Peoples' Friendship University of Russia
Engineering Faculty

T.B. IVANOVA, A.A. KOZLOV, E.A. ZHURAVLEVA

METHODOLOGY OF SCIENTIFIC RESEARCH

Study Book

Moscow
Peoples' Friendship University of Russia
2012

УДК 001
ББК 72
И 20

Утверждено
РИС Ученого совета
Российского университета
дружбы народов

Рецензенты:
доктор экономических наук, профессор *Юха Хамадаинен*,
доктор социологических наук, профессор *Вели-Матти Ритакаллио*

Ivanova T.B., Kozlov A.A., Zhuravleva E.A.
И 20 Methodology of Scientific Research (Методология научного исследования) : Study Book / Т.Б. Иванова, А.А. Козлов, Е.А. Журавлева. – М. : РУДН, 2012. – 76 с.

ISBN 978-5-209-03657-9

«Methodology of Scientific Research» is a study book prepared by a group of scholars from engineering faculty of Peoples' Friendship University of Russia. It covers the main aspects of the nature and methods of scientific research. The study book concentrates primarily on methods of data collecting and data analyzing which is extremely important for students in social sciences including economics. The main advantage of the study book is the focus on creative thinking development and autonomous data search for researching of important socio-economic problems.

«Methodology of Scientific Research» is designed for students of economic schools, individual researchers and those who feel interest in scientific methods of data analysis.

ISBN 978-5-209-03657-9 ББК 72

ŋqdqʎɐʎ bɆ dəqɆbʎɜə d ɛɑɑbɔʎ ɟqdqʎqʎè

INTRODUCTION

The Study Book «Methodology of Scientific research» is for students who are taking different Master courses. It offers notions, concepts and instruments of science research to help scholars in investigating topics connected with vast spheres of social sciences including economics.

History of scientific research. It was philosophers of Ancient Greece who were the first to start applying scientific method to explain the existing reality. They paid much attention to the logic of discussion setting up its main rules and principles usually based on sophistic affirmations. Socrates, one of the most famous philosophers, is known by his saying that the truth is borne in discussion.

XX century gives us hypothetic and deductive model of scientific method. It contained the following consequent actions:

1. Use your experience: detect the problem and try to comprehend it. Find its existing explanations. If the problem is new for you take the next step.

2. Set up your hypothesis. Explain your idea and share it with someone or expose it in a written form. Draw conclusions from your hypothesis. If your hypothesis is true which consequences or conclusions might it have due to the rules of logic?

3. Verification: look for facts which may contradict each of there conclusions in order to refute your hypothesis. Conclusions according to the rules of logic cannot be used to confirm the hypothesis. It can be considered as a logical error and is known as *«aaffirming the consequent»* (Greek Επιβεβαίωση του επομένου).

4. Experiment.

Most Ancient philosophers considered 1st and 4th steps to be extremely important. Mention should be made that the scientific method will never be able to verify the hypothesis truth. It can only refute it and show that it is false.

CONTENTS