

DoIT User Survey Data Analysis: 2013-2015

Introduction

For the past three years (2013-2015), DoIT has deployed a user survey to assess the importance of different technologies for campus users. This analysis explores some of the trends in the data and highlights noteworthy findings.

Methodologies

There are two primary components of this analysis: a quantitative examination of survey item responses and a qualitative assessment of supplementary comments. The data for this analysis are extracted from the 2013-2015 *DoIT User Survey* deployments. The questions for the survey, with slight modifications, have remained intact across this three-year period.^{vii} The data were downloaded from Qualtrics and collated by question in Excel. The quantitative data were then imported into Stata for coding. Dichotomous variables were generated for relevant nominal groupings. NVivo was used for coding and analyzing respondents' qualitative responses. These data provide additional context for interpreting the quantitative trends.

The survey includes two types of quantitative questions^{viii}: One set measuring the level of satisfaction with and *importance* of a given technology service, and a second set of questions within the same block eliciting feedback on the *delivery* of those services (i.e., "How Are We Doing?"). Items were Likert scales.^{ix} Mean values were disaggregated and compared across years and roles (i.e., student, staff, and faculty).^x Observations with null values for all importance and delivery items were dropped (n = 39). Cronbach's alpha for the importance and delivery question sets showed internal consistency of .95 and .96, respectively.^{xi}

Due to a low number of responses to the 2014 survey deployment, the data are grouped as pre-2015 and 2015. A gap analysis was then performed to assess the importance of technology service and users' satisfaction with them, with 2015 compared to the prior two years.

Results

There have been approximately 1000 respondents over the past three years of survey deployment. As *Table 1* illustrates, faculty members, on average, reply to the survey at a slightly lower rate than do students and staff. Additionally, there was a significant drop-off in survey participation in 2014, which is attributable to the methodologies of that year's deployment.

Table 1: DoIT User Survey Responses, by Role, Pre-2015 & 2015

Year	Student		Faculty		Staff		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Pre-2015	177	32%	154	27%	230	41%	561	59%
2015	165	42%	92	23%	138	35%	395	41%
Total	342	36%	246	26%	368	38%	956	100%

The data show that overall respondent impression of the importance and delivery of technology has remained about the same across time. As *Figure 1* illustrates, there has been a modest, statistically significant reduction in user cumulative valuation of the importance of the technologies assessed by the survey items.

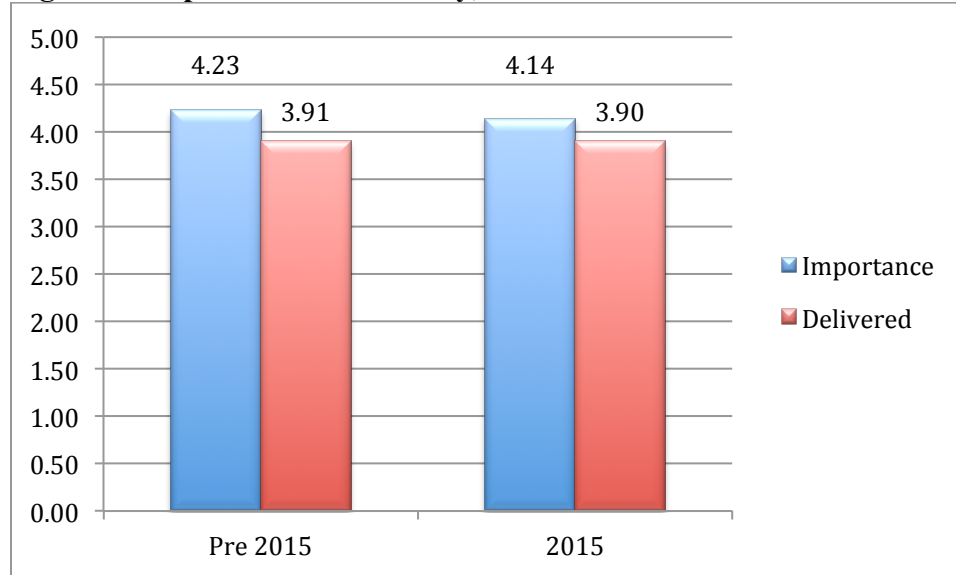
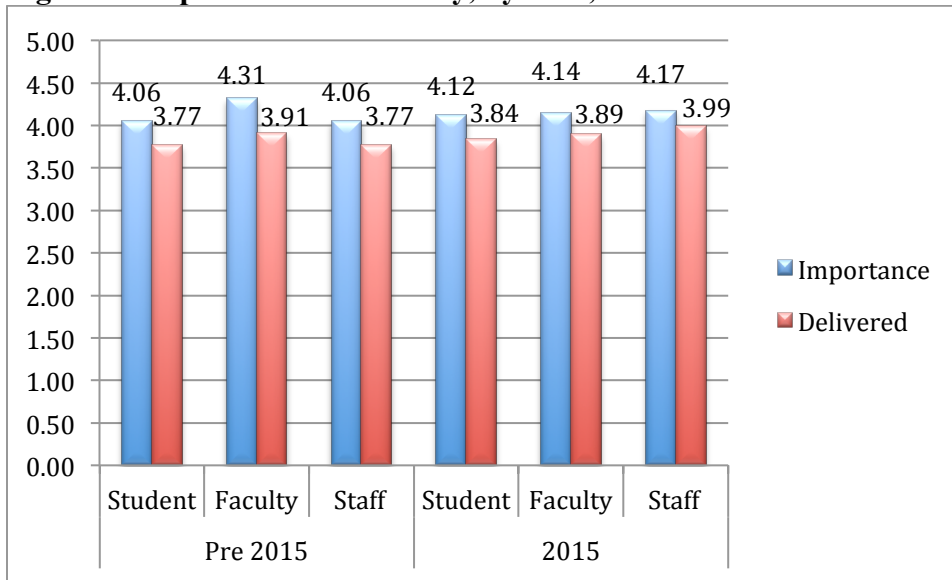
Figure 1: Importance vs. Delivery, Pre-2015 & 2015

