

ALUNO: -

MATRÍCULA: -

AVALIAÇÃO: -

VALOR: 10.00 pontos

UNIDADE: -

DATA: -

LOCAL: -

MODELO: 8505_Prova de Proficiência em Língua Inglesa

INSTRUÇÕES DA AVALIAÇÃO

Prezado(a) aluno(a), antes de iniciar a prova, é muito importante que você leia **COM ATENÇÃO** todas as instruções a seguir:

1. Confira o caderno de questões e a folha de respostas recebidos. Verifique se os dados do cabeçalho de identificação dos dois documentos estão corretos e se o número de páginas está de acordo com a paginação informada.
2. Assine a folha de respostas no lugar indicado. Caso não esteja assinada, poderá ser considerada como não realizada.
3. **Somente serão consideradas as respostas registradas na folha de respostas.** As respostas deverão ser **NECESSARIAMENTE** registradas à caneta esferográfica azul ou preta.
4. Na **folha de respostas**, preencha completamente o círculo que corresponde à resposta desejada. Caso seja identificada rasura ou duplo preenchimento da questão objetiva, a questão será anulada. No exemplo a seguir, confira a forma correta de preenchimento da resposta:



5. Nas questões discursivas, quando aplicável/necessário, deve ser apresentada a memória dos cálculos (ou o raciocínio desenvolvido) **somente na folha de respostas.**
6. **É PROIBIDO escrever fora da área reservada para as linhas, na parte hachurada ou no verso da folha. Textos, cálculos colocados no rascunho, no verso da folha de respostas ou fora da área delimitada para resposta não serão considerados.**
7. Será eliminado do processo avaliativo, com atribuição de grau 0 (zero), o aluno que, durante a prova, utilizar meios ilícitos, como por exemplo: comunicação com outros candidatos e consulta a qualquer tipo de material extra-prova.
8. O uso de calculadora simples e do tipo HP é permitido em todas as provas. A calculadora do celular ou a calculadora online não são permitidas.
9. Antes de entregar a prova, valide se todas as questões estão respondidas corretamente na **folha de repostas.**
10. Concluída a prova, o aluno deverá entregar ao FISCAL DE PROVA os dois documentos: caderno de questões e folha de repostas.

BOA PROVA!

Acessar o texto em anexo para a realização da primeira parte da prova.

É permitido o uso de dicionário impresso.

1) Considere as asserções abaixo e escolha a alternativa correta, considerando se são Verdadeiras (V) ou Falsas (F), de acordo com o texto contido no anexo.

() I - A indústria da saúde integra um contexto de intenso uso de tecnologias e dispositivos digitais, evidenciado e acessível, de acordo com o texto, exclusivamente aos residentes de países ricos e desenvolvidos.

() II - No contexto descrito no artigo, as tecnologias digitais são utilizadas com o objetivo principal de melhorar a qualidade do atendimento ao paciente e de tornar o nível operacional mais ágil e eficiente.

() III - Inteligência artificial, sensores, robôs e conectividade são citados no artigo como exemplos de diferentes tecnologias digitais promovidas pela Indústria 4.0 em benefício dos sistemas e serviços ligados à saúde.

() IV - Um dos argumentos defendidos pelo texto para justificar a relevância do estudo está ligado ao fato de que a maior parte dos hospitais já oferece pelo 60% de seus serviços e diagnósticos de modo remoto.

() V - Outro forte argumento que justifica o estudo é o fato de que profissionais de diversas áreas e muitos consumidores vêm demonstrando interesse pela inteligência artificial e suas potencialidades para resolver o problema da saúde pública no mundo.

1,0 ponto

Ⓐ F - V - V - F - F

Ⓑ V - F - F - F - F

Ⓒ F - F - V - V - F

Ⓓ V - V - F - F - V

Ⓔ F - V - V - V - V

2) Responda à pergunta, de acordo com o texto em anexo.

No parágrafo 7, os autores mencionam alguns dos desafios que precisam ser encarados e resolvidos antes que os recursos oferecidos pela Inteligência Artificial sejam efetivamente aplicados na área da saúde. Quais são? Cite-os.

1,5 pontos

3) Responda à pergunta, de acordo com o texto em anexo.

Os desafios ligados a questões éticas são especialmente preocupantes, de acordo com os autores (parágrafo 7). Por quê?

