



No part of this product may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without written permission from the IB.

Additionally, the license tied with this product prohibits commercial use of any selected files or extracts from this product. Use by third parties, including but not limited to publishers, private teachers, tutoring or study services, preparatory schools, vendors operating curriculum mapping services or teacher resource digital platforms and app developers, is not permitted and is subject to the IB's prior written consent via a license. More information on how to request a license can be obtained from <http://www.ibo.org/contact-the-ib/media-inquiries/for-publishers/guidance-for-third-party-publishers-and-providers/how-to-apply-for-a-license>.

Aucune partie de ce produit ne peut être reproduite sous quelque forme ni par quelque moyen que ce soit, électronique ou mécanique, y compris des systèmes de stockage et de récupération d'informations, sans l'autorisation écrite de l'IB.

De plus, la licence associée à ce produit interdit toute utilisation commerciale de tout fichier ou extrait sélectionné dans ce produit. L'utilisation par des tiers, y compris, sans toutefois s'y limiter, des éditeurs, des professeurs particuliers, des services de tutorat ou d'aide aux études, des établissements de préparation à l'enseignement supérieur, des fournisseurs de services de planification des programmes d'études, des gestionnaires de plateformes pédagogiques en ligne, et des développeurs d'applications, n'est pas autorisée et est soumise au consentement écrit préalable de l'IB par l'intermédiaire d'une licence. Pour plus d'informations sur la procédure à suivre pour demander une licence, rendez-vous à l'adresse <http://www.ibo.org/fr/contact-the-ib/media-inquiries/for-publishers/guidance-for-third-party-publishers-and-providers/how-to-apply-for-a-license>.

No se podrá reproducir ninguna parte de este producto de ninguna forma ni por ningún medio electrónico o mecánico, incluidos los sistemas de almacenamiento y recuperación de información, sin que medie la autorización escrita del IB.

Además, la licencia vinculada a este producto prohíbe el uso con fines comerciales de todo archivo o fragmento seleccionado de este producto. El uso por parte de terceros —lo que incluye, a título enunciativo, editoriales, profesores particulares, servicios de apoyo académico o ayuda para el estudio, colegios preparatorios, desarrolladores de aplicaciones y entidades que presten servicios de planificación curricular u ofrezcan recursos para docentes mediante plataformas digitales— no está permitido y estará sujeto al otorgamiento previo de una licencia escrita por parte del IB. En este enlace encontrará más información sobre cómo solicitar una licencia: <http://www.ibo.org/es/contact-the-ib/media-inquiries/for-publishers/guidance-for-third-party-publishers-and-providers/how-to-apply-for-a-license>.

**Business management**  
**Higher level**  
**Paper 1**

Friday 3 May 2019 (afternoon)

2 hours 15 minutes

---

**Instructions to candidates**

- Do not open this examination paper until instructed to do so.
- A clean copy of the **business management case study** is required for this examination paper.
- Read the case study carefully.
- A clean copy of the **business management formulae sheet** is required for this examination paper.
- Section A: answer two questions.
- Section B: answer question 4.
- Section C: answer question 5.
- A calculator is required for this examination paper.
- The maximum mark for this examination paper is **[60 marks]**.

## Section A

Answer **two** questions from this section.

1. (a) With reference to *RDM*, describe how changes in operations management altered its relationship with **two** other business functions. [4]
- (b) Explain how *RDM*'s transformation of its manufacturing process from traditional mass production to highly automated production affected the interests of internal stakeholders. [6]
2. (a) With reference to *RDM*, outline **one** advantage **and one** disadvantage of Jan's leadership style (lines 88–89). [4]
- (b) Explain how innovation at *RDM* may have influenced their marketing practices. [6]
3. (a) Describe **two** changes in the external environment that have affected *RDM*. [4]
- (b) Explain how the methods used to motivate employees could have changed when *RDM* transformed from traditional mass production to highly automated production. [6]

## Section B

Answer the following question.