Figure 1 shows that overall DoIT is meeting user expectations for the technology tools and services surveyed. If we consider users' responses related to importance and delivery as points earned out of points available, the 2015 success rate for meeting users' needs is 94%.^{xii}

Some survey respondents had positive comments regarding the help available for DoIT-supported tools. One user, for example, noted appreciation for the dynamic service they believe the university provides: "[the] RT ticketing system is a great example of where DoIT has made great efforts to educate, generate value & continuous enhance of the system - it has paid off tremendously." However, some users expressed concern about a perceived lack of FAQ breadth and depth and the general usability of RT. As to the latter, multiple users expressed the opinion that they perceived RT as a black box, where the support provider is effectively anonymous and therefore accountability and progress tracking can be frustrating. Additionally, respondents noted the quality of service they received could vary widely (e.g., response time).

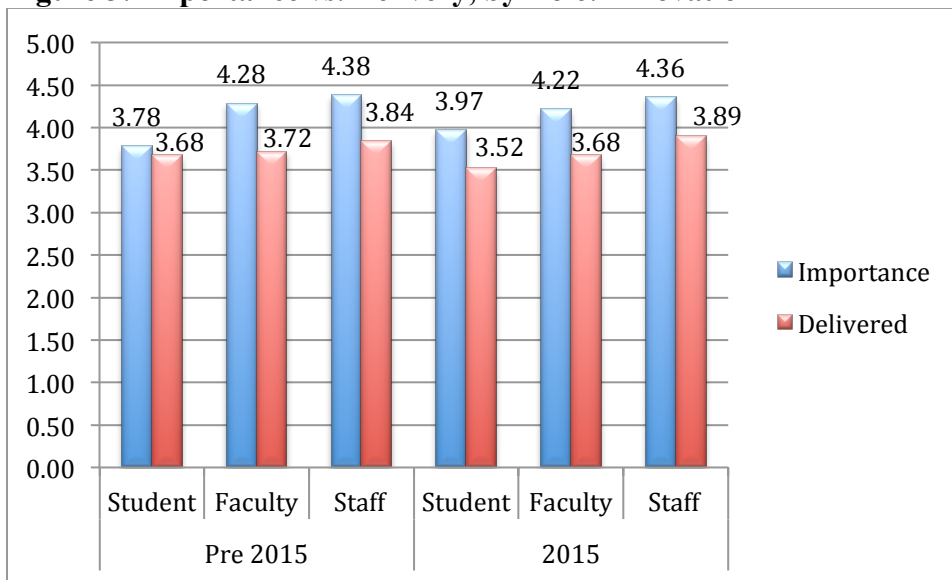
Further disaggregation of the data to consider respondents' roles illustrates that the reduction in *Figure 1* importance levels can be attributed to faculty responses. *Figure 2* shows that student and staff endorsement of technology importance actually increased between these two time periods.