1,5 pontos

4) Considere as asserções abaixo e escolha a alternativa correta, considerando se são Verdadeiras (V) ou Falsas (F), de acordo com o texto em anexo.

I - O vocábulo “core” em “Information and communication technology (ICT) is a core element of digitized organizations (...).” (parágrafo 1) desempenha função de adjetivo e poderia ser substituído, sem significativa alteração de estrutura ou significado, por “key”.

II - O conector “therefore” em “Therefore, it is valuable to investigate how advanced digital devices are affecting service encounters between customers and service providers in the healthcare industry.” (parágrafo 1) expressa uma ideia de concomitância e poderia ser substituído, sem significativa alteração de estrutura ou significado, por “Meanwhile”.

III - No trecho “The results of our study are expected to provide valuable new information (...)” (parágrafo 8), observamos o uso da voz ativa.

IV - O verbo modal “could” em “AI applications could create up to \$150 billion in annual savings for U.S. healthcare by 2026.” (parágrafo 3) exprime uma ideia de habilidade no passado.

V - O conector “Since” em “Since AI encompasses machine learning, natural language processing, and smart robots, AI-based technologies provide numerous opportunities for innovation in the knowledge-intensive healthcare industry.” (parágrafo 2) introduz uma explicação e poderia ser substituído, sem significativa alteração da estrutura ou significado, por “As”.

1,0 ponto

- (a) F - F - V - V - F
- (b) V - V - F - F - V
- (c) F - F - F - V - V
- (d) V - F - F - F - V
- (e) V - V - V - F - F

5) Escolha a alternativa correta, considerando o texto em anexo.

O termo “As” em “As AI-supported technologies learn and diagnose from a large volume of medical research and patients’ treatment records, they play a significant role in augmenting doctors’ decision-making process for diagnoses and treatment.” (parágrafo 4) está sendo usado com o mesmo sentido daquele expresso em:

0,5 pontos

- (a) It took the researchers twice as long to analyze all the data collected.
- (b) Different tools will soon be used, as neuroimaging and augmented reality.
- (c) No conclusion could be reached, as the data had been compromised.
- (d) Unlikely as it may seem, the hypothesis has been confirmed by the data.
- (e) They realized it was an impractical project as they scrutinized the variables.

6) Escolha a alternativa correta, de acordo com o texto em anexo.

Os termos destacados no trecho: "AI technology can diagnose skin cancer **more accurately than** a professional dermatologist. The diagnosis can be processed **more quickly and efficiently** because it is analyzed based on knowledge gained from a large body of knowledge and data." (parágrafo 4) expressam uma ideia de:

0,5 pontos

- a) quantidade
- b) superioridade
- c) igualdade
- d) descrição
- e) comparação

7) Escolha a alternativa correta, de acordo com o texto em anexo.

O termos destacados no trecho: "Considering such cases where AI serves a supporting/ augmenting role in diagnosis and/or treatment and operation processes, some may **assume** that physicians will be **rendered** obsolete in the near future." (parágrafo 6) poderiam ser substituídos, sem significativa alteração da estrutura ou significado respectivamente, por:

0,5 pontos

- a) claim - discarded
- b) pretend - contributed
- c) conclude - associated
- d) doubt - announced
- e) believe - considered

8) Os textos a seguir são resumos extraídos de diferentes periódicos internacionais. **Escolha um deles**, de acordo com o tema de sua preferência, e responda às perguntas colocadas após os textos. **Antes de respondê-las, informe a que texto se referem** (Ex: Texto 1, texto 2 ou texto 3).

Texto 1

Power negotiation on the tango dance floor: The adoption of AI in B2B marketing

Keegan, Brendan James; Canhoto, Ana Isabel; Yen, Dorothy Ai-wan.

Industrial Marketing Management | Volume 100, January 2022, Pages 36-48

Acknowledging the lack of empirical research on the adoption of AI in B2B marketing and the research gap in studying power from a network perspective, this paper explores how the drivers of AI adoption as marketing solutions affect network actors' power dynamics. Using data collected through 20 semi-structured interviews with business managers and engineers involved in AI adoption for B2B marketing activities, as well as academic experts in the field of AI, this paper discusses how AI adoption priorities and motives shape the power dynamics amongst the various network actors, including focal firms, AI suppliers and tech giant companies. The findings show that, in the context of AI adoption in B2B, both technology and expertise are key sources of power, and that data creates and perpetuates power negotiations and renegotiations in the network. We envisage this process as the movements on a busy dancefloor where groups of actors are engaged in what we refer to as the Power Tango. This paper contributes to the power dependence theory by showing that, through the adoption process, network actors' power is exchanged, exercised, counter-balanced and perpetuated, creating fluid network dynamics.

