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1.1 Guideline for the Reform of the MA Programme in Armenia (RAU)

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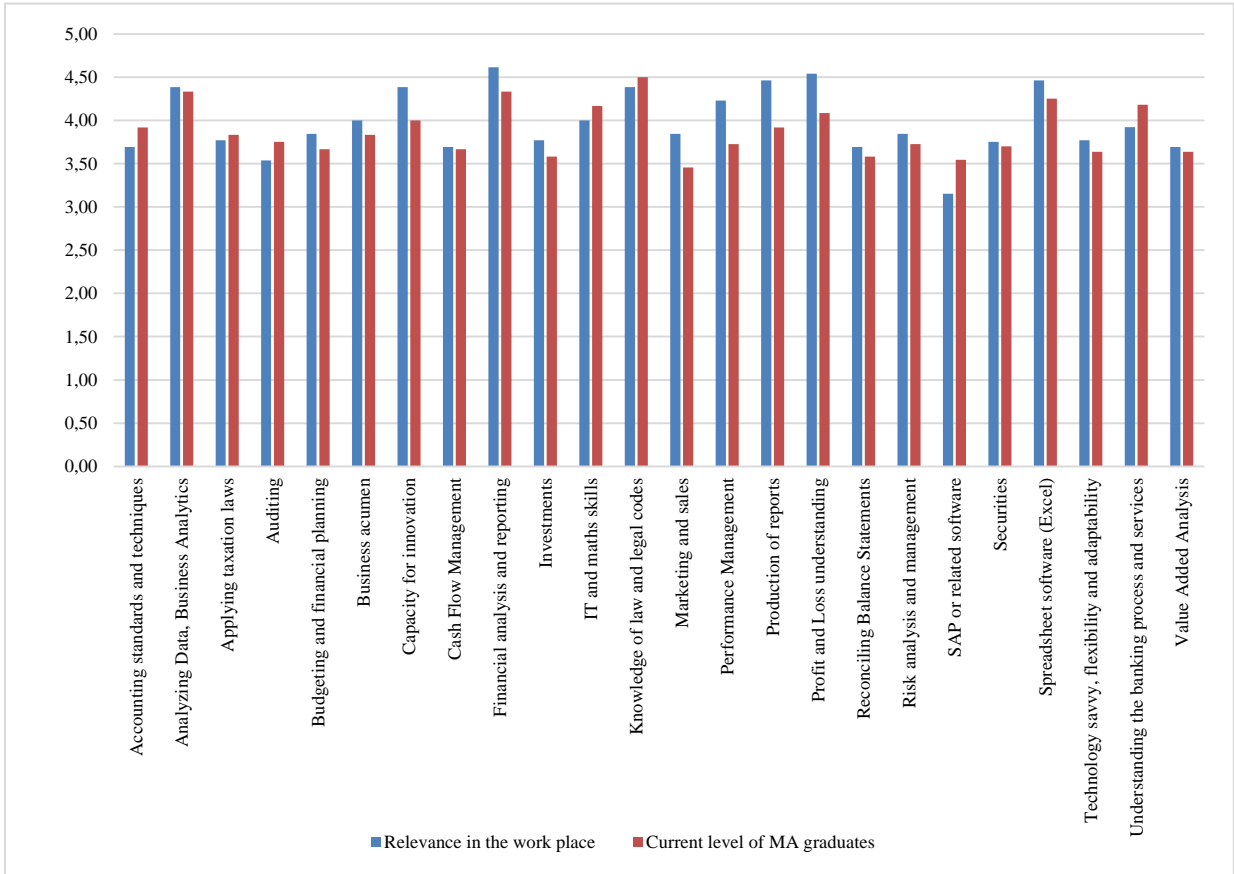
1. The Labour Market Analyses

In order to discover the needs and demands of the labour market of Armenia towards MA graduates in the field of "Finance", we have implemented a survey on the questionnaire prepared and approved in advance by the WP1 of the REFINE project. The results serve as guidelines for reforming the current MA educational program "Financial economics" of Institute of Economics and Business of Russian-Armenian University.

1.1 Summary of employer’s survey (in written form)

The employer's survey was conducted by Russian-Armenian University among 15 leading companies operating in the financial sector of Armenia.

Graph.1 shows the average evaluation of students' knowledge versus employers' requests based on the employer's survey.



