

## CHAPTER 12: REGALIA RENTAL SYSTEM

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### 12.1 Introduction

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#### 12.1.1 Importance of Recycling and Reusing Graduation Gowns

Each year, thousands of students around the United States put on caps and gowns to participate in 90-minute ceremony where they celebrate their life accomplishment of graduating college. The thousands of gowns that are worn by these students are then tossed aside until the owners decide to throw them away. The gowns then make their way to landfills where they will remain for hundreds of years. As the human population grows exponentially, it is imperative to reduce the amount of waste that is being created. Landfills are only meant to store waste, not reduce it. As waste in the landfills increase, methane gas emissions and the risks of leachate contaminating the groundwater table also increase.

Graduation gowns are typically made with polyester, a man-made synthetic fabric made from the same ingredient as plastic: polyethylene terephthalate. Commencement ceremonies should be a celebratory event; however, the event is just a waste-producing machine that takes place annually.

#### 12.1.2 Regalia Renting by Other Schools

- Occidental College: rental gowns for undergraduates and master's programs
- Northwestern University: rental gowns for undergraduates and master's programs with a souvenir stole, cap, and tassel
- Pepperdine University: rental regalia for all levels for free

#### 12.1.3 Chapter Goals

This chapter aims to highlight the importance of Chapman University implementing a regalia rental system that will further the school's commitment to sustainability. The rental system will not only reduce waste in our landfills but also reduce the cost of purchasing graduation regalia for students.

### 12.2 History of Renting Regalia

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#### 12.2.1 Undergraduate and Master's Regalia

Chapman University has always required students to wear the approved cap, gown, and tassel when participating in the Commencement Ceremony. A rental system has never been put in place to give students an alternative option in purchasing graduation regalia. Chapman graduation gowns were previously plain black and were bought from a different supplier. Beginning five or six years ago per the request by the president's office, Chapman switched to customized gowns with the school seal on both sides of the front of the gown and contracted with Balfour. Balfour began as a company that provided high-quality fraternity and sorority jewelry to college campuses across the country. They have also produced Super Bowl rings for San Francisco 49ers and Dallas Cowboys, World Series Champions New York Yankees, and Stanley Cup Champions New York Rangers. In 1939, Balfour began printing their own brand of yearbooks that are still being used today as well as other printed graduation materials such as commencement announcements and invitations. Balfour did not make their own graduation regalia; therefore, they often partnered with Oak Hall. In 2015, Balfour purchased their own graduation regalia company, Gaspard, and began supplying their own regalia.

### 12.2.2 Regalia Rental at Occidental College

Occidental College, one of Chapman’s aspirational schools with an enrollment of 2,062 (2016) takes rental orders through the bookstore and students pick up their cap and gown a week before their commencement ceremony. The cost of renting is \$34.99 plus tax. The students can keep their cap and tassel as souvenirs and return only the gowns.

### 12.2.3 Regalia Rental at Northwestern University

Northwestern University is a slightly larger private university, enrollment of 21,000 (2015), located in Chicago who also allows their students to rent graduation regalia Like Chapman, their gown is custom designed for Northwestern and bears the University crest. Undergraduates and master’s degree candidates order their gowns online and return them after their ceremony is over. Bachelor’s degree regalia includes a stole, cap and tassel that are to be kept by students as a souvenir and costs \$48 for undergraduate. Master’s graduates pay \$60 for their regalia and must return both their gowns and hoods.

### 12.2.4 Regalia Rental at Pepperdine University

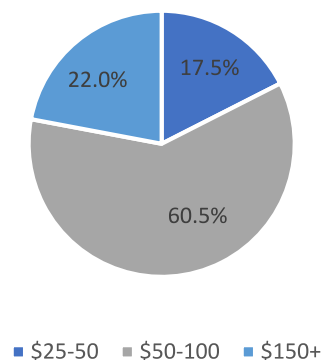
Pepperdine University is a peer school that shares many similarities with Chapman. Pepperdine is a private university of approximately the same size as Chapman (Pepperdine saw an enrollment of 7,632 in 2015 while Chapman had an enrollment of 8,305). The difference in tuition costs between the two schools is only \$1,782. Pepperdine University offers students at all levels (undergraduates, masters, and Ph.D.) the option to rent their regalia for free. The students order their Pepperdine custom regalia from the supplier, Herff Jones, website. The required regalia package includes a cap, gown, and tassel and is priced at \$0 and the optional souvenir stole is priced at \$34.95. After commencement, the gowns are to be returned at designated gown return tables.

