Project Report

Graduate Financial Comparison for MBA Programs in Oregon

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Introduction

"Is it a good investment to obtain a graduate degree?" This has always been a question asked among people who are considering continuing their education; while "Return of Investment" (ROI) is one of the first things that person might think of when this question asked when making any investment decision. However, in order to obtain a fast and reliable ROI some important factors need to be considered. Therefore, majors, schools, and locations of the institution play significant roles when considering the ROI.

Pursuing the degree in Master of Business Administration (MBA) is one of the most attractive major among people during the past few years since. This is because a preference of bachelor degree is not necessarily required by a business. So if a person has an MBA, this could give them an edge over other employs trying for the same job. It has been noticed that a ROI among people earned MBA degree is varied. This is because jobs pay different salaries depending on the job location and also because there are so many different jobs that a person with an MBA can get. So it is essential for people who want to obtain an MBA degree to know which school is best for their investments before spending any money on pursuing this degree.

The focus of this paper is to build a model that studies the different economic impacts of some the MBA programs in Oregon. A model has been built to investigate the different outcomes for each school based on different criteria such as school ranking, significant courses, tuition rates, and the actual location of the school itself. The model also shows the user a payback plan. This can be used by the user to determine what types of payments they can afford and how long it will take them to pay back the loans they have taken out to pay for the program.

Assumptions

In order to predict an accurate number for how long an investment will take to pay back, there were some assumptions made, calculations of all alternatives should be considered. Hence, to avoid a long and complicated calculation and for more consistency this study will be focused only on Oregon's top MBA schools. However, other important aspects such as tuition, ranking, etc. will be studied and analyzed.

The study assumes that students have the option to choose between one of the following MBA programs:

- Oregon State University
- Portland State University
- Willamette University
- University of Oregon
- Eastern Oregon University

Students also have the option to be enrolled for either part time or full time. If a student is going part-time it was assumed that they would take four credits per term. Or if a student is going full-time it was assumed that they would take nine credits per term. These numbers were used to determine how long it would take the user to finish up these programs. The study also assumes tuition is not going to be affected by inflation. This means that same tuition rates are used to determine how much it will cost to go to a school. Another assumption is that students will take a loan to pay for school. Therefore, a loan payback period will be considered. The cost of living for each school is also assumed to be the same, but the user can change these numbers if they feel that there is a different rate for living expenses for the different schools considered.

Comparison

The comparison in this study is between the five of the best universities that offer an MBA program in Oregon. This comparison is mainly focused on five aspects which are interconnected with the study of economics; these aspects are tuition, length of the program, school ranking, average salary after graduation, and what type of focus an MBA school has (See Appendix 1).

It can be noticed from the comparison table (Appendix 1) that tuition differences have a large impact when a person is choosing a school. Willamette University had the most expensive MBA degree which cost $57,000 and Eastern Oregon University had the cheapest degree which cost $14,550. In addition, most of these institutions have some differences in tuition rates in regard to whether or not a student is in-state or out-of-state.

Another important consideration to take in mind when choosing an MBA program is how many credits it will take to complete it. From the table it can be seen that it takes 76 credits at the University of Oregon, while it only takes 45 credits at the University of Oregon. This can be used to determine the work load that is required to obtain an MBA degree.

The ranking and significance of these universities will lead to different outcomes when it comes to salary after graduation. Therefore, choosing a school based on these two factors is important for the future profession of a student. For instance the MBA program at Portland State University, has been recently ranked number one MBA degree in the North West that is focused on sustainability; this will likely indicate a better future profession for a PSU graduate in this field of study. However, personal preference in choosing schools is also very important and can influence which school is chosen.

Situation Analysis

The MBA is a master's degree in business administration; this degree attracts people from a wide range of academic disciplines. MBA coursework are designed for people who have some first-hand experience of how businesses and organizations work.

The number of MBA degrees given annually has seen explosive growth over the last few decades, growing from under 5,000 MBAs in 1960 to more than 100,000 MBAs in 2000 [7]. Enrollment is also influenced by the economy, and as the economy turns toward a downturn, both recent grads and displaced workers head back to earn their MBAs. An MBA is a career accelerator across a number of industries and MBA graduates can usually command higher salaries.

The decision to pursue an MBA should be considered as a big investment opportunity. This large investment can be one of the largest a person can make in his or her life. There is a need for a model that can assets people so that they can make a better decision.

Demographics

Demographics are the statistical data of a population, especially data showing racial diversity, age, income, education, etc [8]. Data was found in these areas to help the user understand the demographics for the schools considered. Incomes for the state of Oregon was also considered to show the user where certain jobs are located and there average incomes depending on job titles.

