



## Sustainable development of Blue economies through higher education and innovation in Western Balkan Countries – BLUEWBC

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# BLUEWBC

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## LIST OF FIGURES

FIGURE I-1. GENDER.....	7
FIGURE I-2. AGE.....	7
FIGURE I-3. NAME OF THE FACULTY.....	8
FIGURE I-4. POSITION AT THE FACULTY.....	8
FIGURE I-5. WORKING EXPERIENCE.....	8
FIGURE I-6. RESEARCH AREA.....	8
FIGURE I-7. LEVELS OF STUDIES ENGAGED.....	9
FIGURE I-8. NUMBER OF STUDENTS AT BACHELOR LEVEL.....	9
FIGURE I-9. NUMBER OF STUDENTS AT MASTER LEVEL.....	9
FIGURE I-10. NUMBER OF STUDENTS AT PHD LEVEL.....	9
FIGURE I-11. LAST 5 YEARS' EXPERIENCE IN ENTREPRENEURSHIP COURSES.....	10
FIGURE I-12. THE NUMBER OF STUDENTS IN ENTREPRENEURSHIP COURSES ENROLLED.....	10
FIGURE I-13. LAST 5 YEARS' EXPERIENCE IN INNOVATION COURSES.....	10
FIGURE I-14. NUMBER OF STUDENTS IN INNOVATION COURSES ENROLLED.....	10
FIGURE I-15. IN/EXTRA-CURRICULAR ACTIVITIES RELATED TO ENTREPRENEURSHIP.....	11
FIGURE I-16. NUMBER OF ACADEMIC STAFF INVOLVED IN ENTREPRENEURSHIP ACTIVITIES.....	11
FIGURE I-17. NUMBER OF ACADEMIC STAFF INVOLVED IN INNOVATION ACTIVITIES.....	12
FIGURE I-18. IMPLEMENTATION OF ENTREPRENEURSHIP ACTIVITIES.....	12
FIGURE I-19. TIME FRAME OF ENTREPRENEURSHIP ACTIVITIES IMPLEMENTATION.....	12
FIGURE I-20. FUTURE PERSPECTIVES OF IMPLEMENTATION OF ENTREPRENEURSHIP ACTIVITIES.....	12
FIGURE I-21. IMPLEMENTATION OF INNOVATION ACTIVITIES.....	12
FIGURE I-22. TIME FRAME OF INNOVATION ACTIVITIES IMPLEMENTATION.....	12
FIGURE I-23. FUTURE PERSPECTIVES OF IMPLEMENTATION OF INNOVATION ACTIVITIES.....	12
FIGURE I-24. EXISTENCE OF ENTREPRENEURSHIP COURSES IN ACADEMIC 2019/2020.....	13
FIGURE I-25. NUMBER OF ENTREPRENEURSHIP COURSES IN ACADEMIC 2019/2020.....	13
FIGURE I-26. NUMBER OF ECTS OF ENTREPRENEURSHIP COURSES IN ACADEMIC 2019/2020.....	13
FIGURE I-27. EXISTENCE OF INNOVATION COURSES IN ACADEMIC 2019/2020.....	14
FIGURE I-28. NUMBER OF INNOVATION COURSES IN ACADEMIC 2019/2020.....	14
FIGURE I-29. NUMBER OF ECTS OF INNOVATION COURSES IN ACADEMIC 2019/2020.....	14
FIGURE I-30. ENTREPRENEURSHIP/INNOVATION COURSES STATUS IN ACADEMIC 2019/2020.....	14
FIGURE I-31. THE FUTURE PERSPECTIVE OF ENTREPRENEURSHIP IN COURSES.....	14
FIGURE I-32. THE FUTURE PERSPECTIVE OF INNOVATION IN COURSES.....	14
FIGURE I-33. THE STATUS OF ENTREPRENEURSHIP IN FACULTIES' CURRICULA STRATEGIES.....	15
FIGURE I-34. THE STATUS OF INNOVATION IN FACULTIES' CURRICULA STRATEGIES.....	15
FIGURE I-35. THE FUTURE RELEVANCE OF ENTREPRENEURSHIP IN ALL STUDY PROGRAMS AT FACULTY.....	15
FIGURE I-36. THE FUTURE RELEVANCE OF INNOVATION IN ALL STUDY PROGRAMS AT FACULTY.....	15
FIGURE I-37. THE STATUS OF INDUSTRY/BUSINESS PARTNERS IN PRACTICAL PARTS OF THE LECTURES.....	16
FIGURE I-38. THE NUMBER OF LECTURES GIVEN BY INDUSTRY/BUSINESS PARTNERS.....	16
FIGURE I-39. THE EXISTENCE OF LIFELONG ENTREPRENEURSHIP LEARNING STRATEGY.....	16
FIGURE I-40. THE EXISTENCE OF CAREER CENTRE AT THE UoM.....	16
FIGURE I-41. RECOMMENDED ACTIVITIES RELATED TO ENTREPRENEURSHIP ORIENTATION.....	17
FIGURE I-42. RECOMMENDED ACTIVITIES RELATED TO INNOVATION ORIENTATION.....	17
FIGURE I-43. RESEARCH IN FIELD OF ENTREPRENEURSHIP.....	17



FIGURE I-44. RESEARCH IN FIELD OF INNOVATION ..... 17

FIGURE I-45. THE STRUCTURE OF TEACHING METHODS IN THE ENTREPRENEURSHIP EDUCATION ..... 18

FIGURE I-46. THE STRUCTURE OF TEACHING METHODS IN THE INNOVATION EDUCATION ..... 18

FIGURE I-47. FACULTY SUPPORT TO ENTREPRENEURIAL CULTURE ..... 18

FIGURE I-48. FACULTY SUPPORT TO INNOVATION CULTURE..... 18

FIGURE I-49. FAMILIARITY WITH THE STRATEGY FOR THE DEVELOPMENT OF THE MARINE INDUSTRY 2020-2030 ..... 19

FIGURE I-50. EXISTENCE OF BE COURSES ..... 19

FIGURE I-51. BLUE ECONOMY COURSES: NUMERICAL STRUCTURE ..... 19

FIGURE I-52. BLUE ECONOMY COURSES: CATEGORICAL STRUCTURE ..... 19

FIGURE I-53. BLUE ECONOMY COURSES: NUMBER OF STUDENTS..... 20

FIGURE I-54. BLUE ECONOMY COURSES: THE RAISING PERSPECTIVE OF PROGRAMS ..... 20

FIGURE II-1. GENDER..... 21

FIGURE II-2. AGE..... 21

FIGURE II-3. FACULTY/STUDY AREA ..... 22

FIGURE II-4. STUDY YEAR ..... 22

FIGURE II-5. CUMULATIVE GRADE ..... 22

FIGURE II-6. MOBILITY..... 22

FIGURE II-7. EMPLOYMENT ..... 22

FIGURE II-8. EMPLOYMENT DURATION ..... 22

FIGURE II-9. EMPLOYMENT SATISFACTION..... 23

FIGURE II-10. INTERNSHIP ..... 23

FIGURE II-11. INTERNSHIP SATISFACTION ..... 23

FIGURE II-12. ENTREPRENEURSHIP COURSES..... 23

FIGURE II-13. CURRICULA DEDICATED TO ENTREPRENEURSHIP ..... 23

FIGURE II-14. INNOVATION COURSES EXPERIENCE ..... 24

FIGURE II-15. CURRICULA DEDICATED TO INNOVATION EXPERIENCE ..... 24

FIGURE II-16. OPINION ABOUT ENTREPRENEURSHIP EDUCATION AND FUTURE CAREER ..... 25

FIGURE II-17. OPINION ABOUT INNOVATION EDUCATION AND FUTURE CAREER..... 25

FIGURE II-18. OPINION ABOUT ENTREPRENEURSHIP EDUCATION GOALS ..... 25

FIGURE II-19. OPINION ABOUT INNOVATION EDUCATION GOALS ..... 25

FIGURE II-20. EXTRACURRICULAR ACTIVITIES FOCUSING ON ENTREPRENEURSHIP EXPERIENCE ..... 26

FIGURE II-21. EXTRACURRICULAR ACTIVITIES FOCUSING ON INNOVATION EXPERIENCE ..... 26

FIGURE II-22. TEACHING METHODS ..... 26

FIGURE II-23. NEED FOR MORE ENTREPRENEURSHIP ACTIVITIES ..... 27

FIGURE II-24. NEED FOR MORE INNOVATION ACTIVITIES ..... 27

FIGURE II-25. ENTREPRENEURIAL ATTITUDES AND CULTURE RATING..... 27

FIGURE II-26. INNOVATION ATTITUDES AND CULTURE RATING ..... 27

FIGURE II-27. BLUE ECONOMY: AWARENESS ..... 28

FIGURE II-28. BLUE ECONOMY: COURSES ATTENDED ..... 28

FIGURE II-29. BLUE ECONOMY: CURRICULA/LECTURE STATUS ..... 28

FIGURE II-30. BLUE ECONOMY: LECTURES EXPERIENCE..... 28

FIGURE II-31. BLUE ECONOMY: NEED FOR MORE STUDY PROGRAMS..... 29

FIGURE II-32. BLUE ECONOMY: EMPLOYMENT OPPORTUNITIES ..... 29

FIGURE III-1. GENDER..... 29

FIGURE III-2. AGE..... 29

FIGURE III-3. BUSINESS ENTITY..... 30

FIGURE III-4. YEAR OF ESTABLISHMENT ..... 30



FIGURE III-5. DISTRIBUTION BY SECTIONS.....	30
FIGURE III-6. SIZE .....	30
FIGURE III-7. DISTRIBUTION BY WORKING POSITION.....	31
FIGURE III-8. EDUCATIONAL LEVEL .....	31
FIGURE III-9. EXPERIENCE WITHIN ORGANIZATION/COMPANY .....	32
FIGURE III-10. COOPERATION WITH UNIVERSITY OF MONTENEGRO.....	32
FIGURE III-11. TYPE OF COOPERATION .....	32
FIGURE III-12. IMPORTANCE OF THE COOPERATION WITH UNIVERSITY OF MONTENEGRO.....	32
FIGURE III-13. MODE OF COOPERATION WITH UNIVERSITY OF MONTENEGRO.....	33
FIGURE III-14. OPINION ABOUT STUDENT’S ENTREPRENEURSHIP EXPERIENCE .....	33
FIGURE III-15. OPINION ABOUT STUDENT’S INNOVATION EXPERIENCE .....	33
FIGURE III-16. OPINION ABOUT ENTREPRENEURIAL EDUCATION.....	33
FIGURE III-17. CURRICULA DESIGN INVOLVEMENT BY UNIVERSITY OF MONTENEGRO .....	34
FIGURE III-18. OPINION ABOUT MORE ACTIVE ROLE ON ECONOMIC MARKET BY UNIVERSITY OF MONTENEGRO .....	34
FIGURE III-19. OPINION ABOUT MORE ACTIVE INVOLVEMENT OF BUSINESS SECTOR.....	34
FIGURE III-20. OPINION ABOUT COMPANIES’ ACTIVE INVOLVEMENT IN PARTNERSHIP WITH THE UoM.....	34
FIGURE III-21. OPINION ABOUT EXISTING INVOLVEMENT IN PARTNERSHIP WITH OTHER STAKEHOLDERS.....	35
FIGURE III-22. OPINION ABOUT OPPORTUNITIES FOR STUDENTS .....	35
FIGURE III-23. BLUE ECONOMY EXPERIENCE .....	36
FIGURE III-24. PERSPECTIVE OF BLUE ECONOMY ACTIVITIES INCLUSION INTO OWN BUSINESS.....	36
FIGURE III-25. DISTRIBUTION OF POTENTIAL BLUE ECONOMY ACTIVITIES INCLUSION INTO OWN BUSINESS.....	36



## INTRODUCTION

This survey is conducted by the University of Montenegro (UoM) within a project entitled *Sustainable development of BLUE economies through higher education and innovation in Western Balkan Countries* –BLUEWBC under Erasmus + program.

The aim of this survey is to analyze to what extent entrepreneurship and innovation activities are present in current study programs at all levels at the University of Montenegro. In other words, we discuss collected data in order to obtain accurate picture regarding entrepreneurial and innovation education due provide some suggestion for further improvement regarding this issue. Additionally, final part of this analysis reveals the great potential of Blue economy (BE) concept, especially in context of entrepreneurship and innovation. However, the analysis identified that there are certain bottlenecks that prevented full utilization of Blue economy, primarily starting with limited understating of the concept by respondents, mostly by students and quite large share of stakeholders as well.

Entrepreneurship is highly needed concept and mechanism, mostly due to its powerful capacity to foster economic growth and create new job (EC, 2020). Also, together with innovation, it could be seen as highly important source of new ideas, businesses, skills, competences and finally competitive advantage for company and country as well. In the same vein, Pekovic and Galia (2009) argue that innovation is widely acknowledged as a vital factor for economic development. However, in order to foster entrepreneurship and innovation initiatives it is necessary to create environment that celebrates entrepreneurial and innovative culture.

Therefore, given the importance of entrepreneurship and innovation, scholars go further by directing on entrepreneurial university as a new trend in higher education institutions (HEI) (e.g. Sam and Van der Sijde, 2014). Entrepreneurship education is present in the US HEIs for over fifty years while in Europe, entrepreneurship only substantially began to enter the curriculum in the last ten years (OECD, 2008). It could be defined as any pedagogical process which endorses the learning of entrepreneurial attitudes, skills and competencies (e.g. Bae et al., 2014). Vesper and McMullen (1988) argue that entrepreneurship education gives possibility to engender greater variety of different ideas for how to exploit a business opportunity. Further rational for focusing on entrepreneurial education could be found in the fact that HEIs should be considered as main source of the skills and knowledge that drive innovation (Kruss et al., 2015).



In order to provide necessary suggestions for creating environment that supports entrepreneurial and innovative culture, we created well-structured questionnaires that were looking for data about important aspects of entrepreneurship and innovation, such as respondents' opinions, experiences and actions related to mentioned areas (Appendices I-III). In addition, the questioners include also socio-demographic characteristics. A quantitative survey was conducted during June 2020 at the University of Montenegro. We surveyed three categories of respondents: academic staff (N=32), students (N=375) and stakeholders (N=23). Accordingly, such diversified structure of respondents offers new insight into the status-quo of entrepreneurship and innovation education in Montenegro.

Regarding analysis associated to academic staff attitude towards entrepreneurship and innovation activities, we may conclude that there is generally positive approach followed by a number of suggestions that can improve the current state. Although, analysis shows limited number of entrepreneurship/innovation courses and consequently students' involvement, but there is wide understanding of importance of these activities for the faculties, students and society.

Furthermore, students are mainly familiar with general aspects of modern entrepreneurship and innovation activities, but there is serious lack of adequate sources of know-how (e.g. projects, workshops, databases) where much more practical skills and real experiences could be obtained and accepted. Their clear recognition of entrepreneurship and innovation as important power of job and income creation is obvious, but there is a number of improvement that must be realized in order to provide better education for students, especially via introduction of new teaching methods that will develop key and critical level of business skills such as creativity, initiative, tenacity, teamwork, understanding of risk and a sense of responsibility.

Finally, the findings related to stakeholders imply that they are mostly interested in highly skilled students, more active cooperation with the University of Montenegro and their involvement in education process.

Overall, this document provides an insight into entrepreneurship and innovation activities at the University of Montenegro. Accordingly, it could be of the great help for the University of Montenegro management as it is considered that only strong commitment from the university leadership can help university to build culture that support entrepreneurial and innovative spirit (OECD, 2008). At the end, key findings show that there is constant need for more entrepreneurial and innovation. Additionally, this document opens new area of Blue growth and Blue economy (BE) concept. These terms in the EU context refers to the long term strategy to support sustainable growth in the marine and maritime sectors as a whole (EC,



2017). Blue economy is an economic concept focused on issues such as sustainable conservation and effective valorization of marine natural resources, which can provide the sustainability of marine resource availability, ecosystem balance and environmental health. Moreover, BE concept includes several sectors (e.g. aquaculture, marine tourism, blue biotechnology etc.), and its potentials are well recognized in sense of new products and job creation (EC, 2017). For example, marine tourism sector is experiencing quite positive trend of creating new joint products such as nautical or cultural routes. Consequently, BE could be considered as a strategically important driver for creating stimulating education experience at the University of Montenegro what could be reflected positively on the market.

