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## **ROI CASE STUDY SPSS TRUCKEE MEADOWS COMMUNITY COLLEGE**

### **THE BOTTOM LINE**

**Truckee Meadows Community College used SPSS Predictive Analytics (SPSS Statistics and SPSS Custom Tables) software to better predict future student enrollment and fill its class schedule to avoid the loss of tuition revenue. Using SPSS the college was able to further analyze its operations without adding research staff.**

**ROI: 691%**

**Payback: 2 months**

### **THE COMPANY**

Truckee Meadows Community College, based in Reno, Nevada, serves 12,700 students in its five campus sites. Its total budget for 2007 was \$62 million, and it employs 184 full-time and 481 part-time faculty members. It offers 50 different educational programs covering the liberal arts, business administration, and vocational training. It has been ranked as one of the nation's 50 top growing community colleges serving student bodies of 10,000 or more.

### **THE CHALLENGE**

Like many other educational institutions, TMCC must compete with other agencies and institutions for federal and state funding and aid. Currently, in a tough economic environment of declining tax revenue, it must be more and more accountable for the dollars it spends. However, TMCC didn't have a system to clearly or reliably predict student enrollment levels or analyze and project future class demand. Because of this, there was no way to ensure that all in-demand classes were offered.

Additionally, the school loses tuition revenue when it doesn't provide enough of the classes that are in demand. For instance, in 2000, one-third of all TMCC's classes were cancelled. The school administration decided it would implement an analysis tool to allow it to better predict student enrollment and the right mix of classes.

### **THE STRATEGY**

In 2006, TMCC deployed SPSS Statistics and SPSS Custom Tables software. SPSS Statistics enables data importing, manipulation, statistical analysis, and graphics creation. SPSS Custom Tables allow users to generate reports and create summarized results. TMCC selected these tools for a number of reasons, including:

- Low upfront cost. Analytical applications can easily run into the tens of thousands of dollars for implementation, consulting, and integration. They can

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also take months to install, and they require specially trained staff. However, TMCC had already been using SPSS tools for institutional research and some instruction areas. Extending the application footprint would be relatively simple. As the project wouldn't require any consulting fees or additional hardware investments, getting an ROI was simpler than for a costly and complex rollout.

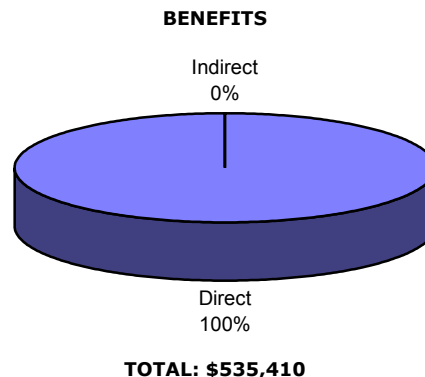
- Simple installation. TMCC only had to add two licenses for SPSS Statistics and SPSS Custom Tables to improve its enrollment and class scheduling processes.
- End user familiarity. TMCC had research office staff that were familiar with the tools and wouldn't require any costly extra training.

TMCC assigned two full-time research staff people who were familiar with SPSS Statistics and SPSS Custom Tables to the project. These employees spent two months setting up the system to support the new analysis and reporting processes.

**KEY BENEFIT AREAS**

Using SPSS Predictive Analytics software the administration was, with relative ease, able to accurately predict just what classes it needed to offer. The specific benefits included:

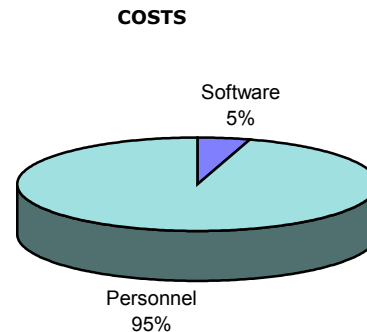
- Improved class demand prediction. In the first year of deployment using SPSS Statistics and SPSS Custom Tables, administrators were able to project more exactly the demand for classes. This way, TMCC was able to ensure additional classes were available when student demand was likely to exceed the original expectations. The accurate prediction of class demand contributed to the increase in tuition-based revenue.