Figure 2: Importance vs. Delivery, by Role, Pre-2015 & 2015



The data show that respondents generally rate the importance of technologies greater than their delivery. *Figure 3* examines user feedback on DoIT’s development of innovative technology solutions as a specific example of this divergence.

Figure 3: Importance vs. Delivery, by Role: Innovation



As with *Figure 2*, *Figure 3* shows a gap between users’ expectations and the delivery of the technology. In this case, we see variation across the two time periods and between the groups. Notably, the 2015 importance mean for this variable was 4.41 and the delivered mean was 4.07, both of which are >80% on a 5-point scale. In turn, the success rate for meeting users’ expectations for providing innovative services is 92%.

Figure 4 illustrates that this divergence varies slightly depending on the respondent’s role. Students tend to value the importance and delivery of technologies lower than faculty and staff.

Figure 4: Importance vs. Delivery, by Role

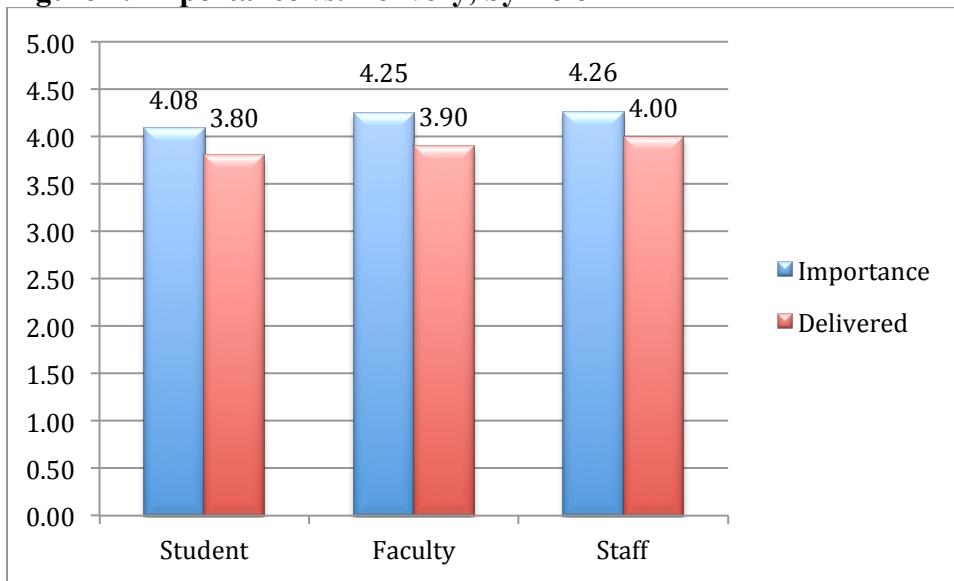


Figure 4 also illustrates that faculty demonstrate a slightly larger gap between importance and delivery compared with students and staff.

Individual technology items were also evaluated based upon respondent role and survey deployment year. Of particular relevance are the response related to Blackboard. The data depicted in Figure 5 show similar responses with modest variance across time and groups.