The size of the MBA program is important to know, this shows how established the program is. If a program does not have that many people in it, then the program can be considered to be relatively new and just starting up. Then this program has not had enough time to establish itself and bring in a large student body. The largest MBA program out of the schools selected was Portland State University, while the smallest was Eastern Oregon University (See Appendix 2 for a table showing the demographics of these selected schools).

Racial diversity of the class body is also very important when considering a school. A large range of racial diversity in a student body means that there are a lot of ideas coming to the school from around the world. If a person is coming to a school and is not from the United States, looking at the student body population of foreign students is important consideration. If there is a large population of foreign students, it shows that the school has amenities in it that foreign students are looking for. The school that had the highest average of students from foreign countries was Willamette University, while the school that had the lowest was Eastern Oregon University (See Appendix 2 for a table showing the demographics of these selected schools).

The age of the student body is also important to look at. If the average age of the student body is young, less than 24 years, then these schools are geared towards undergraduate degrees. If a person is looking to go back to school and get there MBA, they may want to go to a school that has a higher student body age that is closer to their own age range. Oregon State University, University of Oregon and Willamette University have a pretty low student body age range; they have over 60% of their student who are less than 21 years old. While Eastern Oregon University and Portland State University are geared towards an older student body and most of their students are older than 22 years old (See Appendix 2 for a table showing the demographics of these selected schools).

Those whose who are considering getting a job in Oregon after they have finished up their MBA should feel confidante about getting a job here. Through the year 2014, there will be more than 50,000 additional jobs created in Oregon, which is an increase of 28% of the jobs available today. Business support services should see most of this growth, with an increase of 45% more jobs predicted by 2014 [10].

How much money on average you will make after getting an MBA is also very important consideration. In Oregon there are a lot of jobs available to someone who already has an MBA degree. All of these jobs have different salary pays depending on which city or region that you live in. Living in Portland has the highest average salaries for all of the job titles shown. Appendix 3 shows the average salaries for the different regions or cities depending on the job title [11].

Model Description

As mentioned in the earlier sections, we have design this draft model that hopefully can help user to select the best university based on their need. The final end result of this project is to create standalone application that can serve on the web with an online database. As of now the model has been building in Microsoft Excel Spread Sheet, for easies of testing as well as to verify our concepts and logics.

There are three main sections (or sheets) in our model, the user is responsible to fill in any cell that are highlight in green, and all other colored cell are formulas will be automatically calculated based on the user's inputs from the green cells.

Section 01 – Please see the full section in Appendix 4

User selects two or more universities based on the seven essentials criteria we had mentioned in this paper, which are camps location, university or program ranking, tuition and fees, living expenses*, estimated time to complete the degree, and as well as the significance of the program.

Residence & Study Time

In State Student	Non-Resident
Full Time || Part Time	Part Time

However before use choose anything else we will began by asking the user to tell us if they are attending the university as an in-state resident or out-state-resident. This is because a lot of universities have a big difference in tuition and fees for resident and non-resident-students. The second piece of information that we requiring the user to tell us is whether they will be going part-time or full--time. As this will be a key piece of information that determent how long it will take to complete his/her program, as well as the cost required to complete the degree.

University & Institution selections

University & Institution	Portland State University
Institution Location	Portland, OR
Institution MBA Ranking	25th
Credits to be Taken	72
Estimated Tuition and Fees	$39,000
Estimated Time	36 Months
Significance Note	Ranked # 1 in the North West

The next step is for user to select the universities for comparison purposes. Once a university has been selected, we will display all the essentials criteria that are available from our database. As we mentioned before, for the purpose of this research study only five universities have been include in our model.

In the actually, if standalone web application has been build, we will need to implementing a searchable filler function. So user will have the ability to limit and display only the universities based on the essential criteria, such as location, ranking or estimated time to completed the programs…etc. This web application could also include different states and different programs as well, where the current model has only looked at MBA programs in Oregon.

Estimated Living Expenses

Per Monthly	36 Months
Housing Expenses	$ 500.0
Food Expenses	$ 200.0
Transportation	$ 100.0
Other Expenses	$ 200.0
Total Monthly Expenses	$ 1,000.0
Living U.S. Inflation	6%
Estimated Living Expenses	$ 39,336.10

Since living expenses are unique to each individual, therefore we have this whole sub-section dealing only with the living expense. Users will be promoted to fill in the monthly expense to each sub living expense range from apartment rent, food cost per month or any other living expenses a user may need. In this section we also included the possible inflation rate in U.S. In our draft model we left this value for user to decide, this is mainly because the inflation changes from year to year and also it is very difficult to predict what the inflation rate of the future.

If we move into the web application, we will promote a recommendation value for the inflation rate, however the user will still be make the final decision to choose what the inflation rate they would like to use in this calculation. Now once the user has completed this information we will calculate the "Estimated Living Expense" for duration of the MBA program.