- Avoided new hires. Overall, the application's capabilities and ease of use have helped increased the productivity of the research staff. The analysts are not only able to predict class and enrollment demand, but also conduct other research projects, as well. This has allowed TMCC to avoid hiring two full-time employee equivalents, saving \$150,000 a year.
- Improved enrollment prediction accuracy. During the first year, TMCC used the software to help project an upcoming decline in student enrollment well in advance. This meant it was necessary to change its budgeting methods and implement special fiscal measures to compensate for revenue shortfalls. By forecasting the decline, TMCC was able to avoid what would have been a serious shortfall and disruption in programs and service.

### KEY COST AREAS

Key cost areas for the deployment included software and personnel. SPSS Predictive Analytics was already in use in TMCC and the project only required an additional \$438 for the additional SPSS Statistics and SPSS Custom Tables licenses. The other initial cost was in personnel, for two existing employees deployed to configure the applications for TMCC's operations. Ongoing costs include the annual license renewal, and the equivalent of one full time employee who spends a day a month configuring and maintaining the system.



**TOTAL: \$36,944**

### LESSONS LEARNED

Predictive Analytics tools are used mostly by corporations looking to boost sales or improve operations. Nevertheless, such applications can assist nonprofits like TMCC in being more efficient to find ways to increase revenue. Using these analysis and reporting products, TMCC was able to improve its operations, gain more revenue, and achieve a positive ROI on its investment.

### CALCULATING THE ROI

Nucleus calculated the costs of software and personnel over a 3-year period to quantify TMCC's investment in SPSS Predictive Analytics software. Direct benefits calculated included increased tuition revenue through offering the best mix of available classes. Nucleus based the annual net benefit on a 10 percent profit margin, which was conservative. Predictive analytics has also allowed TMCC to execute on a wide variety of analytical projects while avoiding hiring two full-time people that would have been otherwise necessary, another direct benefit.

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# DETAILED FINANCIAL ANALYSIS

## TRUCKEE MEADOWS COMMUNITY COLLEGE

### SUMMARY

Project:	<b>SPSS</b>
Annual return on investment (ROI)	<b>691%</b>
Payback period (years)	<b>0.14</b>
Net present value (NPV)	<b>186,669</b>
Average yearly cost of ownership	<b>12,315</b>

<b>ANNUAL BENEFITS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Direct	0	178,470	178,470	178,470
Indirect	0	0	0	0
<b>Total Benefits Per Period</b>	0	178,470	178,470	178,470

<b>DEPRECIATED ASSETS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Software	0	0	0	0
Hardware	0	0	0	0
<b>Total Per Period</b>	0	0	0	0

<b>DEPRECIATION SCHEDULE</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Software	0	0	0	0
Hardware	0	0	0	0
<b>Total Per Period</b>	0	0	0	0

<b>EXPENSED COSTS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Software	438	438	438	438
Hardware	0	0	0	0
Consulting	0	0	0	0
Personnel	24,808	3,462	3,462	3,462
Training	0	0	0	0
Other	0	0	0	0
<b>Total Per Period</b>	25,246	3,900	3,900	3,900

<b>FINANCIAL ANALYSIS</b>	<b>Pre-start</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Net cash flow before taxes	(25,246)	174,570	174,570	174,570
Net cash flow after taxes	(12,623)	87,285	87,285	87,285
<b>Annual ROI - direct and indirect benefits</b>				<b>691%</b>
Annual ROI - direct benefits only				691%
Net present value (NPV)				186,669
<b>Payback (years)</b>				<b>0.14</b>
Average annual cost of ownership				12,315
3-year IRR				690%

### FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%