J.J. Strossmayer University in Osijek, Croatia

Doctoral program in Entrepreneurship and Innovativeness
Methodology of Entrepreneurial Research Course
2nd semester, obligatory course, 2021

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Course aims

1. To make students capable of understanding conceptual framework of the scientific research in entrepreneurship, with a focus on GEM conceptual framework, major findings and lines of inquiry
2. To enable students to design and to conduct their own research in entrepreneurship, by using the GEM database, and following the IMRaD methodology. That aim will be accomplished by:
    - introducing students with IMRad approach to write a research paper (teaching them how to structure their research paper)
    - teaching students how to write Introduction, Methods, Results, Discussion and Conclusion sections, and how to describe literature review sections where if needed
    - enabling students to analyze data using basic or advanced statistical methodology (Statistica software), discuss their results and draw conclusion

Course contents

1. Strategizing for Entrepreneurship Research
2. GEM – **Global entrepreneurship Monitor - Conceptual framework** of the entrepreneurship research (GEM); main indicators, major findings
3. **GEM resources**: purpose and contents of the data bases, accessability of the resources, data interface
4. **IMRaD Approach to publishing scientific papers:** Guided discussion - Tracking IMRaD in selected scientific article
5. **Methodology – Part 1-4**: Selected statistical procedures
    a. Inferential statistical tests employed with a single sample: z-test, t-test, chi-square test
    b. Inferential statistical tests employed with two independent samples: t-test, Mann-Whitney test, chi-square test

c. Inferential statistical tests employed with two dependent samples: Wilcoxon Matched-Pairs Signed-Ranks Test
d. Inferential statistical tests employed with two or more independent samples: ANOVA, Kruskal-Wallis ANOVA

6. **Data analysis of the GEM data sets using Statistica tool**

Course outcomes

At the end of the course students will be able to:

- Describe conceptual framework of the GEM research, major findings and lines of inquiry
- Use effectively the GEM database in their own research, analyze data using basic or advanced methodology (Statistica software)
- Conduct appropriate statistical procedures to investigate relationships among data
- Assess the IMRaD structure in scientific papers in the field of entrepreneurship research and deploy it in the own research

Doctoral student's assignments

Doctoral candidates will be assessed on the basis of 4 assignments.

Assignment 1: GEM quiz- 100%

Assignment 2: IMRaD quiz - 100%

Post course - Assignment 3: Review of the IMRaD structure of a scientific paper - 0-100 points

Post course - Assessment 4: Statistical tests using GEM dataset – 0-100 points

Two assignments related to the lesson 1 and 2 are pre-course assignments which aim to inform students about the database and key variables that will be used in statistical analysis, or with the process of doing and publishing scientific research. Assignment 1 and 2 are self-assessments of the students' self directed learning. It is strongly recommended to perform assignments 1-2 any time during Dec. 21st 2020-January 13th 2021. The assignments are described under the specific lessons in the course. In addition, these assignments may be taken repeatedly until participants achieve 100% of correct answers. They need to be completed before the course starts.

Assignment 3 (a review of IMRad structure in a selected scientific paper) and Assignment 4 (conducting statistical procedures to investigate relationships among data in GEM datasets

and describing the results) are post-course assignments. They should be performed as the final assignments after the scheduled on line sessions. These two assignments should be uploaded to the platform until Feb 22nd 2021, and will be used to determine final grade.

Grading

Final grade of the course is calculated as the average of the assignment 3 and assignment 4 evaluation. For example: if assignment 3 is evaluated with 76 points and assignment 4 with 85 points the average success will be calculated as 76+85=161; 161/2=80, 5 – very good). The final grading scale is following:

Average % of the assignments completion and achievement	Assessment
50-64%	D – sufficient (2)
65-74%	C – good (3)
75-84%	B – very good (4)
85-100%	A – excellent (5)

Literature:

Obligatory:

Course handouts available at Loomen distance learning system:

1. Pfeifer, S. Šarlija, N. Zekić-Sušac, M., Methodology of entrepreneurial research – MoER, Handouts, 2018, https://loomen.carnet.hr/course/view.php?id=6725
2. Yves Robichaud; Rolland LeBrasseur; K.V. Nagarajan (2010) Necessity and Opportunity driven Entrepreneurs in Canada: An Investigation into their Characteristics and an Appraisal of the Role of Gender, Journal of Applied Business and Economics, 11(1), pp. 59-79.

Optional:

1. Levie, J.D. and Autio, Erkko (2008) *A theoretical grounding and test of the GEM model.* Small Business Economics, 31 (3). pp. 235-263. ISSN 0921-898X

2. Sheskin, D.J., Handbook of Parametric and Nonparametric Statistical Procedures, Chapman & Hall/CRC, Washingon D.C., 2004.
3. Swales, J.M., Feak, C.B., Academic Writing for Graduate Students, The University of Michigan Press, Ann Arbor 1999. (or newer issue)
4. Witten, I.H., Frank, E., Data Mining: Practical Machine Learning Tools and Techniques with Java Implementation, Morgan Kaufman Publishers, San Francisco, 2000.