This is calculated by:

F = A * (F/A, I, N) || Total Monthly Expense * (F/A, Inflation Rate, Estimated Time in Month)

Total Monthly Expenses * [(1+ Inflation /12) ^ Estimated Time in Month – 1] / (Inflation / 12)

Financial Resources

Financial Resources	
Scholarship Amount	$ 10,000.00

Loan Amount	$ 40,000.00
Interest	3.50%

Self Pay Amount	$ 10,000.00

Total Expenses	$ 78,336.1
Account Balance	$ (18,336.1)

Financial Resources	
Scholarship Amount	$ 10,000.00

Loan Amount	$ 40,000.00
Interest	3.50%

Self Pay Amount	$ 10,000.00

Total Expenses	$ 56,048.0
Account Balance	$ 3,952.0

The financial resource mainly is dealing with how a student supports his/her degree or program. We have identified three ways for our student to finance their study; they are scholarship, loan and self pay. The user can chose either one or a combination of the three options.

The Total Expense is the sum of cost of both Estimated Tuition and Fees and Estimated Living Expenses. The account balance is the sum of payment amount - Total Expense. For clarity purposes, if the payment amount is exceeding the total expense, the cell will turn blue to indicate that user has enough money to cover the cost of their study. Otherwise the cell will be highlight in red and as display the negative amount that user still needs to finance their studies.

Expectation of Benefits from completing the degree or program

Expectation of M.S. Benefits	(Before Tax)
Current Salary or Income	$ 38,000.00
Expected Salary or Income	$ 58,000.00
Expected Salary Increment	$ 20,000.00
Taxes Rate	35%
Estimated Increment After Tax	$ 13,000.00

This section is optional, does not require the users to complete this section in order to determent their best suitable university.

This sub-section mainly tries to help user to see the potential material benefits from completing the degree. The Expected Salary Increment is equal to Expected Salary or Income after obtaining a degree minus the Current Salary or Income. And the Estimated Increment after Tax is equal to Expected Salary Increment * (1- Taxes Rate).

Section 02

In section 02 we will summarize all the universities that user have choose as part of the comparison. Within our currently drafted excel model, we limited the user to choose maximum three out of the five universities in our database. Of course, in reality this limit should be much bigger.

University & Institution	Institution Location	Institution MBA Ranking (in World)	Credits to be Taken	Estimated Tuition and Fees	Estimated Time
Portland State University	Portland, OR	25th	72	$39,000	36 Months
University of Oregon	Eugene, OR	40th	76	$30,616	24 Months
Oregon State University	Corvallis, OR	87th	45	$23,000	27 Months

In this summary table we will be displaying all the of essentials criteria row by row for each of the universities, thus it will be even easier for users to compare and find the best suitable university themselves.

University & Institution	Expected Salary or Income (Before Tax)	Total Estimated Tuition & Living Expenses
Portland State University	$ 58,000	$ 78,336
University of Oregon	$ 58,000	$ 56,048
Oregon State University	$ 58,000	$ 51,830

Even so we had pre calculated the Total Estimated Tuition & Living Expenses for our user, however we know for a fact there are always some exception that are valid to the individual users. For example, one user may qualify a tuition reimbursement through their companies or agency they work in, therefore reduce the total cost to complete the program. Or another user who feels there are additional opportunities cost that are apply to them but was not included in our model, thus they are add extra expenses into the calculation. That is why we give the user the option to input the "User Adjusted Expenses" instead fixing the cost for them.

University & Institution	User Adjusted Expenses	Yearly Interest	Years	Monthly Interest	Months	Monthly Payment
Portland State University	$60,000	3.50%	5	0.29%	60	$1,364.38
University of Oregon	$50,000	3.50%	5	0.29%	60	$ 993.56
Oregon State University	$50,000	3.50%	5	0.29%	60	$ 909.59

Then assuming all of the user's adjusted expenses will be financed from the student loan with a fixed yearly interest rate. Also the user knows how many year they wish to pay the loan back, then we can help the user one more step in to calculating the minimum monthly payment.

There is also another way to use section 02, let's say that you want to try to determent the payback period for your study. You know in order to complete this degree it will cost about $50,000 dollars, and assume an MARR is about 3.5%. And you know that after you complete this degree you can get a higher paying job that will pay you about $993.56 dollars extra per month after tax. Then from the section 02, you can clearly see it will take you about five years to reach this break even point and start return on your investment.

Section 03 – Please see the full section in Appendix 5

In section 03, we will display the completed month by month the cash flow to our user, based on the user's input for section 02.

