS's functionality and engaged in conversations with representatives of other institutions using the ISS.

Despite these efforts, OMSI is not using the new ISS to its full potential. In part, this is because some features do not apply to OMSI's operational practices, which makes using the ISS's full range of offerings unnecessary. However, at the time of data collection, OMSI was also unable to use all of the new ISS's desired function as capabilities. This was due to OMSI continued efforts to complete several system configurations and customizations, and the vendor's pending completion of custom data reports requested by OMSI.

While staff may not currently use all of the new ISS's offerings to their full potential, the majority (79.3%) of surveyed staff reported that they either *Always/almost always* or *Often* used the new ISS during the completion of their daily tasks and responsibilities. Three-fourths of surveyed staff reported that the new ISS was either *Very useful* (10.7%), *Useful* (42.9%), or *Somewhat useful* (21.4%) to the museum's daily operations as well.

According to interviewed staff, the new ISS also dramatically improved operational efficiency and customer service by increasing OMSI ticketing transaction speeds, which contributed to new record monthly admission and membership sales in December 2015. These staff members reported that the project also created financial savings by streamlining operational processes, such as membership card delivery, record management, and financial aid applications. These efficiencies and an institutional reorganization resulted in the reallocation of financial resources to OMSI's Outbound Call Center.

The surveyed staff provided insight into what ISS functions or capabilities were most useful to their department/sales team and their own tasks and responsibilities. Their responses focused on specific sales features; the new ISS's support of general transactions; membership sales; and records and data reports designed to generate and display the new ISS's automated synthesis of relevant sales and audience data.

The surveyed staff further assessed the value of the new ISS by sharing the functions or capabilities that were least useful or hardest to use. Their feedback indicated issues with time related sales items, which interview feedback further elucidated. These comments revealed that sales items configured by time, primarily OMSI's Empirical Theater show times, were a problematic aspect of the new ISS. This was due to the lengthy process of coding the high volume of required data, which markedly slowed the ISS's speed and cost frontline staff time. Surveyed staff also reported difficulties with the new ISS's management of memberships, which included the membership renewal process's tendency to duplicate membership; challenges with midstream membership upgrades; redeeming membership benefits; and looking up information. Finally, the staff noted issues with the ISS's data reports and records, slow refund processes, the ecommerce site, and sales items or related tasks specific to their individual business sectors.

The final functional component of the summative evaluation examined whether the new ISS enabled staff to know or learn more about audiences. OMSI's achievement of this effort was more limited than intended, likely because the project team was unable to develop the proposed data strategy plan to support this outcome. Both functional staff and interviewee feedback hinted at the impact of not developing this deliverable, as it demonstrated a perception that pulling and reviewing audience data was not a large part of sales staff's responsibilities. Despite this perspective, at least a third of the surveyed staff agreed (selected *Strongly agree* or *Agree*) that the new ISS allowed them to track audience engagement and generate and quickly access useful member profiles and information.

<u>Strategic Evaluation</u>

- Has the new ISS contributed to more targeted and efficient communications with community members?
- Does the new ISS provide new insights about audiences?
- Has the new ISS contributed to developing a deeper understanding of people's motivations and needs?
- Does the new ISS provide access to new communities?
- Has the new ISS contributed to building the capacity of the organization to better serve the community?
- How is data from the new ISS being used to support institutional goals?

The new ISS has contributed to targeted and efficient communications with community members, but the extent of these communications are still limited. Interview and focus group feedback indicated that although the new ISS was designed and purchased to support compatible use with OMSI's email system, the current process is still inefficient and time consuming. Sorting or compiling email addresses is difficult, and instead of allowing staff to email directly out of the new ISS, staff must manually transfer email addresses from one system to the other often via Excel spreadsheets.

Staff survey responses further demonstrated the new ISS's impact on OMSI's communication with the community. While a third of survey respondents reported that data or information collected by the new ISS was either *Very useful* or *Useful* to their effective communication with members and visitors, their assessment of related survey metrics indicated a more limited impact to the institution's communication efforts. For instance, the survey asked the staff respondents to rate their agreement with four metrics regarding the usefulness of the new ISS to efficient visitor communications, and the majority of staff (half to two-thirds) selected either *Neither agree nor disagree, I don't know,* or *N/A*. Of the remaining respondents, more disagreed with the statements than agreed. Moreover, less than 10% of staff agreed that the new ISS allowed them to offer follow-up communications or information to customers efficiently.

The stakeholder focus group respondents reported that the addition of a custom Comprehensive Purchase report, the completion of which is still in process, will likely rectify the new ISS's shortcomings. They shared that OMSI and the vendor designed this report, which was the last custom report to be developed and was nearing completion at the time of the focus group discussion, to enable staff to collect detailed audience information and contribute to the institution's ability to send communications or conduct drip campaigns with specifically targeted segments of OMSI's visitors.

Without completed system data reports, which are the primary mechanism by which the new ISS synthesizes collected data, it was also difficult to assess the degree to which the project achieved its goal of providing new insights into audiences and deepen OMSI's understanding of visitors' motivations and needs. The lack of a data strategy plan to help guide OMSI's processing and utilization of data further hindered the achievement of this outcome. The impact of the limited attention the project team could afford this step, given the delayed completion of system configurations, customizations, and report development, is reflected in the evaluation data. While a quarter to a third of surveyed staff considered data or information collected by the new ISS either *Very useful* or *Useful* to their ability to anticipate and be responsive to and manage members'/visitors' needs, generating data reports and using the data to assess customer behavior was generally not considered something integral to their responsibilities.

Instead, sales teams generally pulled audience data or information only when they received requests from staff in the Development or Finance department. Instead, according to one interviewee, front line sales staff primarily used their floor experiences and time spent observing visitors as the basis for understanding audience interests and motivations.

While the project's lack of mobile data and the vendor's pending completion of custom data reports limited the degree to which OMSI could measure access and services to new and existing communities, the efficiencies created by the new ISS's adoption resulted in positive gains. For example, the new ISS streamlined various operational processes, which reallocated funding to the institution's Outbound Call Center. This increased the museum's membership support and contributed to a 5% increase of membership sales. Three tangential institutional projects largely informed or inspired by the *Building Infrastructure and Capacity for 21st Century Skills* project also enhanced the capacity of OMSI to serve its audiences. These projects included: a) a new commitment to systematically surveying all program customers; b) the review and refinement of OMSI's financial aid application and selection process, which will allow OMSI to more efficiently process and allocate its financial aid resources thus expanding OMSI's services and community outreach; and c) the introduction of a net promoter score, which are metrics used to assess visitors' willingness to recommend or "promote" an institution.

Half of the survey staff agreed that the new ISS provides useful insight into their sales team's operations, which further indicates the positive impact of the new ISS to OMSI's capacity. Moreover, a third of respondents agreed that it provided insight in the operations of other departments or sales teams. The project's necessity of a cross-functional project team and resulting changes to museum operational processes and structures also positively increased internal communications and contributed to the reduction of internal operations' silos.

Lastly, the focus group participants shared that the project contributed to OMSI's institutional goals in three primary ways. This project helped a) inform the pillars of OMSI's Strategic plan, especially Key Performance Indicators (KPIs), which OMSI uses to measure the institution's achievement of business and operational objectives; b) provided critical project experience and lessons learned that will support OMSI's completion of its five-year technology infrastructure framework; and c) it provided an assessment of staff's use of data-driven decision-making, the use of which is slowly being planned.

As these findings demonstrate, the degree to which OMSI's *Building Infrastructure and Capacity for 21st Century Skills* project achieved its intended deliverables and outcomes varied. However, the adoption of the new ISS has greatly benefited the institution by integrating OMSI's sales systems, increasing the collection of data, dramatically improving transactional speeds and customer service, and enabling the institution to identify and remedy previously unrecognized operational inefficiencies. Beyond these critical successes, OMSI is still working to achieve remaining project outcomes and determine how and to what extent the museum should utilize collected data.

1. Complete the new integrated sales system's (ISS) configurations, implement customized data reports, and continue efforts to improve the utility and impact of the system.

While the project's grant timeline has ended, OMSI must continue its efforts to configure the new ISS to meet staff and transactional needs and introduce recently completed customized data reports. With these items completed and in use, the capacity of the project to achieve proposed outcomes will likely increase, but only if internal stakeholders and the project team continues to drive these operational efforts. Although it might be tempting to consider the project finished, once these items are completed, project staff should ensure that a) the vendor has fulfilled all contracted tasks, especially in regards to the ecommerce site, and b) OMSI should commit resources to the reevaluation of the new ISS's configurations, implementation needs, and trainings. These efforts would enable OMSI to address known ISS issues created by early project decisions, which later proved to inhibit certain functionalities of interest, and identify new areas of system improvement. Through this process, the utility and impact of the new ISS will strengthen, while also creating additional opportunities for staff to become engaged in OMSI's planning and utilization of the new ISS and more broadly OMSI's technology needs.

2. To support OMSI's continued use and improvement of the new ISS, OMSI should develop a Sales System Management Plan.

OMSI should formalize its continued support and maintenance of the new ISS through the development of a Sales System Management Plan. This plan would serve as a living document that outlines the new ISS's various functions, which would help staff across the institution become more familiar with the new ISS and its capabilities. This plan would additionally document known staffing needs that could further support ISS development or enhance the efficacy of its use. To ensure the new ISS remains up-to-date, the plan should also include timelines that outline OMSI's continued configuration evaluations and other scheduled ISS maintenance needs, such as system updates and internal reviews of new functionalities created by the vendor. Within this plan, OMSI would also gain a set location to document components, functionalities, or custom data reports of interest for future adoption or purchase, which would support OMSI's internal dissemination and prioritization of the ISS's development potential. The final section of the Sale System Management Plan could be devoted to outlining identified strategies to support OMSI's assessment and optimization of current operations, streamline operational processes, and the identification and pursuit of resources (staff, finance, time) needed to support the realities of the increasing operating costs accrued by the unavoidable institutional use of technology in the 21st century.

3. To help inform OMSI's strategic development and use of the institution's five-year technology framework plan and key performance indicators (KPIs), OMSI should develop a cross-functional oversight work group for the new ISS or, more broadly, OMSI's technology assets.

This work group, which should be comprised of a) staff from across the institution and b) a mix of managerial and frontline staff to ensure the representation of both institutional and operational perspectives, would support OMSI's continued investment in its technological infrastructure and assets. The cross-functional work group would support OMSI's completion of this project's unfinished

deliverables and could be responsible for creating and maintaining the Sales System Management Plan. Through quarterly meetings, this group of staff would continue to assess and advance OMSI's technological pursuits. They could help facilitate broader institutional awareness of technology and data needs, increase the capacity of staff to understand these needs, help identify gaps in OMSI expertise, and ensure lessons learned from this project are not repeated but used instead to inform future project efforts. The cross-functional nature of the work group would also be well position to help establish greater buy-in for future institutional efforts proposed by the five-year technology framework plan and continue to push innovation. Finally, this work group could help identify how data from this and other operational systems could be leveraged to help support OMSI's data-driven decision making and KPIs.

4. Utilize lessons learned from challenges encountered during the *Building Infrastructure and Capacity for 21st Century Skill* project to inform and support the development and completion of future technology focused projects.

While an assortment of challenges hampered the implementation of this project, this software upgrade project provided numerous lessons that will increase the efficacy of OMSI's efforts to develop and complete future technology related projects. Broadly, these lessons included:

1. Before even initiating future projects, OMSI should re-conceptualize its approach to technology selection and integration. Instead of trying to retrofit technology to existing business structures and processes, OMSI should intentionally use these types of projects to review and innovate existing business practices and drive product selection. While the variety and breadth of OMSI's sales and operations will likely always require nuanced solutions, OMSI should use technology projects as an opportunity to identify and assess to what degree longstanding, inefficient operations and processes could be simplified or improved.

2. OMSI needs to set realistic project goals and expectations more accurately and ensure that they are appropriately scoped and managed. Project teams should acknowledge early in the process of project development and implementation that cross-functional technology projects will likely be more complex than anticipated, and should be planned and scoped accordingly. To implement these projects most effectively, the project team and managers should additionally ensure that the entire institution is aware of and buy into the project and related changes. They must also have the authority to push OMSI's departments and divisions out of the comfort zone of their existing processes to explore how the technology can reinvigorate operations. Moreover, the institution must recognize that these types of projects never really end due to continued needs for maintenance and management, which will also have to be planned for and sustained.

3. Projects must be appropriately resourced. OMSI leadership and project teams must critically assess project's staffing, timeframes, and financial support to ensure their successful completion. From early within projects' conceptualization, the institution should be assessing the current expertise and capacity of staff to ensure the technical and internal cultural needs of the project and museum are well supported. OMSI should also assess needs for external expertise during key phases of projects early to address staffing gaps and strengthen internal capacity. Project teams should incorporate both department managers and product end users, such as frontline sales staff, to increase the breadth of institutional and operational

15

perspectives. Finally, technology project's should be designed with the perspective that they will always take more time and financial support than anticipated and large buffers and contingencies should be built into both project timelines and budgets.

5. Develop an OMSI Data Strategy Plan.

In addition to a Sales System Management Plan, OMSI should also still invest in the proposed creation of a museum-wide Data Strategy Plan. While the institution is making strides to increase its collection of useful data through the new ISS, the Program Delivery Improvement Survey project, and the development of a Net Promoter Score, more attention needs to be paid to how staff will process and utilize this data to inform OMSI's operations. Consequently, a critical next step in OMSI's ability to best serve its audiences and optimize internal 21st century skills is the creation of a Data Strategy Plan. Like the Sales System Management Plan, a cross-functional team of OMSI staff should develop this tool. Through this process, they should create an inventory of OMSI's data collection activities that documents how long data has been collected, the themes and objectives of data collection activities, and their target audiences. While OMSI has laid the initial groundwork for this plan by the recent development of OMSI's KPIs, this project would provide a more holistic assessment of OMSI's data resources and identify strategies for how to make data more understandable and accessible to staff across the museum.

6. Invest more in empowering staff from all levels of OMSI's operations to utilize data-driven decision-making.

Utilize the development of both the Sales System Management Plan and OMSI Data Strategy Plan to increase staff's awareness of and ability to utilize OMSI data. As members of an educational institution that promotes STEM learning 21st Century skills, OMSI should train and empower all staff to use data to inform daily operations and contribute to OMSI's broader understanding of its audiences. While the level of engagement in more institutionally focused aspects of data-driven decision making will likely vary, OMSI should still provide all staff a clear understanding of how their efforts to collect information and data are directly informing and supporting OMSI's broader operations and institutional goals. With this context more clearly articulated, staff will not only become more aware of data that could inform their own work and professional practices, but also more clearly see their role in OMSI's broader collection and use of data. This will help staff appreciate the importance of their roles, value the data collection process, and enable them to more clearly articulate to visitors why and how OMSI collects and uses information.

16

<u>Technical Evaluation</u>

The summative evaluation examined the technical aspects of the *Building Infrastructure and Capacity for 21st Century Skills* project through the lenses of three evaluation questions. Project members who participated in technical interviews and the internal stakeholder focus group participants provided feedback relevant to these questions. The results, as organized by the evaluation questions, are as follows.

Functional Evaluation Questions	Summary of Results
To what extent is the new ISS online and running? To what extent has the new ISS integrated previously isolated functions?	• OMSI achieved intended ISS capabilities with the exception of gift card functionality. • The project team has not fully configured the new ISS and is still waiting for the vendor to complete several custom data reports. Currently, this project has achieved an estimated 70% of data collection needs, but OMSI's capacity to interpret this data was still limited. • Both the technical interview and stakeholder focus group participants additionally described project hurdles and challenges of that impeded adoption, configuration, and customization. Their responses pertained primarily to the project's timeline and OMSI's investigation of vendors, business process analysis, and staffing and resource allocation • The project's initial implementation plan shifted when OMSI's Events division retained the use of their previous sales system, and OMSI has contracted out the museum's onsite and online gift store retail sales. • OMSI successfully integrated all remaining sales systems (Guest Services, Inbound, and Outbound Sales). The new ISS also enabled OMSI's Finance department to access customers' sales data, but without completed custom data reports, the Development department had yet to receive intended gains. • The adoption of the new ISS has additionally prompted other gains to OMSI's technology infrastructure and assets. Although a software upgrade project, the integration of the sales systems occurred in conjunction with OMSI's sales desk remodel, the movement of the ecommerce sales site to a new server rack, and it prompted the replacement of numerous older components that were worn or offered outdated capabilities.

Staff who participated in the technical interviews provided insight into the extent to which the new ISS was operating as of January 2015. All planned ISS functions were up and running with the exception of gift card functionality. This function will enable OMSI to sell "store value cards," more commonly known

as gift cards, to customers for later redemption at the museum for items such as admission or food at either of the two on-site eateries. All "*other primary functionality was up and running*," but the degree of the new ISS's configuration and customization (the identification and modification of how components are set up and organized in the system for OMSI's specific needs) varied. For example, general membership sales, "*ticketing, and sales functionality* [was] *mostly there in its entirely.*"

Another interviewee also reported that, "*compared to* [a previously used OMSI sales system]*, we can currently do only about 75% of what could be done.*" However, this interviewee was quick to point out that new ISS enables them to "*do these things faster and better.*" This interviewee noted that the previous system "*was kind of an awful system. It was really old, hadn't been updated, and wasn't supported.*" They compared using the previous system to using an Apple 2 iPhone in a world designing for and operating with Apple 6 iPhone capabilities. A functional interviewee agreed with this perception sharing that their old system was outdated and "*ran very slowly.*"

Representatives of OMSI's leadership who participated in the focus group provided additional feedback regarding how well the new ISS supported OMSI's need to collect and utilize customer data. These participants estimated that OMSI has achieved 70% of data collection needs, but also estimated that the project had completed only 30% of ISS features (specially, custom data reports) that would support OMSI's data analysis capabilities. These focus group participants clarified these estimations by sharing that aspects of the new ISS's reporting, back end, and desired "*bells and whistles*" had yet to be configured; that the vendor was still completing a series of additional custom data reports for OMSI; and that other data reports and invoicing needs had been moved to "*the back burner*."

Both the technical interview and stakeholder focus group participants additionally described the hurdles and challenges of the project that impeded OMSI's adoption, configuration, and customization of the new ISS. An analysis of their responses identified the following four general challenges.

Project Timeline
- Participants described an inadequate timeline as the project team had only four months to bring the new ISS online after signing the contract with the vendor, which was a "*ridiculously short amount of time for all* [OMSI] *was trying to do.*" This short implementation timeframe was insufficient for supporting the project team's identification and resolution of "*kinks in how the products were to be built and sold.*"

Vendor Investigation
- The focus group participants reported that OMSI needed to be more critical of vendor offerings. Despite OMSI's various efforts to assess and screen vendors, in hindsight OMSI "*did not do enough of an investigation when* [a vendor said] *that the system could do something.*"
- In regards to early system proposal guidelines, these participants further explained that "*with software a lot of time the answer will be 'yes,' if it is just a checkbox.*" However, rarely are the complex and unique needs of an institution covered by such a simple framework and answers. Consequently, achieving the desired functionality necessitated a more detailed and thorough explorations of the realistic impact and limitations of vendors' answers.

Business Process Analysis

- The stakeholder focus group participants recognized that another limitation born out of the first phase of the project was that more resources and time could have been invested in OMSI's review of its internal needs and processes. As one participant noted, "*We did not do the appropriate level of investigation of our needs. We did a lot, but not enough*."
- These participants reflected that prior to pursuing this project, OMSI should have conducted a more in-depth analysis of its business processes to identify not only system needs, but also outdated processes and procedures. OMSI instead "*brought in a system and tried to make it fit existing internal systems*" and missed a critical opportunity to evaluate how existing processes could be adapted or improved by the new ISS.
- Consequently, OMSI had to invest more time (approximately six months) and financial resources into complex system configuration and customizations and the development of additional customized data reports to achieve desired functionalities and outcomes. One stakeholder focus group participant explained that, OMSI has yet been able to determine whether this need for additional configurations and customization, "*is just because we're a special place and have a particular level of intricacy that other places don't have, and how much is because* [OMSI made] *things more complicated than they need to be.*" This participant suspected that it was likely a mix of both.

Staffing & Resource Allocation
- At a high level, OMSI underestimated the labor required, the project's costs*,* and *"how big it would be."*
- More specifically, the project inadequately staffed early implementation efforts. Although quickly rectified, OMSI initially created an early challenge by not assigning the project a Project Manager to be responsible for its timeline and resource allocation. Another critical example of the project's inadequate staffing was OMSI's decision to have only one full time employee (FTE) dedicated to the technical needs of the project and its configuration. When staff discussed the configuration process with other ISS users late in the project's implementation, it became apparent that most institutions used teams of three to five staff members to complete such tasks. OMSI, therefore, "*underestimated the difficulty and complexity of the configuration process*" and "*shot ourselves in the foot*" by having only one person managing the process at OMSI.
- The project would have also benefitted from the support of a contracted developer who could have helped assess OMSI's needs, communication of those needs to the vendor, and assessed the implications of the vendor's recommendations to OMSI's operations and procedures.

To help mitigate these challenges, OMSI changed its model of project implementation. First, the project was assigned a Project Manager. Given the technical demands placed on the project team, OMSI's sales teams also identified one to three staff members to serve as Subject Matter Experts (SMEs). By incorporating the SMEs, who would later be responsible for the new ISS's daily use and implementation, into the project's implementation model, OMSI could more clearly document processes and needs for the vendor and develop appropriate implementation guidelines for SMEs and their sales teams.

Despite these challenges, the staff articulated how this project contributed to positive improvements to OMSI's technology infrastructure and assets. The integration of the sales systems itself represented a critical improvement to the museum's software infrastructure as OMSI's Guest Services, Inbound, and Outbound Sales systems moved into the new ISS. OMSI's Events division, however, elected to retain their previous sales system, while OMSI contracted its onsite and online gift store retail sales were to an

external party. At the time of data collection, internal stakeholder focus group participants reported that OMSI's Finance department was also able to access and use collected data, while the Development department had yet to receive intended gains, since the vendor was still competing a series of customized data reports.

This software-focused project, which was not designed to advance OMSI's technology hardware infrastructure, also prompted tangential improvements. In conjunction with the *Building Infrastructure and Capacity for 21st Century Skills* project, OMSI enhanced its hardware infrastructure through the remodeling of the Guest Services' front desk and the movement of the ecommerce site to new server rack space. The needs of this project additionally forced updates to many components of OMSI's hardware infrastructure that were from the 1990s and had limited and outdated capabilities.

Technical Evaluation Questions	Summary of Results
How many people are using the mobile interface?	• OMSI currently lacks established metrics to track what interfaces customers use to access OMSI's website. • Given the challenges of the project's completion of the new ISS's adoption, configuration, and report development, the priority of the mobile interface outcomes lessened. • Emphasis on project outcomes related to this question were also reduced by the new ISS's use of a wired system, and OMSI's decision to contract of on-site and online retail sales to an external party.

Given the challenges encountered during the introduction and configuration of the new ISS, project goals regarding the mobile interface became secondary. The vendor's recommendation that OMSI retain a wired system for point of sales, as they were unable to support a mobile environment, further justified this decision. Consequently, it is not currently possible to identify what kind of interface (computer, personal device, or mobile device) customers use to access the website. Nor has there been a pressing business need for information regarding how many people are accessing the mobile interface.

<u>Functional Evaluation</u>

The summative evaluation examined the functionality of the new ISS as well. This portion of the study utilized four evaluation questions to examine staff's awareness of the new ISS's capabilities, evaluation and use of the new ISS, ability to learn more about audiences served by OMSI, and other aspects of the ISS's functionality. This section of the report presents findings derived primarily from staff survey feedback and qualitative interview data.

Functional Evaluation Question	Summary of Results
Are staff aware of the various capabilities of the new ISS? Are staff using the new ISS to its full potential?	• All of the surveyed staff had at least heard about the project, but they reported varying degrees of awareness and involvement. • Over 60% of surveyed staff reported being either *Very familiar* or *Familiar* with six of ten critical sales items included on the survey. • Surveyed staff reported that the vendor's 2015 User Conference, and conversations with other institutions using the ISS during the conference, significantly increased OMSI's understanding of the system's capabilities. • OMSI's ability to use the new ISS's full range of offerings, and therefore it full potential, was limited from the time of purchase as several new ISS capabilities were irrelevant to OMSI's needs. Moreover, technical staff further explained that desired ISS functions and capabilities were also still not being used to their full potential. This was primarily due OMSI's need to finish configuring or customizing system components and receive custom data reports from the vendor.

Project Awareness & Involvement

In order to contextualize the summative evaluation participants' feedback, data collection activities gathered information regarding staff respondents' awareness of the project. When the internal evaluator asked staff members who participated in the functional interviews to describe their awareness of the project, their responses were quite divergent. One staff member was involved in the project from its beginning. This participant helped review vendors' project proposals, select the top three vendors of interest, conduct site visits at two institutions using sales systems of interest, and attended final sales pitches. Conversely, the other interviewee, although an aware and active participant throughout the project's implementation, was not a core member of the vendor selection team and only learned about the project's funding history from the internal evaluator's interview recruitment email. This range in the participants' participation and awareness provided a broad view of staffs' project perspectives.

Surveyed staff's assessment of how aware they were of OMSI's efforts to transition to the new software and integrate its sales systems demonstrated this breadth of perspective as well. To assess their awareness, the staff selected one of the five following responses presented in Table 2.

Table 2. Surveyed Staff's Project Involvement

Response Category (n=29)	Percent
I have been an active participant in the integration process.	24.1%
I have discussed it at length.	27.6%
I have heard of it, and I am aware of what is happening.	27.6%
I have heard of it, but I am unaware of what is happening.	20.7%
I have not heard about this.	0.0%

These responses indicate that all of the surveyed staff members had at least heard about the project and that the degree to which they were aware of or had participated in the project was evenly distributed. It is also noteworthy that half of all staff respondents who selected the two first response categories, which represented the highest degrees of project awareness and involvement, also reported managing or supervising other OMSI staff members. This response trend indicates that managerial staff were best positioned to provide in-depth knowledge and participant insight into these early project phases and reflects a period of staff turnover that occurred just prior to the new ISS's adoption.

The survey further explored staff members' awareness of the project by asking them to indicate in which of five identified project phases they had been involved. As demonstrated in Figure 3, nearly a third (31.6%) of the staff respondents reported being part of the new ISS's selection, planning, or configuration. However, the staff's involvement in the final two, most recent phases of the project doubled. A comparative analysis of the data, based on whether respondents had managerial or supervisory responsibilities, indicated that the doubling in later project involvement represented the introduction of general staff to the project's implementation activities. This response trend, therefore, further demonstrates that early project awareness and participation largely fell to the purview of managerial staff.

Figure 3. Surveyed Staff's Reported Project Involvement

Staff's Project Involvement

OMSI's selection of the new sales system (Dec 2013 – Mar 2014): 31.6%
OMSI's planning and business process review (Apr-May 2014): 31.6%
The new sales system's configuration (Jun – Sept 2014): 31.6%
The new sales system's rollout (Oct 2014 – Jun 2015): 63.2%
The new sales system's customization (Jul 2015 - present): 79.0%

Percentage of Completed Responses (n=29)
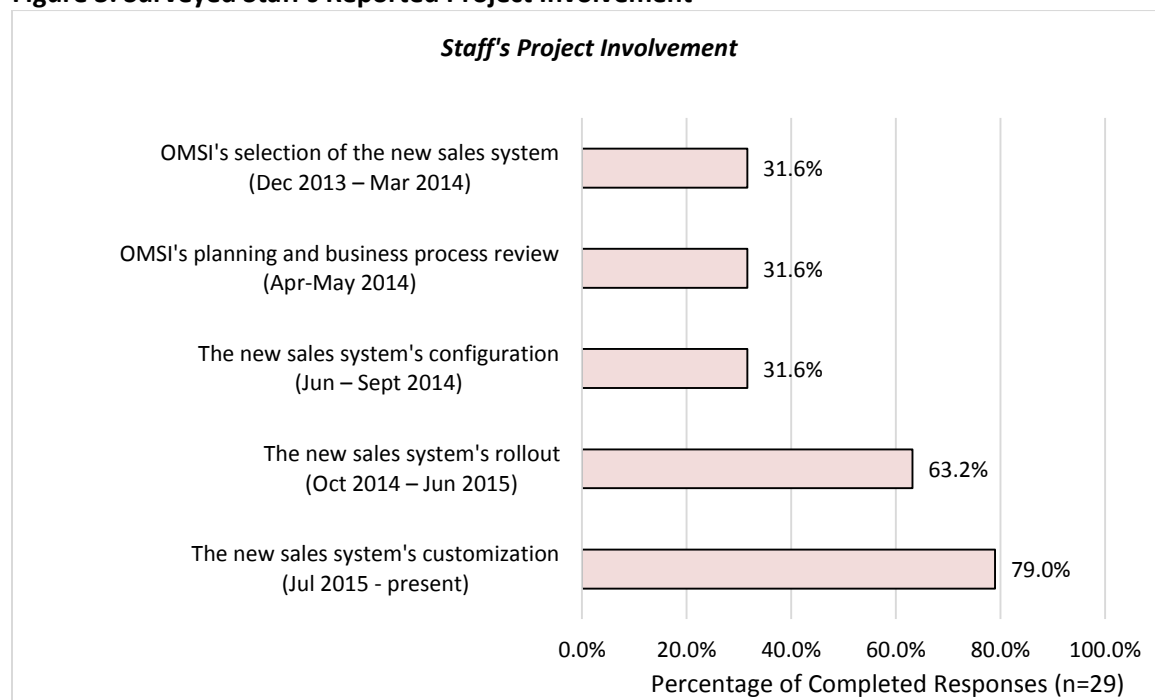
Familiarity with ISS Sales Items

The survey further examined how familiar staff were with ten overarching sales categories, called "sales items," located on the main sales screen. By selecting a specific sales item, staff access all of the features and functions needed to complete a transaction related to that category. Figure 4 depicts the percentage of staff respondents who selected either *Familiar* or *Very familiar* in response to each sales item and its configuration. Over half of the respondents reported being *Familiar* or *Very familiar* with the all of the first four sales items, and the Guest Services and Inbound Sales teams were primarily responsible for these provided responses (and the responses to the Sub Tours). The trend reflects the high level of transactional activity of these groups with general visitors. Staff's more limited familiarity with program, camps, and classes was also likely due to their falling primarily under the purview of the Inbound and Outbound Sales teams, who represented approximately a quarter (24%) of the survey sample.

Figure 4. Survey Respondents' Familiarity with Sales Items

Surveyed Staff's Reported Familarity with Primary Sales Items

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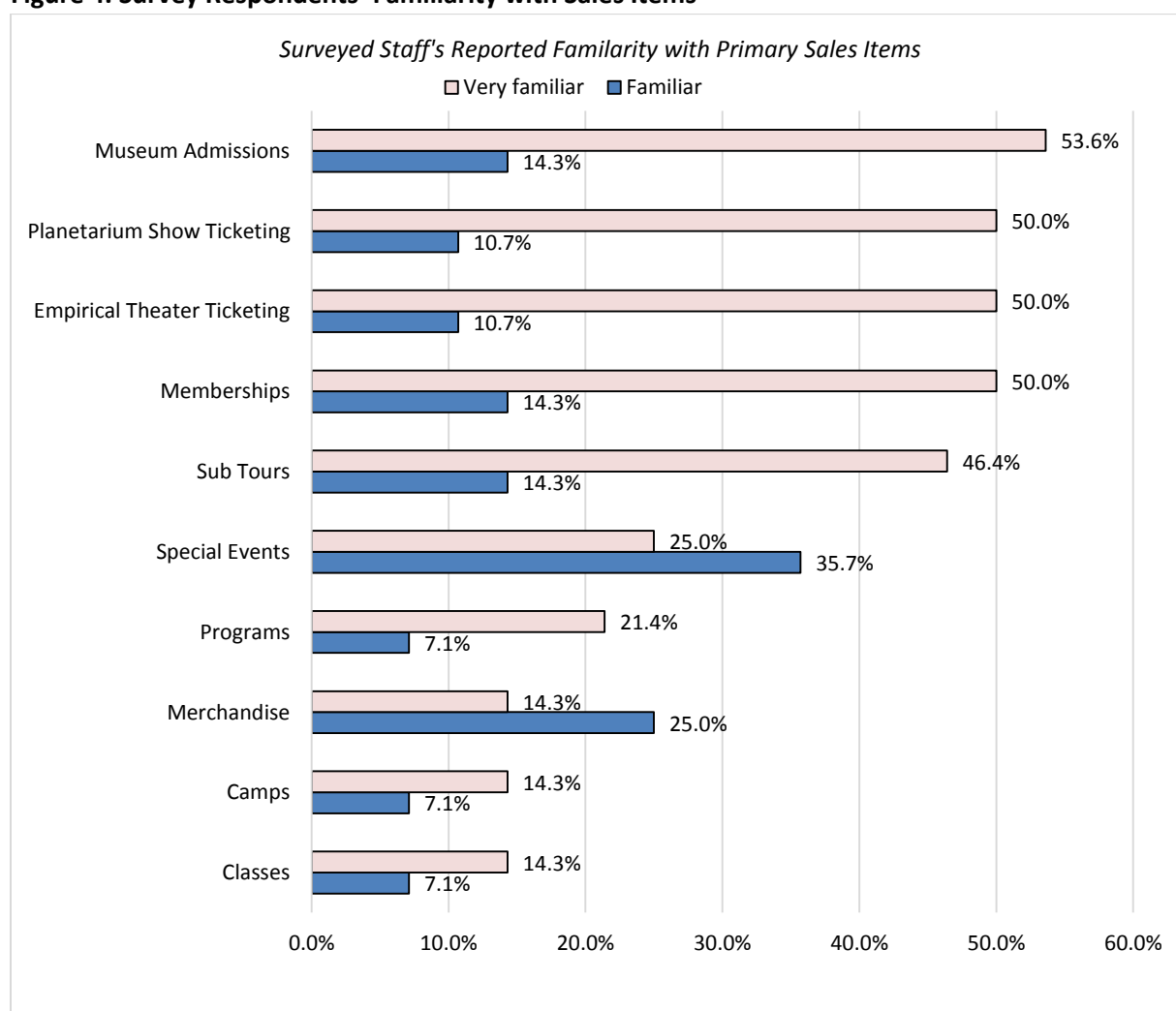
Several interviewees cited the importance of OMSI's attendance of the vendor's 2015 User Conference as well, since it expanded their understanding of the new ISS's potential and capabilities. Approximately a dozen OMSI staff members attended the conference, which "*provided a much broader understanding of all that the system can do.*" After attending conference sessions, learning about new and upcoming capabilities, and ways other institutions are utilizing the ISS, all of the attendees returned to OMSI with new ideas regarding how OMSI's departments and divisions could improve museum operations. It is also noteworthy that other attendees of the conference introduced staff to the availability of a test environment. This test environment has since allowed the project team's technical staff to experiment with system configurations, resolutions, and changes without hindering daily operations, which has also expanded OMSI's understanding of the new ISS's utility.

Staff's Use of the ISS to its Full Potential

From the time of the new ISS's purchase, OMSI "*knew the system could do specific things that just didn't apply to us, so we are not able to use the full range of offerings.*" While this decision makes using the new ISS to its fullest potential impossible, even staff's ability to utilize all of the desired capabilities to their full potential had not been achieved.

Technical interviewees, though, were best positioned to assess whether this aspect of the new ISS's implementation, and consistently they responded with a resounding, "*no.*" When prompted to elaborate, they cited several barriers that echoed previously described challenges. The interviewees explained that the staff fundamentally were unable to use the new ISS to its full potential because the project team had not yet finished configuring and customizing the system and the vendor was still completing custom data reports. One interviewee further shared that at the time of data collection, their staff had not yet had time to explore the new ISS's offerings fully. This project team member reported that they themselves had not yet even had an opportunity to review and understand available standard data reports.

Furthermore, OMSI's ability to use the new ISS was complicated by the vendor's efforts to gain a footing in the informal science education market, which will cause the new ISS to continue to evolve through the introduction of new features, the adoption of which OMSI will have to assess.

Functional Research Questions	Summary of Results
In what ways, if any, do staff value and utilize the new ISS?	• The majority (79.3%) of surveyed staff reported that they either *Always/almost always* or *Often* use the new ISS during their completion of daily tasks and responsibilities.
	• The new ISS dramatically improved operational efficiency and customer service by increasing OMSI ticketing transaction speeds, which contributed to new record monthly admission and membership sales.
	• The adoption of new ISS reduced operational and staffing costs by streamlining numerous sales processes such as membership card delivery, membership record management, and OMSI's financial aid system.
	• Three-fourths of surveyed staff reported that the new ISS was either *Very useful* (10.7%), *Useful* (42.9%), or *Somewhat useful* (21.4%) to the museum's daily operations.
	• Interview feedback indicated that sales items configured by time, primarily OMSI's Empirical Theater show times, were a problematic aspect of the new ISS. This is due to the lengthy process of coding the high volume of required data, which markedly slows the new ISS's speed costing frontline staff time.
	• When asked to assess what aspects of the new ISS were most useful to their departments or sales teams and what aspects were easiest to use, surveyed staff's responses most frequently focused on specifics sales features; the new ISS's support of basic, general transactions; membership sales; and records and data reports.
	• Surveyed staff reported that the new ISS's organization and speed; its provision of member vouchers, need for a more functional member renewal process that does not create duplications, and streamlined membership profiles; additional customized data reports that improve discount and financial aid processes; and the ecommerce site were hardest to use or least useful.

Staff's Utilization of the New ISS

The majority (79.3%) of the surveyed staff reported that they either *Always/almost always* (62.1%) or *Often* (17.2%) used the new ISS during the completion of their daily tasks and responsibilities. An additional 13.8% of respondents, which were staff from OMSI's Development department and Events division, selected *Never*. Development's and Events' limited use of the new ISS, however, was already widely known.

Staff's ISS Training

While these responses provide a baseline understanding of staff's use of the new ISS, the summative evaluation also conducted an examination of OMSI's provision of training as described by interview, focus group, and survey data. Although this was not a primary focus of the summative evaluation, data collection specific to this aspect of the project's implementation offered insight into how staff learned to use the new ISS.

Survey data indicated that staff initially received their initial training from either one of two sources: vendor representatives (31.0%) or an OMSI staff member (58.6%). All remaining respondents (approximately 10%) reported that they either had not received training, were unsure, or did not remember their training. Technical interviewees' feedback further indicated that the vendor's provision of training was unusual, since they generally do not offer a formal ISS training to clients. However, this was a service OMSI expected, to which they obliged.

According to interviewed staff, the vendor representatives conducted training sessions during the final week of their OMSI site visits. Consequently, the project team was still bringing the new ISS online and pursuing decision regarding the new ISS's initial configuration (the identification and modification of aspects of the new ISS's organization, capabilities, and options). As a result, the vendor representatives could spend hours training the sales team. While OMSI appreciated the vendor's willingness to provide this service, the limited amount of time set aside for these trainings (especially given the complexities of the system) and their alignment with ongoing system's changes made them less effective than OMSI staff had hoped. However, staff's later attendance of the vendor's User Conference was considered "*super useful*" and provided numerous insights that were utilized to improve the new ISS's functionality and staff trainings.

These evaluation participants similarly described OMSI developed trainings. They shared that a significant amount of staff training occurs during new staff member's onboarding, which can require a whole day to complete, while other trainings concur with seasonal sales (i.e. camps and classes sales). Generally sales team managers and Subject Matter Experts (SMEs) were responsible for developing and implementing OMSI led trainings. They predominantly used their own initial vendor provided training to create evolving training manuals for use with the sales teams, which were supplemented by information gained from the vendor's User Conference.

In addition to this qualitative feedback, the survey also collected quantitative feedback regarding staff's training experiences. Table 3 presents the number and percentage of respondents who agreed with ten statements regarding their initial training. The table lists the metrics that prompted the most positive responses first, and each metric's most frequently selected responses is shaded. Since respondents received training from both OMSI staff and the vendor, the internal evaluator compared the two groups' responses. Staff trained by OMSI staff generally assessed the metrics more positively, but this is likely a reflection of the more favorable context and broader institutional knowledge that the OMSI training afforded staff.

Table 3. Surveyed Staff's Agreement with Statements Regarding Initial ISS Training

Survey Metrics n=26	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
The training included clear instructions regarding how to use the new ISS.	2 (7.7%)	14 (53.8%)	3 (11.5%)	6 (23.1%)	0 (0%)	1 (3.8%)
The training provided clear explanations of the new ISS's various functions.	2 (7.7%)	13 (50%)	4 (15.4%)	4 (15.4%)	3 (11.5%)	0 (0%)
The training provided the background needed to successfully accomplish my position's tasks and responsibilities. (n=25)	3 (12%)	11 (44%)	6 (24%)	2 (8.0%)	3 (12.0%)	0 (0%)
The training provided clear explanations of the sales items (camps, ticketing, membership sales, online sales, etc.) used by my department or sales team.	2 (7.7%)	12 (46.2%)	7 (26.9%)	3 (11.5%)	1 (3.8%)	1 (3.8%)
The training incorporated useful training tools.	1 (3.8%)	11 (42.3%)	6 (23.1%)	6 (23.1%)	2 (7.7%)	0 (0%)
The training shared useful reference materials.	1 (3.8%)	10 (38.5%)	7 (26.9%)	3 (11.5%)	5 (19.2%)	0 (0%)
My trainer clearly answered my questions. (n=25)	1 (4.0%)	10 (40%)	7 (28%)	3 (12.0%)	4 (16.0%)	0 (0%)
The training was efficient.	2 (7.7%)	8 (30.8%)	6 (23.1%)	6 (23.1%)	4 (15.4%)	0 (0%)
The training introduced various data reports generated by the new ISS.	2 (7.7%)	5 (19.2%)	5 (19.2%)	9 (34.6%)	4 (15.4%)	1 (3.8%)
The training included an introduction to sales items used by other OMSI departments or sales teams.	0 (0%)	9 (34.6%)	8 (30.8%)	6 (23.1%)	3 (11.5%)	0 (0%)

The survey further explored the impact of the training by asking the respondents to describe what aspects of the training were most useful. A qualitative analysis of the resulting thirteen open-ended responses identified four themes: general/basic system features, specific tasks, tools, and system configuration. Table 4 presents these themes in conjunction with examples from the corresponding comments.

Table 4. Aspects of the New ISS Trainings Most Useful to Surveyed Staff

Response Category (n=13)	Frequency (# of Comments)	Example
Specific Tasks	5	• *Setting up museum packages.* • *Discount option explanations.* • *Creating reservation headers, System Manager fixes, creating new school groups.*
General/Basic System Features	4	• *The general usages for my department (such as how to process different transactions).* • *I liked that our* [vendor] *representative was able to show us basic transactions.*
Tools	3	• *Having a tablet in front of me during the training was helpful.* • *The training version of the software.*
System Configuration	2	• *Learning about the system at the* [Department Category Items (DCIs)] *level was the most important information, because it allowed us to make ensuing decisions regarding configuration.*

The survey also directly solicited recommendations for how OMSI could change or enhance the new ISS training in the future. Eighteen staff respondents completed this question, and four themes emerged from the feedback as demonstrated by Table 5.

Table 5. Aspects of the New ISS Trainings In Need of Improvement

Response Category (n=18)	Frequency (# of Comments)	Example
Need for More Time	4	• *More thorough/longer on-site time with* [vendor's] *staff would have been helpful.* • *One more day of follow up training, hands off but still available if needed.*
Presentation of Content	4	• *Going through all functions in a more chronological order based on programs. It's a difficult system to navigate through and takes time.* • *Written instructions on how to use* [the new ISS]*, pictures, or diagrams of how to use it and how to pull useful reports.*
Specific Tasks Related to Respondents' Roles	3	• *More thoughtful training specific to our configuration.*
Interest in Other Departments' Use of the New ISS	3	• *It took a while to see how other departments use sales, so it would have been great, if I could see their process sooner.*

The New ISS's Impact on Daily Operations

The technical and functional staff provided feedback regarding the new ISS's impact on daily operations as well, and according to one functional interviewee, the new ISS "*has impacted everything frontline staff does*." Another technical interviewee echoed this sentiment sharing that the new ISS has been a "*huge positive on the floor*." This participant explained that in December 2015, OMSI had the highest membership sales month and highest general admission sales on record, which was largely due to the introduction of the new sales software. During this key, holiday sales period, the interviewee reported that the new ISS's ability to increase transaction speeds resulted in the admission's line extending past the main lobby at most three times. When operating with the previous system, a similar level of traffic would have caused these long lines to be nearly a daily occurrence. Moreover, only two customers complained to staff about the length of their wait at the ticketing desk, which would have previously occurred approximately every four to six hours during the two-week peak of the holiday season. They noted that, "*the customer service possibilities, the quality of the speed,* [and] *the quality of the access for people is night and day.*" Consequently, this interviewee considered the gains in operation efficiency and customer service alone reason enough for the project and new ISS upgrade to be a critical success.

