

| <b><u>Influence</u></b>            | <b><u>Equation/Data</u></b>  | <b><u>Source/Justification</u></b>   | <b><u>Reliability</u></b>   |
|------------------------------------|--|--|---|
| ICT                                | 0  | n/a  | n/a   |
| COMSC                              | 1  | n/a  | n/a   |
| Attractiveness Factor              | IF(COMSC>=1)THEN(COMSC)ELSE(ICT)   | Equation determines whether to run ICT or COMSC through the simulation   | n/a   |
| Number of pupils taking the course | IF(attractiveness_factor>=1)THEN<br>(no_of_pupils_in_year*likelihood_to_take_subject)<br>ELSE(no_of_pupils_in_year*0.28) | Interview – Gary Morgan<br>Determined there are currently 28% of a year group studying ICT,<br>Most other subject have around 40%<br>Made the assumption if ICT moved to COMSC then attractiveness would rise in line with other subjects. | Reliable as based on current figures in school.<br><br>Less reliable, as cannot guarantee pupils will want to study COMSC |
| Number of pupils in the year       | 350  | Interview – Gary Morgan  | Reliable as based on current figures in school  |
| Likelihood to take the subject     | 0.4  | Interview – Gary Morgan<br>Most other subject have around 40% of year group studying,<br>Made the assumption if ICT moved to COMSC then attractiveness would rise in line with other subjects.   | Less reliable, as cannot guarantee pupils will want to study COMSC  |
| Average class size                 | no_of_pupils_taking_course/Total_Class_Rooms   | n/a  | n/a   |
| Students not accommodated          | no_of_pupils_taking_course-(25*Total_Class_Rooms)  | Interview – Gary Morgan<br>If pupils increase over the current figure of 100 then they will be classified as not accommodated for  | Reliable as based on current figures in school  |

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| Class rooms needed                                   | $(\text{students\_not\_accomodated}/25)+\text{Total\_Class\_Rooms}$  | n/a   | n/a  |
| Discrepancy between class rooms needed and available | $\text{class\_rooms\_needed}-\text{Total\_Class\_Rooms}$   | n/a   | n/a  |
| Cost of room refurbishment                           | $\text{POLICY:\_reallocate\_rooms}*5000$   | Interview – Gary Morgan<br>£5,000 to refurbish a room for ICT/COMSC   | Reliable as based on current figures in school |
| POLICY: Reallocate rooms                             | $\text{IF}(\text{discrepancy\_between\_class\_rooms\_needed\_and\_available}\geq 1)$<br>$\text{THEN}(\text{discrepancy\_between\_class\_rooms\_needed\_and\_available})$<br>$\text{ELSE}(0)$ | If there are not enough rooms to accommodate all the pupils then Policy action to get another room kicks in | n/a  |
| Gaining rooms  | $\text{POLICY:\_reallocate\_rooms}$  | n/a   | n/a  |
| Total Class rooms                                    | 4  | Interview – Gary Morgan<br>Currently 4 ICT suits  | Reliable as based on current figures in school |
| Loosing rooms  | $\text{POLICY:\_reallocate\_rooms}$  | Room is lost as it is now in use  | n/a  |
| Teachers needed                                      | $(\text{Total\_Class\_Rooms\_Available}.\text{students\_not\_accomodated}/25)$<br>$+\text{Total\_Experienced\_Teachers}$   | Interview – Gary Morgan<br>Teacher is needed for every 25 pupils  | Reliable as based on current figures in school |
| Discrepancy between teachers needed and available    | $\text{teachers\_needed}-\text{Total\_Experienced\_Teachers}$  | n/a   | n/a  |
| Cost of recruitment                                  | $\text{POLICY:\_recruit\_more\_teachers}*25000$  | Interview – Gary Morgan<br>£25,000 is the average starting teacher wage                                     | Reliable as based on current figures in school |

