

How to formulate a meaningful and rigorous research question

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The purpose of research is to create new knowledge that contributes to the advancement of the body of knowledge in a given field. However, in order to create new knowledge, we must first know what knowledge exists about the problem, and in order to know that, we must first define the problem. Then, new knowledge should be created through an appropriate research process that satisfies the users at the same time. In other words, the research process must be both rigorous (trustworthy) and relevant (meaningful) to the user(s).

One of the most important parts of the research is the formulation of the research question, which will guide the research design, the formulation of the hypothesis, the definition of the process steps, the data collection and analysis methods, and finally the interpretation of findings. The research question must be clear, specific, and relevant to the field of study. It should be broad enough to be explored, but also focused enough to be answered within the scope of the study. In my presentation, I will address the problem of how to begin the research process, starting with finding the research topic, defining the problem and the research gap based on previous research, which leads to the formulation of the research question. The focus will be on the formulation of the research question(s) and how it will guide the research process.

About the speaker



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Mirjana Kljajić Borštnar is a full professor of information systems at the University of Maribor. She received her PhD in management information systems from the University of Maribor. She is a member of the Laboratory of Decision Processes and Knowledge-Based Systems. Her research includes decision support systems, multi-criteria decision making, data mining, and organizational learning. She is the author and co-author of several scientific articles published in recognized international journals and conferences, including Expert Systems with Applications, Industrial Management and Data Systems, Electronics, PLOS One, Group Decision and Negotiation, and System Dynamics Review.

She is vice president of the Slovenian society INFORMATIKA and a member of the System Dynamics Society, the European Research Center for Information Systems and others. She is co-chair of the Bled eConference and the International Symposium on Operations Research in Slovenia, a member of the program committee of Dnevi slovenske informatike, Symorg, ICT, editor-in-chief of the journal Uporabna informatika, and a reviewer for numerous scientific journals. She received several awards for her research work: "Best Paper Award" at the international conference "Computer Supported Education" in 2010; "Outstanding scholarly award" from the International Institute for Advanced Studies in Systems Research and Cybernetics in 2012, "Best Paper Award" at the 42nd International Scientific Conference on the Development of Organizational Sciences.

She has worked on numerous national and EU projects mainly related to decision support and digital transformation of small and medium enterprises. She is co-author of the Automated Digital Maturity Assessment Model used to assess the digital maturity of Slovenian SMEs, and co-author of a multi-attribute assessment tool to evaluate the high-performance computing potential of SMEs in the cloud. She is also an academic representative for AI & Big Data at the Strategic Research & Innovation Partnership "Smart Cities and Communities" and a board member of AI4Slovenia. She is the director of PhD programs at University of Maribor, Faculty of Organizational Sciences, and author of the textbook Information Systems Research.