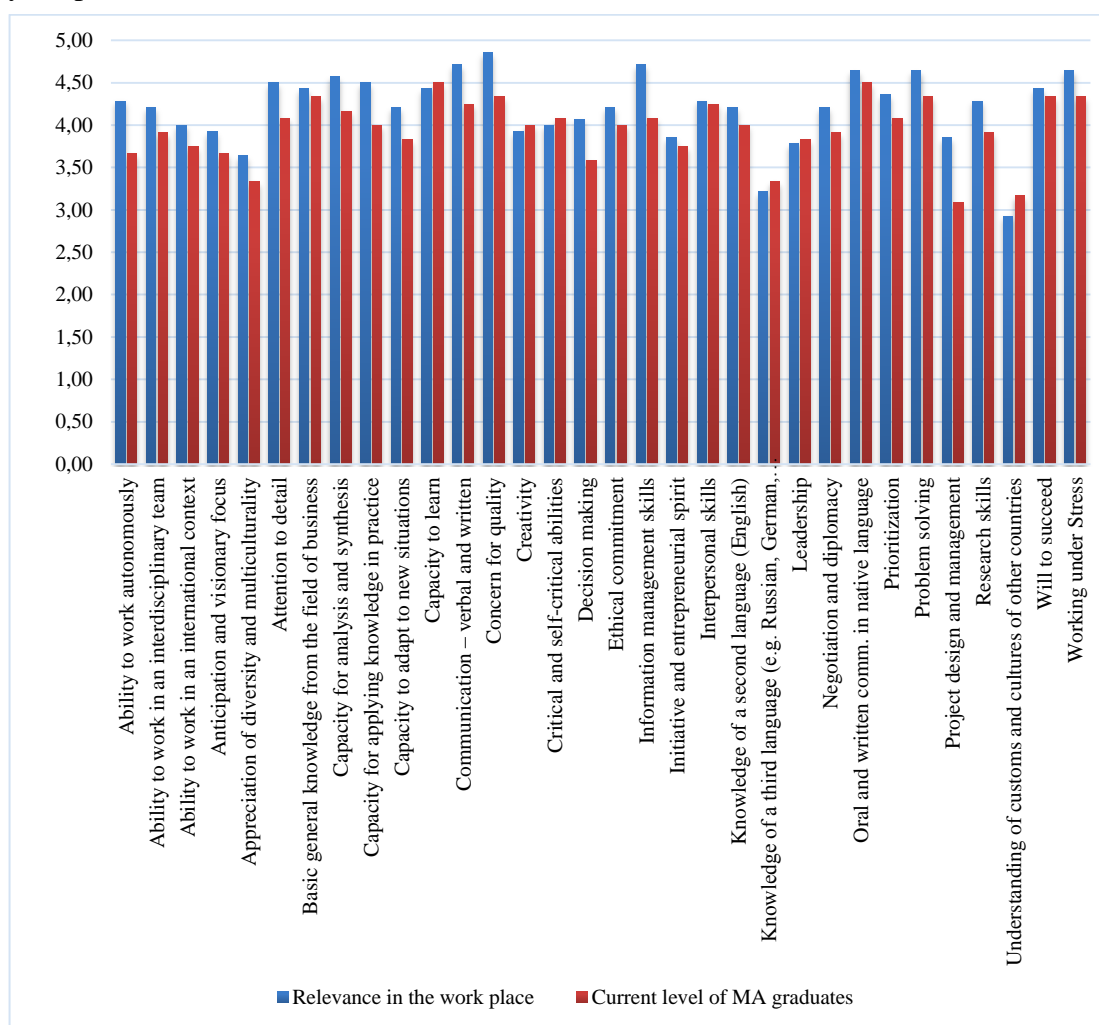
Graph.1. The average results of employer's survey (Finance specific skills)

As the bar chart shows employers think that MA graduates don't have sufficient knowledge, skills, and competencies essentially of the subjects presented in the table 1, which have the highest gaps between the means of required and current level of MA graduates:

Table 1. Finance specific skills and competences with the highest negative gap of required and current level

Competences	Negative gap of required and current level (>0.15)
<i>Production of reports</i>	0.54
<i>Performance Management</i>	0.5
<i>Profit and Loss understanding</i>	0.46
<i>Marketing and sales</i>	0.39
<i>Capacity for innovation</i>	0.38
<i>Financial analysis and reporting</i>	0.28
<i>Spreadsheet software (Excel)</i>	0.21
<i>Investments</i>	0.19
<i>Budgeting and financial planning</i>	0.18
<i>Business acumen</i>	0.17

The graph.2 summarises the average evaluation of general skills of MA graduates from the employers' point of view.



Graph.2. The average results of employer's survey (general skills)

To summarise the results of general skills of MA graduates based on the employer's survey, we can say that the MA graduates in Armenia mainly don't have the satisfactory level of the abilities mentioned in the table 2.

Table 2. General skills and competences with the highest negative gap of required and current level

<i>Competences</i>	<i>Negative gap of required and current level (>0.15)</i>
<i>Project design and management</i>	0.77
<i>Information management skills</i>	0.63
<i>Ability to work autonomously</i>	0.62
<i>Concern for quality</i>	0.52
<i>Capacity for applying knowledge in practice</i>	0.5
<i>Decision making</i>	0.49
<i>Communication – verbal and written</i>	0.46
<i>Attention to detail</i>	0.42
<i>Capacity for analysis and synthesis</i>	0.4
<i>Capacity to adapt to new situations</i>	0.38
<i>Research skills</i>	0.37
<i>Negotiation and diplomacy</i>	0.31
<i>Problem solving</i>	0.31
<i>Working under stress</i>	0.31
<i>Ability to work in an interdisciplinary team</i>	0.3
<i>Prioritization</i>	0.27
<i>Anticipation and visionary focus</i>	0.26
<i>Ability to work in an international context</i>	0.25
<i>Ethical commitment</i>	0.21

Among the above mentioned general skills the employers have considered as the most important research skills, communication – verbal and written, and problem solving, which were mentioned as the first most important skills by correspondingly 29%, 14% and 14% of questioned employers (table 3). Furthermore, the problem solving skill was mentioned as the second most important skill by 29% of employers. And finally, as the third most important general skill was mainly mentioned working under stress (21%).

For this part of the analysis we can conclude that MA graduates don't have the required level of the general skills and competences, that are considered as the most important by the employers of the field of finance.

The table 3 summarizes in percentages the first 3 abilities that employers considered as the most important. As you can see the first most important finance related abilities are: Analysing Data, Business Analytics (22%), Budgeting and financial planning (15%), Marketing and sales (14%), Knowledge of law and legal codes (14%). Except the last one, all of these skills were also mentioned as the second most important skills by the rest of the employers. But it is necessary to also notice, that most of the employers have put Risk analysis and management (14%), IT and math skills (14%) at the second place. