LUCRO ISLAND: STRATEGIC BUDGETING

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Lucro Island is a small 'fictitious' island around 52 square miles (83km^2) with a transient population of around 15,000. Most of Lucro Island's inhabitants live around the capital city, Abuca, known for its beautiful harbour and accessible international airport. Lucro Islanders are largely employed in activities that support a busy and growing local tourist industry, which caters for more than 100,00 tourist visits each year. Lucro is a popular tourist destination because of its beautiful surf beaches, marine sports and sandy bays as well as the world-renown tropical botanical gardens and rare plant species. Because of the popular music festivals, Lucro attracts 18-year olds school leavers on their 'senior spring break' (schoolies). Lucro also attracts families who enjoy the relaxing climate, the beach sports and bush-walking adventures. The luxury traveller is also welcomed at Lucro Island as a superior escape destination – mostly because of the Royal Palace who arrange polo tournaments, deep-sea fishing, opera and music concerts that help support this thriving tourist industry.

Because of the growing number of visitors to the island, the senior management team of a multinational company with hotel interests (Kilgors) have decided to invest in a suite of hotels on this busy island. They have purchased a 3-star hotel; a 5-star hotel and a backpacker's hotel. While each hotel needs a bit of care and attention, they believe that with managerial budgeting expertise, each should perform well against the local competition.

You have been invited to head one of the hotels. Login to the Kilgors website to get your details and make your hotel selection. One of your first jobs is to name your hotel. Make it a good one! Because you are competing with a number of hotels on the Island, be strategic in your hotel design, branding, pricing and costing choices. Remember, you need to create a standout hotel offering – one that attracts customers and maintains a high occupancy rate. This requires that you consider your hotel amenities, your staff, how much you spend on maintenance and marketing expenses, along with targeted pricing. Kilgors' management have given you three years in which to build your brand.

At the beginning of this case challenge, you will be provided with information about the island from the locals as well as the regional tourist industry operators. This will help you determine your pricing and other operational budgeting strategies. Consider whether you are a cost leader or a differentiator? What stakeholders are important for your business? Plan carefully

and make sure your product mix choices (room types and retail options) are carefully considered. Once you build your hotel, you will not be able to invest in changes until after your three year probation at Kilgors is successfully completed. Every year for three years you will be provided with feedback on your managerial performance and competitive advantage. This feedback comes from the customers and the market analysis. You will find this feedback on the digital interface and embedded within the excel spreadsheet budget template that you will download within the game. Ensure you respond to the market feedback in each of the following year's budget preparation. There will be some unforeseen opportunities that you might also need to respond to during this case challenge.

Lucro Island comes from the term 'profit' in Portuguese. Although profitability is important, the 'winners' of the Lucro Island case challenge are the individuals or teams who take into consideration multiple financial and non-financial factors which together impact their hotel's brand and Kilgors reputation in the hotel industry. This is the island where gamers can test their strategic budgeting skills against other players. This case challenge, is presented as a 'serious game' that can be accessed at www.kilgors.com.

CASE REQUIREMENTS

First register as a student at www.kilgors.com with an access code provided by your instructor*. You will be instructed to play this serious game as an individual or a team.

Questions:

1. Were you top of the leader board at the end of the game? Yes/No. If yes, explain your strategies for winning the game.

2. If no, explain why you think that you did not win the game.

3. Describe the financial implications of your game strategy.

***** Your instructor will provide you with instructions on how to navigate through the case.

TEACHING NOTES

Contents

INTRODUCTION

This case is suited to a wide range of undergraduate and graduate business students. While Lucro was specifically developed for advanced strategic management accounting courses, the nature of the gamified simulation, opens the case to a broader audience. It has been used in a variety of situations from introductory business courses to advanced strategic budgeting in graduate studies. The simulation has also been used in presentations to large audience, where there is a single player demonstrating the game and inviting audience participation. It is up to the educator to decide the level on which to focus the simulated learning outcomes. The gamified nature of the case provides the opportunity for authentic learning and assessment.

BACKGROUND

Lucro Island (www.kilgors.com), a digital budgeting game, was developed over a period of 18 months by a diverse group of academic, engineering, computer programming, graphic design and serious gamer expertise. The aim was to develop an innovative and generative business-related computer game that could be used in a variety of pedagogical applications. An important part of the development of this case was to engage the academic users of the game in innovative teaching designs. This teaching note provides an overview of the underlying model that helps encourage critique and debate in the classroom. Academics are encouraged to align the game with their desired learning outcomes.

Although fictitious, Lucro Island was built on hotel industry data, with content and underlying model tested and supported by hospitality industry expertise. The 'serious game' design features ensures this case supports budgeting pedagogy along with engaging assessment in a safe environment. Students can compete as if in the real world with the model's algorithms determining the winners. Students are encouraged to test their strategies against others.

CASE LEARNING OBJECTIVES

Lucro Island comprises a competitive hotel environment with students managing their individual hotel and making decision on room types and retail options (product mix), room rate, budgeted hotel occupancy, staff expenditure and marketing and maintenance expenditure. The overarching aims are for students to be able to develop short-term annual budgets and evaluate financial performance impacts in the model. The learning outcomes are also directed at students recognising the non-financial outcomes of their financial decisions. The broad learning outcomes are listed as follows:

LO1*: To familiarise students with the big picture concepts of accounting and the interlinking relationships between the income statement; cash flow statement and balance sheet.*

LO2*: To prepare budgets and test the financial decisions using excel spreadsheets*

LO3: *To learn the importance of assumptions in budgeting*

Embedded in the serious game is a hotel spreadsheet, generated according to individual student selections. Students are required to input data across several selected items, and other income statement and balance sheet items self-calculate, based on the input decisions. More detailed discussion of specific learning outcomes provided in Table 1. The description

of the learning outcomes can be used to support classroom discussion and guide student learning.

Table 1: Learning outcomes and description

Learning Outcomes	Description
Understand the role of forecasting in the profit planning process.	Teams who *overestimate* their occupancy will incur higher fixed costs which will drag down their score. Teams who *underestimate* their occupancy will have lower marketing spend and lower maintenance spend and therefore low marketing factor; and lower quality factor. It is important to make estimates based on the foreseen events, including brand strength, current market share and then plan accordingly.
Recognise the difference between variable costs and fixed costs.	When formulating the profit plan, students sometimes get confused because the fixed costs seem to behave like variable costs on the spreadsheets. The game helps to illustrate this by demonstrating the drivers of costs through the links in the spreadsheet. Administrators can highlight the calculations are for planning purposes only and that while fixed costs may vary with 'planned sales' on the spreadsheet, they do not vary with actual sales revenue. Two line items are separated to highlight this issue. 'Maintenance' and 'Utilities' have separated base and activity components that help to demonstrate the fixed and variable costs in action.
Explain the role of risk in business decisions.	The budgeting process is not static but set in a competitive environment where payers do not know their competitor decisions over pricing, expenditure and product mix and how this might impact their own business. In addition, students should recognise that there are unforeseen events modelled in the simulation that may have a significant impact on performance.
Brand	The impact of quality (positive or negative) persists beyond the current period via the brand factor in the model. This helps to demonstrate the longer-term impact of decision making
The role of strategic decisions on profit planning.	The configuration of the hotel and the choice of retail outlets have impact on the performance of the business over many years. These are fixed after the first budget round.
The role of financial and non-financial performance measurement on profit planning.	Key financial measures are highlighted in the spreadsheet. These include: Free Cash Flow (FCF); Return on Capital Employed (ROCE); Net Profit Margin; Earnings Before Interest and Tax (EBIT); Residual Income (RI) and Economic Value Added (EVA). Students can explore how they are calculated and the impact of their decisions on the performance measures. Non-financial measures are highlighted in the outcomes of financial decision making and revealed on the interface and evaluator comments by characters in the simulation. These include: Occupancy Rate; Customer Satisfaction; Brand; Market Share. Overall competency is a function of several factors and is included in the model. These are linked to comments from the marketplace stakeholders and customers at the end of each year.