Years	Months	University & Expenses Net Cash Flow	University & Expenses Cumulative PW
		Portland State University	Portland State University
Year 00	Month 00	$ (30,000.00)	$ (30,000.00)
Year 01	Month 01	$ 876.51	$ (29,123.49)
Year 01	Month 02	$ 873.96	$ (28,249.54)
~	~	~	~
Year 03	Month 11	$ 793.87	$ (791.56)
Year 03	Month 12	$ 791.56	$ 0.00
Year 04	Month 01	$ 789.26	$ 789.26
Year 04	Month 02	$ 786.97	$ 1,576.23

The new cash flow show the amount of money you paying each month in year 00 month 00 present value. And the cumulative pw show the change in present worth of your loan.

Again in order to increase the readability, once the break even point is reached the cumulative present worth will be highlighted in blue. Before the break even point a negative number is displayed with red highlight.

Case Study 01 - Bob

Bob, 35 years old

After graduating from college, he was heading for Medical School and my world sort of turned upside down. He ended up not going. During the application process, he ended up taking a job to bring in some cash. He took a job that he thought would be so easy for him to do. He got a job doing computer retail sales engineer. He did this for about a year. As it turned out, he was quite good at it. His gross sales beat everyone else. He honestly didn't stay up late working at it either. He came to work, did his thing and left. He got raises and bonuses sporadically throughout that year.

He had progressively taken on more and more computer technical roles at companies. He studied on his personal time to improve his knowledge. Take a step back a bit now. He was working in IT. IT is sporadic in hours. Sometimes, he would work 60 hr a week and sometimes less. He went from a help desk position early in 2003 to Senior System Engineer years later. With all the time he was putting into work, he had very little time to think about career development.

He knew he should have put more thought into his career. His vision of where he wanted to be in the 5 yr, 10yr picture was not completed. As he contemplated his future this last 3 years since moving to Oregon, he started to reflect on his years working with college students and how his IT career advanced so little because he didn't try it that hard.

Reflectively, he saw executive leadership as something that he loved and was good at. Starting from scratch or building something up from nothing and knowing how to change the infrastructure of the organization to accommodate growth and prevent stagnation due the decision making bottlenecks.

From that point till now, he have taken on numerous contracts because the job market here has been really bad so contracts were the best him could get if he were new to the area. But in the last 6 months was when he decided to stick his neck out and take action on a business school possibility.

Since Bob is an Oregonian, he can save a lot of money by paying in-state tuition. He would like to attend an Oregon university for a full-time MBA program.

He would like to get a MBA degree from a school with a high ranking, which could give him a big boost in his career. And the degree can move his salary to a higher level. However he does wonder, assuming he can land a job right after completing his MBA degree. How much higher a salary he will needs to make, in order to have a payback within three to five years?

Case Study 01 – Bob – Conclusion

Based on Bob's situation, there two criteria which are very important to him.

They are one must be an Oregon university which has a full time MBA program. This mainly because Bob have been live in Oregon for his entire life and moving into another state with

completely new environment isn't really something too exciting for him. Also not to mention the out of state tuition he is saving.

The MBA program has a good ranking. Bob deeply believe that the higher of MBA ranking of a given university, the higher awareness and value of his degree maybe. Thus it will be easier for him to land on a better job. So even if one university charges higher tuition then another university, it will be still worth in the long run.

Last we will be using our model to show Bob how much higher salary he will need to make, in order to have a return on investment within three to five years?

In our model, the selection is conducted in the following phases. The first phase consists of two criteria: resident and full time. Since all of schools are satisfied these condition, we will move to next phase.

In State Student	Resident
Full Time || Part Time	Full Time

The second phase we should choose the best ranking for Bob. See the "Institution MBA Ranking", Compared with these schools, we will find Portland state University have the best rank amount the others.

University & Institution	Portland State University
Institution Location	Portland, OR
Institution MBA Ranking	25th
Credits to be Taken	72
Estimated Tuition and Fees	$35,000
Estimated Time	24 Months
Significance Note	Ranked # 1 in the North West

University & Institution	University of Oregon
Institution Location	Eugene, OR
Institution MBA Ranking	40th
Credits to be Taken	76
Estimated Tuition and Fees	$30,616
Estimated Time	24 Months
Significance Note	N/A

University & Institution	Oregon State University
Institution Location	Corvallis, OR
Institution MBA Ranking	87th
Credits to be Taken	45
Estimated Tuition and Fees	$23,000
Estimated Time	15 Months
Significance Note	Sustainable Business

University & Institution	Willamette University
Institution Location	Salem, OR
Institution MBA Ranking	47th
Credits to be Taken	66
Estimated Tuition and Fees	$57,000
Estimated Time	21 Months
Significance Note	Top 15 MBA in Marketing

University & Institution	Eastern Oregon University
Institution Location	La Grande, OR
Institution MBA Ranking	N/A
Credits to be Taken	50
Estimated Tuition and Fees	$14,550
Estimated Time	24 Months
Significance Note	Accredit by (IACBE)

Before we calculated the return on Bob MBA investment, we need to know what would be MARR. Let's assuming if the economy was not too bad and our friendly banker are willing to offer a 5% interest certificate of deposit.

Then Bob needs to make:

A = P * (P/A, I, N)

Increment Income Month = User Adjusted Expenses * (P/A, (5%/12), 36) for 3 years

Increment Income Month = User Adjusted Expenses * (P/A, (5%/12), 60) for 5 years

University & Institution	Institution MBA Ranking (in World)	User Adjusted Expenses	Yearly Interest	Years	Monthly Interest	Months	Monthly Payment
Portland State University	25th	**$35,000**	**5.00%**	**3**	0.42%	36	**$1,048.98**
Portland State University	25th	**$35,000**	**5.00%**	**5**	0.42%	60	**$ 660.49**

Based on our table we can see bob will need to make $660.49 to $1,048.98 extra per month, if

wants to have return on investment within the 3 to 5 years.

Case Study 02 – Jenny

After Jenny completed Bachelor's degree from Utah State University as English Major, she was hoping to get a teaching job in the local public school agency. However during to the economy crises the whole educational system in the state of Utah was on hire freeze.

After staying home for 2 months on unemployment, Jenny decided to look for other job opportunities than staying around for a teaching position. This was primarily because she was running low on money, and really needs to bring in some cash to pay for her student loans. After two weeks of searching she landed a "Sales Associate" position for an electronic machinery company. Because of her excellent communication skills and the ability to empathize with other different points of views, within a short two years she was promoted to the "Regional Sales Manager" in Oregon.

However there was a catch, because Jenny didn't have a MBA master degree, her salary was limited to 80% compared to the other regional sales managers. Thus, Jenny decided to admit herself into part-time MBA program within Oregon. Because Jenny's office is in the downtown Portland, she bought a house near the Portland area, with 20% down payment. Also due to Jenny busy work schedule she is hoping to find a University that offers an MBA program close to her house to in order to minimize the travel time.

Jenny also noticed the big tuition difference between outstate and instate student. So she is considering if she should wait one year and pay only the in-state tuition fee, or start her MBA program right away and pay the first year with out-of-state tuition.

Since Jenny spent most of her savings on the down payment of her house, and she is planning to finance her tuition from student loans. She wonders how long it may take for her to start getting the return on her MBA investment, assuming the 20% will yell about $10,000 dollars a year.

Case Study 02 – Jenny – Conclusion

Based on the Jenny's scenario it seems that location would be her top priority. Because of Jenny's busy working schedule, she literally can not attend a part-time school that is far away from her house. The second priority when choosing a school for her is how long it takes to complete the MBA program. Since she knows that the earlier she can complete the MBA program the earlier she can get her 20% rise. The next most important thing would be the price of the tuition, of course the less she has to pay the better. Since Jenny already has a job, the ranking of the MBA program is irrelevant to her.

The second concern Jenny has is the difference in tuition between the resident and nonresident students. Should she start her MBA program right now, or wait one year until her residence changes? We will be using our model to help Jenny to choose the right school for her, and as well as showing when she will start getting return on her investment!

In State Student	Resident
Full Time || Part Time	Part Time

First we choose "Resident" and "Part-Time" to compare which school is the best fit for Jenny, and then we will be comparing the tuition difference between Resident and Non-Resident student to help Jenny decide if she should start her MBA program right now or wait for a year.

University & Institution	Portland State University		University & Institution	University of Oregon
Institution Location	Portland, OR		Institution Location	Eugene, OR
Institution MBA Ranking	25th		Institution MBA Ranking	40th
Credits to be Taken	72		Credits to be Taken	76
Estimated Tuition and Fees	$35,000		Estimated Tuition and Fees	$30,616
Estimated Time	36 Months		Estimated Time	N/A
Significance Note	Ranked # 1 in the North West		Significance Note	N/A

University & Institution	Oregon State University		University & Institution	Willamette University
Institution Location	Corvallis, OR		Institution Location	Salem, OR
Institution MBA Ranking	87th		Institution MBA Ranking	47th
Credits to be Taken	45		Credits to be Taken	66
Estimated Tuition and Fees	$23,000		Estimated Tuition and Fees	$57,000
Estimated Time	27 Months		Estimated Time	24 Months
Significance Note	Sustainable Business		Significance Note	Top 15 MBA in Marketing

University & Institution	Eastern Oregon University
Institution Location	La Grande, OR
Institution MBA Ranking	N/A
Credits to be Taken	50
Estimated Tuition and Fees	$14,550
Estimated Time	36 Months
Significance Note	Accredit by (IACBE)

Since University of Oregon does not offer a part-time MBA degree it will atomically be out of the consideration.

