

## Rent-A-Car: Teaching Managerial Economics with a Team-based Interactive Case Study

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Managerial economics courses at the upper undergraduate and M.B.A. levels encounter several pedagogical challenges, including the fact that the economics component in business curriculum is a theoretical standout compared with more applied business disciplines. The students may fail to see the applicability of course concepts, which may undermine their motivation. Case study method has been recommended as a way of increasing student involvement, motivation, and learning in the economics classroom at both the undergraduate and the graduate levels (Becker & Watts, 1995, 1998; Carlson & Schodt, 1995; Carlson & Velenchik, 2006).

### I. Case Description and Pedagogical Approach

We present a teaching approach that integrates an interactive case study into the managerial economics curriculum at multiple points over the semester. Our approach also takes advantage of the principles of team-based learning (TBL) and problem-based learning.

TBL is a teaching method that involves students working together in specially formed groups for the purpose of promoting more active and effective learning (Michaelson et al., 2002; Fry et al., 2009). Using the TBL approach encourages students to learn not only from the instructor but from their peers as well. The role of the instructor is transformed to that of a mediator. With the problem-based learning approach not all assignments have a uniquely correct answer. This provides the students an opportunity to solidify their knowledge of theoretical concepts by trying various solutions without being punished for mistakes (e.g. Gijssels and Tempelaar, 1995).

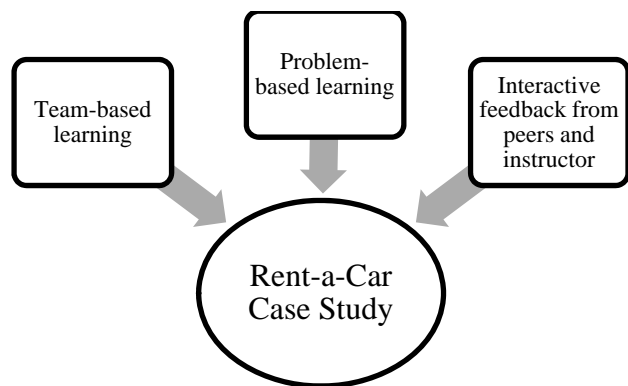


FIGURE 1. PEDAGOGICAL APPROACH

The questions in this case study often ask students to select among several alternatives, for instance among many variables available for analysis. The need to compare and contrast

the alternatives develops critical thinking, encourages creativity, and allows the instructor to facilitate learning by focusing on the analysis process and the assumptions used.

This case study project is fully integrated into the managerial economics course and contains ten assignments for use over a typical semester. The assignments focus on managerial challenges of “Rent-A-Car” – a car rental agency serving a small regional airport in a US Midwestern college town. The pedagogical approach is highly interactive. As student teams develop their solutions, they incorporate feedback from peers and the instructor and adjust their results. By the final stage, no two teams typically have exactly the same solutions. The instructor has multiple opportunities to revisit course concepts. The modular nature of the case assignments allows for flexibility in terms of order of questions. Assignments may be grouped into blocks and assigned in a sequence based on the exact set of learning outcomes for a specific course.

## **II. Impact on Student Learning**

This case has been tested in M.B.A. Managerial Economics classes at two business schools over several semesters with class sizes ranging from fifteen to thirty-six students. The impact of the case on student learning was evaluated as part of the course outcome

assessment process, in which course learning outcomes were assessed by questions on the comprehensive final exam. The case addressed five out of eight course learning outcomes.

The sample of observations included eight different sections of the M.B.A. level Managerial Economics course taught between 2008 and 2012. Four of these sections relied on the traditional lecture-based approach, while the other four sections utilized the case described herein throughout the semester. Both institutions at which this case was used were equally represented in the sample. Student performance was measured as percentage of the maximum possible score for each learning outcome.

Our findings indicate a significant variation in the way the case affected student learning. Those results are highlighted in Figure 2. The statistics for learning outcomes not addressed by the case remained flat. Welch’s t-test at the 20% significance level supports the null hypothesis that for those outcomes the mean student performance levels before and after the case introduction are equal. The results for the learning outcomes addressed by the case are, however, strikingly different. There, the null hypothesis about the equality of pre- and post-case sample means is rejected at the 1% significance level. Student performance was significantly higher when the case was used.

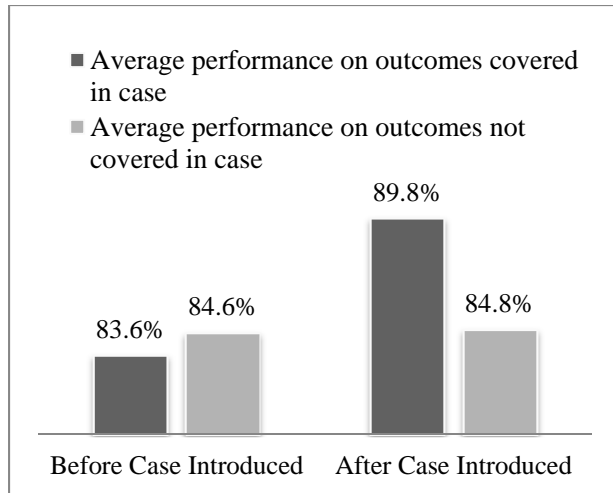


FIGURE 2. COMPARISON OF STUDENT PERFORMANCE ON LEARNING OUTCOMES BEFORE AND AFTER CASE WAS INTRODUCED

These findings lead us to conclude that the utilization of the described case has improved student learning overall. Student subjective satisfaction with learning outcomes, tested by end-of-semester evaluations, has also improved.

### III. Further Information

The full text of the case assignments and teaching notes appears in the *Journal of Business Cases and Applications* publication by Chulkov and Nizovtsev (2012) available through ABI/INFORM ProQuest as well as the journal's web site. There, we provide learning outcomes for each of the ten assignments. Instructors may choose learning outcomes that fit their course, and may structure the assignment sequence as they see fit. Datasets for the case assignments are also available at the following web address:

<http://www.washburn.edu/sobu/dnizovtsev/RentacarCase.html>

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