IMPLEMENTATION GUIDANCE

Detailed instructions for students and educators are provided in **Appendix 1** and **Appendix 2** respectively. It is recommended that you provide students with the Appendix 1 guide to save frequently asked questions and time in class. Educators should familiarise themselves with the game before attempting it in class for the first time. Although it is designed as a competitive multiplayer interactive game, instructors can also play the game with the students and can practice by themselves using 'artificial players'. This is detailed in Appendix 1 instructions.

Instructors can use Lucro to demonstrate the basics of traditional budgeting. **Appendix 3** provides a flow model of the steps required to play the game. The flow model underpins the simulation design and algorithmic model. The coding design selects player responses from the simulation that they have entered into the three-year series of spreadsheets. Students are required to prepare the initial budget for their hotel in Year 0, then when they see how they perform in a competitive market environment, they are required to update their prices and play again in Year 1 and Year 2. A winner in Year 1 can lose the game in Year 2 and vice versa. A backpacker hotel can win against a 5-star hotel and vice versa. Winning depends on how well the player performs against their competitor (other students) and this is decided by the underlying model which considers several qualitative and quantitative factors, not only profitability. External factors are modelled in the game which also add to pedagogical experience and enjoyment of the game. The underlying model and an example of the reports that players can download during the simulation are provided in **Appendix 4**.

Lucro is designed to be completed in a 1.5 to 2-hour class. A detailed example of how it is used in class by an instructor is provided in **Appendix 5**. Depending on time available, Lucro could be extended to cover several topics and more than one class as follows:

- *Introduction to accounting and cost concepts* – Lucro encourages students to become familiar with the traditional cash flow statements; income statements; and, balance sheet items. Lucro financial statements are presented as a single spreadsheet. Instructors are encouraged to ask students to explore the content of the spreadsheets in detail and identify pricing and cost items such as fixed, variable and mixed costs in the income statement. It is important that students consider the impact of predicted and actual occupancy in the budgeting process.
- *Budgeting and performance* – the interlinking relationships between the financial statements are modelled in the excel spreadsheet. Instructors might like to draw attention to the relationships between the financial statements so students can consider carefully and monitor the financial performance of their hotel throughout the 3 years of the game. Depending on the degree of complexity the instructors require, Lucro provides a summary financial statement including Free Cash Flow (FCF); Return on Investment (ROI); Residual Income (RI) and Economic Value Added (EVA) measures. Students can spend time in preparing budgets to meet specified financial performance goals.
- *Strategic considerations* – Lucro is strategic by nature as students must consider their choices carefully if they want to win the game. Students need to consider whether their hotel is a cost leader or a differentiator, what pricing they might consider (above or below market average) and what they are doing to their hotel to help improve branding in the long run. Students are encouraged to build their hotel at the beginning of the game with long-term strategic goals in mind. In determining product mix decisions, students need to

dedicate floor space to single, double or penthouse rooms as well as determine the type of retail options that would be suitable for their hotel.

Appendix 6 provides an example of a completed student spreadsheet. It is important to note that every time the simulation is played, the results will be different because of the variation in competition. The instructor's dashboard will have records of student/s game results and this can be included in assessment.

Technical notes: Please test the program in the lab you plan to use it in as certain features or ports may be blocked at your institution. You will need to enable 'adobe flash' and you will be required to Microsoft Excel®. For Mac users, we recommend that students download Office for Mac so they can use Microsoft excel®.
Recommended Browser: Google Chrome.
Minimum Computer Specs: I5 or Intel® Core 2 Duo processor and 2GB RAM

EVIDENCE AND EFFICACY

This case has been used in a variety of classroom situations. We have used it in first year undergraduate business courses to provide an overview of accounting.

We have used it in second year undergraduate cost accounting courses, in large and small class sizes (as detailed in Appendix 5)

We have also used it in third year strategic performance management courses (Appendix 7) where we investigate the financial performance measures and outcomes of decision making. **Appendix 7** provides a video of the first pilot test use in classroom and instructor discussion.

We have used the simulation in Australia, Singapore and Indonesia over 3 semesters. There are now several instructors who are routinely using the simulation in class across different universities. We have also used the simulation as an online activity instead of face-to-face.

In our classes we use the simulation as part of group assessment. **Appendix 8** provides examples of the handouts we give to students to complete after the simulation. The questions are broad but give a clear understanding of their comprehension of the process of budgeting and the theory behind the decision making.

STUDENT FEEDBACK

Formal student feedback via a survey is provided in the table below:

Lucro Island Strategic Budgeting **n = 73**		**Mean**	**Mode**	**Standard Deviation**
Q.1	I enjoyed working through the simulation	4.42	5	0.6
Q.2	The simulation and tasks required me to use critical thinking and problem-solving skills	4.27	4	0.7
Q.3	The simulation increased my knowledge of the strategic budgeting process	4.12	5	0.8
Q.4	The simulation helped me understand some of the decision-making required within organizations	4.26	5	0.7
Q.5	I found working through the simulation quite straight forward	4.18	4	0.8
Q.6	The feedback from the game (scoring) helped me/my team understand how to improve in the following year	4.12	5	0.9
Q.7	The 'gamified' aspect of the simulation motivated me to better understand the budgeting strategies to 'win' the game	4.27	4	0.7
Q.8	Regardless of whether you are working individually or in groups, do you think students in teams have a better chance of winning than an individual student?	4.00	5	1.0
Survey Scale: 1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree				

Student comments:

"In a team the students can correct each other's errors and compare strategies"

"In a team the students can easily get different ideas when they are communicating with each other"

"Working in a team will enable us to brainstorm our organisational strategy/strategies"

"The simulation is very good for learning. I really like this way of learning"

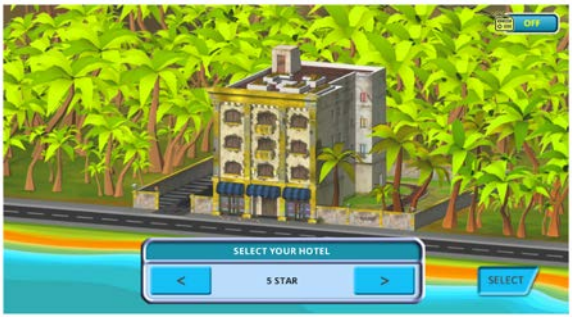
"I am so into this simulation that I don't want to go home. Although I am out in the final round but I still found this is enjoyable"

Appendix 1: Student Guide – 'Lucro Strategic Budgeting'

Step 1: Register as student at www.kilgors.com ; Code for this game is [insert code]

Step 2: You will instantly receive a verification email that will enable you to commence the game

Step 3: Commence game. Follow prompts as pictured below. Innovative hotel names are encouraged

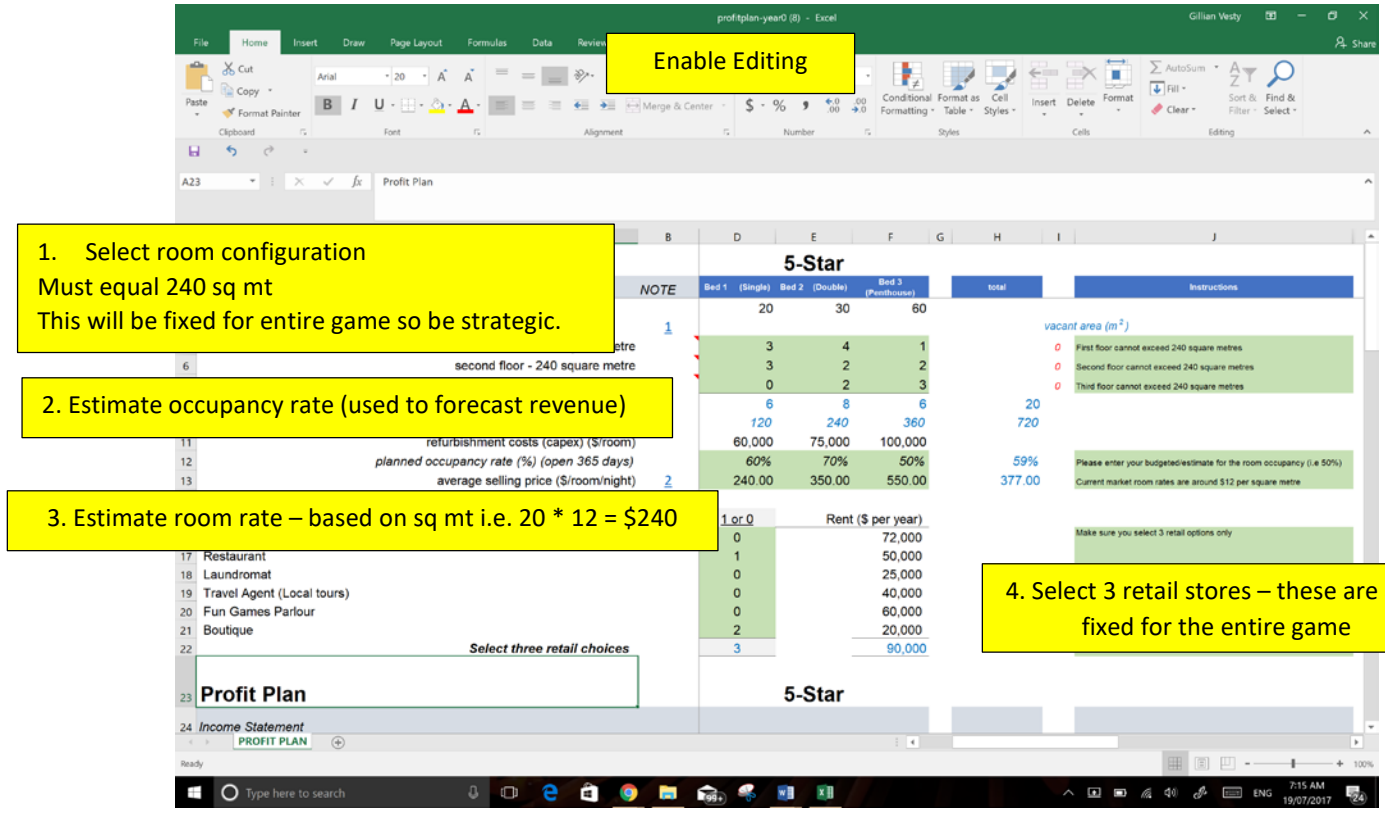


Click on every character for information about the island. Use this information to create your budget

Click on 'DOWNLOAD TEMPLATE' to download the excel spreadsheet.

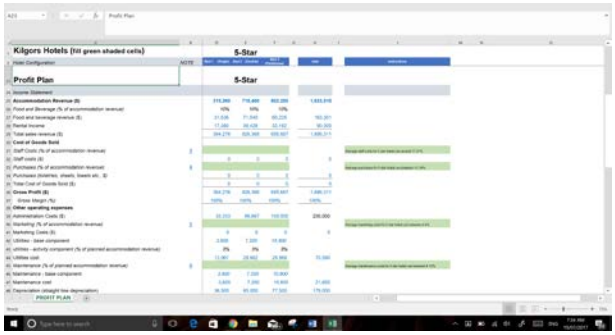
You do not need to rename – just save in downloads, enter information and then click 'SELECT PROFIT PLAN' find the correct spreadsheet in downloads and upload.

Note, you will do this for 3 iterations. Each download is saved as budget year 0, 1, 2.



Common mistakes

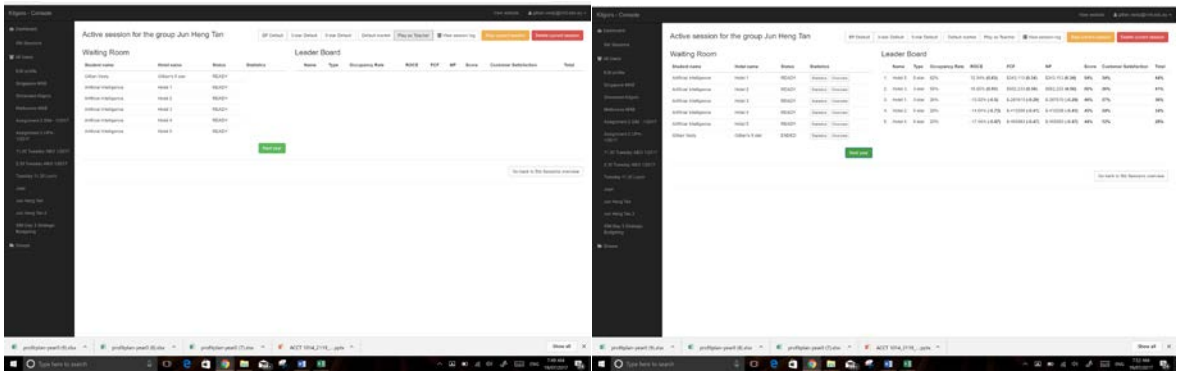
Configuration can be anything up to 240 sq metre - not over – follow red countdown to zero.
Room rate is calculated incorrectly (do not multiply by rooms; it is a per room rate)
Must select 3 retail options. Note, retail options and room configurations are classified as fixed investments and cells are locked for the rest of the game. Be strategic to be competitive and win!



Complete the rest of the spreadsheet using the 'average' information provided as a guide. Can go above or below as part of your strategic budgeting exercise. Winners are not average players! Note, you will get an error message when you try to upload where cell data is missing or incorrect.

You must click twice on the 'SELECT PROFIT PLAN' to load. The interface changes to the waiting room shot as below. Wait why everyone uploads spreadsheet.

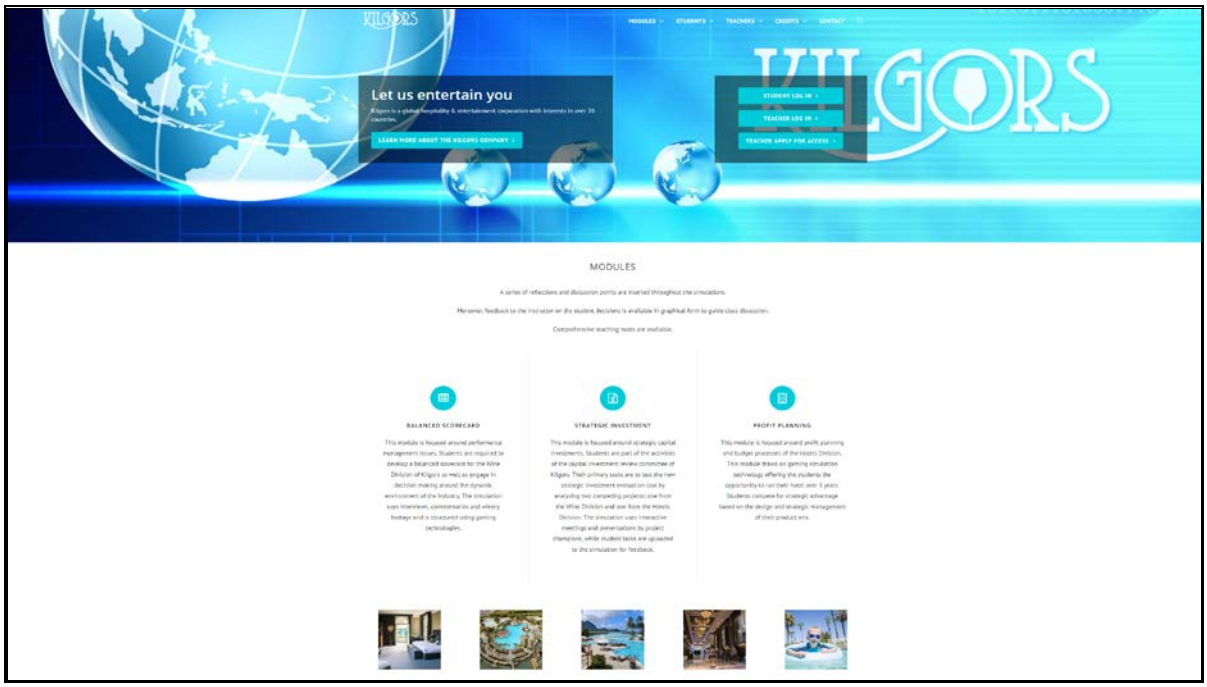
The instructor will then select 'Next year' and scores and rankings will be revealed.



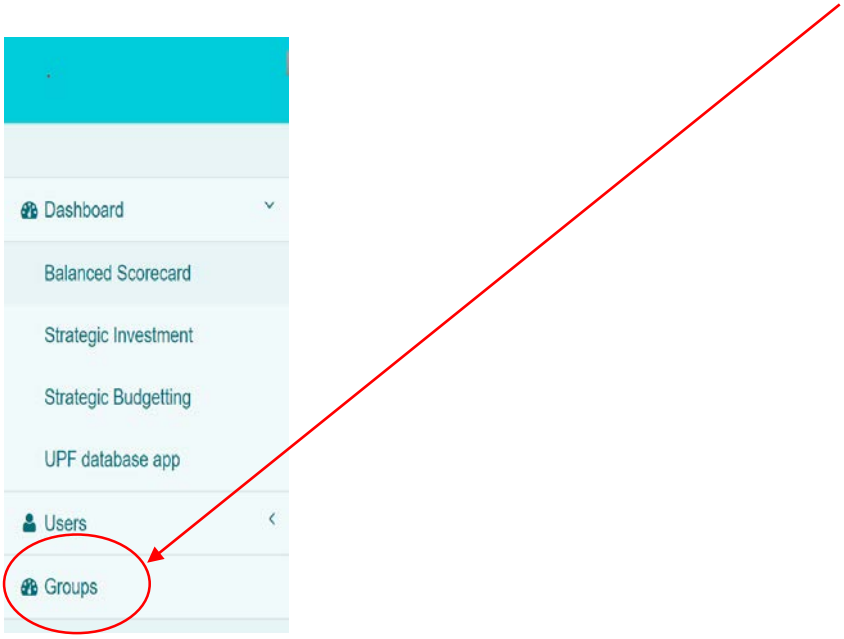
First review your performance and that of your competitors (top icons). Click on icons at top of screen to receive downloadable reports. Second, consider feedback from the market and customers (bottom icons). Once all comments are read, you can then play next year as above. Make sure you pay attention to comments received to improve performance.

Appendix 2: Instructors Guide – 'Lucro Strategic Budgeting'

Step 1: Register as instructor at www.kilgors.com (can select one or all three modules)

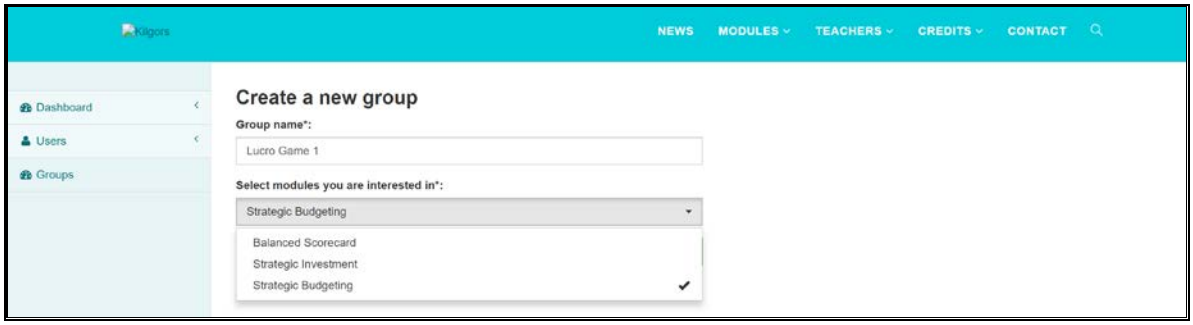


Step 2: Once administrator has approved registration, create password and login as instructor. You will be directed to your 'Dashboard' - Set up a group by selecting 'Groups' (bottom left of screen).

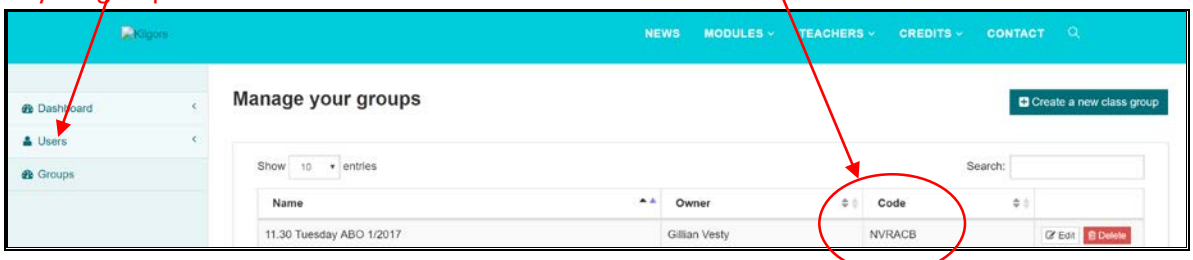


Step 3: Select 'Create a new class group' (top right corner).

Step 4: Name the group you have created and select “Strategic Budgeting” from the dropdown box.

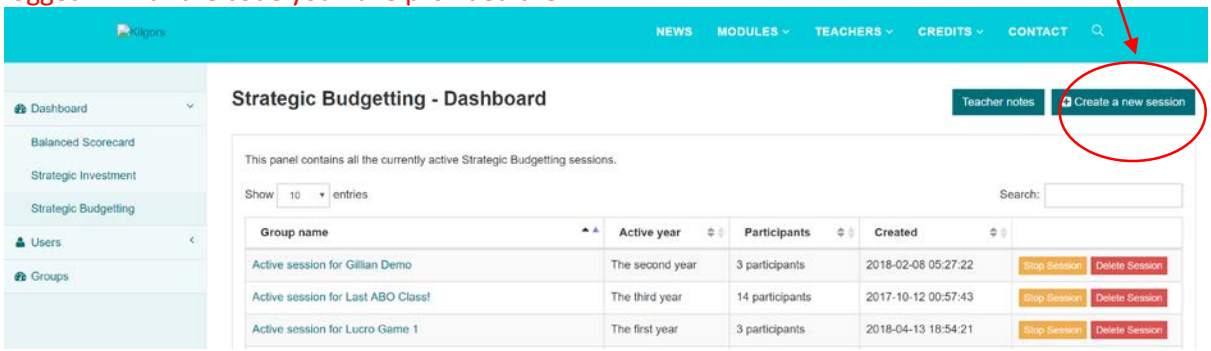


Step 5: You will see a group has been created with its ***unique code*** that you can give to players. Provide the designated code to your players. Importantly, before you commence the game, check under ‘Users’ and make sure all students using the code have their name registered and/or logged in to your group.