Above is the screenshot of our model that shows the detail information for each of the five state universities, such as location, MBA ranking, credits and tuition and fees. Now let's reorganize the information for comparison.

University & Institution	Institution Location	Institution MBA Ranking	Credits to be Taken	Estimated Tuition and Fees	Estimated Time	Total Expenses
Portland State University	Portland, OR	25th	72	$35,000	36 Months	$ 71,000
University of Oregon	Eugene, OR	40th	76	$30,616	N/A	N/A
Oregon State University	Corvallis, OR	87th	45	$23,000	27 Months	$ 50,000
Willamette University	Salem, OR	47th	66	$57,000	24 Months	$ 81,000
Eastern Oregon University	La Grande, OR	N/A	50	$14,550	36 Months	$ 50,550

Based on the above table, it can be seen that "Portland State University" is the only institution that meet the location criteria. As all of the other universities, are too far away from Jenny's home and office.

From the above table it can also be noticed that "Willamette University" has the shortest estimated time to complete the MBA program. However sadly it is all the way in Salem, OR. This location maybe too far away for Jenny, however if she decides she is willing to spend 2 to 3 hrs on the road (assuming 100 miles for round trips & one to one and half hours per 50 miles) then Willamette University would be Jenny's best choose.

Student Residence	In State Resident	Out of State Non-Resident
University & Institution	Portland State University	Portland State University
Institution Location	Portland, OR	Portland, OR
Credits to be Taken	72	72
Estimated Tuition and Fees	$35,000	$39,000
Estimated Time	36 Months	36 Months

University & Institution	Willamette University	Willamette University
Institution Location	Salem, OR	Salem, OR
Credits to be Taken	66	66
Estimated Tuition and Fees	$57,000	$57,000
Estimated Time	24 Months	24 Months

Now we can see that Willamette University has the same tuition fees for both Resident and Non-Resident student. Therefore if Jenny decides to attend Willamette University she should start her MBA program right away, as there is no benefit to wait.

However if Jenny decides to attend Portland State University, there is a tuition difference between a resident and nonresident student of about $39,000 - $35,000 = $4,000. Now the $4,000 is assuming that the student is paying the non-resident tuition fee for the whole 36 months. But in Jenny's case she only needs to pay non-resident tuition fee for the first 12 months. She will then become an Oregon resident after this paying only the in-state tuition. So to calculated the one year non-resident tuition difference we need to $4,000 / (36/12) = $4,000 / 3 = $1,333.33.

Now to answer Jenny's concern if she should start her MBA program right now or wait for one year. First we want to see how much this $1,333.33 worth in the future is.

F = P * (F/P, I, N) , where I = 7% / 12 = 0.58% and N = 36

F = $1,333.33 * (F/P, 0.58%, 36) = $1,333.33 * 1.23 = $1,643.90

If Jenny can make more then $1,643.90 in a year after she completed her MBA program, then she should start her MBA program right now, otherwise she should wait one year until her resident status has changed.

Now let see when Jenny will start getting return on her MBA investment.

Assuming Jenny decide to go Portland State University, and no interest was apply until she graduate from her MBA program, and all and only the extra $10,000 dollars are used to pay her student loan. So we can divided $10,000 dollars by 12 month = $833.33

University & Institution	User Adjusted Expenses	Yearly Interest	Years	Monthly Interest	Months	Monthly Payment
Portland State University	$35,000	3.50%	3.75	0.29%	45	$ 831.07

And based on our mode it will take Jenny about 45 months or 3 years and 9 months to start getting return on her investment.

Conclusion

Since each individuals have different needs, based on the need everyone would weigh each of the essentials criteria differently, thus choose different university that are best suit them. The model was not built by any means to evaluate if one university is the better then the other university, but it is merely a tool to help the user to choose the best suitable university for them. Or at least given the user a general guide what they should be or looking for.

Currently our model is only addressing quantifiable materials data, and return for each individual user. However in the reality a great percentage of decisions are made based on the emotional factors, and a user may make choices that are completed independent to the individual material gain. We have tried to find someway to quantify these emotional data; unfortunately we have been unsuccessfully in doing so, thus emotional data has not been discarded in our model.