Figure 5: Blackboard: Importance vs. Delivery, by Role, Pre-2015 & 2015

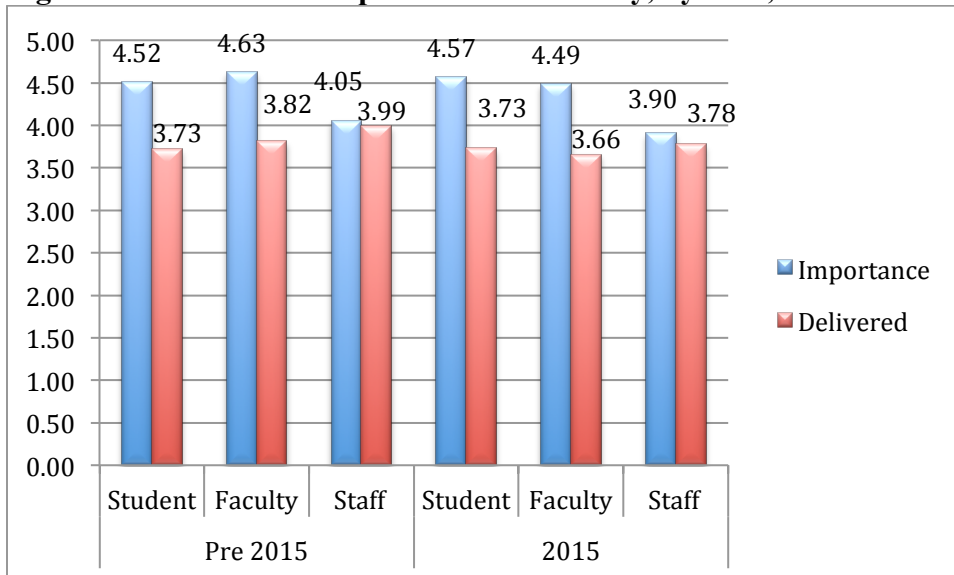
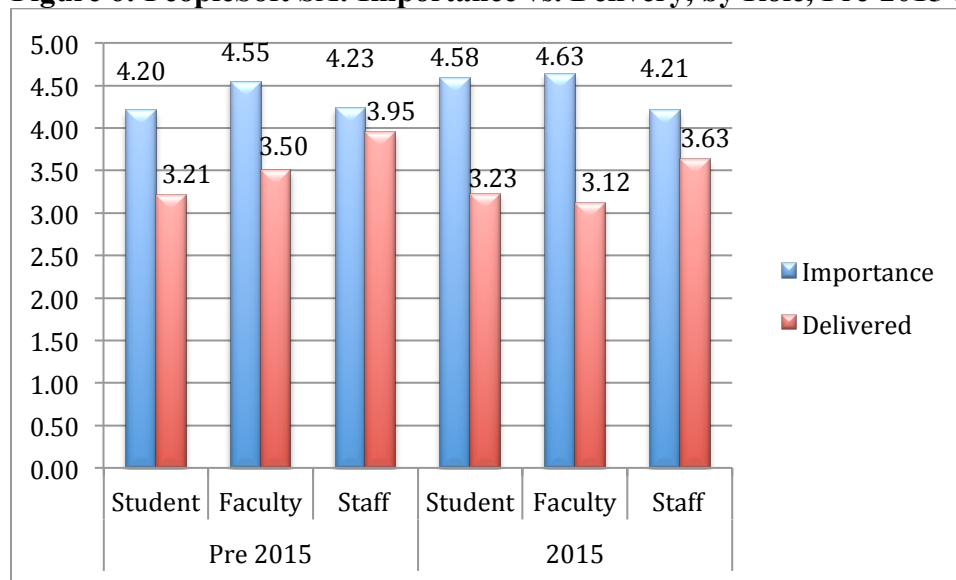


Figure 5 illustrates the ongoing need to manage both students' and faculty members' expectations of Blackboard. Staff members, who may have less practical use for this tool, tend to have only a modest gap between their valuation of the importance and delivery of these technologies. Although historically users' sentiment related to Blackboard has been expressed in strong, negative language, the most recent survey's qualitative responses lacked the same tone of years past and tended toward interface questions and usability concerns. In fact, one student during the 2015 deployment offered a notable suggestion: "I think it should be required that all professors have to post grades to Blackboard.... This would be extremely helpful to the campus community." This quote illustrates student interest in having access to their grades within Blackboard throughout the term, which might help them track their academic progress and potentially improve their self-efficacy and is an effective practice that has been supported in the literature for several years (Caruso & Salaway, 2007; Salaway & Caruso, 2008).

Of all the data, the greatest difference between importance and delivered values was for faculty and students' perceptions related to PeopleSoft Student Administration. The gap between these values for 2015 was more than two times the standard deviation for all differences (i.e., $\sigma = .68$).