## 12.3 Status of Purchasing and Renting Regalia at Chapman

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### 12.3.1 Cost of Regalia

Regalia for undergraduates is currently only available for purchase. The cost of the required package is \$57.95 (excluding tax and shipping) and includes a cap, gown, and tassel. The required package for master’s degree graduates cost \$93.95 (before tax and shipping) and includes the cap, gown, tassel, and hood. The optional stole is an additional \$45 for both levels. Of the number of students that answered in a survey, the highest percentage expected to spend between \$50-100 on their graduation regalia (**Figure 12.1**). Rental regalia from Northwestern University costs students under \$50 and includes a souvenir stole.



**Figure 12.1**

### 12.3.2 Ph.D. Rental System

Regalia for doctoral graduates is rented through the bookstore. Specifically, LLM & JD at Fowler School of Law, PharmD and Masters of Pharmaceutical Sciences at School of Pharmacy, Doctor of Physical Therapy at Crean College of Health and Behavioral Science, PhD and EdD at Attallah College of Educational Studies, and PhD of Computational and Data Sciences at Schmid College of Science and

Technology. The custom hood of Ph.D. recipients is an optional accessory that the student can purchase as a souvenir. Rental orders are taken at Rinker Campus between designated dates and delivered directly to the student’s home. The rentals cost \$99 for Ph.D. graduates and \$64 for master’s Pharmaceutical Sciences. However, PhD graduates are more likely to go into academia where they would need their doctoral gowns to wear during commencement ceremonies throughout the course of their careers. More faculty members answered in a survey that they still have their doctoral robes over their bachelor’s and master’s (Figure 12.2).

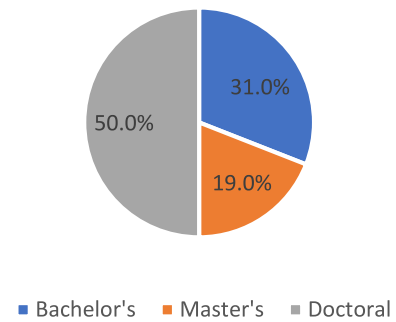


Figure 12.2

### 12.3.3 Status of Students

Of the 483 students that were asked whether they would rent their gowns if given the option, 274 answered yes (Figure 12.3).