Disponível em: <https://www.sciencedirect.com/science/article/pii/S0019850121002194>

Texto 2

Lost in the stream? Professional efficacy perceptions of journalists in the context of dark participation

Wintterlin, Florian; Langmann, Klara, Boberg, Svenja; Frischlich, Lena; Schatto-Eckrodt, Tim; Quandt, Thorsten.

SAGE Journals | First Published May 21, 2021 | Research Article

Online comments and contributions from users are not always constructive nor rational. This also applies to content that is directed at journalists or published on journalistic platforms. So-called 'dark participation' in online communication is a challenge that journalists have to face because it lowers users' perceived credibility of media brands and hinders a deliberative discourse in comment sections. This study examines how journalists perceive themselves in relation to dark participation, what measures they take against it, and how they assess the efficacy of these measures. Based on in-depth interviews (N = 26), we find that journalists overall considered themselves to be effective in handling dark participation. The perceived efficacy differed according to the grade of engagement with users. Journalists who interacted very much or very little with users perceive the efficacy of their interventions to be highest, whilst those with medium levels of interaction rate their efficacy to be lower. Furthermore, the perceived amount of dark participation also affected the perceived efficacy.

Disponível em: <https://doi.org/10.1177/14648849211016984>

Texto 3

Public health ethics and the COVID-19 pandemic

Aliyu, Alhaji A.

Health is a human right anchored in values as a basic necessity of life. It promotes the well-being of persons, communities, economic prosperity, and national development. The coronavirus disease-2019 (COVID-19) pandemic caught the world unaware and unprepared. It presented a huge challenge to the health and economic systems of every country. Across the spectrum of human endeavor and liberty, several ethical questions have been raised with regard to its management, particularly the public health control measures. Decisions for pandemic control measures are made under difficult circumstances driven by urgency and panic, with uncertainties and complexities for public goods over individual rights. Global solidarity in controlling the pandemic is being tested. National governments have the responsibility to protect public health on the grounds of common good. Political considerations should not be the basis for decision-making against the best available epidemiological data from pandemic disease dynamics. Hence, the need to adhere to the values of honesty, trust, human dignity, solidarity, reciprocity, accountability, transparency, and justice are major considerations. A literature search was conducted for the publications from academic databases and websites of health-relevant organizations. I discuss the ethical questions and challenges of the COVID-19 pandemic in the context of public health control measures using the standard ethical principles of respect for autonomy, beneficence, nonmaleficence, and social (distributive) justice. It is observed that, at the country level, the World Health Organization (WHO) guidelines are used to control the pandemic. As WHO through the COVAX strategy distributes the vaccines to less developed countries, a lot still needs to be done to address the complex bottlenecks of allocation and distribution. There is a need to ensure acceptable and transparent system that promotes cooperation, equitable access, and fair distribution of vaccines on a global scale.

Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8477289/>

De acordo com o texto escolhido, responda às seguintes perguntas:

Texto escolhido (____)


1. Qual o título do texto em português?
2. Qual/quais o(s) objetivo(s) da pesquisa?
3. Qual a metodologia utilizada?
4. Qual/quais (o)s resultado(s)/conclusão(ões)?

3,5 pontos



Article

Application of Artificial Intelligence-Based Technologies in the Healthcare Industry: Opportunities and Challenges

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(1) Information and communication technology (ICT) is a core element of digitized organizations that can facilitate operational effectiveness and enhance competitive advantage. In today's Fourth Industrial Revolution (4IR) era, advanced digital technologies and devices are widely applied for innovation and value creation across industries. The healthcare industry is no exception. Hospitals and care providers around the world, especially in developed economies, are aggressively deploying digital technologies, such as artificial intelligence (AI), machine learning, smart sensors and robots, big data analytics, and Internet of Things (IoT), for improved quality of care and operational efficiency. A study by Aruba, a Hewlett-Packard Enterprise company, reported that more than 60% of hospitals worldwide have implemented IoT in their facilities. Therefore, it is valuable to investigate how advanced digital devices are affecting service encounters between customers and service providers in the healthcare industry.