### I. Results discussion: Academic staff

The first part of analysis is related to socio-demographic characteristics of respondents. As it could be noticed, in Figures I-1 and I-2, there is a slightly dominance of females with almost 60% of respondents belonging to this category, while the age group of over 40 years is present with more than 55%. The high percentage of 50+ staff potentially could have negative impact on entrepreneurship and innovations activities, especially accompanied with relatively low percentage of employees below 30 years who are considered to be more entrepreneurially and innovative oriented.

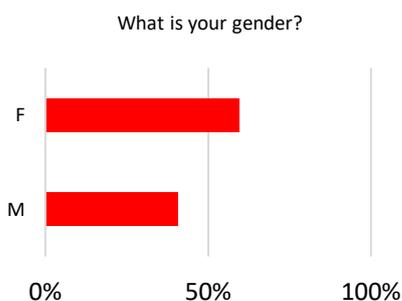


Figure I-1. Gender

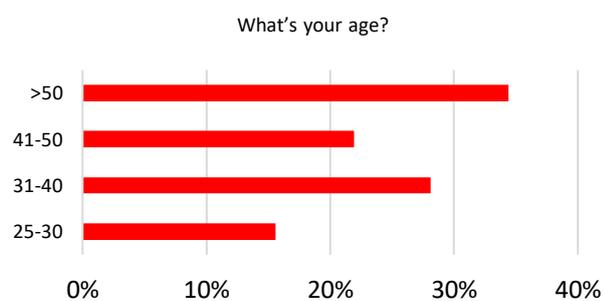


Figure I-2. Age

As Figures I-3 and I-4 show, teaching assistants are dominant in the total structure of the sample with more than 45%, whereas the lowest percentage are assistant professors (<5%). Among four surveyed faculties, almost 45% of respondents come from the Faculty of Maritime Studies Kotor. The relatively small number of assistant professors could have negative impact on entrepreneurship and innovation activities. In the future, it is essential to



focus on employment of this type of academic staff in order to further boost creative environment.

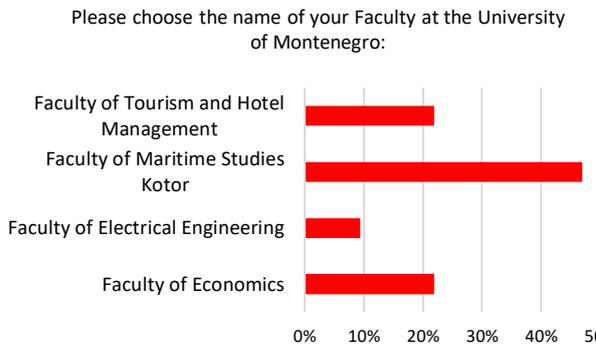


Figure I-3. Name of the faculty

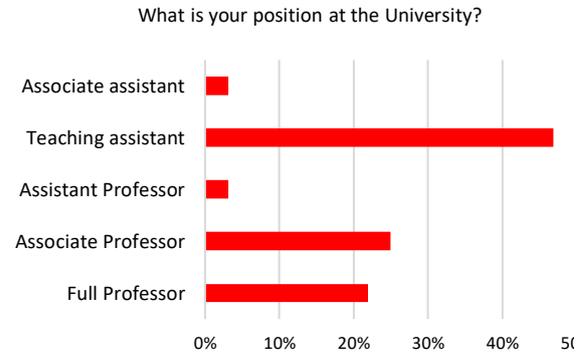


Figure I-4. Position at the faculty

We may notice from Figure I-5 that majority of respondents have lower level of working experience. The respondents' profile, in sense of research area and experience, highlights that Economics & Management are main research areas of surveyed academic staff, which consequently could generate better understanding of significance of entrepreneurship and innovation involvement (see Figure I-6).

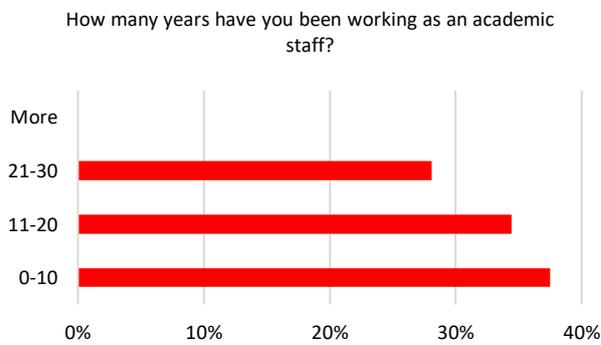


Figure I-5. Working experience

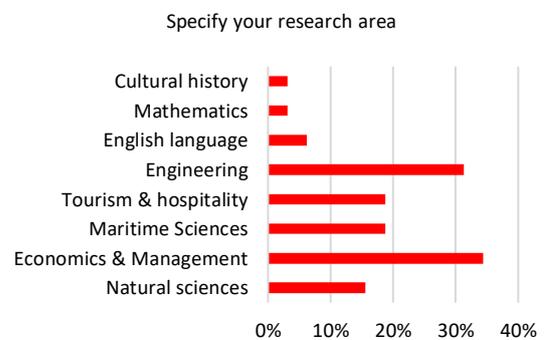


Figure I-6. Research area

According to data in Figures I-7 and I-8, most of the respondents are involved in bachelor study level with high number of students (>80). Consequently, large number of students and dominant bachelor level can have limited effects of innovation and entrepreneurial capacities, mostly due to large time consumption related to organization and paper work. Actually, better potential for entrepreneurship and innovative activities lies in higher levels of study (e.g. master) as they are consistent of smaller student groups.

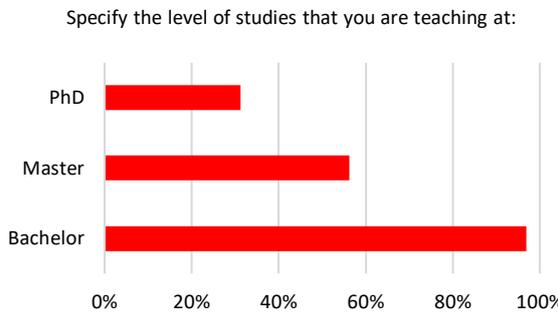


Figure I-7. Levels of studies engaged

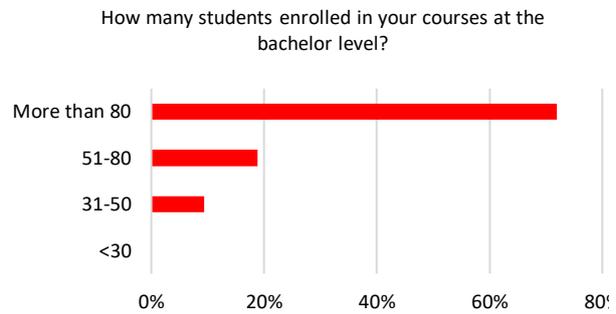


Figure I-8. Number of students at bachelor level

Related to data in Figures I-7 and I-8, smaller groups of students at master and PhD levels (see Figures I-9 and I-10) are more convenient and effective for new projects development. The master study level could offer good opportunities for entrepreneurial and innovations activities, especially in the context of optimal student number (e.g. 10-20 students). Moreover, the facts in Figure I-9 are quite disappointing indicating zero students at almost 45% of courses. In this vein, master studies should be promoted as important source of future entrepreneurship and innovation research followed by involvement of business/industry professionals.

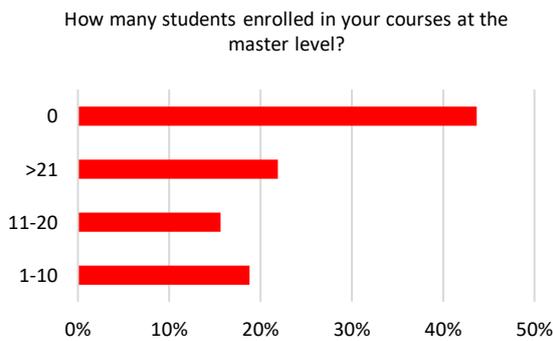


Figure I-9. Number of students at master level

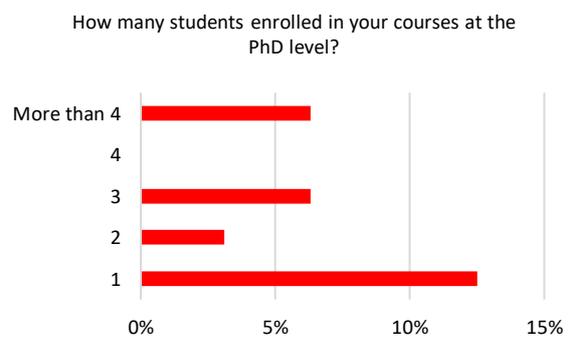


Figure I-10. Number of students at PhD level

Figures I-11 and I-12 show the respondents experience in terms of entrepreneurship courses where only 10% of them had some forms of these courses with relatively high number of attendees (e.g. 30+). Quite concerning is the fact that there was no entrepreneurship courses at master and PhD levels. Related to data in Figure I-6 where almost 35% of respondents have



Economics & Management as main research area, it is quite difficult to understand why there is no master courses related to entrepreneurship at all.

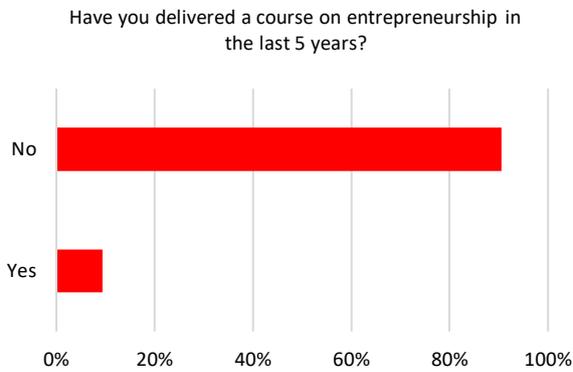


Figure I-11. Last 5 years' experience in entrepreneurship courses

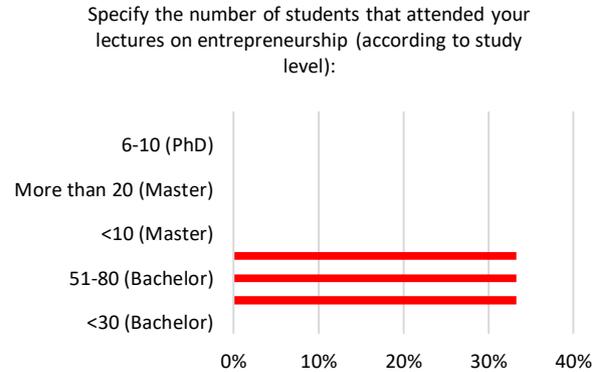


Figure I-12. The number of students in entrepreneurship courses enrolled

Compared to situation with entrepreneurship, innovation courses have better general presence, almost 20%. What more, the course is present at all study levels (see Figures I-13 and I-14). This opens much better potential for innovation capacity building for students. Only concern, as stressed above is why entrepreneurship courses don't follow innovation courses presence, especially considering the fact that innovation development requires commercialization that usually entails entrepreneurial competences and skills.

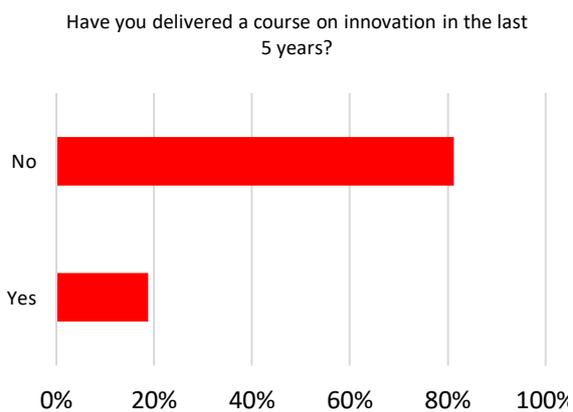


Figure I-13. Last 5 years' experience in innovation courses

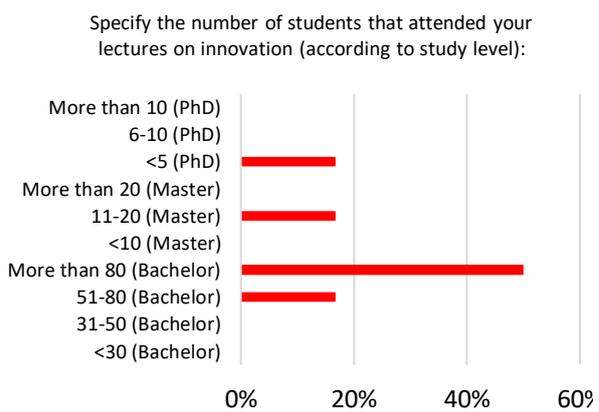


Figure I-14. Number of students in innovation courses enrolled



The entrepreneurship activities in-curricular or extracurricular is shown in Figures I-15 and I-16, highlighting the high presence (>65%) of entrepreneurship activities what is encouraging since those activities can help students to develop entrepreneurial behavior, skills, knowledge and creativity. However, small number of involved employees could limit and even affect negatively total faculty’s capacity to create activities that boost entrepreneurial skills.

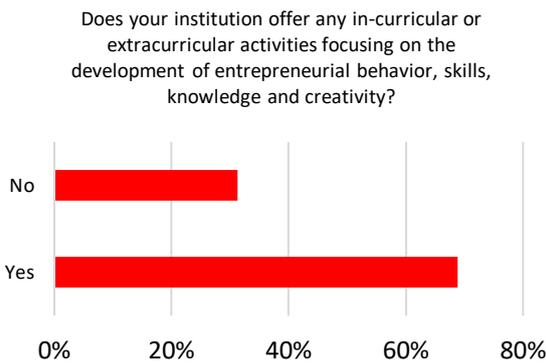


Figure I-15. In/extra-curricular activities related to entrepreneurship

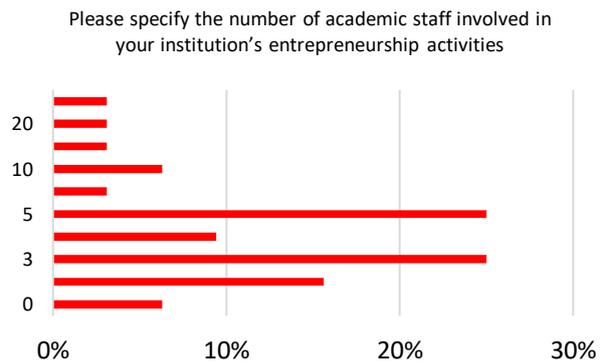


Figure I-16. Number of academic staff involved in entrepreneurship activities

Similar to previous findings, in terms of innovation activities shown in Figure I-17, it could be noted that only 5 employees are involved in such activities. Again, small number of involved employees in both entrepreneurial and innovation activities could limit the total faculty’s capacity to establish working environment that support innovate and be entrepreneurial behavior.

As shown in Figure I-18, over 65% of respondents claim that entrepreneurship activities were implemented, usually in form of workshop, project or summer school what is rather positive fact since as shown previously number of courses related to entrepreneurship is limited.

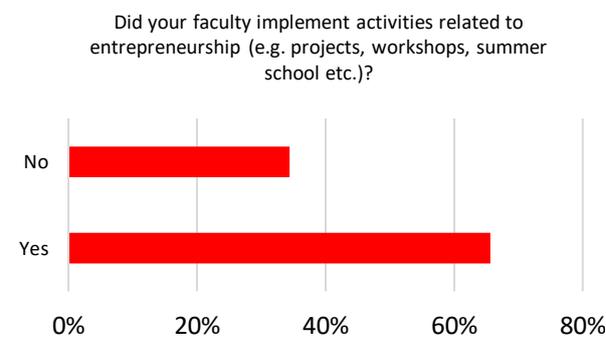
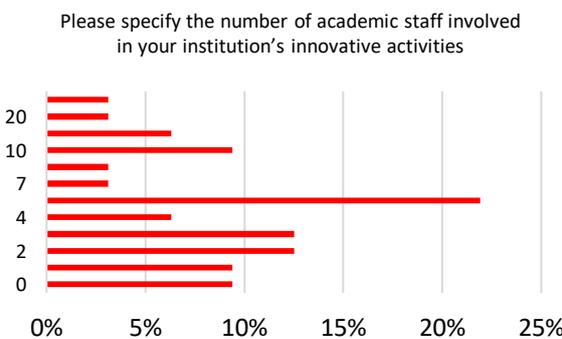




Figure I-17. Number of academic staff involved in innovation activities

Figure I-18. Implementation of entrepreneurship activities

Compared to Figure I-18, Figures I-19 and I-20 show some quite worrying predictions related to entrepreneurship perspective, with most of activities framed in the past period, and very pessimistic expectations for the future. Key cause can be lack of planning of such activities and their sustainability over longer period of time. Therefore, it should be underlined that successful entrepreneurship activities require wide support and involvement of all employees.

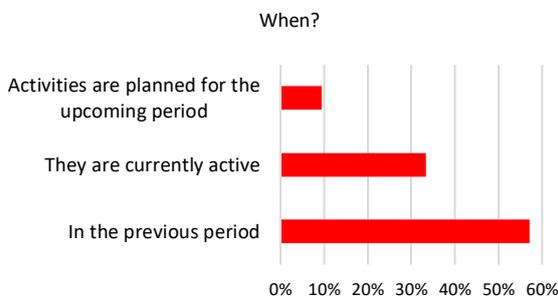


Figure I-19. Time frame of entrepreneurship activities implementation

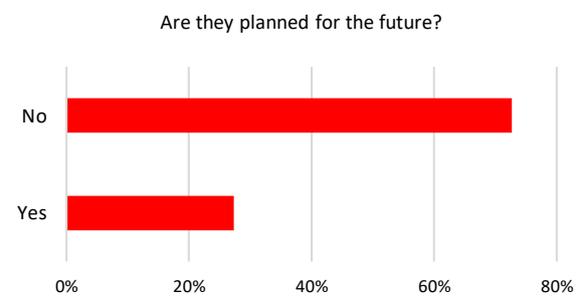


Figure I-20. Future perspectives of implementation of entrepreneurship activities

Similar to previous, Figures I-21, I-22 and I-23 related to innovation perspective, show same tendency as entrepreneurship activities, with almost 75% of respondents claiming that different innovation workshops and project were implemented, followed by relatively pessimistic expectations in the future. Therefore, the same conclusion could be applied as for entrepreneurial activities.

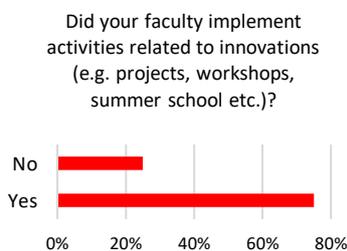


Figure I-21. Implementation of innovation activities

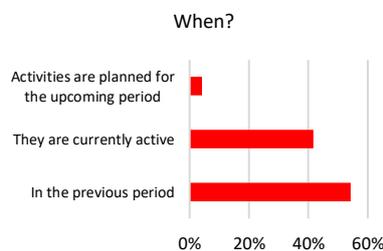


Figure I-22. Time frame of innovation activities implementation

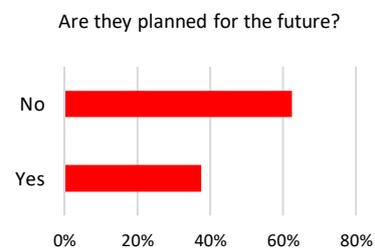


Figure I-23. Future perspectives of implementation of innovation activities



The entrepreneurship courses profile is shown in Figures I-24, I-25 and I-26, indicating that almost 90% of respondents don't have any courses related to this issue, followed by only 2-3 courses in total per faculty with approximately 6-7 ECTS per course. These data are in line with previous conclusion regarding small number of employees involved in such activities. Overall situation in context of entrepreneurship orientation points out the necessity for more intensive development and implementation of in/extra curricula especially interdisciplinary courses that can foster creativity generation.

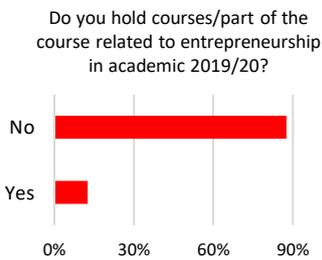


Figure I-24. Existence of entrepreneurship courses in academic 2019/2020



Figure I-25. Number of entrepreneurship courses in academic 2019/2020

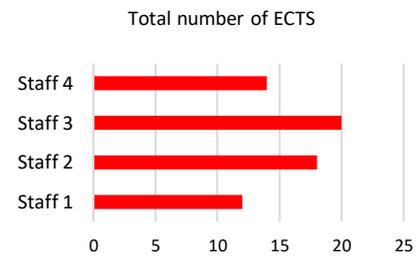


Figure I-26. Number of ECTS of entrepreneurship courses in academic 2019/2020

Innovation courses have similar status as entrepreneurship courses, where only 18% of respondents are involved in such activities (see Figure I-27). Figure I-28 shows more diversified structure of innovation activities among different faculties, but with evident low total number of such courses and consequently limited number of ECTS (e.g. 5-6) (see Figure I-29). Small number of involved students evidently could have negative impact on general understanding of importance of entrepreneurship and innovations, so existing concept of education needs drastic reforms in terms of offered courses.

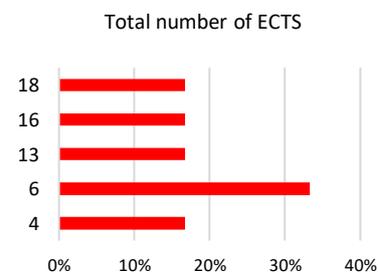
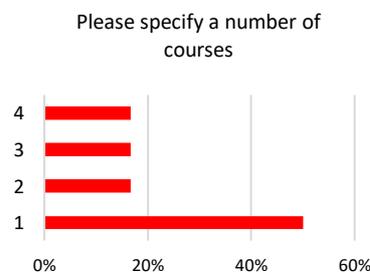
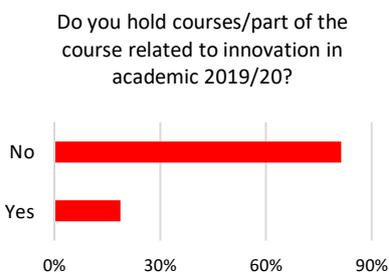




Figure I-27. Existence of innovation courses in academic 2019/2020

Figure I-28. Number of innovation courses in academic 2019/2020

Figure I-29. Number of ECTS of innovation courses in academic 2019/2020

As shown in Figure I-30, overall insight into courses at selected faculties show quite minimal presence of entrepreneurship/innovation activities and this confirms limited effect that such structure could have on building general entrepreneurial/creative ambient and competence. The respondents' positive attitude towards entrepreneurship/innovation inclusion into curricula confirms their understanding of significance of these activities for students (see Figures I-31 and I-32). However, there is still lack of understanding that these two activities are interrelated. This is obvious when it comes to different percentage of positive answers about entrepreneurship and innovation inclusion, with 60% and 85%, respectively. It seems that innovation education is more popular and attracts more attention, whereas entrepreneurship is slightly less recognized as important tool for innovation implementation.

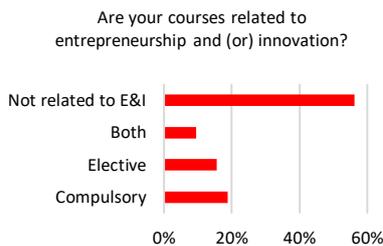


Figure I-30. Entrepreneurship/innovation courses status in academic 2019/2020

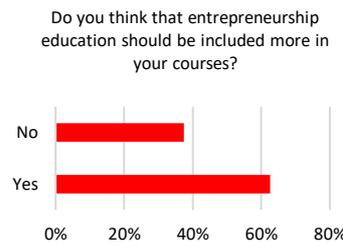


Figure I-31. The future perspective of entrepreneurship in courses

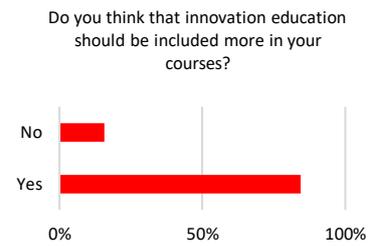


Figure I-32. The future perspective of innovation in courses

As shown in Figures I-33 and I-34, it is evident general positive and promising perspective related to entrepreneurship and innovation activities in sense of future curricula design and strategy implementation. Due to present relatively low involvement, these expectations are quit realistic and provide new opportunities for academic staff to improve their engagement in area of entrepreneurship and innovation activities for students.

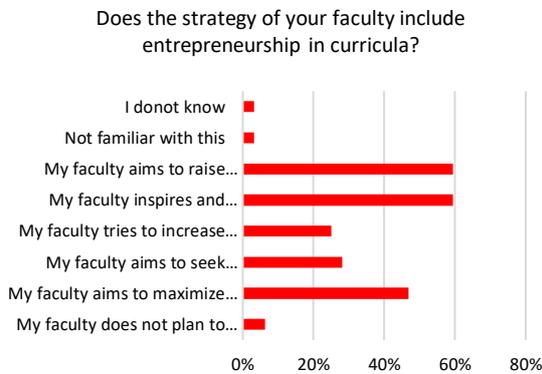


Figure I-33. The status of entrepreneurship in faculties' curricula strategies



Figure I-34. The status of innovation in faculties' curricula strategies

Previously identified positive and optimistic approach towards entrepreneurship and innovation inclusion into curricula is again confirmed with data shown in Figures I-35 and I-36. There is quite high support for these activities inclusion into all study programs, moving from 75% to 90%. Again, there is obvious difference between support to entrepreneurship and innovation, with significant advantage and support given to innovation activities.

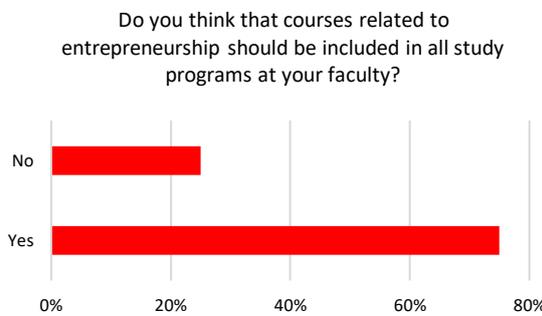


Figure I-35. The future relevance of entrepreneurship in all study programs at faculty

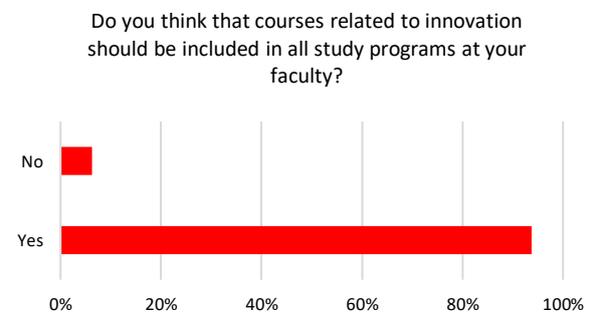


Figure I-36. The future relevance of innovation in all study programs at faculty

As shown in Figures I-37 and I-38, practical lectures given by industry and business professionals are quite present in selected faculties, with 80% of respondents claiming that they include these partners into study programs, with usually 1-5 lectures in more than 50% of cases. These are relatively high percentages of practical contact that academic staff and students have with market partners, providing more opportunities for creating entrepreneurial and innovative behavior and attitude.



Did you include the industry or business sector staff in the practical part of your lectures?

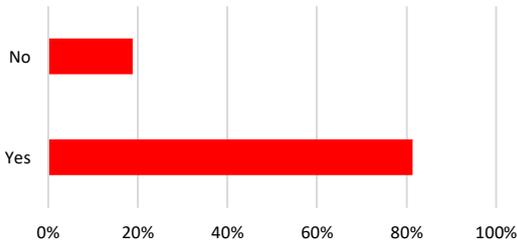


Figure I-37. The status of industry/business partners in practical parts of the lectures

During the academic year 2019/20, please specify the number of lectures given by industry or business sector practitioners?

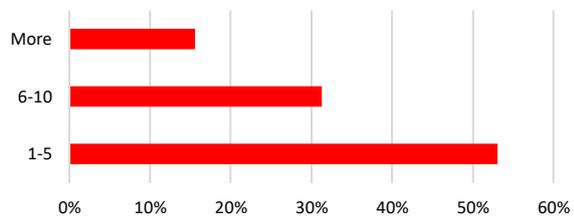


Figure I-38. The number of lectures given by industry/business partners

General knowledge of strategies as well as services related to entrepreneurship/innovation support is quite acceptable with more than 60% of respondents claiming they have heard or read mentioned documents/projects/services (Figures I-39 and I-40). Importance of such support is crucial for entrepreneurship and innovation capacity in the society, due to their role to guide and support these activities.

Are you familiar with the policies/strategy/action plans regarding entrepreneurship in Montenegro? For example, did you hear about the Strategy for Lifelong Entrepreneurial Learning 2020-2024 prepared by the Ministry of Economy of Montenegro?

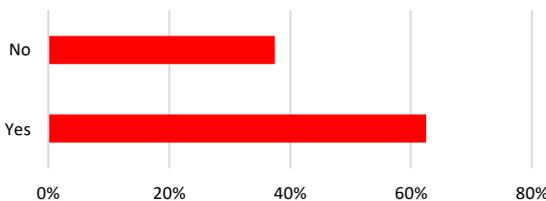


Figure I-39. The existence of Lifelong entrepreneurship learning strategy

Did you hear about the activities of the Career Centre at the University of Montenegro regarding student entrepreneurship ideas?

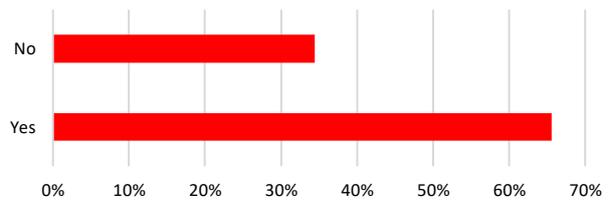


Figure I-40. The existence of Career Centre at the UoM

Key suggestions to University of Montenegro related to entrepreneurship and innovation are given in Figures I-41 and I-42, showing that workshops, summer schools and involvement of market partners are among most popular and common in order to promote and raise awareness among students about mentioned issues. Apart from these, there is also evident need for other improvements that are not mentioned here, but are mostly linked with digital technology, self-education and know-how transfer.

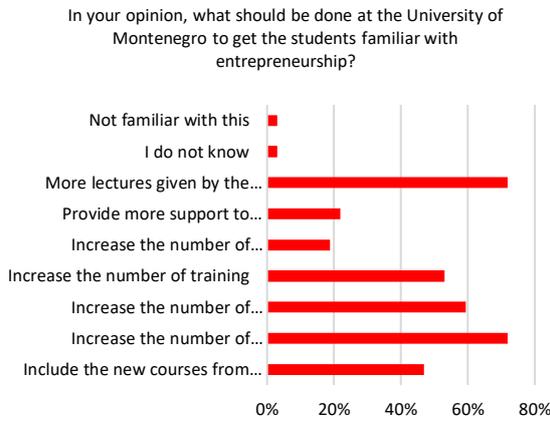


Figure I-41. Recommended activities related to entrepreneurship orientation



Figure I-42. Recommended activities related to innovation orientation

Current status of entrepreneurship and innovation researches at faculties is relatively good, with 35% and 40% of respondents respectively, claiming that their institution is involved in these research areas (Figures I-43 and I-44). This represents a quite useful starting point to promote innovative and creative ideas and project in the future.

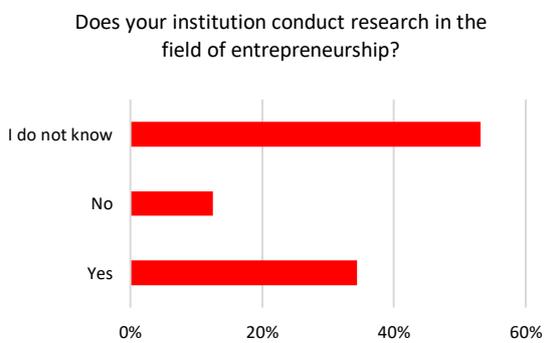


Figure I-43. Research in field of entrepreneurship

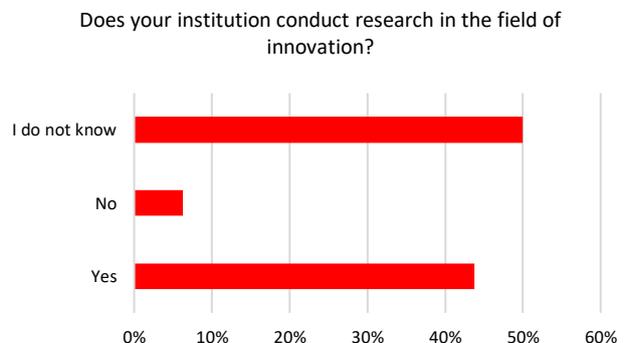


Figure I-44. Research in field of innovation

As shown in Figures I-45 and I-46, most often teaching method is lecturing, followed by case studies and practical lectures. Unfortunately, exploring real problems as a teaching method has lower presence, showing that education is probably focus on mostly theoretical and abstract cases/companies, which could be less appealing for students and staff to find new solutions and ideas. As mentioned before, existing methods require further improvement, followed by reform of courses offered and introduction of modern teaching methods.

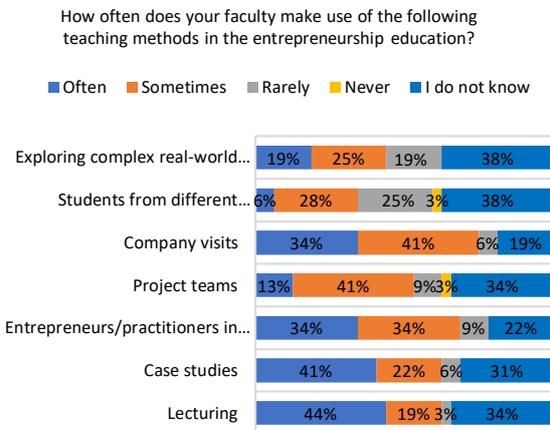


Figure I-45. The structure of teaching methods in the entrepreneurship education

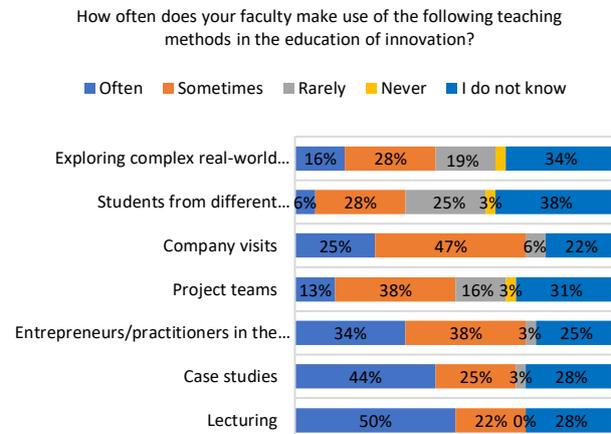


Figure I-46. The structure of teaching methods in the innovation education

There is general positive opinion among respondents in terms of faculties' support related to entrepreneurship and innovation activities (Figures I-47 and I-48). This means that there is already convenient ecosystem for further fostering of such activities, with a remark that it requires new and more intensive methods to improve entrepreneurship/innovation status-quo.

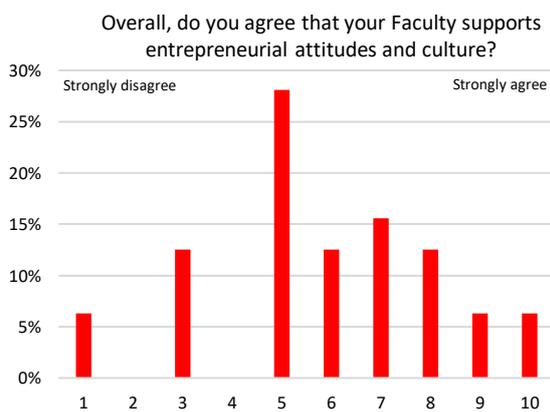


Figure I-47. Faculty support to entrepreneurial culture

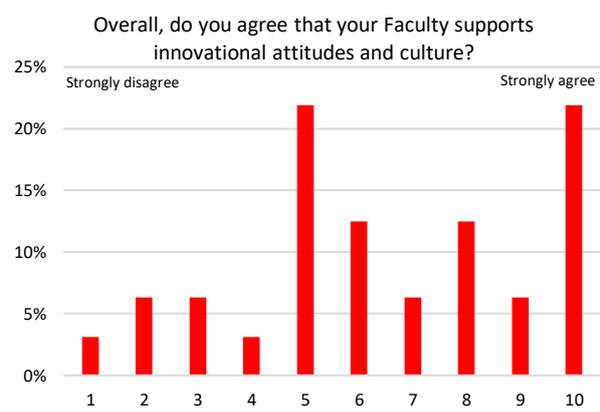


Figure I-48. Faculty support to innovation culture

Data shown in Figures I-49 and I-50 highlights limited knowledge of respondents related to Strategy for the development of the marine industry 2020-2030 and Blue economy concept. Due to specific structure of surveyed faculties, these data are quite expected.

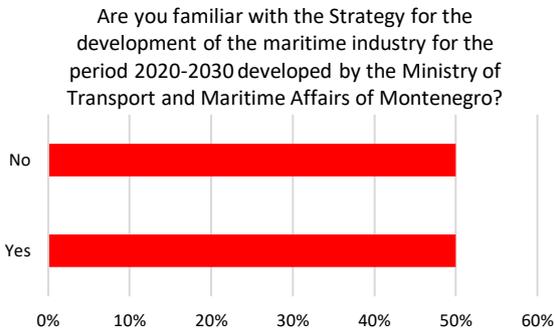


Figure I-49. Familiarity with the Strategy for the development of the marine industry 2020-2030

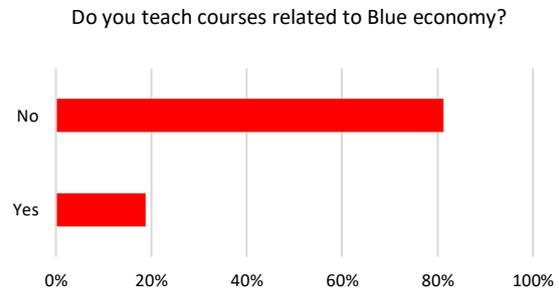


Figure I-50. Existence of BE courses

Numerical and categorical structure of Blue economy courses is given in Figures I-51 and I-52, showing the diversified offer of courses (e.g. transport, energy, tourism, climate, waste...) that was not affected by its limited number of courses, dominantly 2 courses in total.

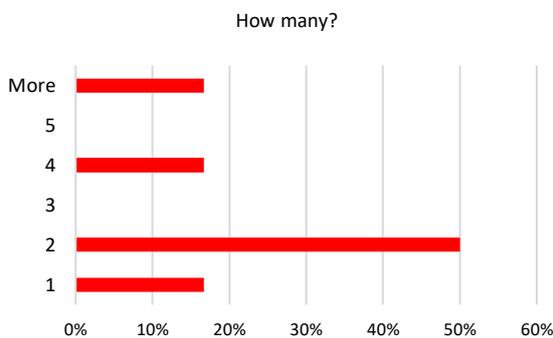


Figure I-51. Blue economy courses: Numerical structure

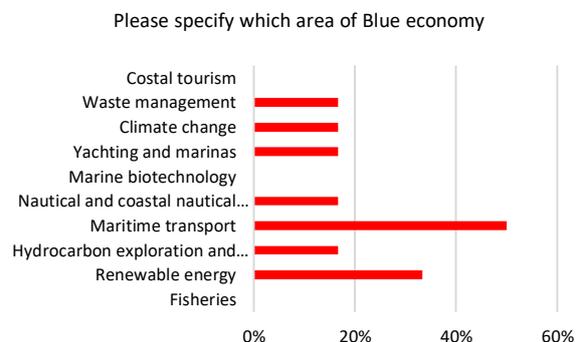


Figure I-52. Blue economy courses: Categorical structure

Further data again shows the well-developed structure of Blue economy course in terms of study levels and number of students, as presented in Figures I-52 and I-53. These facts are further followed and confirmed with general positive attitude of higher inclusion of BE courses/programs, with more than 85% of respondents acknowledging the mentioned opinion (Figure I-54).



Specify the number of students attending your classes in Blue economy (according to study level):

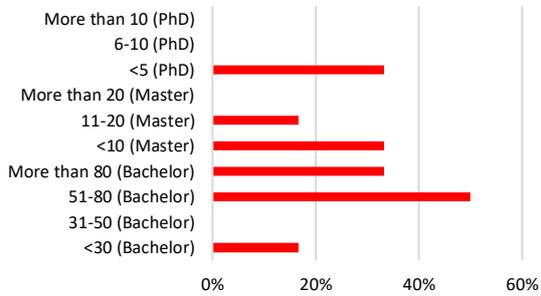


Figure I-53. Blue economy courses: Number of students

Do you think that your Faculty should include more courses in the study program in the field of Blue economy?

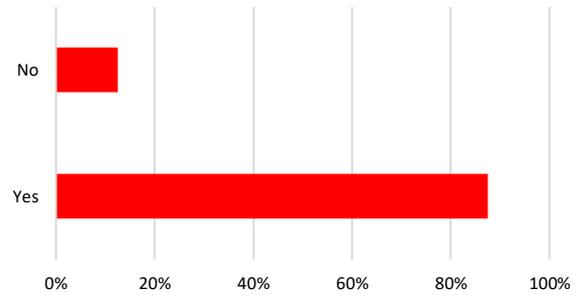


Figure I-54. Blue economy courses: The raising perspective of programs

## II. Results discussion: Students



The students' profile, in terms of gender and age, is presented in Figures II-1 and II-2, showing the leading presence of female student population with over 60% and with over 95% of young generation aged between 18 and 25. It can be told that such sample structure has representative characteristics of typical student population in Montenegro.

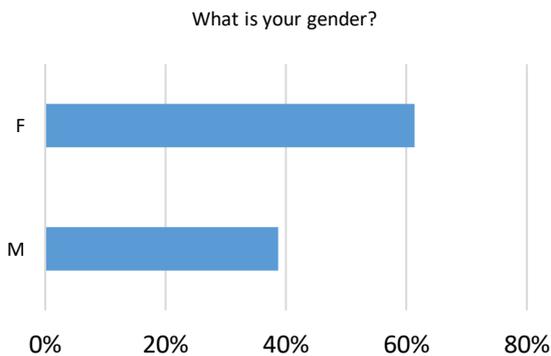


Figure II-1. Gender

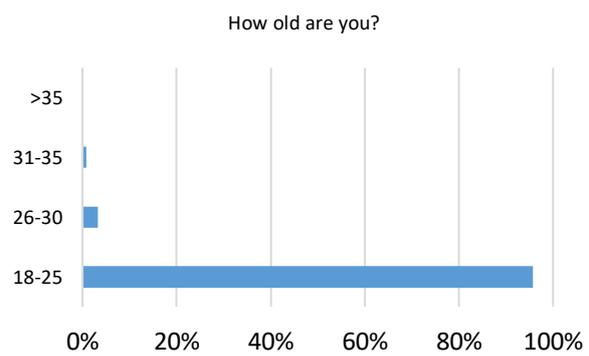


Figure II-2. Age

As in previous case, students were surveyed at four faculties of the University of Montenegro: Faculty of Economics, Faculty of Tourism and Hotel Management, Faculty of Electrical Engineering and Faculty of Maritime Studies Kotor (see Figure II-3). The study programs included in the survey are: Economics; Power systems and automatic control; Electronics, telecommunications and computers; Applied computer engineering; Tourism and hotel management; Navigation and sea transport; Marine engineering; Marine electrical engineering; Maritime management and logistics; and Marine sciences. Distribution of respondents from different faculties is evenly distributed, apart from the Faculty of Maritime Studies Kotor where the share is lower than 15%.

Further, as can be seen from data presented in Figure II-4, dominant respondents are bachelor students with share of over 90%. In terms of average grades, cumulative grade C (7,50-8,49) is most common with share of almost 35% (see Figure II-5).

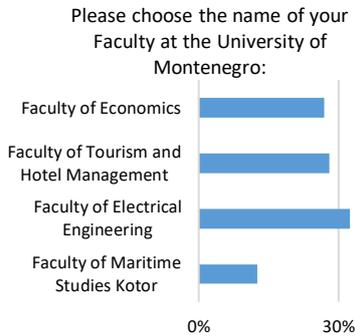


Figure II-3. Faculty/Study area

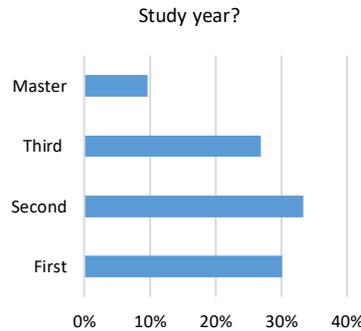


Figure II-4. Study year

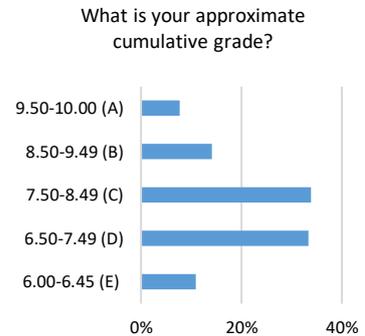


Figure II-5. Cumulative grade

Data about mobility, as an important mechanism for know-how transfer, shows that over 95% of student spend their higher education just in the country, whereas mobility is rarely selected as an option (see Figure II-6). This could have negative effect on total student capacity to innovate and be entrepreneurially oriented, due to the evident lack of international experience. Mobility and other modes of education abroad has to be recognized as significant factor for fostering entrepreneurship and innovation at the University of Montenegro.

Figures II-7 and II-8 present working experience of respondents, where over 60% of students have participated in Work & Travel programs, had part-time job or other mode of employment. Over 50% of surveyed students have spent more than 6 months working. Considering the fact that most of respondents are bachelor students, these data show quite high involvement of young generation on the labor market.

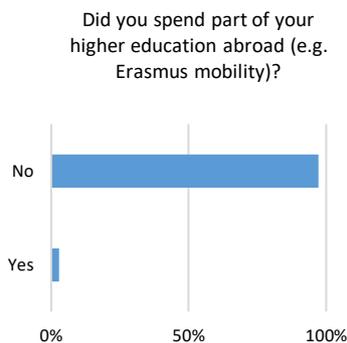


Figure II-6. Mobility

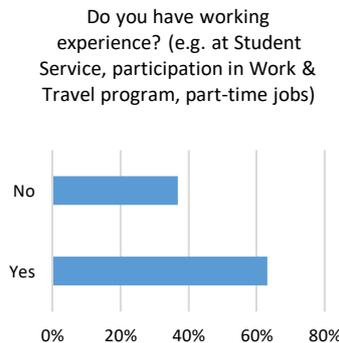


Figure II-7. Employment

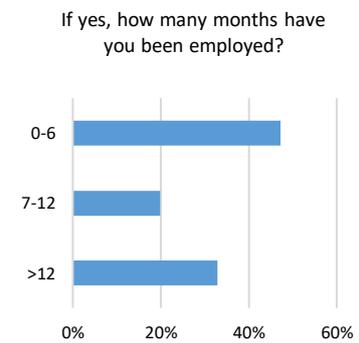


Figure II-8. Employment duration



Related to previous findings, Figure II-9 shows that over 85% of students have satisfied experience with temporary employment. Early start and experience could be considered as important precondition for further empowerment in context of entrepreneurship and innovation, especially among younger generation. Findings associated to Internship experiences are presented in Figures II-10 and II-11, where only 10% of respondents have been involved followed by high share (>80%) of satisfied students with internship program/programs.

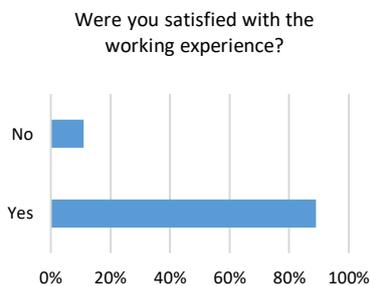


Figure II-9. Employment satisfaction

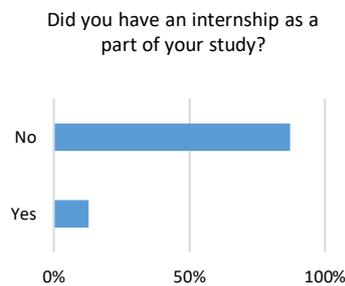


Figure II-10. Internship

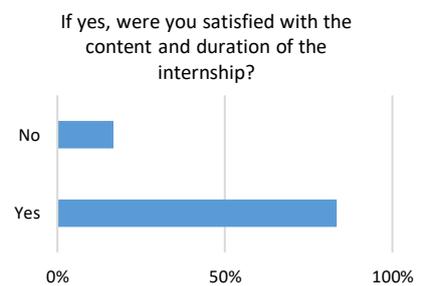


Figure II-11. Internship satisfaction

In terms of entrepreneurship courses, almost 80% of respondents had no experience with such a course (see Figure II-12). This is quite worrying fact, indicating that there is persistent lack of engagement in entrepreneurship and innovation. Figure II-13, on the other hand, presents better insight into curricula dedicated to entrepreneurship, showing that over 45% student had some experience related to mentioned issue.

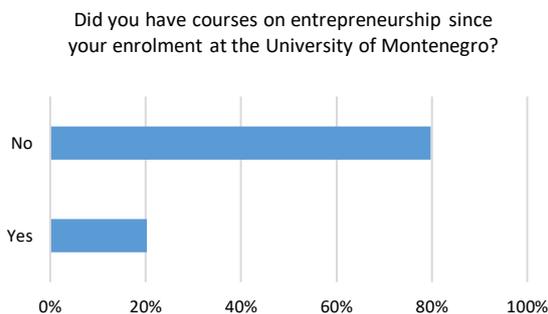


Figure II-12. Entrepreneurship courses

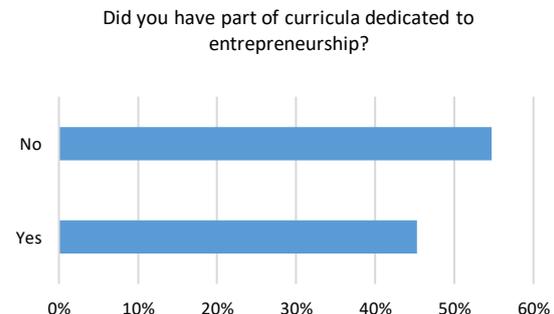


Figure II-13. Curricula dedicated to entrepreneurship



Surprisingly, status of curricula dedicated to innovation is much better present than curricula dedicated to entrepreneurship, with 53% of respondents that had activities related to mentioned subject (see Figure II-15). Still, in terms of innovation courses, almost 70% of respondents had no experience with course (see Figure II-14). Together with previous finding, these are quite concerning data, showing the evident lack of courses and well-structured curricula dedicated to entrepreneurship and innovation. It is also indicative that students generally have more practical experience regarding entrepreneurship via their personal employment arrangements (e.g. Work & Travel, part-time employment, temporary employment etc.) than at faculties. Hence, there is a need for structural reform in curricula, helping students to link their job experience with their studies.

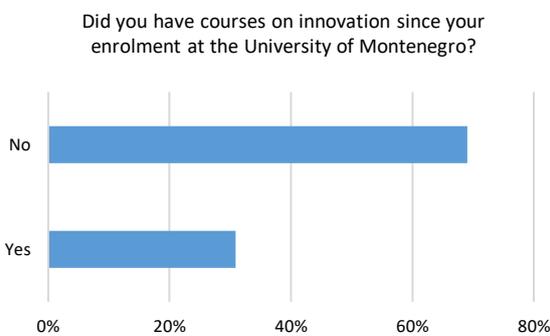


Figure II-14. Innovation courses experience

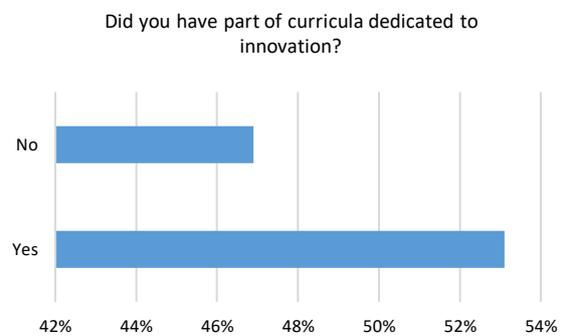


Figure II-15. Curricula dedicated to innovation experience

In contrast to lack of mentioned courses and curricula, respondents strongly agree and point out the importance of entrepreneurship and innovation education for their future career (Figures II-16 and II-17). Due to this, there is no need for awareness raising activities. This indicates that necessary implementation of new courses and curricula could be easily implemented.

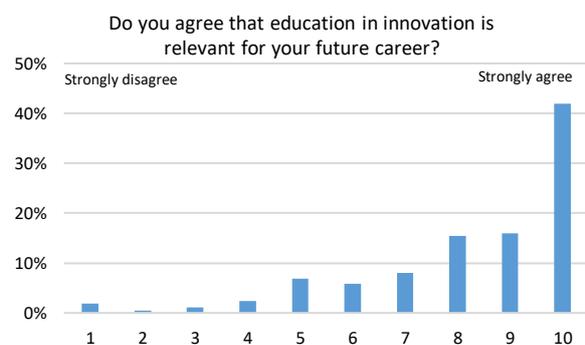




Figure II-16. Opinion about entrepreneurship education and future career

Figure II-17. Opinion about innovation education and future career

Interestingly, Figures II-18 and II-19 clearly show that one of the key goals of entrepreneurship and innovation education is selected by over 50% of respondents, and could be shortly described as: "Creatively analysis of the business environment, opportunity recognition, and the business idea creation...". Together with this, another option is also selected as follows: "Identify and apply the elements of innovation process". The findings suggest that students have quit good understanding of about goals and character of innovation and entrepreneurship, followed by clear understanding of their interrelation and importance.

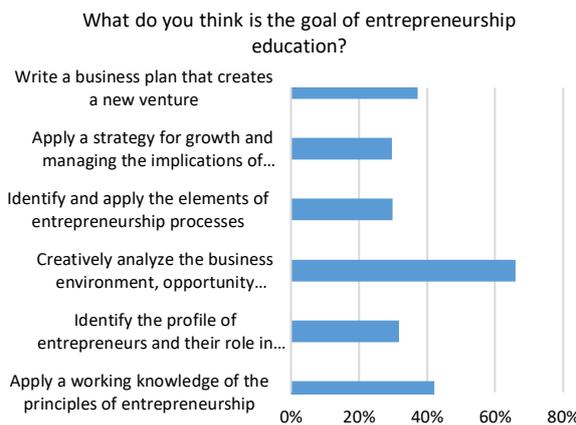


Figure II-18. Opinion about entrepreneurship education goals

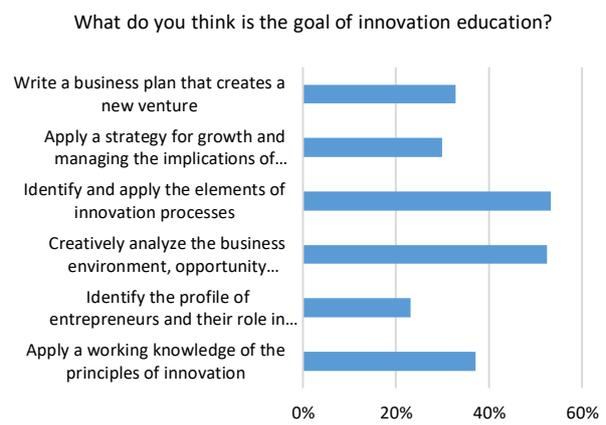


Figure II-19. Opinion about innovation education goals

In the context of other extracurricular activities focusing on entrepreneurship and innovation, workshops are identified as most common mechanism with participation of over 45% among all respondents (see Figures II-20 and II-21). Unfortunately, online lectures as cheapest and most efficient ways to transfer international know-how, especially in technical context, are not present, mostly due to the lack of opportunities to participate in such activities. So, there is a strong need to stimulate online lectures, especially as this form of lectures give possibility of involvement of researchers and practitioners from all over the world.

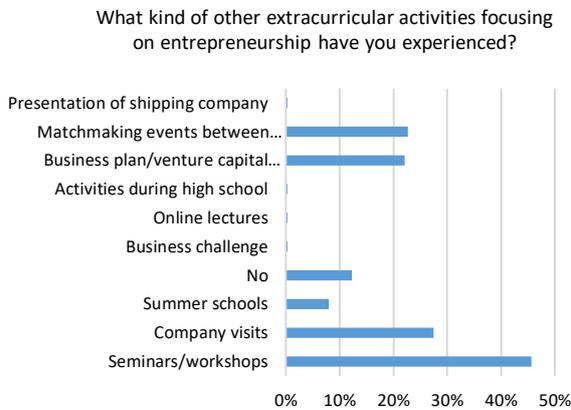


Figure II-20. Extracurricular activities focusing on entrepreneurship experience

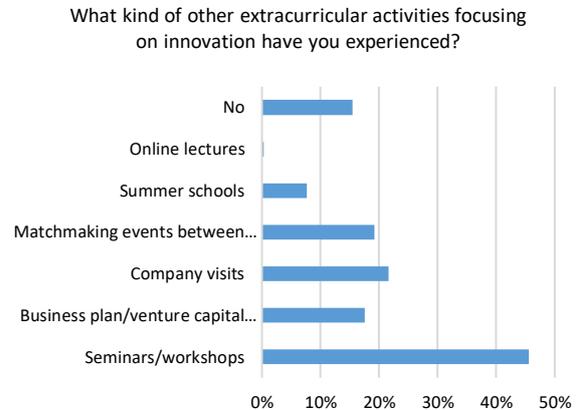


Figure II-21. Extracurricular activities focusing on innovation experience

Not surprisingly, the dominant mode of teaching is lecturing, with superior share of 92% (see Figure II-22). Again, most inspirational methods such as solving real problem or company visit are not often employed. Improvement of entrepreneurship and innovation capacities and potentials must be fostered via implementation of more sophisticated and modern teaching methods that allow students to learn, think and create. Overall, the evidences highlight that blending learning approach should be implemented urgently.

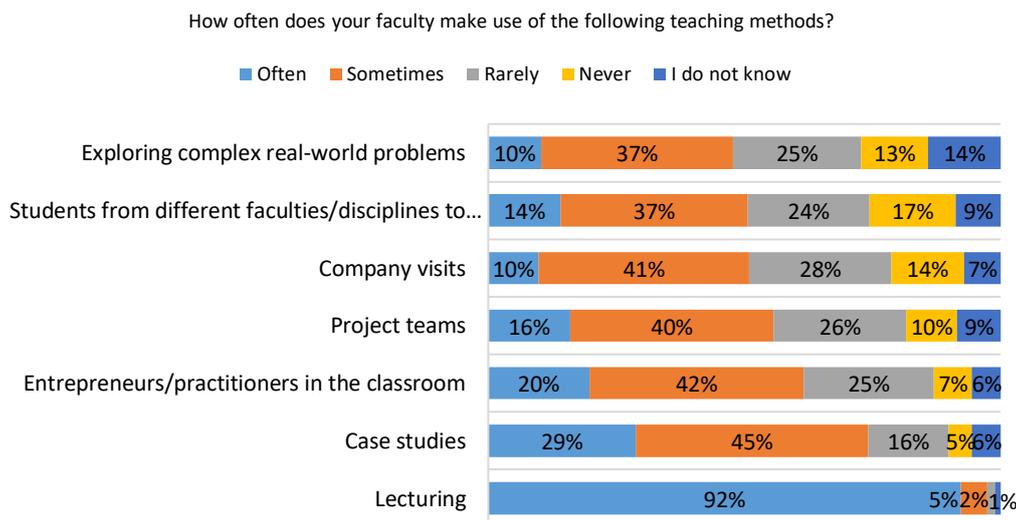


Figure II-22. Teaching methods

According to presented data in Figures II-23 and II-24, there is strong agreement among student regarding the need for more entrepreneurship/innovation activities implementation



by faculties. These findings are in line with data about the high relevance of entrepreneurship/innovation education for students' future career presented in Figures II-16 and II-17. Consequently, faculties have to follow these guidelines and start to implement new curricula and courses in order to offer students better and more sophisticated study experience.



Figure II-23. Need for more entrepreneurship activities

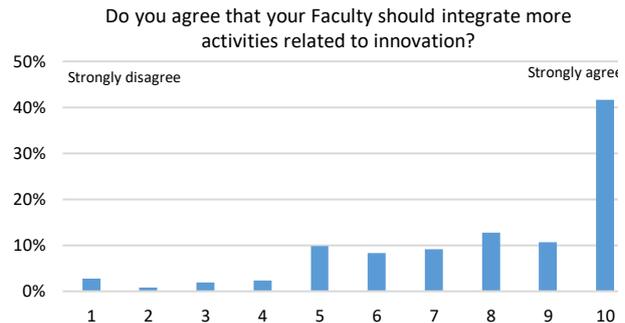


Figure II-24. Need for more innovation activities

Data presented in Figures II-25 and II-26 are in line with previously mentioned conclusions, especially in terms of perceptual importance of entrepreneurship and innovation attitudes and culture at faculties. There is no dilemma that surveyed student clearly understand the role and importance of entrepreneurship and innovation culture, which definitely obligate faculties to invest more in these issues.

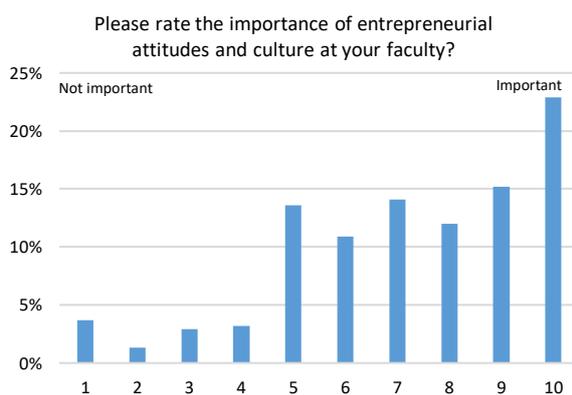


Figure II-25. Entrepreneurial attitudes and culture rating

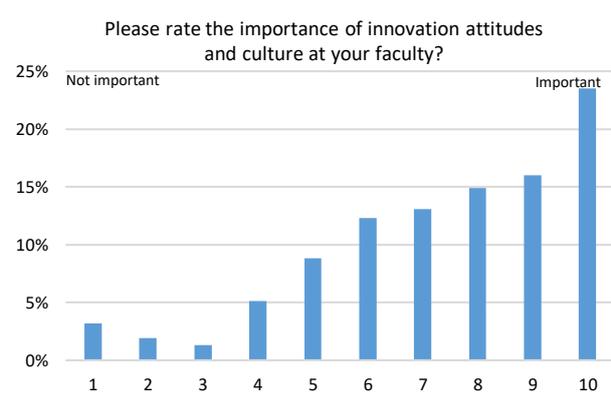


Figure II-26. Innovation attitudes and culture rating



According to data shown in Figures II-27 and II-28, less than 40% of surveyed students is familiar with Blue economy concept, while less than 5% had participated in such courses. Considering the evident lack of available BE courses at faculties, awareness and general knowledge about BE is relatively high and convenient for further activities and projects. Nonetheless, it is still unknown how students from different faculties could link their studies areas (e.g. tourism, electrical engineering) with Blue economy concept or how to utilize potentials of BE via study programs they are attending. Further research is needed in this area.

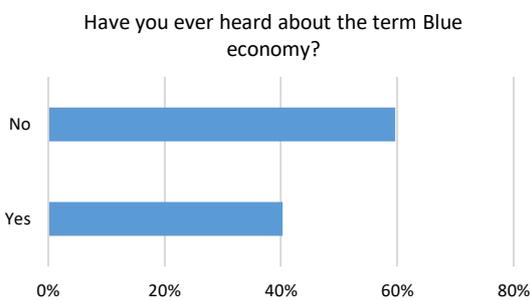


Figure II-27. Blue economy: Awareness

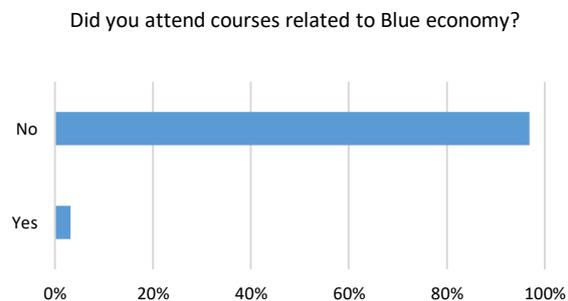


Figure II-28. Blue economy: Courses attended

Data shown in Figures II-29 and II-30 are in line with previous findings, with additional fact that shows high share of satisfied students that have experience BE courses. This opens another important issue related to implementation of new BE courses and curricula.

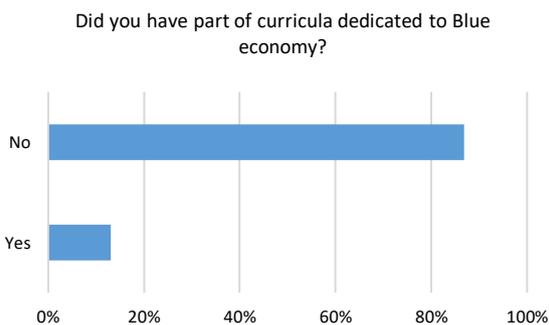


Figure II-29. Blue economy: Curricula/lecture status

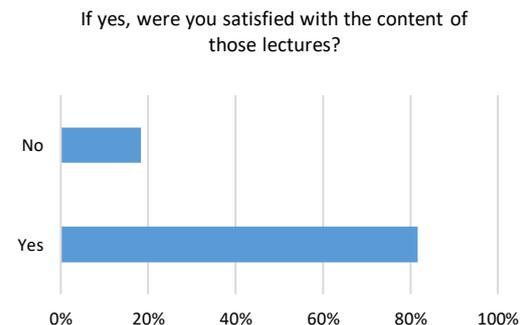


Figure II-30. Blue economy: Lectures experience

Figure II-31 shows very positive attitude of students towards BE, especially in context of new courses and programs. However, Figure II-32 indicated negative attitude associated to employment opportunities for students, which probably could be explained by the lack of



knowledge related to this important issue. The key findings indicate that general knowledge and awareness related to BE is good, but there is obvious need for further know-how transfer especially in terms of employment and business opportunities. Moreover, due to high entrepreneurial and innovative potential of BE concept, students must be involved more intensively in such programs/projects, where new teaching methods could play key and critical role.

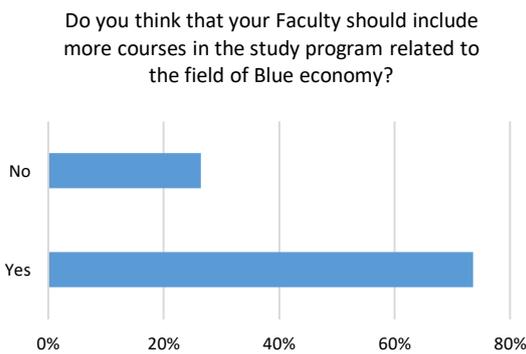


Figure II-31. Blue economy: Need for study programs

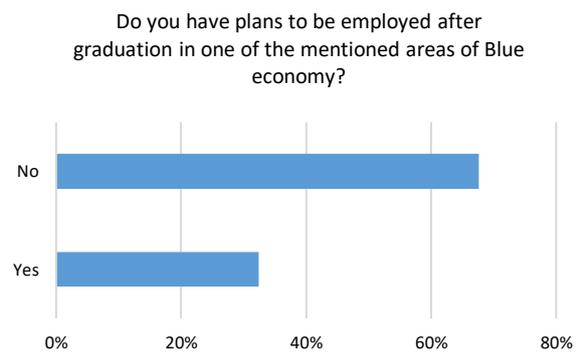


Figure II-32. Blue economy: Employment opportunities

### III. Results discussion: Stakeholders

Stakeholders' profile in terms of gender and age, as presented in Figures III-1 and III-2, is mostly characterized by slight dominance of female population, while age is evenly distributed from 20 to 60+ years. It could be argued that such sample should include all key attributes that are typical for business/industry sector, such as: experience, energy, creativity and innovativeness.

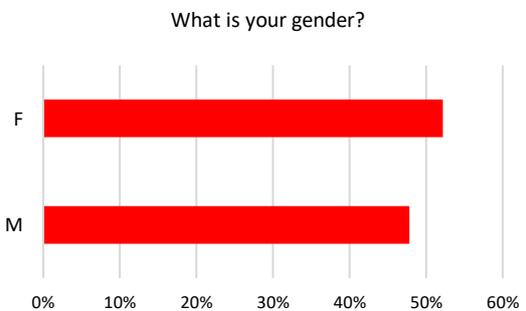


Figure III-1. Gender

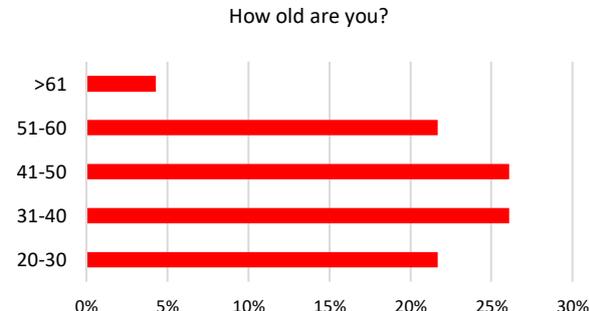


Figure III-2. Age



As expected, the dominant formal entity type is private company with a share higher than 80% (see Figure III-3). On the other hand, regarding the year of establishment, there is quite diversified structure, starting from 1974 till 2019 (see Figure III-4).

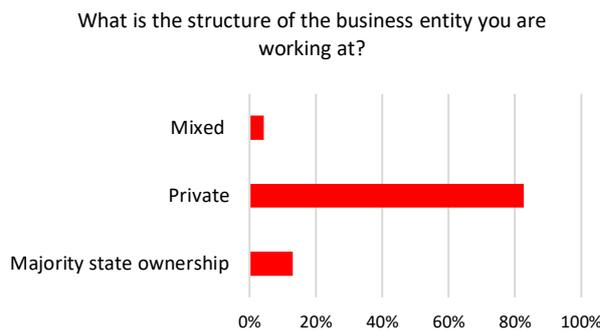


Figure III-3. Business entity

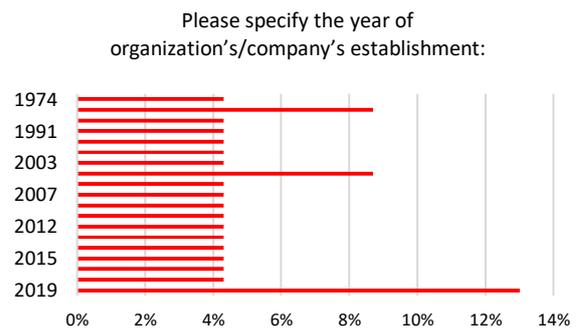


Figure III-4. Year of establishment

According to data presented in Figure III-5, the most presented section of respondents is related to *Other service activities* followed by *Arts, entertainment and recreation* and *Wholesale and retail trade*. Figure III-6 demonstrates that over 50% of surveyed companies are small ones, whereas their structure in terms of sectors they belong is quite diversified.

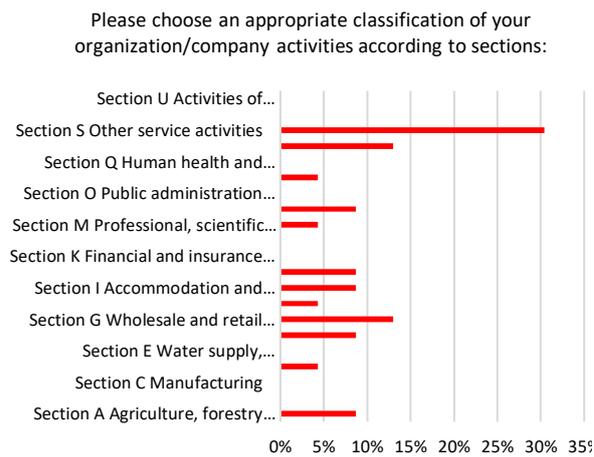


Figure III-5. Distribution by sections

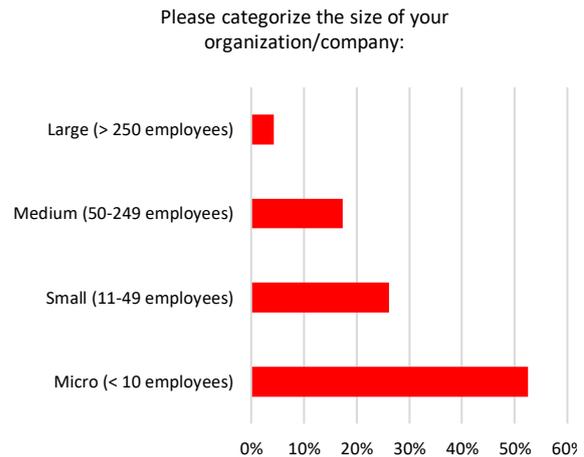


Figure III-6. Size



In terms of educational level, bachelor degree is the dominant one with the share of over 60% of respondents, followed by much smaller percentage of master, PhD and other degrees (see Figure III-8). According to data in Figure III-7, most of the respondents are directors of their firms with obvious authority to make strategic and other decisions. This fact is important in terms of obtaining objective information of stakeholders' attitude towards entrepreneurship/innovation issues.



Figure III-7. Distribution by working position

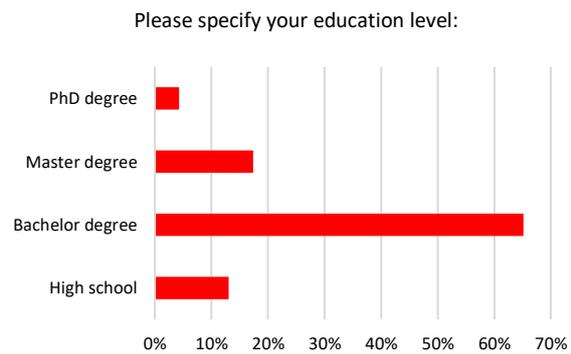


Figure III-8. Educational level

Another interesting insight into stakeholders' experience is given in Figure III-9, showing that respondents with less than 10 year of work experience are dominant in the sample. It is important to point out small but significant percentage of those which experience is longer than 20 and 30 years. Unfortunately, in terms of cooperation with University of Montenegro, over 60% of respondents didn't have any experience with academic staff and HEIs (Figure III-10). There is still significant share of those who are involved in academic projects and programs, but there is an obvious need for larger and more intensive cooperation on both sides.

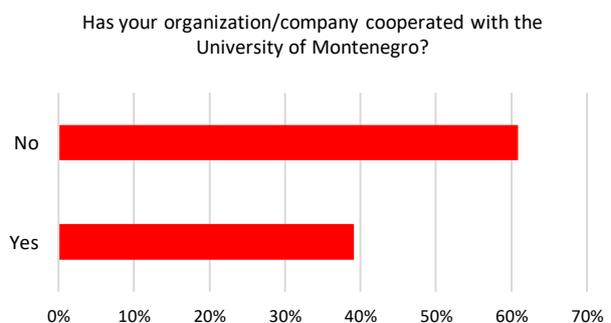
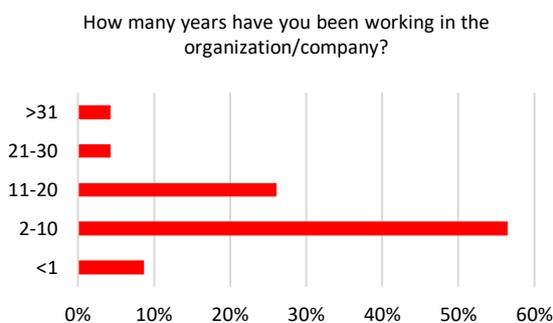




Figure III-9. Experience within organization/company

Figure III-10. Cooperation with University of Montenegro

As presented in Figure III-11, most of the cooperation is informal (>65%), without formal agreement. In general, cooperation with the University of Montenegro is seen as very important by stakeholders, which opens way for new collaboration activities and programs (see Figure III-12). It is highly important to reinforce collaboration between university and stakeholders to strength the introduction of entrepreneurship education focused on real experience and business cases.

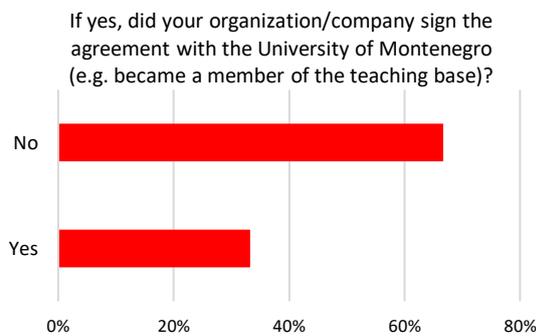


Figure III-11. Type of cooperation

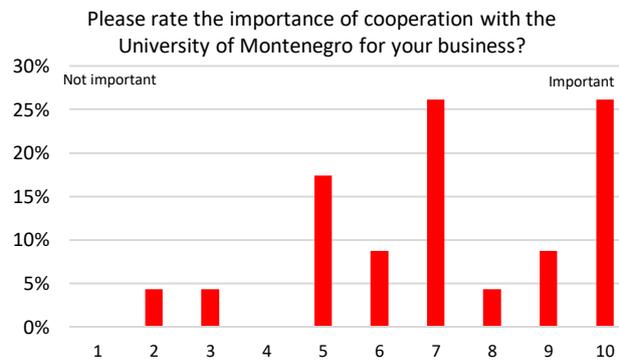


Figure III-12. Importance of the cooperation with University of Montenegro

There are three key areas of cooperation between stakeholders and the University of Montenegro, as shown in Figure III-13, and those are: entrepreneurship, innovation and education. It could be concluded that these areas form the core concept of our project goals and objective, also showing the ability of stakeholders to recognize their business and other opportunities from current and future cooperation with the University of Montenegro. In context of students' experience within the fields of entrepreneurship and innovations, there is a clear and coherent attitude about the evident need for student to be more skillful and knowledgeable in mentioned areas (see Figures III-14 and III-15). Business/industry sector, now more than in the past, requires new know-how and experience from young employees.

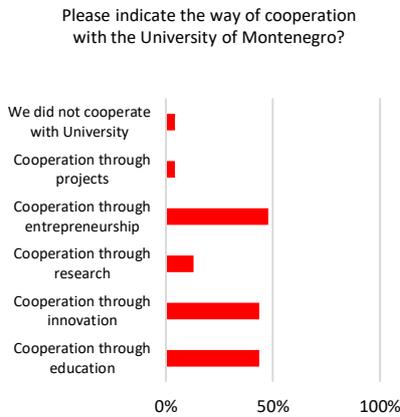


Figure III-13. Mode of cooperation with University of Montenegro

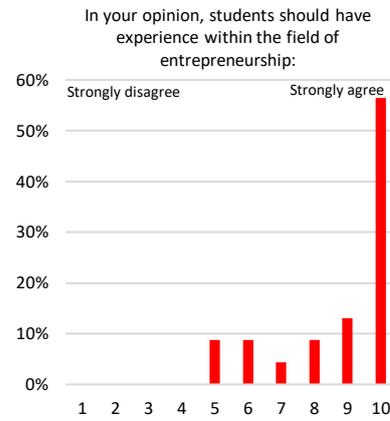


Figure III-14. Opinion about student's entrepreneurship experience

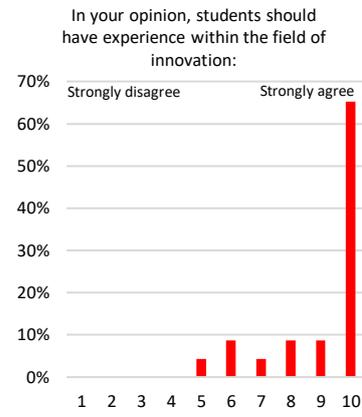


Figure III-15. Opinion about student's innovation experience

Figure III-16 shows the evident request of stakeholders for more complex and proactive role of faculties in development of young employees. In all five statements, there is strong agreement related to entrepreneurial culture, education and modern life style.

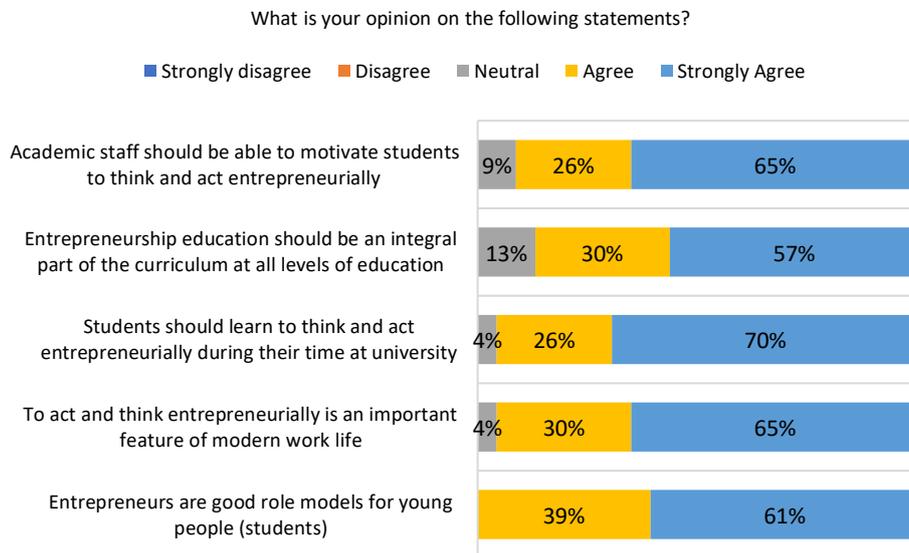


Figure III-16. Opinion about entrepreneurial education

As Figure III-17 shows, there is a large share of stakeholders involved in curricula design (>70%), but there is also concern about the quality of that cooperation. In line with this, Figure III-18 indicates the strong attitude of the stakeholders that the University of Montenegro



should be committed more to collaboration and knowledge exchange. Accordingly, this can open a new perspective for further development and collaboration in area of practical activities such as advice and counselling. For example, provision of certain skills that are hard to obtain in academic environment (e.g. risk management, business planning, financial management, sales and marketing) should be also reformed by enhancing collaboration with stakeholders.

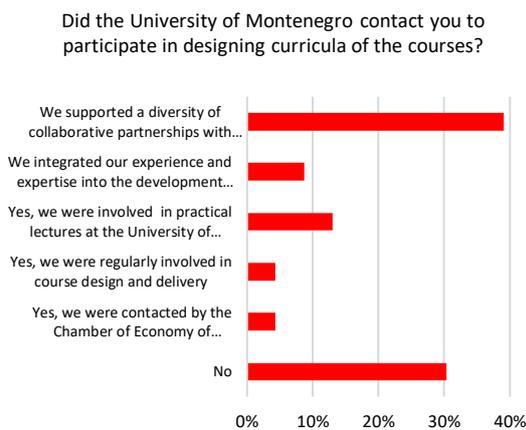


Figure III-17. Curricula design involvement by University of Montenegro

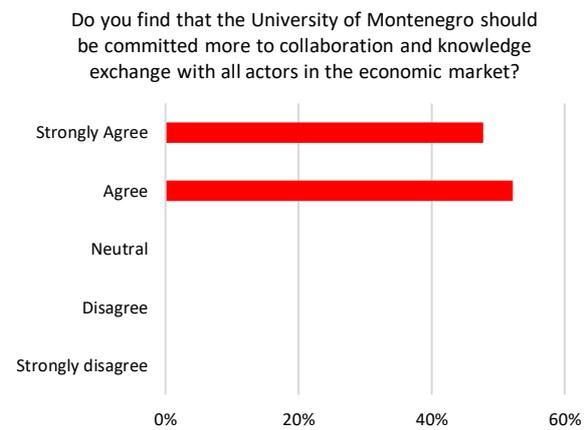


Figure III-18. Opinion about more active role on economic market by University of Montenegro

This is also followed and confirmed by data presented in Figure III-19, where stakeholders insist on greater involvement into faculties' operations. Apart from strong attitude of stakeholders towards cooperation with the University of Montenegro, there is also a strong support for active involvement from the stakeholders' side (see Figure III-20).

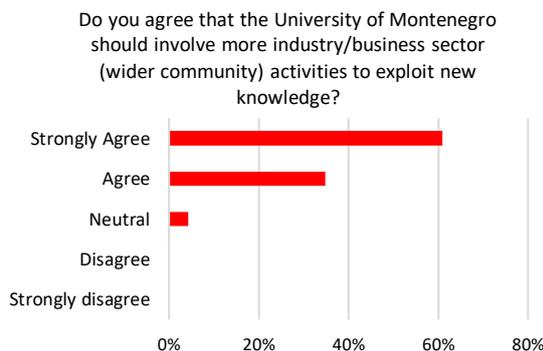


Figure III-19. Opinion about more active involvement of business sector

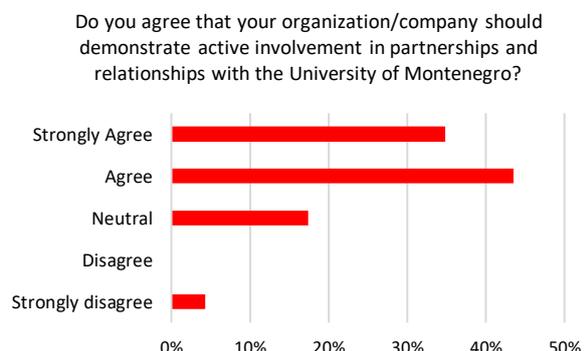


Figure III-20. Opinion about companies' active involvement in partnership with the UoM



As shown in Figure III-21, there is a general strong agreement in terms of active involvement and partnership with a wide range of stakeholders. Also, apart from declarative statements and attitudes, Figure III-22 shows that over half of respondents support and provide opportunities for students to take part in different activities with business environment.



Figure III-21. Opinion about existing involvement in partnership with other stakeholders

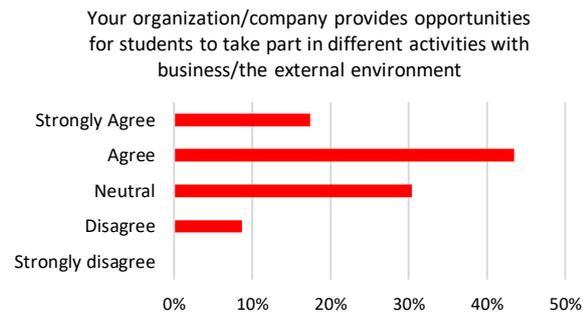
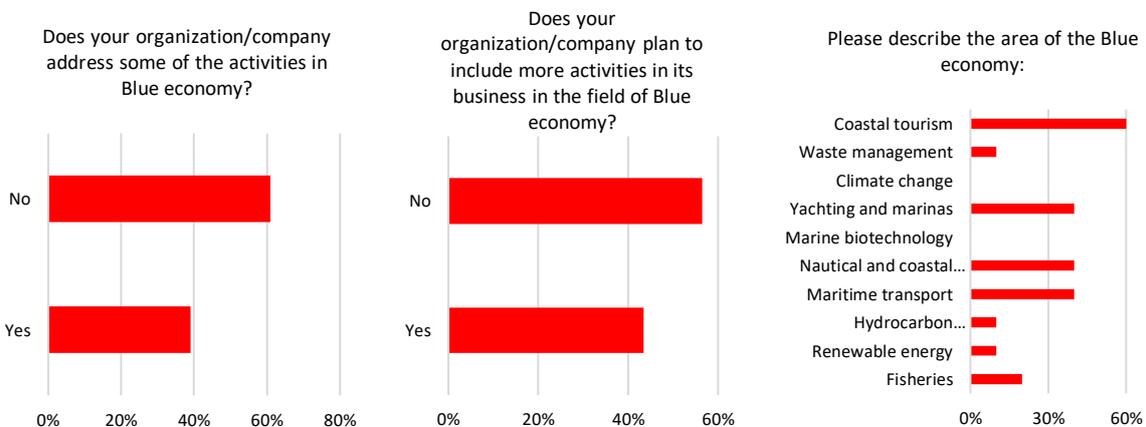


Figure III-22. Opinion about opportunities for students

Although Blue economy concept is relatively new, Figure III-23 shows that almost 40% of stakeholders is already involved into such activities. On the other side, there is again dominant pessimistic attitude towards future business perspective of BE, similar to those founded among student in second part of the survey analysis. Due to this, there is an evident need for much intensive awareness raising programs in order to promote BE activities and highlight all business potentials of the concept (Figure III-24).

As presented in Figure III-25, dominant business option in BE concept are related with tourism, marinas/yachts and transport. It is quite indicative how tourism and BE concept are so interconnected potential for all stakeholders, students and academic staff.





*Figure III-23. Blue economy  
experience*

*Figure III-24. Perspective of Blue  
economy activities inclusion  
into own business*

*Figure III-255. Distribution of  
potential Blue economy activities  
inclusion into own business*

## **CONCLUSION**

It is well recognized that HEIs play crucial role in promoting entrepreneurship and innovation, providing students necessary knowledge helping not only to start but also to grow businesses (OECD, 2008). Therefore, this analysis offers a vast number of interesting and inspiring issues related to promotion of entrepreneurial and innovation education. University of Montenegro needs to offer an adequate education to students in order to create entrepreneurial thinkers and doers. Data from three well-structured questionnaires provided by academic staff, students and stakeholders, reveals main challenges that need further actions and activities. The conclusion is summarized below.

First, there is a general need for more entrepreneurship and innovations courses as well as activities. Noteworthy, there is a general positive attitude towards entrepreneurs, especially from students. Nevertheless, when it comes to guidelines and suggestions how to reach defined goals, only general ideas are at disposal (e.g. better education, more practical lectures, etc.). Therefore, activities in this area should be planned in details focusing on



initiatives that foster entrepreneurial and innovative. In other words, inclusion of new courses that are oriented to entrepreneurship and innovations is not sufficient, additional activities as well as teaching methods that boost entrepreneurship and innovations present significant added value.

Second, entrepreneurship and innovation education need constant structural reform in order to create adaptive and creative future workers. Like the market itself and companies, faculties need to be more adaptable, creative and to have greater impact in business, innovations and research. Unfortunately, it is sometimes seen that faculties consider market as “theoretical playground” where they don’t have to participate. On the other side, there is strict demand from students to be prepared for the market which is more demanding and rapid than ever before. Consequently, this structural problem of misunderstanding the market leads to other complex challenges in area of efficient education and training. Only a structural change of culture inside the faculties, which recognizes and celebrates “creators of jobs”, can provide better understanding of contemporary market that will lead to more adaptive and creative education.

Third, collaboration between the University of Montenegro and stakeholder must be organized in more innovative and entrepreneurial way, showing to students and society the total capacity of such cooperation. They have to work simultaneously on restoring confidence, creating the best possible environment for students by putting them in focus of modern education and business practice. For example, case study is seen as a very practical and useful teaching method. Productive and innovative cooperation between scholars and business professionals could be the most important mechanism that can exist in terms of revolutionizing the concept of students’ education. Moreover, traditional pedagogical approach should be replaced by more entrepreneurial and innovative learning based on problem-solving approach, real-world and problem-based learning needs, etc. Actually, the actual teaching methods could be considered as odd, due the University of Montenegro should be focused on creating learning environment that improves student’s ability to adopt its competencies in accordance with market demands. This idea and guideline is in line with previous two challenges that encompass better environment for innovators and new concept of education for students.

Finally, the concept of Blue economy can be linked with mentioned suggestions, showing to stakeholders, scholars and students about the real potentials of entrepreneurship and innovations in contemporary market.

Overall, the findings show that entrepreneurial and innovation education is still immature. Therefore, it calls for entrepreneurship and innovation education that will not be based on



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traditional learning approach but will employ blending learning approach in order to ensure development of entrepreneurial mindsets, skills and competencies as well as cover a variety of aspects such as innovation, idea generation, start-up etc.

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**Appendix I: Questionnaire for academic staff**

The questionnaire was available at:

<https://docs.google.com/forms/d/1MfccfxYjdyKQj3QEcbkAWd9WO09knCafYazZEKRJJul/edit>

**Questions:**

1. *What is your gender?*

*M*

*F*

2. *What’s your age?*

*25-30*

*31-40*

*41-50*

*More than 50*

3. *Please choose the name of your Faculty at the University of Montenegro:*

*Faculty of Economics*

*Faculty of Electrical Engineering*

*Faculty of Maritime Studies Kotor*

*Faculty of Tourism and Hotel Management*

4. *What is your position at the University?*

*Full Professor*



*Associate Professor*  
*Assistant Professor*  
*Teaching assistant*  
*Other* \_\_\_\_\_

5. *How many years have you been working as an academic staff?*

*0-10*  
*11-20*  
*21-30*  
*More*

6. *Specify your research area (multiple choice available)*

*Natural sciences*  
*Economics & Management*  
*Maritime Sciences*  
*Tourism & hospitality*  
*Engineering*

*Other* \_\_\_\_\_

7. *Specify the level of studies that you are teaching at (multiple choices available):*

*Bachelor*  
*Master*  
*PhD*

8. *How many students enrolled in your courses at the bachelor level?*

*<30*  
*31-50*  
*51-80*  
*More than 80*

9. *How many students enrolled in your courses at the master level?*

*1-10*  
*11-20*  
*>21*

10. *How many students enrolled in your courses at the PhD level?*

*1*  
*2*  
*3*  
*4*



*More than 4*

11. *Have you delivered a course on entrepreneurship in the last 5 years?*

Yes

No

12. *If yes, specify the number of students that attended your lectures on entrepreneurship (according to study level):*

**Bachelor**

*<30*

*31-50*

*51-80*

*More than 80*

**Master**

*<10*

*11-20*

*More than 20*

**PhD**

*<5*

*6-10*

*More than 10*

13. *Have you delivered a course on innovation in the last 5 years?*

Yes

No

14. *If yes, specify the number of students that attended your lectures on innovation (according to study level):*

**Bachelor**

*<30*

*31-50*

*51-80*

*More than 80*

**Master**

*<10*

*11-20*

*More than 20*



**PhD**

<5

6-10

More than 10

15. Does your institution offer any in-curricular or extracurricular activities focusing on the development of entrepreneurial behavior, skills, knowledge and creativity?

Yes

No

16. Please specify the number of academic staff involved in your institution's entrepreneurship activities. If you do not know the exact figure, please give us your best estimate.

\_\_\_\_\_

17. Please specify the number of academic staff involved in your institution's innovative activities. If you do not know the exact figure, please give us your best estimate.

\_\_\_\_\_

18. Did your faculty implement activities related to entrepreneurship (e.g. projects, workshops, summer school etc.)?

Yes

No

19. If yes, when:

*In the previous period*

*They are currently active*

*Activities are planned for the upcoming period*

20. If no, are they planned for the future?

Yes

No

21. Did your faculty implement activities related to innovations (e.g. projects, workshops, summer school etc.)?

Yes

No

22. If yes, when:

*In the previous period*



*They are currently active  
Activities are planned for the upcoming period*

23. *If no, are they planned for the future?*

Yes  
No

24. *Do you hold courses/part of the course related to entrepreneurship in academic 2019/20?*

Yes  
No

25. *If yes, please specify a number of courses:*

\_\_\_\_\_

26. *With total number of ECTS:*

\_\_\_\_\_

27. *Do you hold courses/part of the course related to innovation in academic 2019/20?*

Yes  
No

28. *If yes, please specify a number of courses:*

\_\_\_\_\_

29. *With total number of ECTS:*

\_\_\_\_\_

30. *Are your courses related to entrepreneurship and (or) innovation?*

*Compulsory  
Elective  
Both  
Not related to E&I*

31. *Do you think that entrepreneurship education should be included more in your courses?*

Yes  
No

32. *Do you think that innovation education should be included more in your courses?*

Yes  
No



33. Does the strategy of your faculty include entrepreneurship in curricula? (multiple choice available):

- My faculty does not plan to include the entrepreneurship in curricula*
- My faculty aims to maximize the knowledge/technology/transfer*
- My faculty aims to seek opportunities for commercially exploited knowledge*
- My faculty tries to increase the number of graduate start-up business*
- My faculty inspires and motivates students towards seeking an entrepreneurial career or life*
- My faculty aims to raise awareness through curricula provision*
- Other: \_\_\_\_\_*

34. Does the strategy of your faculty include innovation in curricula? (multiple choice available):

- My faculty does not plan to include the innovation in curricula*
- My faculty aims to maximize the knowledge/technology/transfer*
- My faculty aims to seek opportunities for commercially exploited knowledge*
- My faculty tries to increase the number of graduate start-up business*
- My faculty inspires and motivates students towards seeking an entrepreneurial career or life*
- My faculty aims to raise awareness through curricula provision*
- Other: \_\_\_\_\_*

35. Do you think that courses related to entrepreneurship should be included in all study programs at your faculty?

- Yes
- No

36. Do you think that courses related to innovation should be included in all study programs at your faculty?

- Yes
- No

37. Did you include the industry or business sector staff in the practical part of your lectures?

- Yes
- No

38. During the academic year 2019/20, please specify the number of lectures given by industry or business sector practitioners?

- 1-5
- 6-10
- More



39. Are you familiar with the policies/strategy/action plans regarding entrepreneurship in Montenegro? For example, did you hear about the Strategy for Lifelong Entrepreneurial Learning 2020-2024 prepared by the Ministry of Economy of Montenegro?

Yes  
No

40. Did you hear about the activities of the Career Centre at the University of Montenegro regarding student entrepreneurship ideas?

Yes  
No

41. In your opinion, what should be done at the University of Montenegro to get the students familiar with entrepreneurship? (multiple choice available)

- Include the new courses from the first study year*
- Increase the number of workshops*
- Increase the number of summer schools*
- Increase the number of training*
- Increase the number of summer jobs fairs*
- Provide more support to employment fairs*
- More lectures given by the practitioner*
- Other \_\_\_\_\_*

42. In your opinion, what should be done at the University of Montenegro to get the students familiar with innovation? (multiple choice available)

- Include the new courses from the first study year*
- Increase the number of workshops*
- Increase the number of summer schools*
- Increase the number of training*
- Increase the number of summer jobs fairs*
- Provide more support to employment fairs*
- More lectures given by the practitioner*
- Other \_\_\_\_\_*

43. Does your institution conduct research in the field of entrepreneurship?

Yes  
No  
I don't know

44. Does your institution conduct research in the field of innovation?

Yes  
No



*I don't know*

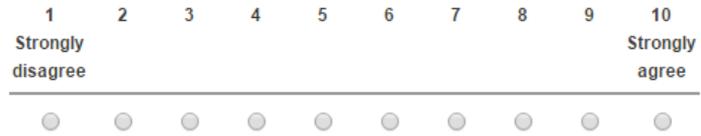
45. How often does your faculty make use of the following teaching methods in the entrepreneurship education?

					<b>Lecturing</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Case studies</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Entrepreneurs/practitioners in the classroom</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Project teams</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Company visits</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Students from different faculties/disciplines to mix in the classroom</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Exploring complex real-world problems</b>
Often	Sometimes	Rarely	Never	I do not know	

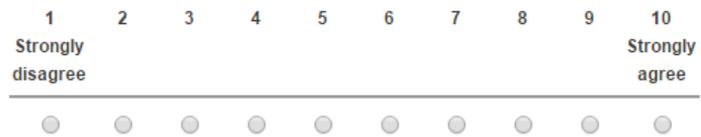
46. How often does your faculty make use of the following teaching methods in the education of innovation?

					<b>Lecturing</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Case studies</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Entrepreneurs/practitioners in the classroom</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Project teams</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Company visits</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Students from different faculties/disciplines to mix in the classroom</b>
Often	Sometimes	Rarely	Never	I do not know	
					<b>Exploring complex real-world problems</b>
Often	Sometimes	Rarely	Never	I do not know	

47. Overall, do you agree that your Faculty supports entrepreneurial attitudes and culture?



48. Overall, do you agree that your Faculty supports innovational attitudes and culture?



**Summary of the Blue economy:**

The term Blue economy is related to the use of the sea or coastal area and their resources for sustainable economic development. More precisely, the following categories are identified: fisheries, renewable energy, hydrocarbon exploration and production, maritime transport, nautical and coastal nautical tourism, marine biotechnology, yachting and marinas, climate change, waste management. Therefore Blue economy implies the use of marine resources for the development of economic activity in a manner acceptable to the environment or marine ecosystem.

49. Are you familiar with the Strategy for the development of the maritime industry for the period 2020-2030 developed by the Ministry of Transport and Maritime Affairs of Montenegro?

- Yes
- No

50. Do you teach courses related to Blue economy?

- Yes
- No

51. If yes, how many?

- 2
- 3
- 4
- 5
- More



52. If yes, please specify which area of Blue economy: (multiple choice available)

- Fisheries*
- Renewable energy*
- Hydrocarbon exploration and production*
- Maritime transport*
- Nautical and coastal nautical tourism*
- Marine biotechnology*
- Yachting and marinas*
- Climate change*
- Waste management*
- Costal tourism*
- Other\_\_\_\_\_*

53. Specify the number of students attending your classes in Blue economy (according to study level):

**Bachelor**

- <30*
- 31-50*
- 51-80*
- More than 80*

**Master**

- <10*
- 11-20*
- More than 20*

**PhD**

- <5*
- 6-10*
- More than 10*

54. Do you think that your Faculty should include more courses in the study program in the field of Blue economy?

- Yes*
- No*



## Appendix II: Questionnaire for students

The questionnaire was available at:

[https://docs.google.com/forms/d/1sbdoxvDLX6A30Ib8yANt7c1h6BWwzuyEz2MqWIWPrZI/edit?usp=drive\\_web](https://docs.google.com/forms/d/1sbdoxvDLX6A30Ib8yANt7c1h6BWwzuyEz2MqWIWPrZI/edit?usp=drive_web)

### Questions:

1. What is your gender?

M  
F

2. How old are you?

18-25  
26-30  
31-35  
>36

3. Please choose the name of your Faculty at the University of Montenegro:

*Faculty of Economics*  
*Faculty of Electrical Engineering*  
*Faculty of Maritime Studies Kotor*  
*Faculty of Tourism and Hotel Management*

4. Study program?

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5. Study year?

*First*  
*Second*  
*Third*  
*Master*

6. What is your approximate cumulative grade?



- (A) 9.50-10.00
- (B) 8.50-9.49
- (C) 7.50-8.49
- (D) 6.50-7.49
- (E) 6.00-6.49

7. Did you spend part of your higher education abroad (e.g. Erasmus mobility)?

- Yes
- No

8. Do you have working experience? (e.g. at Student Service, participation in Work & Travel program, part-time jobs)

- Yes
- No

9. If yes, how many months have you been employed?

- 0-6
- 7-12
- >12

10. Were you satisfied with the working experience?

- Yes
- No

11. Did you have an internship as a part of your study?

- Yes
- No

12. If yes, were you satisfied with the content and duration of the internship?

- Yes
- No

13. Did you have courses on entrepreneurship since your enrolment at the University of Montenegro?

- Yes
- No

14. Did you have part of curricula dedicated to entrepreneurship?

- Yes
- No

15. Did you have courses on innovation since your enrolment at the University of Montenegro?



Yes  
No

16. Did you have part of curricula dedicated to innovation?

Yes  
No

17. Do you agree that entrepreneurship education is relevant for your future career?

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree
<input type="radio"/>									

18. Do you agree that education in innovation is relevant for your future career?

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree
<input type="radio"/>									

19. What do you think is the goal of entrepreneurship education? (multiple choice possible)

- Apply a working knowledge of the principles of entrepreneurship*
- Identify the profile of entrepreneurs and their role in economic growth*
- Creatively analyze the business environment, opportunity recognition, and the business idea-generation process*
- Identify and apply the elements of entrepreneurship processes*
- Apply a strategy for growth and managing the implications of growth*
- Write a business plan that creates a new venture*

20. What do you think is the goal of innovation education? (multiple choice possible)

- Apply a working knowledge of the principles of innovation*
- Identify the profile of entrepreneurs and their role in economic growth*
- Creatively analyze the business environment, opportunity recognition, and the business idea-generation process*
- Identify and apply the elements of innovation processes*
- Apply a strategy for growth and managing the implications of growth*



Write a business plan that creates a new venture

21. What kind of other extracurricular activities focusing on entrepreneurship have you experienced? (multiple choice available)

- Seminars/workshops
- Business plan/venture capital competitions
- Company visits
- Matchmaking events between students and stakeholders
- Summer schools
- Other\_\_\_\_\_

22. What kind of other extracurricular activities focusing on innovation have you experienced? (multiple choice available)

- Seminars/workshops
- Business plan/venture capital competitions
- Company visits
- Matchmaking events between students and stakeholders
- Summer schools
- Other\_\_\_\_\_

23. How often does your faculty make use of the following teaching methods?

- |  |  |           |        |       |               |
|--|--|-----------|--------|-------|---------------|
|  | <b>Lecturing</b>   |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |
|  | <b>Case studies</b>  |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |
|  | <b>Entrepreneurs/practitioners in the classroom</b>                          |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |
|  | <b>Project teams</b>   |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |
|  | <b>Company visits</b>  |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |
|  | <b>Students from different faculties/disciplines to mix in the classroom</b> |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |
|  | <b>Exploring complex real-world problems</b>                                 |           |        |       |               |
|  | Often  | Sometimes | Rarely | Never | I do not know |

24. Do you agree that your Faculty should integrate more activities related to entrepreneurship?



1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree
<input type="radio"/>									

25. Do you agree that your Faculty should integrate more activities related to innovation?

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree
<input type="radio"/>									

26. Please rate the importance of entrepreneurial attitudes and culture at your faculty?

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree
<input type="radio"/>									

27. Please rate the importance of innovation attitudes and culture at your faculty?

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree
<input type="radio"/>									

**Summary of the Blue economy:**

The term Blue economy is related to the use of the sea or coastal area and their resources for sustainable economic development. More precisely, the following categories are identified: fisheries, renewable energy, hydrocarbon exploration and production, maritime transport, nautical and coastal nautical tourism, marine biotechnology, yachting and marinas, climate change, waste management. Therefore, Blue economy implies the use of marine resources for the development of economic activity in a manner acceptable to the environment or marine ecosystem.

28. Have you ever heard about the term Blue economy (as described above)?

Yes



No

29. Did you attend courses related to Blue economy?

Yes

No

30. Did you have part of curricula dedicated to Blue economy?

Yes

No

31. If yes, were you satisfied with the content of those lectures?

Yes

No

32. Do you think that your Faculty should include more courses in the study program related to the field of Blue economy?

Yes

No

33. Do you have plans to be employed after graduation in one of the mentioned areas of Blue economy?

Yes

No

### Appendix III: Questionnaire for stakeholders

The questionnaire was available at:

[https://docs.google.com/forms/d/1pLleQSAark29liLcppjpEmaO7INJV82KcOtmMCvPLXM/edit?usp=drive\\_web](https://docs.google.com/forms/d/1pLleQSAark29liLcppjpEmaO7INJV82KcOtmMCvPLXM/edit?usp=drive_web)

#### Questions:

1. What is your gender?

M

F

2. How old are you?



- 20-30
- 31-40
- 41-50
- 51-60
- >61

3. What is the structure of the business entity you are working at?

- Majority state ownership
- Private
- Mixed
- Other \_\_\_\_\_

4. Please specify the year of organization's/company's establishment:

\_\_\_\_\_

5. Please choose an appropriate classification of your organization/company activities according to sections:

- Section A Agriculture, forestry and fishing
- Section B Mining and quarrying
- Section C Manufacturing
- Section D Electricity, gas, steam and air conditioning supply
- Section E Water supply, sewerage, waste management and remediation activities
- Section F Construction
- Section G Wholesale and retail trade; repair of motor vehicles and motorcycles
- Section H Transportation and storage
- Section I Accommodation and food service activities
- Section J Information and communication
- Section K Financial and insurance activities
- Section L Real estate activities
- Section M Professional, scientific and technical activities
- Section N Administrative and support service activities
- Section O Public administration and defense; compulsory social security
- Section P Education
- Section Q Human health and social work activities
- Section R Arts, entertainment and recreation
- Section S Other service activities
- Section T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
- Section U Activities of extraterritorial organizations and bodies

6. Please categorize the size of your organization/company:



- Micro (< 10 employees)*
- Small (11-49 employees)*
- Medium (50-249 employees)*
- Large (> 250 employees)*

7. What is your position in the organization/company?

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8. Please specify your education level:

- High school*
- Bachelor degree*
- Master degree*
- PhD degree*

9. How many years have you been working in the organization/company?

- <1*
- 2-10*
- 11-20*
- 21-30*
- >31*

10. Has your organization/company cooperated with the University of Montenegro?

- Yes*
- No*

11. If yes, did your organization/company sign the agreement with the University of Montenegro (e.g. became a member of the teaching base)?

- Yes*
- No*

12. Please rate the importance of cooperation with the University of Montenegro for your business?

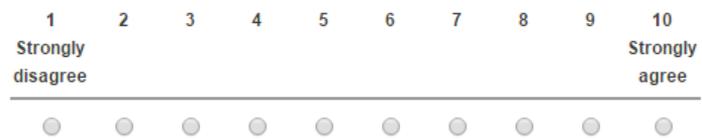
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Strongly disagree</b>									<b>Strongly agree</b>
<hr style="border: 0.5px solid black;"/>									
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



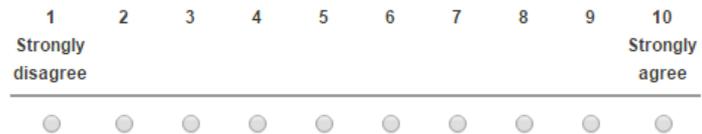
13. Please indicate the way of cooperation with the University of Montenegro? (multiple choice available)

- Cooperation through education
- Cooperation through innovation
- Cooperation through research
- Cooperation through entrepreneurship
- Other\_\_\_\_\_

14. In your opinion, students should have experience within the field of entrepreneurship:



15. In your opinion, students should have experience within the field of innovation:



16. What is your opinion on the following statements?

**Entrepreneurs are good role models for young people (students)**

- Strongly disagree*
- Disagree*
- Neutral*
- Agree*
- Strongly Agree*

**To act and think entrepreneurially is an important feature of modern work life**

- Strongly disagree*
- Disagree*
- Neutral*
- Agree*
- Strongly Agree*

**Students should learn to think and act entrepreneurially during their time at university**

- Strongly disagree*
- Disagree*
- Neutral*
- Agree*
- Strongly Agree*



**Entrepreneurship education should be an integral part of the curriculum at all levels of education**

*Strongly disagree*

*Disagree*

*Neutral*

*Agree*

*Strongly Agree*

**Academic staff should be able to motivate students to think and act entrepreneurially**

*Strongly disagree*

*Disagree*

*Neutral*

*Agree*

*Strongly Agree*

17. *Did the University of Montenegro contact you to participate in designing curricula of the courses?  
(multiple choice available)*

*Yes, we were regularly involved in course design and delivery*

*Yes, we were involved in practical lectures at the University of Montenegro*

*We provided support to academic staff for high-quality course content*

*We integrated our experience and expertise into the development and delivery of university courses*

*We supported a diversity of collaborative partnerships with local communities and organizations,  
local and regional governments, chambers of commerce, industry and university alumni*

*Other \_\_\_\_\_*

18. *Do you find that the University of Montenegro should be committed more to collaboration and  
knowledge exchange with all actors in the economic market?*

*Strongly disagree*

*Disagree*

*Neutral*

*Agree*

*Strongly Agree*

19. *Do you agree that the University of Montenegro should involve more industry/business sector  
(wider community) activities to exploit new knowledge?*

*Strongly disagree*

*Disagree*

*Neutral*

*Agree*

*Strongly Agree*



20. Do you agree that your organization/company should demonstrate active involvement in partnerships and relationships with the University of Montenegro?

- Strongly disagree*
- Disagree*
- Neutral*
- Agree*
- Strongly Agree*

21. What is your opinion regarding the following two questions?  
Your organization/company demonstrates active involvement in partnerships and relationships with a wide range of stakeholders.

- Strongly disagree*
- Disagree*
- Neutral*
- Agree*
- Strongly Agree*

22. Your organization/company provides opportunities for students to take part in different activities with business/the external environment.

- Strongly disagree*
- Disagree*
- Neutral*
- Agree*
- Strongly Agree*

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**Summary of the Blue economy:**

The term Blue economy is related to the use of the sea or coastal area and their resources for sustainable economic development. More precisely, the following categories are identified: fisheries, renewable energy, hydrocarbon exploration and production, maritime transport, nautical and coastal nautical tourism, marine biotechnology, yachting and marinas, climate change, waste management. Therefore Blue economy implies the use of marine resources for the development of economic activity in a manner acceptable to the environment or marine ecosystem.

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23. Does your organization/company address some of the activities in Blue economy?

- Yes*
- No*



24. Does your organization/company plan to include more activities in its business in the field of Blue economy?

Yes

No

25. If yes, please describe the area of the Blue economy:

*Fisheries*

*Renewable energy*

*Hydrocarbon exploration and production*

*Maritime transport*

*Nautical and coastal nautical tourism*

*Marine biotechnology*

*Yachting and marinas*

*Climate change*

*Waste management*

*Coastal tourism*

*Other* \_\_\_\_\_

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