While the aforementioned transactional speed prompted increased sales revenues, the interview participants also described how the new ISS reduced operational processes and staffing costs as well. One example of these savings was the printing of new membership cards. The new ISS enables frontline staff to immediately print and deliver the cards to customers at the point of sale, but the previous process for providing membership cards could take anywhere from two weeks to a month. The previous, "*antiquated*" process required volunteers to print small batches of cards (it took approximately six seconds to print a single card), tri-fold and glue the cards, and insert them into envelops, which OMSI would then mail to the customer. While the new ISS's impact on this process represents a significant savings in time and postage (with approximate membership of 250,000 postage savings alone equates to $125,000), it additionally freed volunteers to focus on other aspects of the museum's operations and mission.

The new ISS additionally reduced OMSI staffing costs. One functional interviewee shared that the previous system required staff to manage and process far more paper records, especially to support membership sales and financial aid. These previous processes required numerous document duplications and inefficiencies created by multiple record references during processing. As the new ISS's adoption streamlined these processes, it became apparent that the department's workload no longer supported the retention of three full time employees (FTEs). While OMSI regretted having to let these employees go, these resources enabled the museum to become more responsive to visitor needs through the expansion of the museum's Outbound Call Center.

The summative staff survey also asked staff respondents to rate how useful the new ISS was to their (or their department's/sales team's) daily operations. Just as interviewees comments indicated that the new ISS increased OMSI's efficient operation, half (53.6%) of the surveyed staff likewise considered the new ISS to be either *Very useful* or *Useful* to the museum's daily operations (see Figure 5). The surveyed staff's assessment of these trends were also evenly distributed across all surveyed business sectors.

Figure 5. Surveyed Staff's Assessment of the New ISS's Collection of Data Useful to Daily Operations

How useful is data or information collected by the new sales system to your (or your department's/sales team's) daily operations?

- Very useful
- Useful
- Somewhat useful
- Slightly useful
- Not useful
- I don't know & N/A
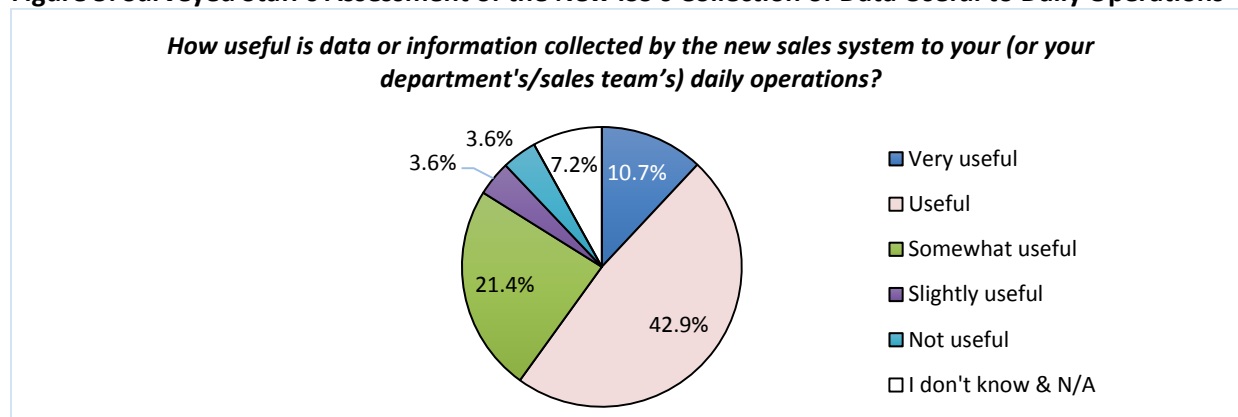
Sales Items Configured by Time

While Table 6 demonstrates the surveyed staff's assessment of various system features, their assessment of the new ISS's provision of easy access to OMSI schedules was notable. When the internal evaluator compared these responses business sector affiliation, it became apparent that dissatisfaction with this metric resonated most with the Guest Services sales team. A likely cause of the Guest Services respondents' weaker assessment of this scheduling metric was provided by both functional and technical interviewees who repeatedly cited issues regarding challenges created by sales items configured by time; specifically OMSI's Empirical Theater show times. They explained that when the project began, OMSI generally set and kept theater schedules consistent for long periods, but recent operational changes have resulted in the schedule changing almost weekly. Although this increases the variety of offerings OMSI provides its repeat visitors, the rescheduling of these show times is highly time intensive. For example, the coding and programming of the schedule of an 18-movie film festival recently required nearly a full day of work. This is because of the new ISS requires each movie and associated show time to be entered as individual pieces of code. Consequently, the backside of the new ISS contains so much coding regarding the numerous movies and their times that the new ISS frequently operates at a markedly slower rate when staff select the theater sales item, subsequently costing frontline sales staff time as well.

Table 5. Surveyed Staff's Assessment of the New ISS

In general, the new ISS…						
Survey Metrics (n=29)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not know & N/A
is easy to navigate.	1 (3.4%)	9 (31.0%)	6 (20.7%)	7 (24.1%)	2 (6.9%)	4 (13.8%)
supports the efficient completion of tasks related to my position.	2 (6.9%)	5 (17.2%)	7 (24.1%)	4 (13.8%)	7 (24.1%)	4 (13.8%)
enables flexible customization (e.g. start dates, times, etc.).	0 (0%)	6 (20.7%)	5 (17.2%)	6 (20.7%)	3 (10.3%)	9 (31.0%)
provides easy access to OMSI schedules (e.g. show, event, or program times).	0 (0%)	5 (17.2%)	3 (10.3%)	9 (31.0%)	4 (13.8%	8 (27.6%)
is intuitive.	0 (0%)	4 (13.8%)	5 (17.2%)	9 (31.0%)	7 (24.1%)	4 (13.8%)

The New ISS Support of & Impact on Transactions

The staff respondents similarly rated their agreement with whether the new ISS:

a.) offers a streamlined transaction process, and
b.) is designed to complete transaction in a timely manner.

Approximately a quarter of the respondents selected *I do not know* or *N/A* when assessing the two statements (24.1% and 27.5% respectively). Figure 6 depicts the percentage of staff who selected the remaining five Likert-scale responses, and indicates that more staff disagreed with the statements than agreed. Configuration issues, such as the previously discussed theater times, likely contributed to this rate of disagreement. Since the majority of the surveyed staff also lacked working knowledge and awareness of the previous system, it is likely that they could not recognize gains in transactional speeds cited by interviewees. Yet, their responses indicate that there is room for continued improvement.

Figure 6. The New ISS**'s Support of Streamlined and Timely Transactions**
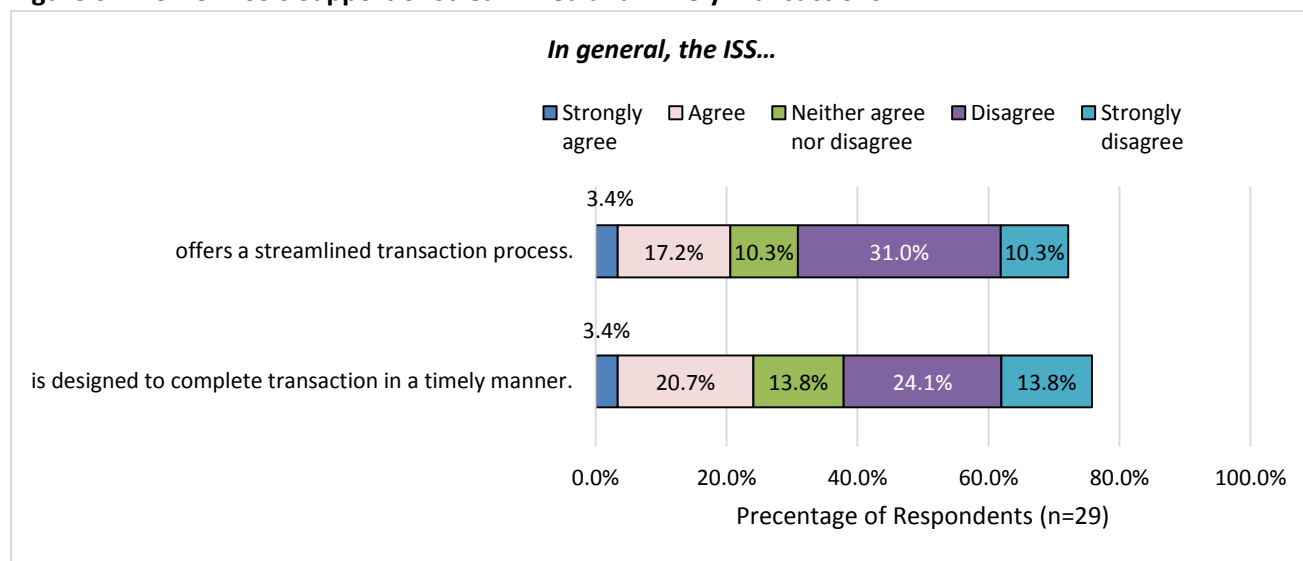
The surveyed staff's assessment of the new ISS's support of seven metrics related to sales transactions and processing was more varied (see Table 7), and the analysis of their responses resulted in the following findings:

- Approximately a third of the staff selected *N/A* in response to these metrics, which was the most consist trend within the data.

- Over half (58.6%) agreed (selected *Strongly agree* or *Agree*) that the new ISS allowed them to offer visitors' multiple payment options, which represented the highest rate of agreement.

- Over a third of the staff similarly agreed that the new ISS allowed them to efficiently apply discounts or other promotional offers or provide customer service resolution when necessary.

- Staff assessment of the new ISS's support of their ability to efficiently process refunds was poorest.

Table 7. Surveyed Staff's Assessment of the New ISS's Support of Transactional Processes

The new ISS allows me to…						
Survey Metrics (n=29)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
offer visitors multiple payment options (e.g. cash, credit, and/or check).	3 (10.3%)	14 (48.3%)	2 (6.9%)	0 (0%)	1 (3.4%)	9 (31%)
provide customer service resolutions (discounts, etc.) when necessary.	3 (10.3%)	9 (31%)	2 (6.9%)	3 (10.3%)	3 (10.3%)	9 (31%)
efficiently apply discounts or other promotional offers (e.g. coupons, $2 Days, multi-child or multi-class enrollment, early bird specials, etc.).	3 (10.3%)	8 (27.6%)	2 (6.9%)	5 (17.2%)	2 (6.9%)	9 (31%)
efficiently manage financial aid.	1 (3.4%)	2 (6.9%)	8 (27.6%)	3 (10.3%)	5 (17.2%)	10 (34.5%)
efficiently manage customer receipts or invoices.	0 (0%)	6 (20.7%)	4 (13.8%)	7 (24.1%)	2 (6.9%)	10 (34.5%)
efficiently apply combo pricing.	0 (0%)	5 (17.2%)	7 (24.1%)	4 (13.8%)	2 (6.9%)	11 (37.9%)
efficiently process refunds. (n=28)	0 (0%)	2 (7.1%)	10 (35.7%)	5 (17.9%)	2 (7.1%)	9 (32.1%)

The Most Useful Functions/Capabilities of the New ISS

The survey also asked the surveyed staff to describe what functions or capabilities of the new ISS were most useful to their department. Twenty-four staff provided responses to this open-ended question, and a qualitative analysis identified four emergent themes. Table 8 presents these themes with examples of corresponding comments.

Table 8. Surveyed Staff's Evaluation of the Most Useful Features/Capabilities of the New ISS

Response Category (n=24)	Frequency (# of Comments)	Example
Sales Features and General Transactions	11	• *The ability to sell tickets to the public. Being able to effectively sell tickets in a timely manner to in house customers.* • *Custom Special is probably the most useful thing for us, as we're able to fix any errors in discounts not popping up or the system not processing what it should be processing.* • *I like the* [Merchandise] *button because everything that I use is in there. Although, I think* [Merchandise] *is a weird place to put things like travel fee and mileage fee.*
Records & Data Reports	7	• *Guest records and sale records are easy to use and have allowed an integration of our sales into one system not previously possible.* • *The payment type by sales point report in Report Manager is easy and clear.* • *Customized reports are now about 80% toward providing detailed and useful information; still working on bugs.*
Other	2	• As a member of the Inbound Sales team, I cannot think of anything that is extremely useful compared to prior [Point of Sales] systems.[1]
Format	1	• *Everything is easy to see.*

Staff participating in the functional interviews explained with which aspects of the new ISS they were most satisfied as well. The interviewees' responses mirrored many of the themes identified by the surveyed staff members. Similarly, the technical interviewees' answers mirrored their previous assessment of the project's benefits to daily museum operations.

The Least Useful Functions/Capabilities of the New ISS

Conversely, the summative evaluation collected feedback regarding aspects of the new ISS they considered most inefficient or least useful. One functional interviewee noted group sales (i.e. programs, camps, and classes), which likely reflects issues that arose during the first configuration of that component of the new ISS, which the project team has since addressed. Staff also cited two other aspects of the new ISS. The first pertained to its poor functionality in flagging problem memberships during admission sales. When the previous system detected a problem, it prompted sales representatives to check IDs. A similar feature in new ISS does not flag the sale until it is completed at

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[1] This comment reflects the surveyed staff's experience with a very early configuration of the new ISS's group sales (i.e. programs, camps, and classes) registration. The technical interviewees shared that this early configuration, which was briefly used by staff during the museum's 2015 camps and classes sales season, was fraught with technical issues that caused sales staff a great deal of frustration. Consequently, these sales items of the new ISS were deactivated for a period to allow the project team to reconfigure them. Since staff had not yet started to prepare for the 2016 camps' and classes' registration season at the time of the survey's administration, these staff had yet had reason to use the reconfigured and hopefully improved group sales registration features. Assessments of these sales items, therefore, could likely no longer reflect the current realities of using these features.

which point the customer has often left the sales desk. Another feature cited was staff's inability to use a red (sold) and green (available) indicator bar. This feature, which was included in the early vendor's sales pitch, would have allowed staff to know at a glance, when a program or show sold out. However, OMSI could not integrate this feature because of early configuration decisions regarding how the new ISS would designate and organize sales items and their modifiers.

Twenty-two surveyed staff members provided additional information regarding the features or capabilities of the new ISS that were least functional or hardest to use. An analysis of these responses identified six themes and examples of associated comments are included in Table 9.

Table 9. Surveyed Staff's Evaluation of the Least Functional or Most Difficult to Use Functions/Capabilities of the New ISS

Response Category (n=22)	Frequency (# of Comments)	Example
Memberships	4	• *Midstream upgrades to memberships are more time consuming than they should be, especially given how often they are required.* • *Accessing points for member purchases. Renewing memberships without duplicating and currently applying member discounts at all requires Custom Special, or System Manager to resolve.*
Time Related Sales Items	3	• [The new ISS's] *configuration of our theater tickets is clunky and causes the system to run slowly when trying to sell theater tickets.* • *The least functional are the theater or planetarium or submarine time buttons, only because they are often out of order (i.e. active times on the third page versus the first), and they are unhelpful when trying to determine a schedule (a sold out movie versus a movie that wasn't playing that day).*
Data Reports	3	• *We've had to build quite a few custom reports--though I am not certain that this doesn't just as much reflect our unique needs.*
Refunds	2	• *Looking up past sales using a sale number involves a lot of clicks and can be very slow. Refunds and reprints of tickets are slow because of this.*
Business Sector Specific	1	• *Selling camps/classes was extremely difficult.* [The new ISS] *makes scheduling large field trips extremely cumbersome and tedious.*[2]
Ecommerce	1	• *It's EXTREMELY difficult to navigate E-comm. The biggest issue we have in our department is resolving problems caused by the website.*

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[2] As previously noted, this comment represent staff's experiences with an early configuration of these sales items within the new ISS that have since been fixed by the project team, although not yet utilized by sales staff given the seasonality of these sales.

Staff Recommendations for Improving the New ISS

Finally, the surveyed staff described how OMSI could change or improve the new ISS in the future. Twenty staff responded to the question, and an analysis of their answers identified five themes. Table 10 present these themes and examples of associated comments.

Table 10. Surveyed Staff's Recommendations for the New ISS's Improvement

Response Category (n=20)	Frequency (# of Comments)	Example
Organization & Speed	8	• *I would consider changing the way we have configured theater ticketing. Our particular configuration causes the system to be bloated with theater items, and if we could streamline that, we would be able to better utilize some of* [the new ISS's] *features and avoid slow loading times of Theater offerings.* • *I would try to make selling admission packages easier. There's a very specific order that you have to do things in and if a customer changes their mind, you often have to go back to the beginning. There's also a very long wait for theater shows to load in the system.* [The new ISS] *times out frequently and reloading it can take a while.*
Membership	4	• *Using member vouchers that are digitally stored could be made more functional as well.*
Records & Data Reports	3	• *Make reports easily accessible* • *Add more customization to the reports.*
Refunds	3	• *Looking up past sales using a sale number involves a lot of clicks and can be very slow. Refunds and reprints of tickets are slow because of this.*
Discount/Financial Aid	2	• *Allow for financial aid processing.* • *I would definitely consolidate gift card transactions.*
Ecommerce	1	• *Better connection through the* [new ISS] *to online sales.*

Functional Evaluation Questions	Summary of Results
Do staff know more or can they learn more about audiences by using the new ISS?	• Without the completion of the new ISS's custom data reports or OMSI's development of a data strategy plan, staff's ability to access and use audience data was limited. • Both functional interviewees and survey feedback indicated the sales teams in general perceived accessing and reviewing audience data to not be a large part of their responsibility. • While 43.5% of surveyed staff reported generating the new ISS's standard data reports (data reports that came with the purchase of the system) on a *Daily* basis, only 10.7% considered themselves *Very aware* of the various standard data reports generated by the new ISS. • Only 17.4% of surveyed staffed generated custom data reports (reports custom ordered to meet OMSI's unique needs), which were still being completed at the time of data collection, on a *Daily* basis. Only 10.7% similarly considered *Very aware* of the custom data reports. • Surveyed staff most were most satisfied with how useful the new ISS was to the tracking of membership information, past participant registration data, and customer accounts. • Surveyed staff poorly rated both the new ISS's speed accessing specific sales information and their ability to quickly access and search online sales data and information.

Staff's Access and Use of Data Collected by the New ISS

The summative evaluation also examined to what extent the new ISS enabled staff to learn more about audiences. The analysis of data related to this aspect of the study indicate OMSI's achievement of this effort was more limited than intended. This could be due to the project's failure to develop the proposed data strategy plan. Functional interviewees' feedback provided insight into the impact of the lack of this project deliverable and the conversations that would have driven its creation. The survey asked these evaluation participants to *"describe what efforts have been made to help you and other staff members become more aware of audience related data collected by* [the new ISS]*."* They reported that this was a difficult questions to answer and explained that pulling and reviewing data was "*not a large part of* [their] *job and that reports* [were] *usually generated only when someone else requested one or specific data*."

Three survey questions also included metrics that prompted staff to assess how useful the new ISS's data was to tracking visitor trends. Tables 11, 12, and 13 presents the surveyed staff's assessment of these 11 metrics and indicates:

- Staff were most satisfied with how useful data or information collected by the new ISS was to their (or their department's/sales team's) tracking of membership information, past participant registration data, and customer accounts (see Table 11).
- Approximately a third to 40% of surveyed staff agreed that the new ISS generates a useful membership profile and collects useful information regarding members' or visitors' transactions

at OMSI. However, their assessment of whether collected information regarding these audiences' interests in OMSI's offerings was notable weaker (see Table 12).

- Approximately a third to 40% of surveyed staff similarly agreed that the new ISS allows them to access member profiles or information quickly (see Table 13).
- The speed at which staff could access specific sales information could improve (see Table 13).
- Staff also poorly rated the new ISS's ability to allow them to quickly access and search online sales data and information. Their assessment of these two metrics, however, may have been impacted by OMSI's decision to outsource the management of its on-site and online gift store sales and problems with the ecommerce side of the project.

Table 11. Surveyed Staff's Assessment of the New ISS's Ability to Track Visitor Data

How useful is data or information collected by the ISS to your (or your department's/sales team's)…						
Survey Metrics (n=28)	Very useful	Useful	Somewhat useful	Slightly useful	Not useful	I don't know & N/A
tracking of relevant member information (e.g. length of membership, membership level, previous program/event attendance, etc.)?	5 (17.9%)	7 (25.0%)	3 (10.7%)	4 (14.3%)	1 (3.6%)	8 (27.6%)
tracking of past participants' registrations? (n=27)	4 (14.3%)	4 (14.3%)	5 (17.9%)	3 (10.7%)	0 (0%)	12 (42.9%)
tracking of customer accounts (e.g. schools)?	3 (11.1%)	6 (22.2%)	2 (7.4%)	4 (14.8%)	1 (3.7%)	11 (40.7%)

Table 12. Surveyed Staff's Assessment of the Usefulness of Collected Visitor Data

In general, the ISS…						
Survey Metrics (n=29)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not know & N/A
generates a useful member profile.	3 (10.3%)	9 (31.0%)	4 (13.8%)	3 (10.3%)	1 (3.4%)	9 (31.0%)
collects useful data or information regarding members' or visitors' transactions at OMSI.	3 (10.3%)	7 (24.1%)	4 (13.8%)	3 (10.3%)	1 (3.4%)	11 (37.9%)
collects useful data or information regarding members' or visitors' interests in various OMSI offerings (e.g. camps, classes, exhibits, etc.).	1 (3.4%)	4 (13.8%)	4 (13.8%)	4 (13.8%)	3 (10.3%)	10 (34.9%)

Table 13. Surveyed Staff's Assessment of the New ISS's Processing Speeds

The new ISS allows me to…						
(n=29)	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
quickly access member profiles or information.	3 (10.3%)	9 (31%)	7 (24.1%)	2 (6.9%)	1 (3.4%)	7 (24.1%)
quickly access relevant customer information.	1 (3.4%)	10 (34.5%)	5 (17.2%)	4 (13.8%)	2 (6.9%)	7 (24.1%)
quickly access online sales information.	1 (3.4%)	5 (17.2%)	7 (24.1%)	7 (24.1%)	1 (3.4%)	8 (27.6%)
quickly query specific sales information.	1 (3.4%)	4 (13.8%)	8 (27.6%)	7 (24.1%)	2 (6.9%)	7 (24.1%)
quickly search online sales data.	1 (3.4%)	2 (6.9%)	9 (31%)	8 (27.6%)	1 (3.4%)	8 (27.6%)

Staff's Use and Assessment of Standard and Custom New ISS's Data Reports

To explore the staff's awareness of the new ISS's capabilities and its ability to provide useful information regarding OMSI's audiences further, the survey asked the respondents several question regarding both the new ISS's data reports. These included two types of reports: 1) standard data reports, or reports that came with the ISS's purchase; and 2) custom data reports, reports custom ordered to meet OMSI's unique needs. Figure 7 indicates that staff were generally more familiar with the standard data reports. They also shared how frequently they generated or reviewed standard and custom data reports, which was more divergent. While nearly half (43.5%) of the staff reported generating or reviewing standard data reports on a daily basis, only 17.4% of staff similarly reported generating custom data reports on a *Daily basis*. The differences between the staff's assessment of the two types of reports, however, likely reflects the fact that the vendor was still in the process of completing several custom data reports at the time of data collection.

Figure 7. Staff's Awareness of Standard and Custom Data Reports

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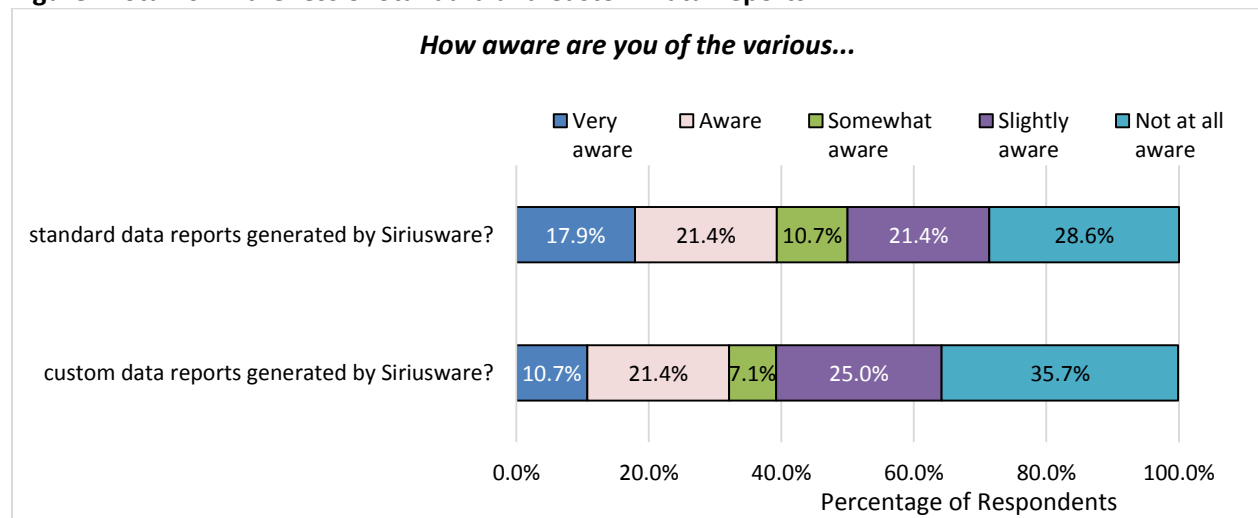
Figure 8. Frequency of Surveyed Staff's Generation of Standard and Custom Data Reports

On average during the completion of your OMSI tasks and responsibilities, how frequently do you generate or review...

Legend: ■ Daily   □ Weekly   ■ Every other week   ■ Monthly   ■ Every other month or less

standard Siriusware data reports?: 43.5% | 4.3% | 4.3% | 4.3% | 43.5%

custom Siriusware data reports?: 17.4% | 8.7% | 13.0% | 60.9%

Percentage of Respondents (0.0% – 100.0%)
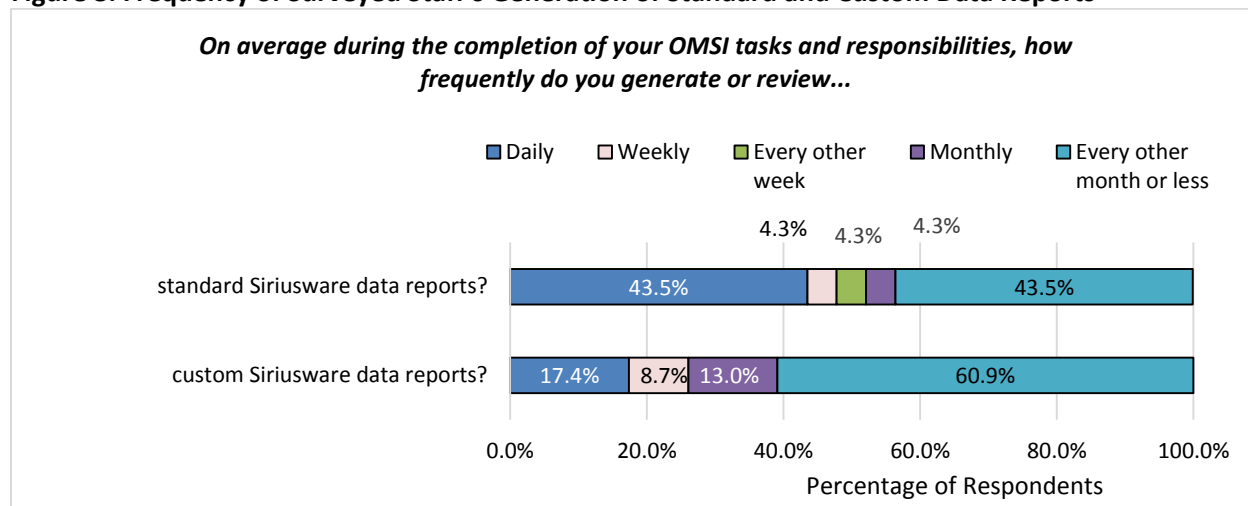
The survey further examined utility of the new ISS's data reports by asking staff to rate their agreement with three statements regarding the usefulness and organization of information collected and presented by the reports (see Figure 9). Staff's responses indicate the following:

- In general, staff reported a limited knowledge and or use of the reports. Approximately a quarter to nearly half of the respondents selected either *I do not know* or *N/A* when rating their agreement (this response is reflected in the graph not as an actual bar, but as the blank space between the end of the depicted responses and the "100%" demarcation line).

- Staff most positively assessed the usefulness of data reports regarding OMSI's sales.

- Staff were least likely to agree that data reports included well-organized information.

Figure 9. Staff's Assessment of the New ISS Data Reports' Insight into OMSI Operations

In general, the new ISS…

Legend: ■ Strongly agree   □ Agree   ■ Neither agree nor disagree   ■ Disagree   ■ Strongly disagree

generates useful reports regarding OMSI's operations (e.g. Daily Group Reports).: 10.3% | 34.5% | 3.4% | 3.4%

generates useful reports regarding OMSI's sales (e.g. Cash Out Reports, Period Sales Reports, etc.).: 3.4% | 27.6% | 17.2% | 3.4% | 3.4%

provides reports that include well organized information: 3.4% | 17.2% | 27.6% | 20.7% | 3.4%

Percentage of Respondents (0.0% – 100.0%)

Finally, 17 of the survey respondents provided qualitative insight into which of the data reports were most useful or informative, based on their experiences. An analysis of their open-ended answers identified five emergent themes. Table 14 presents each response theme in conjunction with examples

of associated comments. The feedback indicates that sales staff's use of audience related data is limited and generally perceived as outside of their purview.

Table 14. Surveyed Staff's Identification of Most Useful Data Reports

Response Category (n=17)	Frequency (# of Comments)	Example
Standard Sales Reports	7	• *The only report that I use is my sales report at the end of the day and that works well. Daily register sales. That's what I encounter most often.* • *All cash-out reports are useful to Guest Services and we use them daily. They fill our needs completely. We also use profit center reports, filtered by salesperson, to inform staff on their sales performance.*
Custom Data Reports	2	• *Several of the custom reports.*
Special Event Ticketing	3	• *Our department only uses* [the new ISS] *for ticket reporting only.*
Unknown	3	• *I don't know… I press buttons and take money and somehow this translates into data, which someone, somewhere most likely finds useful.*
Other	1	• *We have to run a lot of reports to get what we need. There are a ton of reports in report manager, but they only do very limited things. If I ever need to dig into a transaction, I have to run multiple reports to find the full story.*

Strategic Evaluation

Finally, the summative evaluation examined the project's strategic impact as well. This section of the report presents findings derived primarily from qualitative interview and focus group data.