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| POLICY: Recruit more teachers | IF(discrepancy_between_teachers_needed_and_available>=1)<br>THEN(discrepancy_between_teachers_needed_and_available)<br>ELSE(0) | If there is not enough teachers for the number of pupils then policy action to recruit another teacher kicks in  | n/a  |
| Training Recruits             | (Total_Experienced_Teachers*(staff_turnover_rate/100))<br>+POLICY:_recruit_more_teachers                                       | n/a  | n/a  |
| New teachers starting         | 0  | Interview – Gary Morgan<br>Very rarely are new teachers hired  | Reliable as based on current figures in school   |
| Teachers in training          | 1  | Interview – Gary Morgan<br>Made the assumption there is usually some training in progress, even if it is just maintaining current teaching level.  | Reliable as based on current figures in school   |
| Teachers gaining experience   | Conveyor<br>4  | Interview – Gary Morgan<br>If there are no new teachers starting then training will just be focused on those currently employed  | Reliable as based on current figures in school   |
| Gaining experience            | 2 years transit time   | I have made the assumption that it takes two year for a teacher to gain real experience, this is a common industry standard.<br>Evidence of this can be found in the Teach Scotland document published by the Scottish Government which details how salaries are based on how many years' experience. [5]<br>This is a reasonable assumption to make as teachers move one point up the salary scale after each year of teaching. | Reliable as the assumption is made based on accurate data published by a trusted source. |
| Total experienced teachers    | 4  | Interview – Gary Morgan  | Reliable as based on current figures in school   |
| Teachers leaving              | (Total_Experienced_Teachers*staff_turnover_rate/100)   | n/a  | n/a  |

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| Staff turnover rate                                | 7.5%   | Interview – Gary Morgan<br>11leaving/150 total staff  | Reliable as based on current figures in school  |
| Equipment needed                                   | Total_Class_Rooms_Available.students_not_accompodated<br>+Total_Available_Equipment  | n/a   | n/a   |
| Discrepancy between equipment needed and available | equipment_needed-Total_Available_Equipment   | n/a   | n/a   |
| Cost of equipment                                  | POLICY:_purchase_more_equipment*500  | Interview – Gary Morgan<br>Cost of each computer is £500  | Reliable as based on current figures in school  |
| POLICY:<br>Purchase more equipment                 | IF(discrepancy_between_equipment_needed_and_available>=1)<br>THEN(discrepancy_between_equipment_needed_and_available)<br>ELSE(0) | If there is not enough computers for each pupil studying COMSC the Policy action to buy more kicks in   | n/a   |
| Gaining equipment                                  | POLICY:_purchase_more_equipment  | n/a   | n/a   |
| Total equipment available                          | 100  | Interview – Gary Morgan   | Reliable as based on current figures in school  |
| Losing equipment                                   | POLICY:_purchase_more_equipment  | n/a   | n/a   |
| Budget   | 140000   | Interview – Gary Morgan<br>Based on last year’s budget figures  | Reliable as based on current figures in school  |
| Recruitment fraction                               | 0.3  | Interview – Gary Morgan<br>Based on last year’s budget figures, under the assumption more teachers were needed, if not it would allocated to a different area | Reliable as based on current figures in school, however this spending will fluctuate year to year |

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|                       |   |   | depending on which department has the greatest needs.   |
| Equipment fraction    | 0.2   | Interview – Gary Morgan<br>Based on last year’s budget figures, under the assumption more equipment was needed, if not it would allocated to a different area     | Reliable as based on current figures in school, however this spending will fluctuate year to year depending on which department has the greatest needs. |
| Training fraction     | 0.05  | Interview – Gary Morgan<br>Based on last year’s budget figures, under the assumption more teachers needed training, if not it would allocated to a different area | Reliable as based on current figures in school, however this spending will fluctuate year to year depending on which department has the greatest needs. |
| Building fraction     | 0.1   | Interview – Gary Morgan<br>Based on last year’s budget figures, under the assumption building work was needed, if not it would allocated to a different area      | Reliable as based on current figures in school, however this spending will fluctuate year to year depending on which department has the greatest needs. |
| Gaining funds         | $(\text{BUDGET} * \text{buildings\_fraction}) +$<br>$(\text{BUDGET} * \text{equipment\_fraction}) +$<br>$(\text{BUDGET} * \text{recruitment\_fraction}) +$<br>$(\text{BUDGET} * \text{training\_fraction})$ | n/a   | n/a   |
| Total funds available | 0   | n/a   | n/a   |

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| Losing funds | Equipment_Available.cost_of_equipment_purchase+<br>Total_Class_Rooms_Available.cost_of_rm_refurb+<br>(Total_Teachers_Available.cost_of_recruitment) | Interview – Gary Morgan<br>Money spent on different areas. | Reliable as based on<br>current figures in<br>school |
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