

# Wildlife

## Business Scenario

Jungle Junction is a popular, high-quality zoo that offers the viewing of and interaction with animals that are native to the jungle.

In 2008, Jungle Junction noticed an increase of deaths in its gorilla population. After further research, Jungle Junction discovered that the majority of deaths were caused by infectious diseases.

After establishing that infectious diseases were a major cause of mortality in captive gorillas, Jungle Junction began an R&D project aimed at controlling and preventing the situation. The company's main business objective was to create a medical device that could detect disease in gorillas in its early stages which would lead to improvements in diagnosis and management of disease in gorilla populations.

To achieve its technical objectives and overcome the related technical risks, Jungle Junction generated new knowledge at the conclusion of each experimental stage, and built upon this knowledge at every stage of the project. After a year of experimentation, Jungle Junction claimed four R&D activities.

## Jungle Junction's Core R&D Activities:

Design and development of a series of prototypes to achieve the technical objectives (design and adaptation of the disease detection device).

Trials and analysis of data to achieve results that can be reproduced to a satisfactory standard (development and testing of the disease detection device).

Jungle Junction's hypothesis for its experiment stated that a disease detection device for gorillas could be designed and developed.

After two years of design and experimentation, Jungle Junction concluded that its design experiments showed that such designs were feasible but needed to be fully tested to prove the hypothesis.

Jungle Junction's hypothesis for this core activity stated that with improved knowledge of the specific infectious diseases and their carriers, it was possible to identify mechanisms for improving disease detection in gorilla populations.

Details of this experiment included development of the device based on information gained through the model and testing of the device to ensure efficiency, accuracy and safety.

## Commentary

### Identifying Core R&D Activities

There are two types of core R&D activities:

1. Experimental activities whose outcome can not be determined in advance on the basis of current knowledge, information or experience, but can only be known by exercising a systematic progression of work that follows the principles of established science, proceeding from hypothesis to experiment, observation and evaluation, and lead to logical conclusions.
2. Experimental activities that are conducted for the purpose of creating new knowledge.

### Hypothesis Defined

AusIndustry recognises a hypothesis as a statement or proposition about what result is expected if certain conditions are put in place and certain actions are carried out in an experiment. It can range from an assumption or proposition to a theory, but it must establish the experimental activity and form part of a broader systematic progression of work undertaken by the company. It must be evident that the claimed experiment has been designed to test the hypothesis.

If the outcome of an activity can be obtained without a hypothesis, then the activity will not be considered R&D.

## Jungle Junction's Supporting R&D Activities

Background research to evaluate current knowledge gaps and determine feasibility (design of the disease detection device).

Jungle Junction engaged in background research that included the following activities:

- Literature search and review
- Consultation with industry professionals and potential customers to determine the level of interest and commercial feasibility of such a project
- Preliminary equipment and resources review with respect to capacity, performance and suitability for the project

The activities conducted in the background research were necessary to support the core activities because they assisted in identifying the key elements of the research project.

Ongoing analysis of customer or user feedback to improve the prototype design (feedback R&D of the disease detection device).

Jungle Junction's R&D activity during phase included:

- Ongoing analysis and testing to improve the efficiency and safety of the project.
- Ongoing development and modification to interpret the experimental results and draw conclusions that served as starting points for the development of new hypotheses.
- Commercial analysis and functionality review.

These activities were directly related to Jungle Junction's core R&D activities because the feedback was necessary to evaluate the performance capabilities of the new design in the field and to improve any flaws in the design.

## Commentary

### Identifying Supporting R&D Activities

Activities that do not form part of the core experimental activities may still be eligible as supporting R&D activities. Supporting R&D activities are directly related to an eligible core R&D activity. They must have been performed for the primary purpose of supporting a qualified R&D activity.

### What records and specific documentation did Jungle Junction keep?

To meet the R&D Tax Incentive requirements, Jungle Junction had to save documents that outlined what it did in its core R&D activities, including experimental activities and documents to prove that the work took place in a systematic manner.

Jungle Junction saved the following documentation:

- Literature review
- Background research
- Project records and laboratory notebooks
- Testing protocols
- Results or analysis from testing / trial runs
- Progress reports and meeting minutes
- Records of resource allocation / usage logs
- Staff time sheets

By having these records on file, Jungle Junction confirmed that it was 'compliance ready' – meaning if it was selected for an AusIndustry audit, it could present documentation to show the progression of its R&D activity, ultimately proving its R&D eligibility.