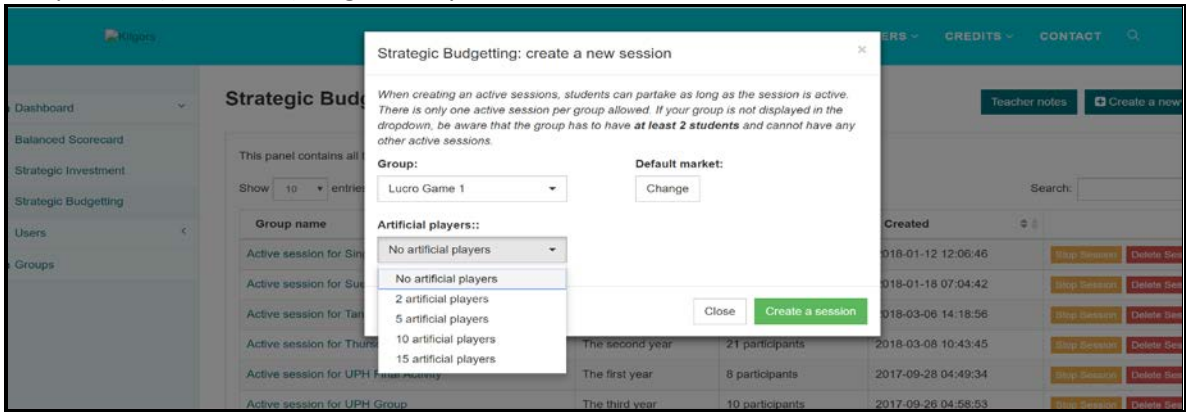
Note: If students have already registered, they will need to select ‘join a new group’ on their individual dashboards to enter the new code.

Step 6: Commence the game by returning to Dashboard ‘Strategic Budgeting’ and select ‘***Create a new session***’. IMPORTANT. Only create a new session when *all* playing students have registered and logged in with the code you have provided them.

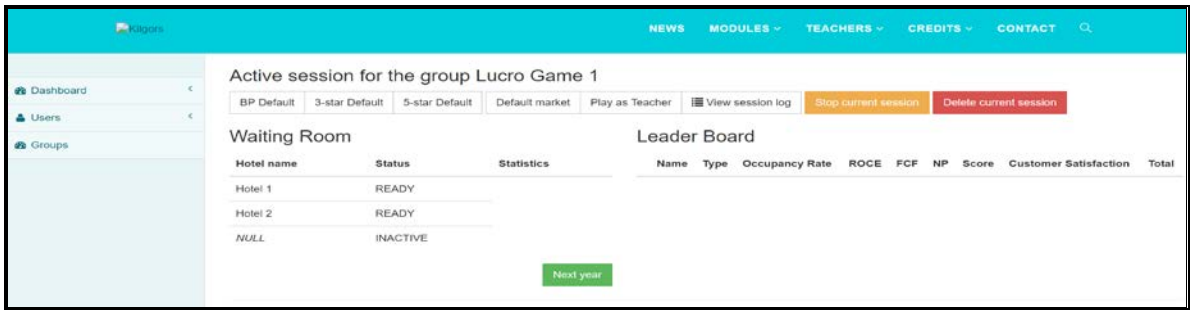


Step 7: Once you have selected ‘Create a new session’, search for the group you have created (alphabetically ordered). Note, if you create a new session before students have properly registered, then they will be locked out of the game and will not be able to play.

Depending on number of players, you can create additional artificial players to increase the competition (2; 5; 10;15). In general, you do not need to alter the default market.



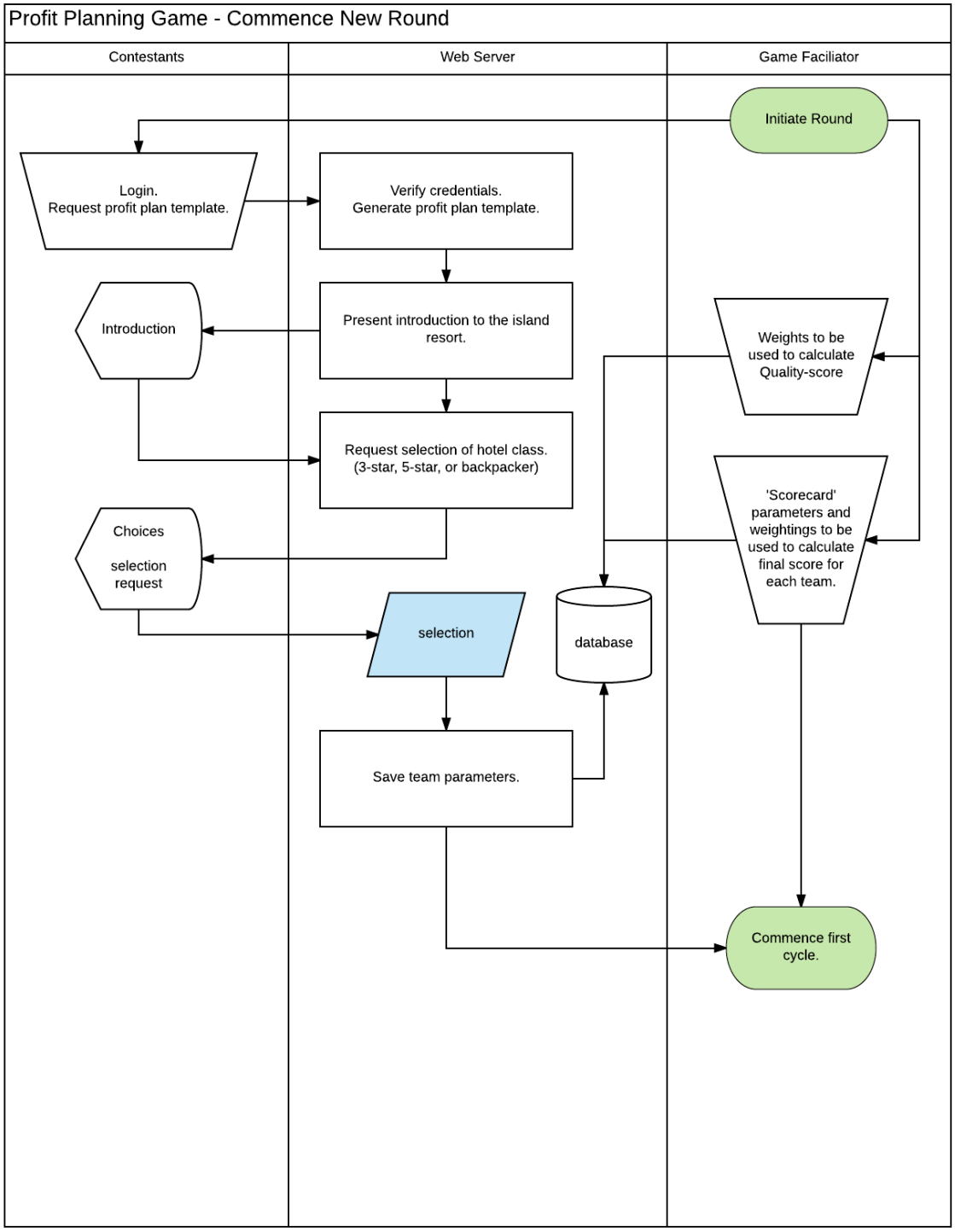
Step 8: Decide whether you want to play as an instructor (see top middle of screen).