(2) Recently, there have been widespread applications of AI-supported technologies in healthcare institutions for improved care service quality and efficiency of medical resources. Since AI encompasses machine learning, natural language processing, and smart robots, AI-based technologies provide numerous opportunities for innovation in the knowledge-intensive healthcare industry. Dozens of startups, as well as existing image device companies that participated in the Radiological Society of North America (RSNA) conference held in Chicago in December 2018, made presentations on their AI initiatives that support accurate and reliable diagnosis and proper treatment of patients based on the data obtained from clinical examinations.

(3) In addition, AI has attracted the attention of researchers, physicians, technology and program developers, and consumers in various fields in terms of its potential for transformative innovations in treating human diseases and public health. According to Accenture, hospitals will invest \$6.6 billion annually in AI-related technologies by 2021. Safavi and Kalis estimate that "AI applications could create up to \$150 billion in annual savings for U.S. healthcare by 2026."

(4) As AI-supported technologies learn and diagnose from a large volume of medical research and patients' treatment records, they play a significant role in augmenting doctors' decision-making process for diagnoses and treatment.

Shiraishi et al. (p. 449) reported that “AI-based diagnostic algorithms are applied in the detection of breast cancer, serving as a ‘second opinion’ in assisting radiologists’ image interpretations.” It was also reported that AI technology can diagnose skin cancer more accurately than a professional dermatologist. The diagnosis can be processed more quickly and efficiently because it is analyzed based on knowledge gained from a large body of knowledge and data. Moreover, advanced virtual human avatars are being used to conduct conversations required to diagnose and treat patients with mental diseases.

(5) Miyashita and Brady provided an example of discharged patients who were fitted with a Wi-Fi-enabled armband that remotely monitors vital signs, such as respiratory rate, oxygen levels, pulse, blood pressure, and body temperature, from a group of hospitals serving 500,000 people in southeast England. In this case, hospital readmission rates and emergency room visits were reduced significantly through AI programs that analyze patient data in real-time. The need for expensive home visits was also reduced by 22%. In the long term, adherence to the treatment plan increased to 96% compared to the industry average of 50%. In another example, Grady Hospital, a public hospital in Atlanta, USA, reported \$4 million in savings from a 31% reduction in readmission rates over two years due to the application of an AI-enabled tool to identify “at-risk” patients.

(6) Considering such cases where AI serves a supporting/augmenting role in diagnosis and/or treatment and operation processes, some may assume that physicians will be rendered obsolete in the near future. However, it is necessary to first assess the role that AI can play to explore opportunities and challenges that are associated with AI applications in the healthcare industry. It is apparent, based on many real-world examples of AI applications, that AI has enormous and wide-reaching potential with almost everything from simple operational process innovation to the most sophisticated treatments of emergency patients.

(7) Some of the notable challenges involved in the widespread application of AI and digital devices include privacy concerns, cybersecurity, data integrity concerns, data ownership, the problem of data-sharing by various organizational silos, medical ethics issues, responsibility for medical errors, and risks of system failures. Considering the nature of healthcare services, ethical issues are real challenges because AI technology may threaten patients’ preferences, safety, and privacy. Currently, policies and ethical guidelines for healthcare services that incorporate AI and its applications lag behind the speed of advances in AI. Also, AI-based technologies should encompass problem-solving flexibility and human-oriented values. However, AI-based technologies are still quite controversial in the healthcare industry because they are not yet universally available to all care providers. Therefore, there is a need to analyze existing cases of AI-based technologies and their applications to understand the future direction of their use in diagnoses, quality care services, and operational strategies.

(8) Based on this context, this study analyzes several real-world examples in the healthcare industry to understand how AI affects care services and operational processes. This line of research will allow us to recommend a set of strategies to enhance the efficiency of patient treatment and prevention of diseases, as well as the operational efficiency of hospitals. For this purpose, we performed an extensive review of the literature and diverse real-world cases to uncover AI-based technologies and their applications in healthcare systems. This study is meaningful in that it presents new insights into the direction of technology-based service operations management. The results of our study are expected to provide valuable new information to hospital administrators, medical personnel, medical school curricula developers, education and training managers, human-machine

roles and responsibilities specialists, privacy and cybersecurity analysts, and medical ethics professionals.

Adaptado de: <https://pubmed.ncbi.nlm.nih.gov/33401373/>

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FOLHA DE RASCUNHO