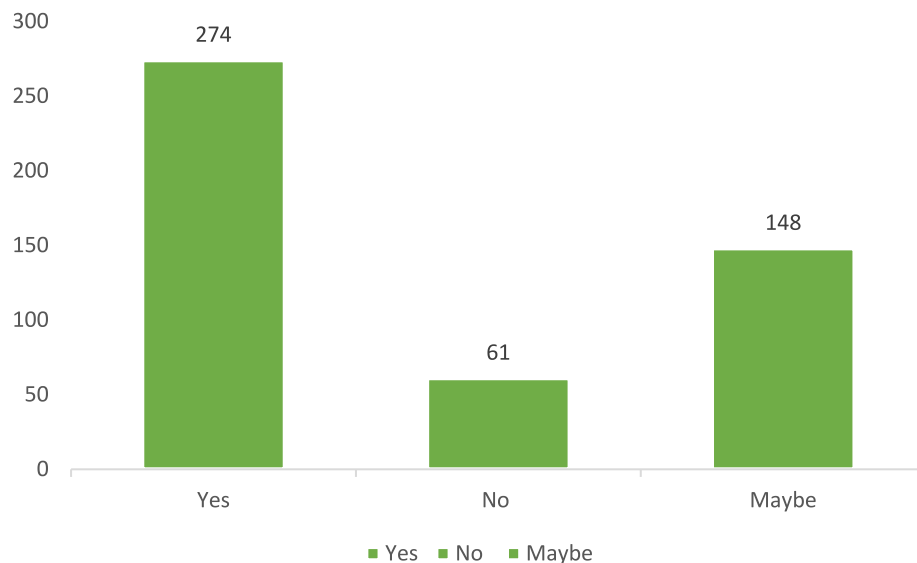


Figure 12.3

### 12.3.4 Cost Benefit Analysis

The cost benefit analysis compares the monetary values of some costs and benefits associated with implementing a rental system for graduation regalia. The benefits are the amount of waste being diverted from the landfill and the amount of CO2 not being emitted from the production of new gowns. The costs include the CO2 emitted from double shipping (shipping to and from the facility that distributes the graduation regalia) and the opportunity cost to students that wishes to keep the gown as a souvenir. The discount rate is set to a low 3% and the assumed life of one gown is 10 years. This is assuming that after 10 years, the rental gowns would be worn down and must be replaced (Figure 12.4).

Year	1	2	3	4	5	6	7	8	9	10
Annual Benefits	351.32	351.32	351.32	351.32	351.32	351.32	351.32	351.32	351.32	351.32
Annual Costs	14426.49	14426.49	14426.49	14426.49	14426.49	14426.49	14426.49	14426.49	14426.49	14426.49
Annual Value	-14075.17	-14075.17	-14075.17	-14075.17	-14075.17	-14075.17	-14075.17	-14075.17	-14075.17	-14075.17
Present Value	-13731.88	-13396.95	-13070.20	-12751.41	-12440.40	-12136.98	-11840.95	-11552.15	-11270.39	-10995.50
NPV	-123186.83									

Figure 12.4

The cost benefit analysis shows a negative value due to the estimated opportunity cost to students who would want to keep their gowns as a souvenir but cannot with a rental system. This cost can be eliminated if Chapman University gives the students the option of either purchasing new regalia to keep or a used package at a cheaper cost. For instance, USC offers students the option to either rent for \$69.99 or purchase their regalia for \$219. With both options available for students, the analysis would look as below (Figure 12.5).

Year	1	2	3	4	5	6	7	8	9	10
Annual Benefits	351.32	351.32	351.32	351.32	351.32	351.32	351.32	351.32	351.32	351.32
Annual Costs	112.84	112.84	112.84	112.84	112.84	112.84	112.84	112.84	112.84	112.84
Annual Value	238.48	238.48	238.48	238.48	238.48	238.48	238.48	238.48	238.48	238.48
Present Value	232.66	226.98	221.45	216.05	210.78	205.64	200.62	195.73	190.95	186.30
NPV	2087.15									

Figure 12.5

Based on the analysis above (Figure 12.5), the recommendations of this chapter is meant to be in conjunction to the current system so students can have the option to choose whether or not they would like to rent.

## 12.4 Concluding Assessments

### 12.4.1 Areas of Progress

Chapman University’s sustainability policy states “Chapman University is committed to a campus culture that promotes a sustainable future. This commitment is instrumental to Chapman’s mission to educate ethical and informed global citizens. As such, it calls upon all constituencies of the University to carefully evaluated short- and long-term social, economic, and environmental impacts of decisions before acting. The University demonstrates this commitment through sustainable practices in strategic planning and ongoing operations as well as sustainability-focused education programs, research and community engagement.”, the University has partnered with Balfour to purchase caps and gowns that are made of “Greenweaver” fabric. This type of fabric is made from 100% post-consumer recycled plastic bottles. If a graduating class of 100,000 students wore a Greenweaver gown, it would keep 2.3 million plastic bottles out of the landfill, or 23 plastic bottles a student.

### 12.4.2 Areas of Improvement

Although Chapman University took initiative and opted for the eco-friendly gowns, it is not common knowledge to students that the graduation gowns are made from recycled plastic bottles and thus, according to manufacturer Oak Hall, are recyclable themselves. As more and more students graduate, more and more gowns are being purchased and then eventually thrown into the trash where it will make its way to the landfill. Chapman should, at the very least, make efforts in educating students that the graduation gowns can be recycled. Extra signage can be posted around campus during the month

of May, so students can constantly see them as reminders. Recycling bins should be placed around school during commencement so the students that do not wish to keep their gowns can recycle them on site. Current senior class should be encouraged to purchase gowns from alumni through a secured site that the campus provides for students to safely post and sell their unwanted regalia items.