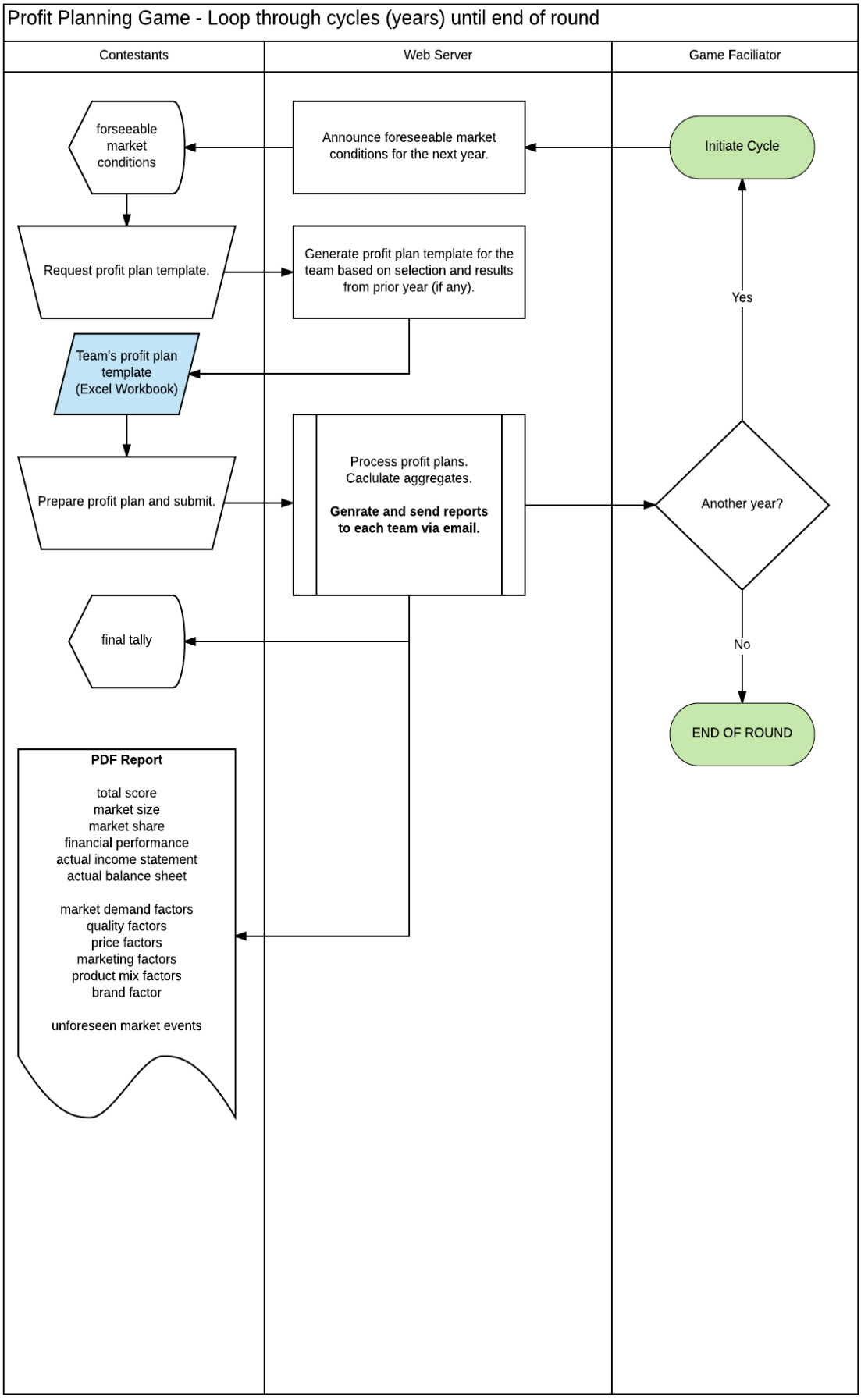


Step 9: When all students have completed and uploaded the spreadsheet, you will see that each hotel status is designated 'ready'. Once all players are ready then click 'Next Year' to see how students have performed (see student instructions above). If you do this too early, any player that has not finished will be locked out of the rest of the game. Repeat the game for 3 years.

You can set this as an assessment task and provide an 'Individual/Group Handout' to confirm level of understanding (Appendix 1). Add any additional questions.

Appendix 3: Mapping the game – instructor, player and web server




Profit Planning Game - Loop through cycles (years) until end of round
Contestants
Web Server
Game Faciliator
forseeable market conditions
Announce foreseeable market conditions for the next year.
Initiate Cycle
Request profit plan template.
Generate profit plan template for the team based on selection and results from prior year (if any).
Yes
Team's profit plan template (Excel Workbook)
Process profit plans.
Caclulate aggregates.
Genrate and send reports to each team via email.
Another year?
Prepare profit plan and submit.
final tally
No
END OF ROUND
PDF Report
total score
market size
market share
financial performance
actual income statement
actual balance sheet
market demand factors
quality factors
price factors
marketing factors
product mix factors
brand factor
unforeseen market events

Appendix 4: Model and Report: Game Model

The model underpinning the determination of the actual occupancy for each year depends on the hotel's prices, its competency; its brand strength; and the market demand factor for the year.

$$Actual\ Occupancy_{y,t,i,k} = min\{[D_{y,i,k} \times Price_{y,t,i,k} \times Competency_{y,t,i} \times Brand_{y,t,i}], 1\}$$

The subscripts:

- *y* indicated the year;
- *t* indicates a hotel;
- *i* indicates the class of accommodation (eg: 3 star, 5 star or backpacker);
- *k* indicates the size of the room or number of beds per room (eg: 1 bed, 2 bed, etc.)

Occupancy rates are capped at 100%.

The ***competency factor*** for a year, hotel and class of accommodation is the product of five factors:

- Staff Factor
- Purchases Factor
- Maintenance Factor
- Marketing Factor
- Product Mix Factor

$$Competency_{y,t,i} = Staff_{y,t,i} \times PUR_{y,t,i} \times MAINT_{y,t,i} \times M_{y,t} \times \mathrm{PM}_{y,t,i}$$

Each factor comprises a separate detailed model (not included here).

Brand is an important part of the model. A hotel's actual occupancy is also impacted by the strength of the hotel's reputation or brand. The brand factor depends on customer satisfaction for the previous year. For the first year, it is equal to 1. For subsequent years it is equal to the square root of the customer satisfaction factor for the previous year. Branding has no impact in the first year.

$$Brand_{y,t,i} = \begin{cases} 1 & for\ y = 1 \\ \sqrt[2]{\dfrac{competency_{y-1,t,i}}{Price_{y-1,t,i}}} & for\ y > 1 \end{cases}$$

with the range clipped at an upper limit of 2.

$$Price_{y-1,t,i} = \left[\frac{\sum_k (R_{y,t,i,k} \times Price_{y,t,i,k})}{\sum_k R_{y,t,i,k}}\right]$$

Customer satisfaction for hotel is presented as the competency multiplied by the average Price Factor. The average is weighted by the planned accommodation revenue for each room size.

$$SAT_{y,t,i} = \frac{competency_{y,t,i}}{Price_{y,t,i}}$$

clipped at a maximum of 1.

$$Price_{y,t,i} = \frac{\sum_k (R_{y,t,i,k} \times Price_{y,t,i,k})}{\sum_k R_{y,t,i,k}}$$

Where $R_{y,t,i,k}$ denotes the accommodation revenue for a room size.

Appendix 4: Model and Report: Example of end of year hotel report

The following is an example of the downloadable report students can obtain to evaluate their performance. Results highlight how they have performed against their competitors.