Strategic Evaluation Questions	Summary of Results
Has the new ISS contributed to more targeted and efficient communications with community members?	• A third of surveyed staff reported that data or information collected by the new ISS was either *Very useful* or *Useful* to their effective communication with members and visitors. However, when asked to rate their agreement with four metrics regarding the new ISS's functions and efficient support of their visitor communications, the majority (half to two-thirds) of staff selected either *Neither agree nor disagree, I don't know,* or *N/A*. Furthermore, of the remaining staff disagreed than agreed with the statements. • Less than 10% of staff agreed that the new ISS allowed them to offer follow-up communications or information to customers efficiently. • Interview and focus group feedback further contextualized the survey feedback and indicated communication inefficiencies arose from the new ISS's limited compatibility with OMSI's email service. • Stakeholder focus group participants expect the completion of the custom ordered *Comprehensive Purchase Report* to mitigate shortcomings and serve as an important step in meeting this project objective. • While the new ISS's support of community communications could improve, the project has positively increased internal communications and contributed to the reduction of internal operations silos.

The New ISS's Support of Communication with Community Members

The summative evaluation collected data specific to this evaluation question via the staff survey, interviews, and stakeholder focus group discussion. The survey asked staff *"how useful is data or information collected by the* [new] *sales system to your (or your department's/sales team's) effective communication with members or visitors*." Figure 10 presents the percentage of surveyed staff respondents who selected each response.

Figure 10. Utility of ISS's Data for Effective Communication with Audiences

How useful is data or information collected by the new ISS sato your (or your department's/sales team's) effective communication with members/visitors?

7.1% — Very useful
25.0% — Useful
17.9% — Somewhat useful
14.3% — Slightly useful
3.6% — Not useful
32.1% — I don't know & N/A
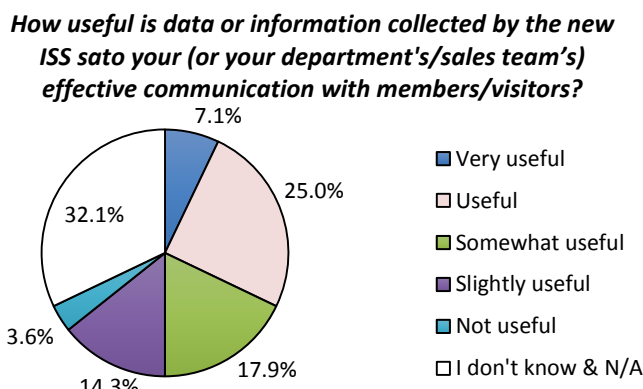
While half of the surveyed staff considered the information collected by the new ISS to be at least *Somewhat useful* for supporting their communication with customers, the survey also asked them to rate their agreement with four metrics regarding the efficiency and functionality of the new ISS's support of their communications with customers or visitors. Table 15 depicts the staff's responses and demonstrates:

- The majority of staff (half to two thirds) selected one of three responses when assessing each metric: *Neither agree nor disagree, I don't know,* or *N/A.*
- More staff disagree than agreed with these metrics.
- Staff most positively assessed the new ISS's support of their efficient in-person and effective digital communications with customers and visitors regarding transactions. They were least satisfied with the new ISS's support of their ability to send individual customers information.

Table 15. Surveyed Staff's Assessment of the New ISS's Support of Communications

The new ISS supports my...						
Survey Metrics (n=29)	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**	**I don't know & N/A**
efficient in-person communication with customers/visitors regarding transactions.	1 (3.6%)	5 (17.9%)	6 (21.4%)	6 (21.4%)	1 (3.6%)	9 (32.1%)
effective digital communication with customers/visitors regarding transactions.	2 (7.1%)	2 (7.1%)	7 (25.0%)	7 (25.0%)	1 (3.6%)	9 (32.1%)
ability to send a group of customers (e.g. participants of an event or one-day program) information regarding logistics updates, promotional information, renewal notifications, etc.	1 (3.6%)	2 (7.1%)	4 (14.3%)	4 (14.3%)	1 (3.6%)	16 (57.2%)
ability to send individual customers information (e.g. logistics updates, promotional information, renewal notifications, etc.).	0 (0.0%)	3 (10.7%)	8 (28.6%)	4 (14.3%)	1 (3.6%)	12 (42.9%)

Moreover, only two (less than 10%) of the staff respondents agreed that the new ISS allowed them to efficiently offer follow-up communications or information to customers as needed (see Figure 11).

Figure 11. Surveyed Staff's Assessment of The New ISS's Support of Follow-Up Customer Communications

The new ISS allows me to efficiently offer follow-up communications or information to customers as needed.

Legend:
- ■ Strongly agree
- ■ Agree
- ■ Neither agree nor disagree
- ■ Disagree
- ■ Strongly disagree
- □ N/A

Pie chart values: 3.4%, 3.4%, 31.0%, 24.1%, 3.4%, 34.5%
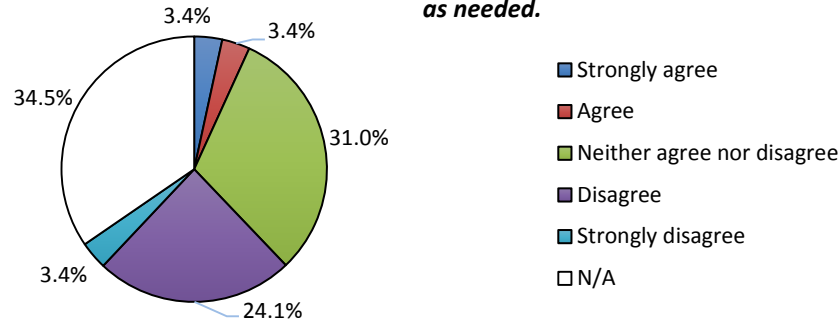
Qualitative interview and focus group data provided additional insight into the staff's survey feedback. The functional interviewees reported that there is currently a general interest in capturing emails across various points of sale (front desk, online, phone sales, etc.) and that there are efforts to enable sales teams to email receipts to customers. The internal evaluator also asked the focus group participants to describe how the new ISS has contributed to more targeted and efficient communication with community members. These evaluation participants reported that this outcome had yet to be achieved, but they and technical interviewees further clarified the limitations of this project object and provided important insight into aspects of the new ISS that likely prompted more negative survey feedback. They explained that currently staff are unable to email directly out of the new ISS. Instead, staff must manually transfer email addresses from the new ISS into the museum's existing email system often via Excel spreadsheets.

However, the focus group participants believed that the pending custom *Comprehensive Purchase Report* would serve as an important step towards meeting this goal. They shared that this report, which was the last custom report to be developed and was nearing completion at the time of the focus group, was designed to enable staff to send relevant information to, or conduct drip campaigns with, specifically targeted segments of OMSI's visitors. Although this report will not enable staff to email customers from the new ISS directly, it will support their efforts to create sub-sets of emails more efficiently.

The New ISS's Support of Internal Communication

While this quantitative and qualitative feedback indicates the new ISS has yet to reach its potential as an external communications tool, it nevertheless has contributed to improved internal communications. Figure 12 and 13 demonstrates that the new ISS supported a quarter of respondents' informed communications with other departments, although the efficient sharing of information between departments could improve.

Figure 12. Interdepartmental Communication   **Figure 13. Efficient Sharing of Information**

The new sale system's support of informed communication with staff in other OMSI departments.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- I don't know

In general, the new sales system shares information among OMSI departments and/or division.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- I do not know & N/A
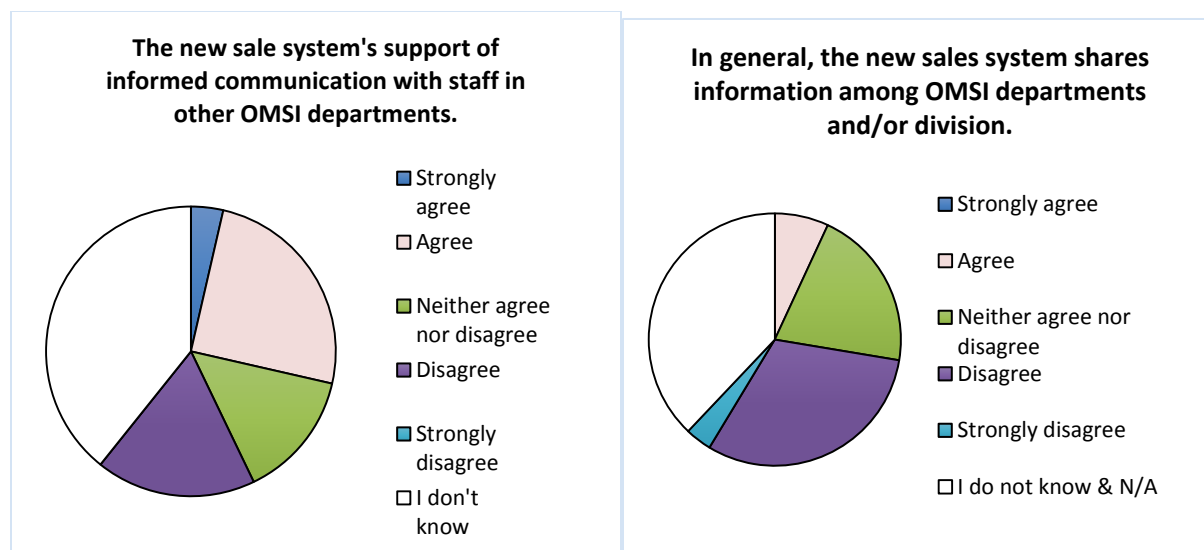
The internal stakeholder focus group participants provided examples of the positive impact of the project on the museum's internal communication capabilities as well. One participant shared that because of this project, several cross-function teams at OMSI now speak more frequently and are using "*the same language.*" Because of this project, numerous departments across the museum are also engaged in conversations regarding the museum's operational processes and technological assets. In the past, OMSI's various sales systems were "*run by just one person with some support from two other staff*," but the new ISS has prompted broad changes. Instead of IT making software and hardware changes, OMSI has applied broader conversations and more holistic thinking to the museum's point of sale software, email capture, pin and chip conversions, and potential to capture email addresses from credit card swipes. Through these discussions and contributions to the museum's "*shared knowledge*," the project has increased internal capacity, which is explored in more detail later in this report, and prompted an operational change that one focus group participant described as "*powerful*."

Strategic Evaluation Questions	Summary of Findings
Does the new ISS provide new insights about audiences? Has the new ISS contributed to developing a deeper understanding of people's motivations and needs?	• Frontline staff generally reported not spend time analyzing audience data and only on occasion would pull this information for Development or Finance department personnel. Instead, they primarily used their floor experiences as the basis for understanding audience interests and motivations. • A quarter to a third of surveyed staff considered data or information collected by the new ISS either *Very useful* or *Useful* to their ability to anticipate and be responsive to members'/visitors' needs and manage member/visitor relations. • Both technical interviewees and focus group participants reported that this question was difficult to assess accurately without the nearly completed custom data reports, which would be the mechanism through with OMSI captures critical data. • Three tangential related projects, which the *Building Infrastructure and Capacity for 21st Century Skills* project help to inform or inspire, enhanced OMSI's capacity to serve its audiences. These projects included a new commitment to systematically surveying all program customers, the review and refinement of OMSI's financial aid application and selection process, and the introduction of a net promoter score.

While the staff survey and interviews examined staff's ability to learn more about audiences using the new ISS, the evaluation also explored the degree to which the new ISS contributed to strategic insights regarding audiences and their motivations and needs. This aspect of the project's impact was largely outside of the purview of the functional interview and surveyed staff, although the evaluation did collect some feedback from these participants regarding this project focus.

Functional Staff's Perspectives on Audience Data & Its Utility

As indicated in previously presented survey feedback regarding the new ISS's data reports, the functional evaluation participants generally focused more on operational data provided by standard data reports like the Cash Out report. The functional interviewees further explained that occasionally other personnel from Development or Finance requested frontline staff, who are more familiar with new ISS's Report Manager program, to pull additional information regarding audience related data. However, frontline staff reported that they generally do not "*spend a lot of time*" analyzing collected audience data, and that they usually base their understanding of audience interests and motivations on personal observations from time spent on the museum's floor. However, it was noted that the new ISS, "*has a lot of different ways to crunch numbers or look at data in their reports; a lot of different points where data is captured; and standard reports do provide a lot of information.*"

Despite this limited review and analysis of audience data, a quarter to a third of surveyed staff considered data or information collected by the new ISS either *Very useful* or *Useful* to their ability to

anticipate and be responsive to members'/visitors' needs and mange member and visitor relations (see Table 16).

Table 16. Surveyed Staff's Assessment of Collected Data's Support of Member/Visitor Relations

How useful is data or information collected by the new ISS to your (or your department's/sales team's)…						
Survey Metrics (n=28)	**Very useful**	**Useful**	**Somewhat useful**	**Slightly useful**	**Not useful**	**I don't know & N/A**
ability to anticipate members'/visitors' needs?	2 (7.1%)	7 (25.0%)	1 (3.6%)	4 (14.3%)	2 (7.1%)	12 (42.9%)
ability to be responsive to members'/visitors' needs?	2 (7.1%)	6 (21.4%)	5 (17.9%)	4 (14.3%)	1 (3.6%)	10 (35.7%)
management of member/visitor relations?	2 (7.1%)	6 (21.4%)	4 (14.3%)	4 (14.3%)	2 (7.1%)	10 (35.7%)
ability to offer services or benefits that specifically target members'/visitors' interests?	1 (3.6%)	3 (10.7%)	6 (21.4%)	1 (3.6%)	2 (7.1%)	15 (53.5%)

Technical Interview and Focus Group Participants' Perspectives on Audience Data & Its Utility

The technical interviewees were able to provide greater insight into these evaluation questions. They shared that at the time of the summative evaluation's data collection, the vendor's development of a variety of custom data reports was nearing completion. Without these final deliverables, though, interviewees found it difficult to assess these questions accurately. Yet, one technical interviewee observed that the most positive gains had occurred with the traveling program delivery team's use of the CIS-Manager software and interface, which increased access to needed information and the speed to which this information could be accessed. Another improvement included OMSI's efforts to streamline its financial aid processes, which this section of the report discusses in more detail on the following page.

The internal stakeholder focus group participants, however, provided the most important feedback regarding of these questions. From the institutional perspective of the internal stakeholder focus group participants, OMSI had not yet achieved its objectives regarding its increased understanding of audiences' interests, motivations, and needs. However, they did note that the project had prompted the institution to move in a positive trajectory.

Like the technical interviewees, the focus group participants noted the importance of the soon to be completed custom data reports, which would serve the mechanism through which OMSI captures this critical audience data. Specifically, the participants cited the importance of the *Comprehensive Purchasing Report*, which will enable OMSI to "*slice the data*" through numerous filters and track trends within members' and audiences' visitation and donations.

Related Institutional Efforts

The *Building Infrastructure and Capacity for 21st Century Skills* project has also "*kicked off a lot of tangentially related*" efforts. The focus group participants explained that OMSI "*never would have looked at these areas, if it hadn't been for this project*." These areas included:

OMSI's Program Delivery Improvement Survey Project

- This separate but related project was OMSI's first attempt to use data to decide how it should implement programs, which programs should be implemented within various age groups, and when to implement projects.
- Through systematic surveying of customers, this project has allowed OMSI to start making decisions regarding what program offerings it will increase and decrease.
- If successfully implemented over time, the project will provide OMSI important information about how people are using the museum and areas where OMSI should cut or make continued investments.