## 12.5 Recommendations

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### 12.5.1 Low Cost and/or Effort

The cheapest option that Chapman can switch to that would take little effort is to enroll in a rental system with the current supplier of undergraduate and master's regalia, Balfour. Since Balfour already handles all the regalia being sold to Chapman students, the company can still handle all Chapman regalia. The only difference would be, Balfour would have to inventory and upkeep all regalia that gets sent back from students after the commencement ceremonies end. Another third-party approach is to enroll in a regalia rental system for undergraduate and master's students with Oak Hall, the company that handles regalia rentals for faculty, staff, and Ph.D. graduates. Since Chapman University is already renting regalia through Oak Hall, the school would just have to add undergraduates and master's regalia to Oak Hall's contract.

### 12.5.2 Medium Cost and/or Effort

At a slightly higher cost, Chapman University could implement a rental system that is managed and handled by Chapman. The system would recirculate gowns that previous classes have worn and rent them to the upcoming graduating classes. For example, after the class of 2018 concludes their commencement ceremony, graduates can then sell back the gowns to Chapman. The school then cleans the gowns and keeps them for the next graduating classes, thus reusing the same gowns repeatedly. This system requires effort from both Chapman University and the students. Chapman would have to designate this task to a specific department, so the process runs as smoothly as possible. The graduating students are also required to participate in this system for it to work. If students do not come back to sell their gowns, there would not be enough gowns to recirculate to the upcoming graduating class. As the years go by, Chapman would have a large inventory of graduation gowns in various sizes that can be reused until the gowns have reached the end of their life cycle.

### 12.5.3 High Cost and/or Effort

The option that requires the highest cost and effort is Chapman University purchasing gowns that is available for students to rent for free. Like Pepperdine, this could be done through a third party, so Chapman University will not have to handle the graduation regalia inventory. Each year, hundreds of seniors graduate from a school that cost them thousands of dollars to attend. By the end of their academic career, the students would have paid over \$200,000 in tuition (standard 4-year education at the cost of \$52,000 a semester). The students have earned the option to rent regalia for free.

### 12.5.4 Future Areas of Research

Since Chapman's graduation gowns are made from 100% post-consumer plastic bottles, it would be helpful to know what environmental impacts are associated with the production process of these gowns. Life-cycle analysis on the rental graduation gowns can be conducted to track the life of a gown from cradle to grave.

A website could be created where students can purchase used graduation gowns from alumni that wishes to get rid of theirs. The website could do a trial run for a year to measure students' interest in obtaining regalia through means other than buying new.

To also test students' interest in buying used gowns, the campus stores could do a buy-back

system where recent graduates can sell their gowns back to the school, who would then sell the used gowns at a cheaper cost.

## 12.6 Contacts

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## 12.8 Appendices

1 gown= 1.5lbs	# Undergraduates	# Masters	Total	Ibs Total	Landfill Cost	
	1400	500	1900	2850	104.03	
1 gown= 23 plastic bottles	CO2/ gown (g)	Total CO2 Undergraduate	Total CO2 Masters	Total CO2 (g)	Total CO2 (Ton)	CO2 Damage
1 plastic bottle= 82.8g CO2	1904.40	2666160	952200	3618360	3.99	247.29
1 ton= 907185 g						
1 ton CO2= \$62 damage with 2.5% discount rate						
Total Benefits	351.32					
1 gown= \$57.95	Total Opportunity Cost					
13% students said they would not rent	14313.65					
Ship to/from MN						
Distance between CA & MN/ back	CO2 per mile (lbs)	Total CO2 (lbs)	Cost of CO2/ ton			
	2800	1.3	3640	112.84		
Total Costs	14426.49					

Calculations for Cost Benefit Analysis