Figure 6: PeopleSoft SA: Importance vs. Delivery, by Role, Pre-2015 & 2015

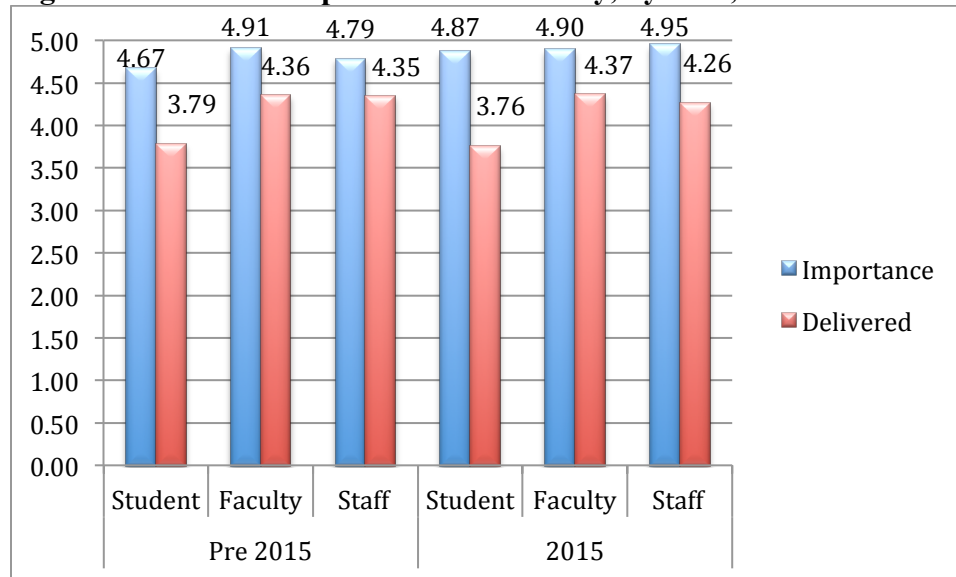


The data illustrated in *Figure 6* demonstrate there is a large gap between importance and delivery when considering faculty and students' perceptions of SA, specifically as measured by the 2015 survey deployment. The success rates for meeting student and faculty SA needs in 2015 were 67% and 71%, respectively. These values are lower than we would expect from students to demonstrate content proficiency in many academic contexts.

Additionally, some of the most heated language from respondents was related to PeopleSoft in general. From this year's deployment, one staff member contributed "I hate all things about People Soft [sic]... I can never use it properly and always am having issues." Similarly, a student volunteered, "It's time for peoplesoft [sic] to be put down."

It is also worth noting that the importance/delivery gap for students' perceptions of network access was statistically different in 2015 when compared with faculty and staff. *Figure 7* shows that although the delivery of network access has remained relatively stagnant, the importance of this service has increased.

Figure 7: Network: Importance vs. Delivery, by Role, Pre-2015 & 2015



Some students who provided additional feedback regarding the campus Wi-Fi network characterize it as spotty and unreliable. They highlighted trouble accessing the networks in specific location and as proximity to campus buildings is reduced (e.g., when walking across campus; in parking lots).

Conclusion

The data provide an improved understanding of faculty, student, and staff perceptions of technology importance and the extent to which DoIT is fulfilling these needs. Historic inter and intra-group variance is modest. Major changes in Blackboard's migration to managed hosting have been met with no outstanding user changes in perception. Faculty and students do seem to have indicated a gap in their service needs related to PeopleSoft in general, and SA in particular. User comments support these conclusions and provide additional dimension to the quantitative findings. All of these data should, however, be judged with caution given the relatively low response rates historically, which may bias the data.

Reference

- Caruso, J., & Salaway, G. (2007). *The ECAR study of undergraduate students and information technology, 2007, Key Findings*. (pp. 1–15). Educause Center for Applied Research. Retrieved from <https://net.educause.edu/ir/library/pdf/ers0706/ekf0706.pdf>
- Salaway, G., & Caruso, J. (2008). *The ECAR study of undergraduate students and information technology, 2008, Key Findings*. Educause Center for Applied Research. Retrieved from <https://net.educause.edu/ir/library/pdf/ekf/EKF0808.pdf>
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford: Oxford University Press.

^{vii} Although these data include three measures of the same outcome, there is no indicator that they change systematically over time, which is a necessary characteristic of longitudinal data (Singer & Willett, 2003). However, since there is no specific treatment or intervention to assess, this analysis is exploratory and descriptive rather than confirmatory or predictive in nature.

^{viii} The qualitative feedback will be assessed in a subsequent analysis.

^{ix} I.e., 1 = “Not good”; 5 = “Very Good”; 6 = “N/A.” N/A responses were coded as null values

^x Typically, ordinal variables cannot be analyzed through parametric models. The average of “gold medal” and a “bronze medal”, for example, is not “silver medal.” In considering Olympic success, we might consider non-parametric attributes, such as frequencies and percentages, or data could be grouped into binary groupings for logistic modeling. However, the average of “2” and “4” on a Likert scale of 1-5 can be interpreted as having an interval ratio level of measurement for the mean comparisons (e.g., OLS regression).

^{xi} One variable was dropped from each set due to low number of observations negatively impacting the inter-item covariance.

^{xii} I.e., (3.90/4.14)