Financial Aid Process Assessment & Improvement

- Because of the *Building Infrastructure and Capacity of 21st Century Skills* project, OMSI became aware of how highly inefficient and cumbersome the financial aid system had become. One technical interviewee even referred to it as "*byzantine*" because of the system's redundancies, lack of organization, and processes that had "*taken on a life of their own.*"
- Because of this project, OMSI has reviewed and streamlined its financial aid application and tracking system, which will help OMSI become more accessible.
- The process has also reexamined OMSI's rules and metrics for financial aid selections. The resulting updated financial aid process is now online and fully automated, which will eliminate request for applicants to manually complete and fax their paperwork to OMSI. It will also ensure OMSI's use of established guidelines during the selection process more effectively, which should reduce the risk of human bias within the rewarding process.

Introduction of a Net Promoter Score

- OMSI has committed to imbedding the standardized Net Promoter Score into numerous program surveys.
- These scores are metrics used to assess visitors' willingness to recommend or "promote" an institution.
- Both this project and the integration of the Net Prompter Score prompted OMSI's pursuit of a new grant opportunity to expand this effort, which OMSI was awarded at the end of March 2016.

Strategic Evaluation Questions	Summary of Findings
Does the new ISS provide access to new communities? Has the new ISS contributed to building the capacity of the organization to better serve the community?	• While the lack of mobile data and finalized custom data reports limited the degree to which OMSI could measure the new ISS's support of access and services to new and existing communities, efficiencies created by the new ISS resulted in positive gains. • The review and revision of the financial aid project will enable OMSI to more efficiently process and allocate its financial aid, thus expanding OMSI's services and community outreach. • The expansion of OMSI's Outbound Call Center has increased membership support and contributed to a 5% increase of membership sales. • The new ISS has enabled the Guest Services sales team to have increased ownership of OMSI's membership sales, which has allowed them to articulate more clearly the value and benefits of OMSI memberships to general visitors.

OMSI's understanding of the degree to which the ISS is reaching new communities was still limited at the time of data collection because of the lack of mobile data and finalized custom data reports, but the review of financial aid processes and an operational change demonstrated initial positive gains. As previously described in this report, the project enabled OMSI to become aware of inefficiencies within the financial aid application and selection process. The revisions of the processes are enabling OMSI to improve its efficiency and effectiveness in its financial aid awarding process and more targeted in its selection of worthy awardees, thus expanding OMSI's community service and outreach.

The efficiencies created by the new ISS also significantly reduced the workload of OMSI's previous Membership department to the point that retaining half of the department's staff was no longer tenable, given the reduction in work. Concurrent to this realization, OMSI was engaged in the development of a new 20-year vision and 5-year strategic plan. These two factors led OMSI to reorganize its sales departments and divisions and the incorporation the Membership department into OMSI's Outbound Call Center. While "*the retail division is essentially the same*," this organizational change resulted in a greater investment "*into [OMSI's] community outreach and communication*." Consequently, the Outbound Sales team has become stronger and capable of "*doing so much more*" than they could before this project, and this expanded capacity contributed to OMSI's 5% increase in membership sales.

According to one functional interviewee, this organizational and operational change has been "*huge,*" since it significantly increased that capacity of the Guest Services team as well. Because of the new ISS's implementation and reorganization, the Guest Services sales staff have become more responsible for OMSI's membership sales. This has reportedly increased their awareness of OMSI's various levels of membership tiers and related benefits; especially high level Corporate and President's Circle memberships. While the interviewees believed it was too early to determine whether these gains in awareness and knowledge will increase staff's ability to upsell memberships, they had observed that

their sales team's increased awareness, knowledge, and ownership of the membership database strengthened sales pitches and eased the sale of general memberships.

More importantly, the Guest Services team is also working more closely with and learning about OMSI's Development department, since "*there is now a need to work together in a way that* [they had not worked] *together before*." Because of the adoption of the new ISS and institutional reorganization of the sales departments, there is now "*a channel*" between the two departments, which is providing opportunities for "*face to face interactions*." The resulting relationship building has made Guest Services staff feel "*more comfortable talking to Development when questions arise*" and increased the visibility of how the Development department manages and maintains high-level membership relationships.

The staff survey explored this theme by asking the surveyed staff to assess the project's impact on their insight into their department's or sales team's operations and the operations of other departments. Figure 14 presents the percentage of respondents who selected each of the six provided responses, and demonstrates that half of the respondents agreed that they had gained useful insight into their own operations, while the new ISS enabled a third of the respondents to be more aware of broader museum operations as well.

Figure 14. Inter- and Cross-Departmental Operational Understanding
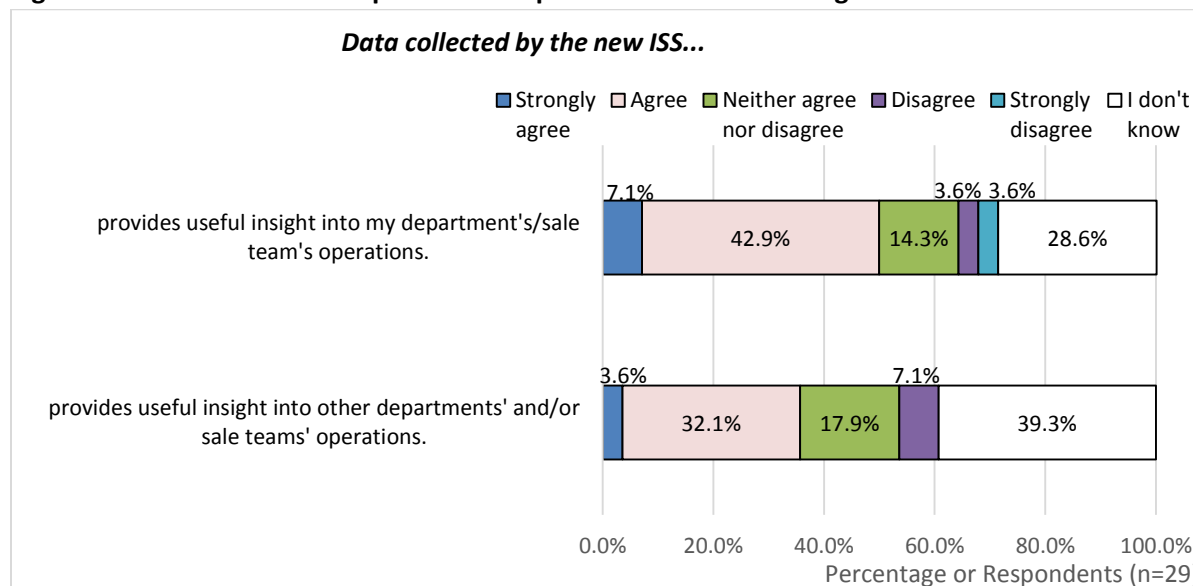
The stakeholder focus group participants similarly spoke to the project's impact on cross-functional teams. Their comments pertained to two topics. The first was that the project "*has brought together the teams in ways we hadn't predicted before, so there's been a strong working relationship forged between the database administration team, IT, visitor services, marketing,* [and] *retail.*" Consequently, this has "*been a project that's been cross functional by its very nature.*" The second was that this project has increased the museum's holistic view of operations, and there is now a "*better understanding of museum-wide needs*."

50

Strategic Evaluation Questions	Summary of Findings
How is data from the new ISS being used to support institutional goals?	• The focus group participants shared that the project contributed to OMSI's goals in three primary ways. The project helped inform the pillars of OMSI's Strategic plan, especially OMSI's Key Performance Indicators (KPIs); provided critical project experience and lessons learned that will support OMSI's completion of its five-year technology infrastructure framework; and it provided an assessment of staff's use of data-driven decision-making, the use of which is slowly being planned. • Although surveyed staff's use of data-driven decision making regarding audiences is limited, open-ended survey responses indicated that they are using data to support decision regarding staff performance, scheduling needs, and to support marketing activities.

The stakeholder focus group participants were the primary data source regarding this question. These participants shared that the *Building Infrastructure and Capacity for 21st Century Skills* project has contributed to OMSI's institutional goals in three key ways:

Informing Pillars of OMSI's Strategic Plan

- The project is "*helping to inform* [OMSI's] *high level outcomes,* [which] *are the pillars of the strategic plan."* As part of recent strategic planning activities, OMSI has also developed a series of Key Performance Indicators (KPIs), metrics use to assess institution's achievement of business and operational objectives, which the new ISS data will significantly inform. The KPIs will help OMSI to "identify benchmarks and set some explicit goals."

- A new project team, which will include various members of this project, will continue working to identify and implement strategies for embedding KPIs in the "*organization and make sure data analysis becomes a regular part of how* [OMSI does] *business."*

Five-year technology plan framework

- This project has prompted OMSI to develop and incorporate a technology plan framework into the institution's five-year budget plan.

- The project helped OMSI come to the realization that the institution was not ready to address many of its data needs, such as proper server and storage needs.

Data-Driven Decision Making

- This project "*has been an opportunity for* [OMSI] *to think more broadly about all of* [its] *data needs and the analysis it would require for us to make data-driven decisions, which I don't think we do now in a very systematic way*." However, because of this and related projects, the focus group participants were more concentrated on how OMSI would utilize data to inform decisions.

Increasing OMSI's capacity to utilize data-driven decision making within various levels of its operations was another critical strategy by which this project would advance institutional goals and enhance staff's 21st century skills. Therefore, the internal evaluator asked the functional interviewees to describe how they used the new ISS to inform their data-driven decision-making. Both interviewees reported marginal use, since they "*spend more time capturing data, rather than discussing where the data goes beyond general marketing.*" Similarly, the staff survey asked respondents, "*In what ways, if any, are you aware of your department or sales team using data-driven decision making (the collection and analysis of data to guide decisions) to inform your daily operations and planning?*"

Sixteen of the surveyed staff members provided responses. An analysis of the answers identified five response themes presented in Table 17. These responses indicate that staff generally utilized data to support decision making regarding staff performance, scheduling needs, and to support marking activities. However, six of these respondents reported minimal awareness of how their sale teams' utilized data-driven decision making, which demonstrates room for additional improvement

Table 17. Surveyed Staff's Use of the New ISS to Support Their Data-Driven Decision Making

Response Category (n=16)	Frequency (# of Comments)	Example
Unknown/Little Awareness	6	• *I am certain we are, but am not privy to such knowledge.* • *I know that my manager uses* [the new ISS] *to analyze sales, but I don't think that is something that I have ever used on a regular basis.*
Performance Trends	4	• *We look at employee sales to see what is being sold and by whom, looking for trends or patterns in staff behavior.*
Staffing/Scheduling	3	• *I know we can track previous sales performance on a special event and use that information to plan for staffing on future events.*
Marketing	3	• *Being able to track sales to my events lets me know if I need to increase advertising or if people really want to purchase tickets ahead of time.*
Do Not Use	1	• *As far as I know, we have not received much in the way of data from what has been collected in* [the new ISS]*, but if we were able to get certain data points, like participation, it could inform our communications, grant reporting, and donor segmentation projects.*

Verbal Consent

The data collected during this conversation will be used to better understand how the project has impacted OMSI's sales, related institutional operations, and identify lessons learned to support institutions interested in pursuing similar efforts. The focus group should take approximately 50 minutes to complete.

- Your participation is important, but also voluntary.
- You have the right to skip or not answer any question.
- Please remember that there are no right or wrong answers within this process.
- Not all questions may be relevant to your work within the project. If that is the case, please just let me know, and we'll move on to the next item.
- Taline is assisting me today by taking notes, and I would also like to record this discussion.
  - This would purely be to support my ability to focus on our conversation and efficient data analysis.
  - The recording, like all information shared today, will be confidential and stored in a secure and protected digital location accessible only to the evaluation team.
  - At any point in the conversation, we can stop the recorder.
    Do I have your permission to record this conversation?
- Finally, as often as possible, we will report on the themes of the responses provided by you and the other interviewees. Given the nature of this project, however, you or another interviewee may raise an important point that is not noted by others, which could be included in the results. Consequently, there is a risk that an item in the report may be attributable to you, but we will make all efforts to reduce this risk and ensure your anonymity by removing any identifiable information.
- Do you have any questions before we begin?

Questions

1. From your perspective, what aspects of this project's implementation have been most successful?

2. Similarly, what aspects of this project have been most challenging or least successful?

3. In what ways, if any, has the system contributed to more targeted and efficient communications with community members?

4. In what ways, if any, has the system contributed to more targeted and efficient communications internally?

5. In what ways, has the system provided new insights into our audiences or enabled a deeper understanding of their motivations and needs?

6. In what ways has the project increased OMSI's ability to better serve the community as an organization?

7. What efforts, if any, has the project made to bring new data-enabled analyses to OMSI's departments or cross-functional teams?
    - What positive benefits have you seen – or anticipate seeing – as a result of these new capabilities?

8. In what ways, if any, are you utilizing data from the new integrated sales system to support the advancement of OMSI's strategic plan and/or future institutional planning?

9. What have been the most important lessons learned throughout the course of this project?

10. If you were to offer advice to a colleague at another institution interested in a similar process, what would you say?

11. What do you think will be the next steps in OMSI's continued technology asset development, and how will the lessons learned from this project inform those plans?

Verbal Consent

These questions are about your experiences as a user of the new integrated sale system at OMSI. The data collected during this conversation will be used to better understand how the project has impacted OMSI's sales, related institutional operations, and identify lessons learned to support institutions interested in pursuing similar efforts. The interview should take approximately 45 minutes to complete.

- Your participation is important, but also voluntary.
- You have the right to skip or not answer any question.
- Please remember that there are no right or wrong answers within this process.
- Not all questions may be relevant to your work within the project. If that is the case, please just let me know, and we'll move on to the next item.
- Taline is assisting me today by taking notes, and I would also like to recording this discussion.
  - This would purely be to support my ability to focus on our conversation and efficient data analysis.
  - The recording, like all information shared today, will be confidential and stored in a secure and protected digital location accessible only to the evaluation team.
  - At any point in the conversation, we can stop the recorder.
    Do I have your permission to record this conversation?
- Finally, as often as possible, we will report on the themes of the responses provided by you and the other interviewees. Given the nature of this project, however, you or another interviewee may raise an important point that is not noted by others, which could be included in the results. Consequently, there is a risk that an item in the report may be attributable to you, but we will make all efforts to reduce this risk and ensure your anonymity by removing any identifiable information.
- Do you have any questions before we begin?

Questions
1. What is your role at OMSI?

2. Please describe your awareness of the project and its efforts to integrate OMSI's new integrated sales systems. *(a.k.a. assess their history with this project and whether they were at OMSI prior to the project's implementation).*

3. In what ways has the introduction of the new integrated sales system impacted (positively or negatively) daily operations in your department?
   - General sales
   - Integration of online sales
   - Introduction of mobile sales

4. What aspects or functions of the new integrated sales system do you think are most useful; why?

5. Please describe what efforts OMSI has made to help you and other staff members understand the various things that can be done with the new integrated sales system?