Profit Planning Simulation End of Year

	5-star		
	Single	Double	Penthouse
Year	0		
Market Demand Factor	0.575	0.575	0.575
Team	Akiliaz Hotel		
Staff factor	1.087		
Purchases factor	1.086		
Maintenance factor	0.755		
Product mix factor	0.9		
Marketing-spend factor	0.963		
Competency factor	0.772		
Brand factor	1		
Actual occupancy factor	0.661411	0.669064825	0.8454501
Market Data			
Average selling price ($/room/night)	166.24	226	506.46
Average spend on marketing ($/hotel)	149741.81		
Average spend on staff ($ per bed)	0.1824		
Average spend on purchases ($ per bed)	0.1136		
Average spend on maintenance ($ per bed)	3674.56		

Appendix 5: A detailed example of how Lucro is used in the classroom

Example 1: Undergraduate Cost Management Class in a Lecture-style setting

The simulation has been used in a *lecture-style setting* on three occasions. Students are informed they will need a laptop computer or, be able to share one to complete the simulation. Students may choose to work on their own or with a partner. The class is a second-year undergraduate Cost Management class. This is the first management accounting subject the students have undertaken. Students have been exposed to a 2-hour lecture the previous week on budgeting, flexible budgeting and standard costs. Prior to the class, the students are provided a set of guidelines (see Appendix 1) for navigating the simulation. A set of slides (see Appendix 9) are used to guide the progress of the class.

Accounting students often like to focus on the 'numbers'. There are times when instructors tend to encourage this. For example, in budgeting-style tasks many of our questions/tasks provide students with a set of numbers and ask they compile the budget statements. Providing the opportunity for students to think more about where the budget numbers might come from is less common. This is one of the reasons we used the simulation at this level. That is, using an engaging tool, have students experience a sample of the decision making required to arrive at the budget numbers. Secondly, the idea that budget numbers may not come to fruition (as well as the reasons for this) is not always explored. The simulation does a very good job of exposing students to both issues: the construction of the budget numbers and the likely causes of budget variances.

I spend a significant amount of time to explain the nature of the simulation, the key tasks and decisions, along with the sequence of events within the simulation itself. This upfront explanation is critical to the success of the class. Letting the students commence the simulation prior to this is likely to reduce its impact, as students tend to rush in and complete the tasks with haste. This reduces the potential learning effects of the simulation. To facilitate this introduction phase, students are not provided the login credentials until this phase is completed.

In each of the three classes where the simulation was used, there were: forty-eight, ninety-one and fifty-nine students (or groups of students) who registered into the simulation. The introduction, playing the three iterations of the module and debrief take approximately one-and-a-half hours. In terms of time breakdown: the introduction phase takes about 15 minutes; the three iterations of the game approximately 35 - 45 minutes including a short discussion phase after each iteration; and the debrief approximately 15 minutes,

When the students play the game, I allow more time to complete the first iteration, encouraging students to take notes, and take time to make their decisions. As all students need to have submitted their spreadsheet to progress to the second iteration, it becomes necessary to set a time limit to ensure timely progression through the simulation. This is best done via class observation and estimating the amount of time that allows students to finish, but not too long as to stall those students who have submitted. At the completion of each iteration, the scoreboard is perused with the class and students are encouraged to take note of the feedback they have been provided. This is where the impact of other events (internal and external) are deemed to impact the achievement of budget targets.

Conducting the simulation in this kind of setting did not seem prohibitive to the achievement of the learning and content objectives. Students engaged with the tasks as they would have in a smaller classroom setting.

Example 2: Undergraduate Accounting Core (first year) in a Lecture-style setting

Lucro Island is used over a period of 5 weeks throughout an undergraduate accounting course to teach introductory accounting concepts to students. All students are business students who will major in different disciplines, including management, marketing, economics, finance, accounting, law, IT and logistics. The course is designed to introduce management accounting and financial reporting concepts to students and Lucro provides an enjoyable means to engage all students with accounting, particularly those that typically find the course challenging. They are introduced to Lucro after the first 2-3 weeks of introduction and concept building. They begin by playing Lucro together (in groups). This helps to foster group collaboration and competition as well as becoming familiar with the elements of accounting as presented in the serious game.

Lucro Class 1:

Lucro Class 1 is designed to familiarise students with the concepts of revenue and costs as well as encourage them to think more broadly in terms of shareholder and stakeholder approaches to budgeting. Questions including the following examples are asked as part of the case challenge:

- Your task on Lucro Island is to select a hotel and manage the budget. Provide an overview of the strategies you have taken to 'win' the game. Are you taking a shareholder or stakeholder approach? Explain by providing examples of the choices your group have made that will impact the shareholder/stakeholder.
- Provide an overview of the different *product choices* that your hotel relies upon? Explain how this impacts the *revenue* for your hotel.
- Identify an example of a '*fixed*' cost and a '*variable*' cost from the spreadsheet. Why you believe it is important for your Lucro Island Hotel management team to recognize the difference between fixed and variable costs?

Lucro Class 2

Now the students are familiar with Lucro – they are able to complete the subsequent years of the game in the second class related to Lucro. They are asked the following additional information:

- You are required to select the staff costs based on a percentage of revenue. Use this information to discuss how the tension between enhancing shareholder profit and staff cost is managed.
- Outline in your own words, four (4) ***performance measures*** that would provide you and your team information to better manage you Lucro Island Hotel. Detail your response to ***specifically*** align the measures to the management of your hotel.

The students are provided with an overview of performance management in this course and a small amount of information on balanced scorecards. The question above was designed to see if students could connect performance measures to each of the balanced scorecard perspectives.

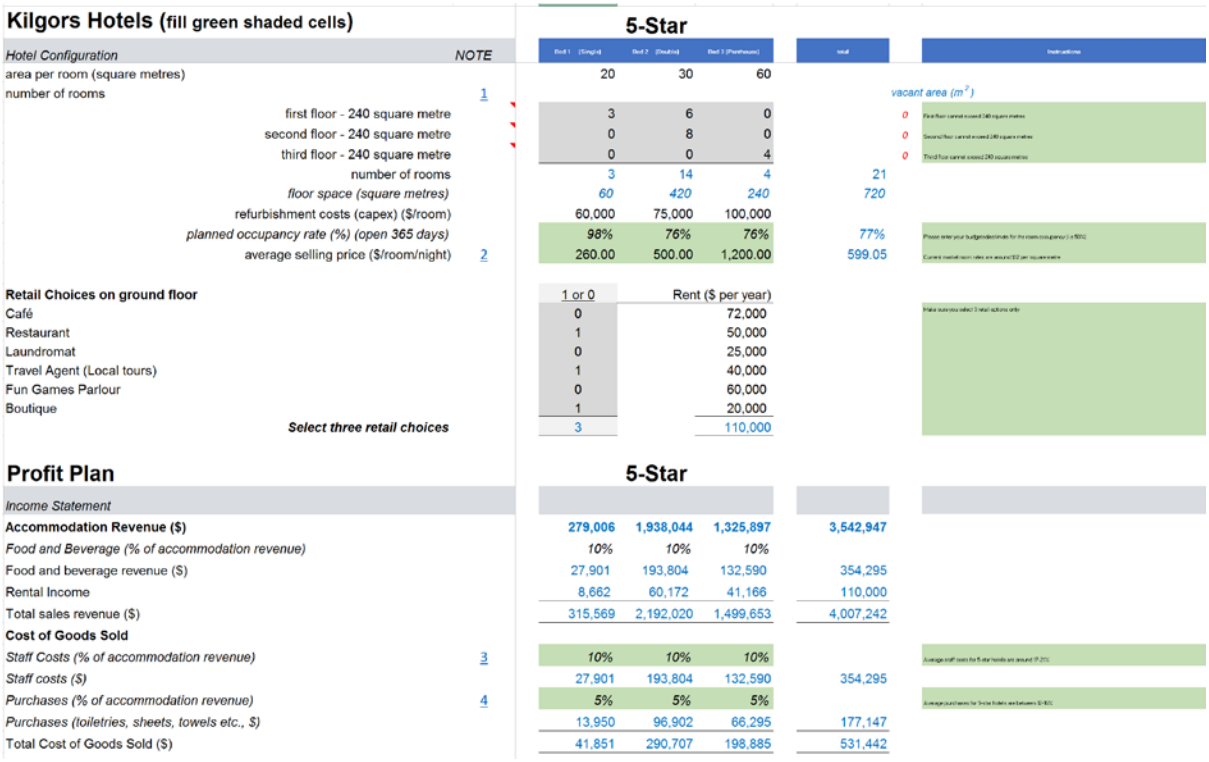
Lucro Class 3, 4 & 5

Students do not play Lucro in the subsequent classes. Instead they are provided with additional information that links to the data extracted from the Lucro Island spreadsheets.