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Appendix

Appendix 1

Institution	Location	Tuition	Hours & Length	Ranking	Starting Salary (avg.)	Significance
Willamette Univ.	Salem, OR	$57,000 Resident And Non Resident	21 Months (Full Time) 24 Months (Part Time) 66 Credits	47th	$58,000	Top school in Marketing in The North West
Oregon State Univ.	Corvallis, OR	$23,000 Resident $45,000 Non Resident	15 Months (Full time) 27 Months (Part time) 45-credits	87th	N/A	Sustainable Business
Univ. of Oregon	Eugene, OR	$30,616 Resident $41,440 Non Resident	24 months (Full time) 76 Credits	40th	$55,819	Sustainable Business
Eastern Oregon Univ.	La Grande, OR	$14,550 Resident And Non Resident	24 months (Full time) 36 months (Part time) 50 Credits	N/A	N/A	Accredit by (IACBE)
Portland State Univ.	Portland, OR	$35,000 Resident $39,000 Non Resident	24 months (Full time) 36 months (Part time) 72 Credits	25th	N/A	Ranked Number 1 in the North West

Comparison table of selected schools [1] [2][3][4][5][6]

Appendix 2

Institution	Location	Racial Diversity 2007	Age Diversity 2007	MBA Student Enrolment 2009
Willamette Univ.	Salem, OR	-White (59%) -Black (1%) -Hispanic (3%) -Asian (6%) -American -Indian (1%) -Unknown (22%) -(Foreign Students) (8%)	-Under 18 (1%) -18-19 (31%) -20-21 (32%) -22-24 (13%) -25-29 (12%) -30-34 (4%) -35-39 (2%) -40-49 (2%) -50-64 (0%)	-Full Time: 131 -Part Time: 98
Oregon State Univ.	Corvallis OR	-White (71%) -Black (1%) -Hispanic (4%) -Asian (7%) -American -Indian (1%) -Unknown (10%) -(Foreign Students) (5%)	-Under 18 (1%) -18-19 (27%) -20-21 (28%) -22-24 (21%) -25-29 (12%) -30-34 (5%) -35-39 (2%) -40-49 (3%) -50-64 (2%)	-Full Time: 51 -Part Time: 38
Univ. Of Oregon	Eugene OR	-White (72%) -Black (2%) -Hispanic (3%) -Asian (6%) -American -Indian (1%) -Unknown (10%) - (Foreign Students) (6%)	-Under 18 (1%) -18-19 (30%) -20-21 (30%) -22-24 (18%) -25-29 (11%) -30-34 (5%) -35-39 (2%) -40-49 (2%) -50-64 (1%)	-Full Time: 102 -Part Time: 0 -Executive MBAs: 78
Eastern Oregon Univ.	La Grande OR	-White (78%) -Black (1%) -Hispanic (4%) -Asian (3%) -American -Indian (2%) -Unknown (10%) -(Foreign Students) (2%)	-Under 18 (1%) -18-19 (15%) -20-21 (17%) -22-24 (15%) -25-29 (15%) -30-34 (10%) -35-39 (8%) -40-49 (12%) -50-64 (7%)	-Full Time: NA -Part Time: NA -Business and Management Program: 174 (this includes undergrad enrolment)
Portland State Univ.	Portland OR	-White (65%) -Black (3%) -Hispanic (4%) -Asian (7%) -American -Indian (1%) -Unknown (14%) -(Foreign Students) (6%)	-Under 18 (4%) -18-19 (11%) -20-21 (14%) -22-24 (20%) -25-29 (23%) -30-34 (11%) -35-39 (7%) -40-49 (6%) -50-64 (4%)	-Full Time: 71 -Part Time: 334

Demographics table of selected schools [6] [9]

Appendix 3 [11]

Oregon Business Manager Salary

Area	Mean Salary*
Bend	$85,800
Corvallis	$79,530
Eugene-Springfield	$92,770
Medford	$83,550
Portland	$101,830
Salem	$91,240
Coastal Oregon	$82,450
Southern Oregon	$81,510
Eastern Oregon	$77,400
Linn County	$85,030

Oregon Marketing Manager Salary

Area	Mean Salary*
Bend	$71,430
Corvallis	$76,150
Eugene-Springfield	$69,830
Medford	$68,080
Portland-Vancouver-Beaverton	$96,870
Salem	$73,110
Eastern Oregon	$80,740

Oregon Human Resource Manager Salary

Area	Mean Salary*
Eugene-Springfield	$74,200
Portland Vancouver Beaverton	$89,310
Salem	$79,500

Oregon Financial Manager Salary

Area	Mean Salary*
Bend	$90,860
Eugene-Springfield	$84,090
Medford	$76,900
Portland-Vancouver-Beaverton	$101,830
Salem	$84,320
Coastal Oregon	$74,550
Eastern Oregon	$73,780
Linn County, Oregon	$70,970