4. If *RDM* builds a new production facility in Europe, an immediate consequence will be an increase in capacity. At current levels of output this would lead to a reduction in capacity utilization. The current output of *RDM*'s factory is 20 000 units a year, with a productive capacity of 21 000 units a year before the new facility is built. If the new production facility is built, the greater capacity for the whole business will, at current levels of output, result in the capacity utilization falling to 50% until production at the new facility starts.

Xi, the marketing manager, suggests that this increased capacity provides the opportunity for market development to be achieved by entering the United States (US) market.

The US market has similarities with Europe, with an aging population and low birth rate. Demand for customized healthcare devices is high. However, the healthcare system in the US is very different, with a much greater role for private sector healthcare compared to Europe, where much of the healthcare is state funded. In the US, 18% of gross domestic product (GDP) is spent on healthcare compared with an average of 11% in Europe. Advertising spend in the US is very high for the typical healthcare equipment business, which uses TV and the internet to reach individuals, whereas in Europe healthcare equipment businesses typically negotiate with government organizations. Average incomes in the US are higher than in Europe. Competition in the US is very high, although some major healthcare equipment businesses dominate the market. Industrial/employee relations in the US are generally more decentralized than in Europe, with a lower level of unionization.

To assess the best way to enter the US market, some senior managers may have to move to the US and Xi may need to recruit some new staff in the US with specialized knowledge of US laws and regulations, as well as some additional marketing employees. Xi is aware that industrial/employee relations are different in the US.

Existing staff will have to get used to new ways of working and are concerned about having to work with new staff in the US.

[Source: © International Baccalaureate Organization 2019]

- (a) Describe **one** industrial/employee relations method used by employers. [2]
- (b) (i) Using the information above, calculate the current capacity utilization rate at *RDM*'s factory. [1]
- (ii) Calculate the increase in capacity at *RDM* if the company builds a new production facility (*show all your working*). [3]
- (c) Explain **two** possible reasons for *RDM* employees' resistance to change if *RDM* enters the US market. [4]
- (d) Using information from the case study and the additional information above, discuss the opportunities and threats for *RDM* of entering the US market. [10]

## Section C

Answer the following question.

5. Jan is considering two options for the long-term development of the business: market development and diversification.

### Option 1: Market development

Although Jan, with his strong associations with the US, likes the idea of developing the US market, he has concerns about it. Over the last four years, the exchange rate has fluctuated between €1 = \$1.40 and €1 = \$1.03. There is some evidence that the US wants to discourage imports and prefers foreign businesses to invest directly in the US. Jan thinks there are other markets in and closer to Europe that could be developed more easily without significant changes to the distribution channels or the culture of the business. He has suggested the United Kingdom (UK) market as an alternative, which has a health service similar to those in other European countries. In most other respects the UK market is similar to other European markets. The main worry is that the UK market would be difficult to enter, as established suppliers are likely to be preferred by the health service and there may be financial constraints on the health service.

### Option 2: Diversification

Jan is also considering a proposal by Heinrich Langer, a business analyst. Heinrich's idea is for diversification. He thinks that *RDM* should develop a service role. *RDM*'s directors and workforce have all of the skills and experience needed to help other businesses convert from traditional production methods to automated robotic production processes. This service (known as a consultancy) would require recruitment of more engineers and computer specialists as well as highly skilled and experienced consultants. Heinrich's proposal is based on:

- the likely low long-term growth prospects for *RDM*'s healthcare products. Population trends in Europe due to the low birth rates (**Table 1**) will lead to an aging population in the short and medium term. However, in the long term there could be economic and demographic problems arising from the eventual decline in population that is predicted to occur when the birth rate is less than 2.1
- his view that every business should have a service role
- possible financial pressures on European governments, potentially reducing healthcare spending
- his data market research results on robots and robotics (**Table 2**).

[Source: © International Baccalaureate Organization 2019]

**Table 1: Population birth rates**

Country	Birth rate (births per female)
Germany	1.3
Poland	1.3
Italy	1.4
Spain	1.4
Russia	1.4
US	1.8
UK	1.8

[Source: © International Baccalaureate Organization 2019]

**(This question continues on the following page)**

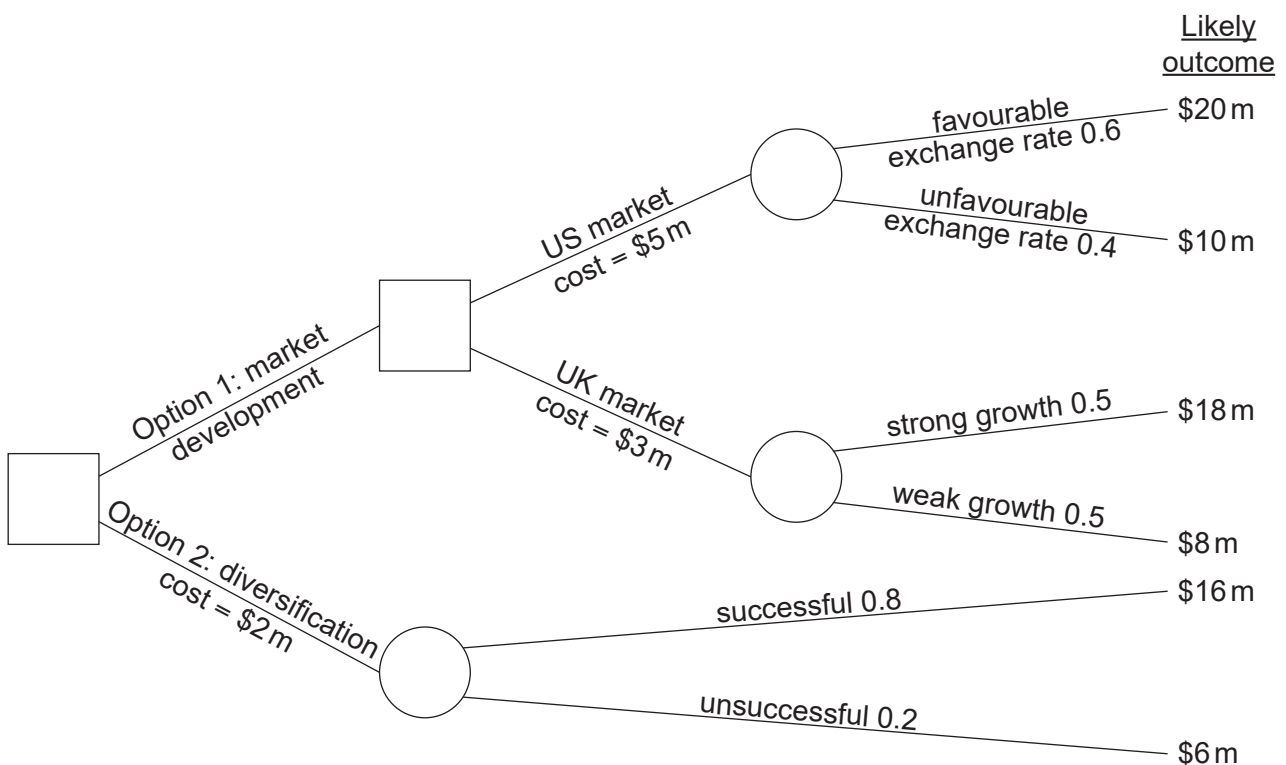
(Question 5 continued)

**Table 2: Market research on robotics**

Growth in industrial sales of collaborative robots is expected to triple between 2015 and 2025.
By 2020, 1.7 million new industrial robots will be installed worldwide.
Industries affected by robotics include: <ul style="list-style-type: none"> <li>• unmanned air, land and sea vehicles</li> <li>• health care</li> <li>• manufacturing.</li> </ul>
Worldwide spending on robots in 2019: \$135 billion.

[Source: © International Baccalaureate Organization 2019]

Nikita, *RDM*'s director of corporate strategy, has asked both Jan and Xi to provide data on each option to help her construct a decision tree to present at the next board meeting. The decision tree below summarizes the issues involved in the decision.

**Decision tree based on Jan's and Xi's estimates**

[Source: © International Baccalaureate Organization 2019]

Using the case study and the additional information on pages 4 and 5, recommend whether *RDM* should choose **Option 1** or **Option 2**.

[20]