**Exercise 4d.2: Applying the Circularity Calculator**

Estimated time requirement: 30 minutes

**Introduction**

“What gets measured, gets done” is a popular management mantra. While the origins of this saying are debated, it is of utmost importance for contemporary management education. In fact, literature is teeming with management handbooks which provide ample advice on how to measure, monitor and evaluate business or product performance. In 2015, the British home improvement company Kingfisher launched a project to develop an indicator which would allow to capture the circularity performance on a product level. Based on the resulting indicator system, researchers from the University of Bath, United Kingdom, developed a circularity calculator.[[1]](#footnote-1)

After completing this exercise, you will be familiar with the methodology and different aspects of the circularity calculator. You will also be able to describe strengths and limitations of the tool.

**Structure of exercise**

|  |  |  |
| --- | --- | --- |
| **Part** | **Task** | **Time** |
| 1 | Please form groups of up to 2-3 people and examine the case study on the next page. Use the information on the Circularity Indicator system presented in table 1 and score both products based on the product descriptions below. Enter your scorings in table 3 on Worksheet 1. | 20 min |
| 2 | Discuss the following questions in your group and note your findings on the flipchart.  Guiding questions:   * Does the methodology capture all necessary circularity aspects and if not, which aspects are missing? * Are the weightings (max scores) adequate or how should they be changed? * Which of the criteria did you find most difficult to assess and why? | 10 min |

**Background information**

The indicator system is comprised of a number of variables along a product’s lifecycle. In order to assess a product’s performance, each variable is assigned with a guiding question and is measured on a weighted scale. Overall, a product can score a maximum of 152 points, indicating highest circular performance. Using this weighted scale, the indicator system is somewhat more **qualitative** in nature as it requires experts’ inputs in order to translate a product’s performance into a measurable format. Table 1 presents the indicator system including its weighting and guiding questions.

**Table 1:** Circularity Indicator

|  |  |  |  |
| --- | --- | --- | --- |
| Lifecycle stage | # | Guiding question | Max. Score |
| Design | 1 | Is the product made from recycled/reused material? | 20 |
| 2 | Is the product lighter than its previous version? | 2 |
| 3 | Is there a complete bill of materials and substances for the product? | 5 |
| Production | 4 | Is there a complete bill of energy for the manufacturing process? | 10 |
| 5 | Is there a complete bill of solid waste for the manufacturing process? | 15 |
| Commercialization | 6 | What packaging is being used? | 5 |
| 7 | What is the product’s warranty? | 10 |
| 8 | Is there a rental option for the product? | 15 |
| In use | 9 | Can the usage status and identification of the product be established? | 15 |
| 10 | Can the product be repaired? | 5 |
| 11 | Can the product be reused? | 10 |
| 12 | Does the product help to reduce waste through its use? | 5 |
| End-of-life | 13 | What take-back scheme is available for this product? | 15 |
| 14 | Is the product separated out from other products at the end of its life? | 10 |
| 15 | Are the product’s materials passed back into the supply chain? | 10 |

**Worksheet 1**

Table 3: Exercise template

|  |  |  |  |
| --- | --- | --- | --- |
| **Lifecycle stage** | **#** | **Max score** | **Score plastic panel** |
| **Design** | 1 | 20 |  |
| 2 | 2 |  |
| 3 | 5 |  |
| **Production** | 4 | 10 |  |
| 5 | 15 |  |
| **Commercialization** | 6 | 5 |  |
| 7 | 10 |  |
| 8 | 10 |  |
| **In use** | 9 | 15 |  |
| 10 | 5 |  |
| 11 | 10 |  |
| 12 | 5 |  |
| **End of life** | 13 | 15 |  |
| 14 | 10 |  |
| 15 | 10 |  |
| **SUM** | | |  |

1. Source and further information: <https://iris.unive.it/retrieve/handle/10278/3688992/104510/Int_J_Sustainable_Eng_06_2017.pdf> [↑](#footnote-ref-1)