- Class 3: Students are asked to prepare a Sales Budget, a Labour Budget and a Materials Budget for the double bed rooms in the hotel;
- Class 4: Students are asked to conduct CVP analysis on the double bed hotel rooms
- Class 5: Students are asked to record financial transactions for their Lucro Island Hotel and discuss disclosures that should be made when untoward events occur.

Appendix 6: A completed spreadsheet and example of a student response

Year 1: This is an example of a spreadsheet completed by the student in Year 1 and ready to upload



Kilgors Hotels (fill green shaded cells)

Hotel Configuration	NOTE	5-Star				
area per room (square metres)		20	30	60		
number of rooms	1					vacant area (m^2)
first floor - 240 square metre		3	6	0		0
second floor - 240 square metre		0	8	0		0
third floor - 240 square metre		0	0	4		0
number of rooms		3	14	4	21	
floor space (square metres)		*60*	*420*	*240*	*720*	
refurbishment costs (capex) ($/room)		60,000	75,000	100,000		
planned occupancy rate (%) (open 365 days)		*98%*	*76%*	*76%*	*77%*	
average selling price ($/room/night)	2	260.00	500.00	1,200.00	599.05	

Retail Choices on ground floor	1 or 0	Rent ($ per year)
Café	0	72,000
Restaurant	1	50,000
Laundromat	0	25,000
Travel Agent (Local tours)	1	40,000
Fun Games Parlour	0	60,000
Boutique	1	20,000
Select three retail choices	3	110,000

Profit Plan

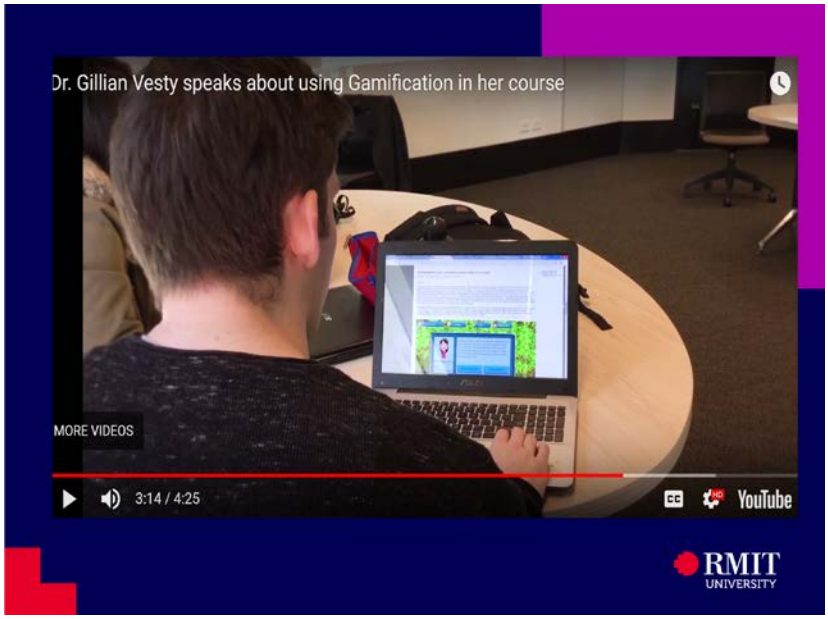
Income Statement		5-Star			
Accommodation Revenue ($)		**279,006**	**1,938,044**	**1,325,897**	**3,542,947**
Food and Beverage (% of accommodation revenue)		*10%*	*10%*	*10%*	
Food and beverage revenue ($)		27,901	193,804	132,590	354,295
Rental Income		8,662	60,172	41,166	110,000
Total sales revenue ($)		315,569	2,192,020	1,499,653	4,007,242
Cost of Goods Sold					
Staff Costs (% of accommodation revenue)	3	*10%*	*10%*	*10%*	
Staff costs ($)		27,901	193,804	132,590	354,295
Purchases (% of accommodation revenue)	4	*5%*	*5%*	*5%*	
Purchases (toiletries, sheets, towels etc., $)		13,950	96,902	66,295	177,147
Total Cost of Goods Sold ($)		41,851	290,707	198,885	531,442

Note, the grey shaded cells in the hotel room configuration – this is now fixed and students cannot alter their product mix. This is the same for the retail choices. These are assumed to be fixed in the short-term.

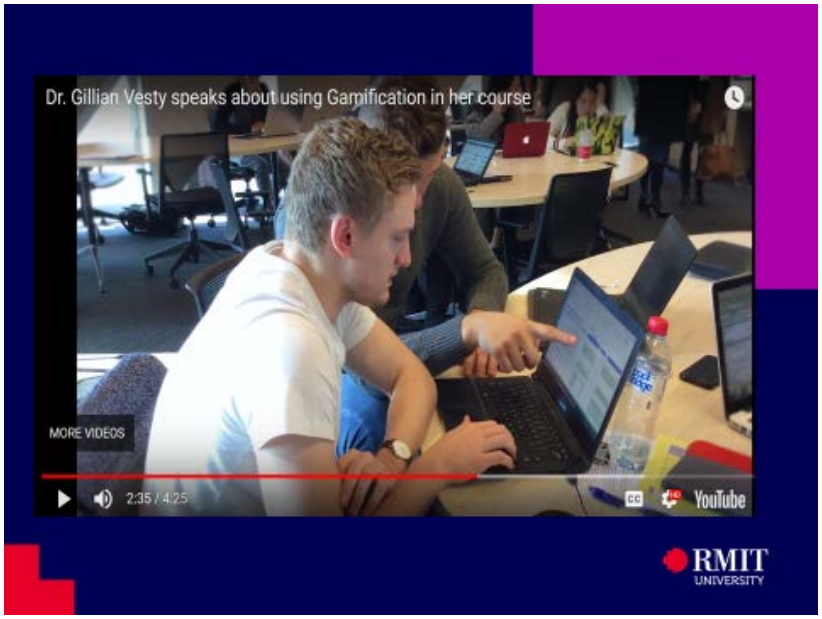
Planned occupancy – can be changed each year. When the students download the spreadsheet in Year 1 and Year 2, the cells will be filled with 'actual' occupancy as they are the results from the previous round.

Appendix 7: Initial trial results of Kilgors Strategic Budgeting simulation

The profit planning simulation was deployed for students to use in Week 11 of session 1, 2017 at RMIT. The trial commenced on Monday 15 May and ended on Friday 26 May. The following YouTube video was prepared by the RMIT Educational Development team, who were interested in showcasing digital innovations in the classroom. They also came to the first pilot test in the classroom and support with video evidence of the student engagement.



Source: https://youtu.be/yKX4urxIdXc



Appendix 8: Lucro Island - Individual/Group Hand-in

Student Name/ID

Required:

Q.1 Were you top of the leader board at the end of year 3?

Yes ☐ Congratulations!!!

What was your strategy?

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No ☐ Commiserations!!!

Why do you think you didn't do as well as the leader? Provide three (3) reasons.

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Lucro Island - Group Report

Student Name/ID

Required:

1. What position were you on the leader board at the end of year 3?

Position on leader board Year 1	Position no leader board Year 2	Position on leader board Year 3

2. Provide a list of actions that you took to help you win the game.

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3. Was your strategy successful? Explain why or why not?

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4. Is this game better played as an individual or as a group? Explain.

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Appendix 9: Lucro Island – Copy of slide pack used in class