6. Please describe what efforts OMSI has made to help you and other staff members become more aware of audience related data collected by the new integrated sales system?

7. In what ways, if any, do you and other staff members use customer data collected by the new integrated sales system to improve communications with OMSI's audiences?
    - In what ways could this aspect of the system's use be improved in the future?
    - If they don't → what information would be useful?

8. In what ways, if any, do you and other staff members use customer data collected by the new integrated sales system to better understand and target the interests, motivations, or needs of OMSI's audiences?
    - In what ways could this aspect of the system's use be improved in the future?
    - If they don't → what information would be useful?

9. In what ways, if any, has the new integrated sales system provided information to support the achievement of your sales team's goals?

10. In what ways, if any, has the integration of OMSI's sales systems increased your awareness or understanding of sales activities in other departments or divisions?

11. In what ways, if any, has the integration of OMSI's sales systems increased your awareness or understanding of the museum's broader institutional sales goals or initiatives?

12. (*The interviewer will ask the following question, if the interviewee experienced the previous sales systems*) In comparison to the previous system, in what ways, if any, does the new integrated sales system allow you to know or learn more about OMSI's audiences?

13. With what aspects of the new integrated sales system are you most satisfied; why?

14. With what aspects of the new integrated sales system are you least satisfied; why?

15. Do you have any additional feedback or comments that you would like to share regarding this project and OMSI integration of its sales systems?

Verbal Consent

The data collected during this conversation will be used to better understand how the project has impacted OMSI's sales, related institutional operations, and identify lessons learned to support institutions interested in pursuing similar efforts. The focus group should take approximately 50 minutes to complete.

- Your participation is important, but also voluntary.
- You have the right to skip or not answer any question.
- Please remember that there are no right or wrong answers within this process.
- Not all questions may be relevant to your work within the project. If that is the case, please just let me know, and we'll move on to the next item.
- Taline is assisting me today by taking notes, and I would also like to record this discussion.
  - This would purely be to support my ability to focus on our conversation and efficient data analysis.
  - The recording, like all information shared today, will be confidential and stored in a secure and protected digital location accessible only to the evaluation team.
  - At any point in the conversation, we can also stop the recorder.
    Do I have your permission to record this conversation?
- Finally, as often as possible, we will report on the themes of the responses provided by you and the other interviewees. Given the nature of this project, however, you or another interviewee may raise an important point that is not noted by others, which could be included in the results. Consequently, there is a risk that an item in the report may be attributable to you, but we will make all efforts to reduce this risk and ensure your anonymity by removing any identifiable information.
- Do you have any questions before we begin?

Questions

1. From your perspective, what aspects of this project's implementation have been most successful?

2. Similarly, what aspects of this project have been most challenging or least successful?

3. In what ways, if any, has the system contributed to more targeted and efficient communications with community members?

4. In what ways, if any, has the system contributed to more targeted and efficient communications internally?

5. In what ways, has the system provided new insights into our audiences or enabled a deeper understanding of their motivations and needs?

6. In what ways has the project increased OMSI's ability to better serve the community as an organization?

7. What efforts, if any, has the project made to bring new data-enabled analyses to OMSI's departments or cross-functional teams?
   - What positive benefits have you seen – or anticipate seeing – as a result of these new capabilities?

8. In what ways, if any, are you utilizing data from the new integrated sales system to support the advancement of OMSI's strategic plan and/or future institutional planning?

9. What have been the most important lessons learned throughout the course of this project?

10. If you were to offer advice to a colleague at another institution interested in a similar process, what would you say?

11. What do you think will be the next steps in OMSI's continued technology asset development, and how will the lessons learned from this project inform those plans?

Dear OMSI Staff and Volunteers,

Through the financial support of the Institute of Museum and Library Services (IMLS), OMSI has pursued and nearly completed a major technology upgrade via the purchase, configuration, and customization of a new integrated sales system (ISS). The transition to this new system has integrated various points of sale in the museum's operations in order to increase OMSI's internal capacity, efficient and effective sales efforts, and data-driven decision making.

This approximately 15-minute long survey is designed specifically to gather information regarding your use of the new ISS. By completing this survey, you will provide critical information regarding how the introduction of the new ISS has effected the museum's operations. While your completion of this survey is not mandatory, we encourage you to participate as it will enable OMSI to demonstrate this project's impact to its IMLS funders, help inform future improvements to our operations and technology acquisitions, and provide useful recommendations to other museums or science centers interested in pursuing similar projects.

To support your candid feedback, this is an anonymous survey and only non-identifiable information will be shared or disseminated. If you have any questions regarding this survey, please feel free to contact me at sweiss@omsi.edu.

Thank you for your willingness to participate and provide valuable feedback!

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1) How long have you worked at OMSI?

○ Less than a year

○ 1 to 2 years

○ 3 to 5 years

○ 6 to 10 years

○ 11 to 15 years

○ Over 15 years

2) In which sector of the museum's operations do you work?

○ Guest Services

○ Inbound Sales

○ Outbound Sales

○ Events

○ Finance

○ Development

3) Which of the following most accurately describes your position at OMSI?

○ Full time employee

○ Part time employee

○ On-call employee

○ Volunteer

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4) Does your position include the management or supervision of other OMSI staff?

○ Yes

○ No

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5) Prior to taking this survey, how aware were you of OMSI's recent efforts to transition to the new software and integrate its sales systems?

○ I have been an active participant in the integration process.

○ I have discussed it at length.

○ I have heard of it and am aware of what is happening.

○ I have heard of it, but am unaware of what is happening.

○ I have not heard about this.

Comments:

6) Which, if any, of the following project phases have you been involved in? Please select all that apply.

☐ OMSI's selection of the new ISS (Dec 2013 – Mar 2014)

☐ OMSI's planning for the new ISS/business process review (Apr-May 2014)

☐ OMSI's configuration of the new ISS (Jun – Sept 2014)

☐ OMSI's rollout of the new ISS (Oct 2014 – Jun 2015)

☐ OMSI's customization of the new ISS (Jul 2015 - present)

Comments:

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7) Who provided your initial ISS training?

○ Vendor representatives

○ Vendor PDF documentation

○ An OMSI staff member

○ I don't remember/I am unsure

○ I have not received ISS training

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8) Please rate your agreement with the following statements regarding your initial ISS training.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
The training included clear instructions regarding how to use the new ISS.	☐	☐	☐	☐	☐	☐
The training provided clear explanations of the system's various functions.	☐	☐	☐	☐	☐	☐
The training provided the background needed to successfully accomplish my position's tasks and responsibilities.	☐	☐	☐	☐	☐	☐
The training provided clear explanations of the sales items (camps, ticketing, membership sales, online sales, etc.) used by my department or sales team.	☐	☐	☐	☐	☐	☐
The training introduced various data reports generated by the new ISS.	☐	☐	☐	☐	☐	☐
The training shared useful reference materials.	☐	☐	☐	☐	☐	☐
The training included an introduction to the new ISS sales items used by other OMSI departments or sales teams.	☐	☐	☐	☐	☐	☐
The training incorporated useful training tools.	☐	☐	☐	☐	☐	☐
The training was efficient.	☐	☐	☐	☐	☐	☐
My trainer clearly answered my questions.	☐	☐	☐	☐	☐	☐

9) What about your ISS training(s) was most useful?

10) What about your ISS training(s) would you change or improve in the future?

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11) Who most frequently provides your continued ISS support?

○ Vendor support staff

○ Vendor PDF documentation

○ An OMSI staff member (supervisor, project lead, etc.)

○ I'm unsure

○ I have not needed additional support

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12) During the completion of your daily tasks and responsibilities, how often do you use the new ISS?

○ Always or almost always

○ Often

○ Occasionally

○ Rarely

○ Never

Comments:

13) Please rate your familiarity with each of the following sales items.

	Very familiar	**Familiar**	**Somewhat familiar**	**Slightly familiar**	**Unfamiliar**
Museum Admissions	☐	☐	☐	☐	☐
Memberships	☐	☐	☐	☐	☐
Empirical Theater Ticketing	☐	☐	☐	☐	☐
Planetarium Show Ticketing	☐	☐	☐	☐	☐
Sub Tours	☐	☐	☐	☐	☐
Programs	☐	☐	☐	☐	☐
Classes	☐	☐	☐	☐	☐
Camps	☐	☐	☐	☐	☐
Special Events	☐	☐	☐	☐	☐
Merchandise	☐	☐	☐	☐	☐

Comments:

14) Please rate your familiarity with each of the following sales configurations.

	Very familiar	Familiar	Somewhat familiar	Slightly familiar	Unfamiliar
Museum Admissions	☐	☐	☐	☐	☐
Memberships	☐	☐	☐	☐	☐
Empirical Theater Ticketing	☐	☐	☐	☐	☐
Planetarium Show Ticketing	☐	☐	☐	☐	☐
Sub Tours	☐	☐	☐	☐	☐
Programs	☐	☐	☐	☐	☐
Classes	☐	☐	☐	☐	☐
Camps	☐	☐	☐	☐	☐
Special Events	☐	☐	☐	☐	☐
Merchandise	☐	☐	☐	☐	☐

Comments:

*15) Please rate your agreement with the following statements, "*In general, the new ISS…*"*

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I do not know	N/A
is easy to navigate.	☐	☐	☐	☐	☐	☐	☐
is intuitive.	☐	☐	☐	☐	☐	☐	☐
is designed to complete transaction in a timely manner.	☐	☐	☐	☐	☐	☐	☐
offers a streamlined transaction process.	☐	☐	☐	☐	☐	☐	☐
supports the efficient completion of tasks related to my position.	☐	☐	☐	☐	☐	☐	☐
enables flexible customization (e.g. start dates, times, etc.).	☐	☐	☐	☐	☐	☐	☐
provides easy access to OMSI schedules (e.g. show, event, or program times).	☐	☐	☐	☐	☐	☐	☐
generates a useful member profile.	☐	☐	☐	☐	☐	☐	☐
collects useful data or information regarding members' or visitors' transactions at OMSI.	☐	☐	☐	☐	☐	☐	☐
collects useful data or information regarding members' or visitors' interests in various OMSI offerings (e.g. camps, classes, exhibits, etc.).	☐	☐	☐	☐	☐	☐	☐

generates useful reports regarding OMSI's operations (e.g. Daily Group Reports).	☐	☐	☐	☐	☐	☐	☐
generates useful reports regarding OMSI's sales (e.g. Cash Out Reports, Period Sales Reports, etc.).	☐	☐	☐	☐	☐	☐	☐
provides reports that include well organized information	☐	☐	☐	☐	☐	☐	☐
efficiently shares information among OMSI departments and/or division.	☐	☐	☐	☐	☐	☐	☐

Comments:

16) Please rate your agreement with the following statements. "The new ISS allows me to…"

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	N/A
efficiently apply discounts or other promotional offers (e.g. coupons, $2 Days, multi-child or multi-class enrollment, early bird specials, etc.).	☐	☐	☐	☐	☐	☐
offer visitors multiple payment options (e.g. cash, credit, and/or check).	☐	☐	☐	☐	☐	☐
efficiently manage financial aid.	☐	☐	☐	☐	☐	☐
efficiently apply combo pricing.	☐	☐	☐	☐	☐	☐
quickly access relevant customer information.	☐	☐	☐	☐	☐	☐
quickly query specific sales information.	☐	☐	☐	☐	☐	☐
quickly access member profiles or information.	☐	☐	☐	☐	☐	☐
efficiently manage customer receipts or invoices.	☐	☐	☐	☐	☐	☐
quickly access online sales information.	☐	☐	☐	☐	☐	☐
quickly search online sales data.	☐	☐	☐	☐	☐	☐
efficiently process refunds.	☐	☐	☐	☐	☐	☐
provide customer service resolutions (discounts, etc.) when necessary.	☐	☐	☐	☐	☐	☐
efficiently offer follow-up communications or information to	☐	☐	☐	☐	☐	☐

customers as needed.						

Comments:

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17) In general, what features/capabilities of the new ISS are most functional or easy to use? Please explain your answer.

18) What features/capabilities of the new ISS are most useful for your department or sales team? Please explain your answer.

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19) In general, what features/capabilities of the new ISS are least functional or hardest to use? Please explain your answer.

20) In what ways, if at all, would you change the features/capabilities of the new ISS in the future? Please explain your answer.

21) How useful is data or information collected by the new ISS to your (or your department's/sales team's)…

	Very useful	**Useful**	**Somewhat useful**	**Slightly useful**	**Not useful**	**I don't know**	**N/A**
daily operations?	☐	☐	☐	☐	☐	☐	☐
ability to anticipate members'/visitors' needs?	☐	☐	☐	☐	☐	☐	☐
ability to be responsive to members'/visitors' needs?	☐	☐	☐	☐	☐	☐	☐
effective communication with members/visitors?	☐	☐	☐	☐	☐	☐	☐
tracking of relevant member information (e.g. length of membership, membership level, previous program/event attendance, etc.)?	☐	☐	☐	☐	☐	☐	☐
tracking of past participants' registrations?	☐	☐	☐	☐	☐	☐	☐
tracking of customer accounts (e.g. schools)?	☐	☐	☐	☐	☐	☐	☐
ability to offer services or benefits that specifically target members'/visitors' interests?	☐	☐	☐	☐	☐	☐	☐
management of member/visitor relations?	☐	☐	☐	☐	☐	☐	☐
ability to offer high-quality customer services?	☐	☐	☐	☐	☐	☐	☐

Comments:

22) Please rate your agreement with the following statements: "Data collected by the new ISS..."

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I don't know
provides useful insight into my department's/sale team's operations.	☐	☐	☐	☐	☐	☐
provides useful insight into other departments' and/or sale teams' operations.	☐	☐	☐	☐	☐	☐
supports informed communication with staff in other OMSI departments.	☐	☐	☐	☐	☐	☐

Comments:

*23) Please rate your agreement with the following statements, "*The new ISS supports my..."

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	I don't know	N/A
efficient in-person communication with customers/visitors regarding transactions.	☐	☐	☐	☐	☐	☐	☐
effective digital communication with customers/visitors regarding transactions.	☐	☐	☐	☐	☐	☐	☐
ability to send individual customers information (e.g. logistics updates, promotional information, renewal notifications, etc.).	☐	☐	☐	☐	☐	☐	☐
ability to send a group of customers (e.g. participants of an event or one-day program) information regarding logistics updates, promotional information, renewal notifications, etc.	☐	☐	☐	☐	☐	☐	☐
ability to cross-sell, cross-promote, or up-sell.	☐	☐	☐	☐	☐	☐	☐

Comments:

24) In what ways, if any, are you aware of your department or sales team using data-driven decision making (the collection and analysis of data to guide decisions) to inform your daily operations and planning?

25) How aware are you of the various...

	Very aware	Aware	Somewhat aware	Slightly aware	Not at all aware
standard data reports generated by the new ISS?	☐	☐	☐	☐	☐
custom data reports generated by the new ISS?	☐	☐	☐	☐	☐

26) On average during the completion of your OMSI tasks and responsibilities, how frequently do you generate or review...

	Daily	Weekly	Every other week	Monthly	Every other month or less
standard data reports?	☐	☐	☐	☐	☐
custom data reports?	☐	☐	☐	☐	☐

27) Based on your experiences, what ISS reports are most useful or informative? Please explain your answer.

Thank You!