Oregon Business Analyst Salary

Area	Mean Salary*
Bend	$61,090
Corvallis	$52,570
Eugene-Springfield	$53,990
Medford	$66,720
Portland-Vancouver-Beaverton	$67,420
Salem	$51,210
Coastal Oregon	$65,180
Southern Oregon	$55,630
Eastern Oregon	$53,580

Oregon Health Services Manager Salary

Area	Mean Salary*
Bend	$87,570
Corvallis	$79,320
Eugene-Springfield	$85,120
Medford	$80,780
Portland-Vancouver-Beaverton	$93,800
Salem	$85,170
Coastal Oregon	$68,550
Southern Oregon	$57,880
Eastern Oregon	$70,290
Linn County, Oregon	$57,980

Appendix 4
Model Section 01

University 01	

In State Student	Non-Resident
Full Time || Part Time	Part Time

University & Institution	Portland State University
Institution Location	Portland, OR
Institution MBA Ranking (in World)	25th
Credits to be Taken	72
Estimated Tuition and Fees	$39,000
Estimated Time	36 Months
Significance Note	Ranked # 1 in the North West

Per Monthly	
Housing Expenses	$ 500.0
Food Expenses	$ 200.0
Transportation	$ 100.0
Other Expenses	$ 200.0
Total Expenses	$ 1,000.0
Living U.S. Inflation	6%
Estimated Expenses	$ 36,000.0

Financial Resources	
Scholarship Amount	$ 10,000.00

Loan Amount	$ 40,000.00
Interest	
Starting Loan Date	
Starting Date for Loan Payback	

Self Pay Amount	$ 10,000.00

Total Expenses	$ 75,000.0
Account Balance	$ (15,000.0)

Expectation of M.S. Benefits	(Before Tax)
Current Salary or Income	$38,000.00
Expected Salary or Income	$ 58,000.00
Expected Salary Rate of Increment	$ 20,000.00
Saving Rate	
Taxes Rate	

Appendix 5
Model Section 03

Years	Months	University & Expenses Net Cash Flow	University & Expenses Cumulative PW
		Portland State University	Portland State University
Year 00	Month 00	$ (30,000.00)	$ (30,000.00)
Year 01	Month 01	$ 876.51	$ (29,123.49)
Year 01	Month 02	$ 873.96	$ (28,249.54)
Year 01	Month 03	$ 871.42	$ (27,378.12)
Year 01	Month 04	$ 868.88	$ (26,509.24)
Year 01	Month 05	$ 866.35	$ (25,642.89)
Year 01	Month 06	$ 863.83	$ (24,779.05)
Year 01	Month 07	$ 861.32	$ (23,917.73)
Year 01	Month 08	$ 858.82	$ (23,058.91)
Year 01	Month 09	$ 856.32	$ (22,202.59)
Year 01	Month 10	$ 853.83	$ (21,348.76)
Year 01	Month 11	$ 851.35	$ (20,497.42)
Year 01	Month 12	$ 848.87	$ (19,648.55)
Year 02	Month 01	$ 846.40	$ (18,802.14)
Year 02	Month 02	$ 843.94	$ (17,958.20)
Year 02	Month 03	$ 841.49	$ (17,116.72)
Year 02	Month 04	$ 839.04	$ (16,277.68)
Year 02	Month 05	$ 836.60	$ (15,441.08)
Year 02	Month 06	$ 834.17	$ (14,606.91)
Year 02	Month 07	$ 831.74	$ (13,775.17)
Year 02	Month 08	$ 829.32	$ (12,945.85)
Year 02	Month 09	$ 826.91	$ (12,118.94)
Year 02	Month 10	$ 824.50	$ (11,294.44)
Year 02	Month 11	$ 822.11	$ (10,472.33)
Year 02	Month 12	$ 819.72	$ (9,652.62)
Year 03	Month 01	$ 817.33	$ (8,835.28)
Year 03	Month 02	$ 814.96	$ (8,020.33)
Year 03	Month 03	$ 812.58	$ (7,207.74)
Year 03	Month 04	$ 810.22	$ (6,397.52)
Year 03	Month 07	$ 803.17	$ (3,980.97)
Year 03	Month 08	$ 800.84	$ (3,180.13)
Year 03	Month 09	$ 798.51	$ (2,381.62)
Year 03	Month 10	$ 796.19	$ (1,585.43)
Year 03	Month 11	$ 793.87	$ (791.56)
Year 03	Month 12	$ 791.56	$ 0.00
Year 04	Month 01	$ 789.26	$ 789.26
Year 04	Month 02	$ 786.97	$ 1,576.23
Year 04	Month 03	$ 784.68	$ 2,360.90
Year 04	Month 04	$ 782.39	$ 3,143.30
Year 04	Month 05	$ 780.12	$ 3,923.42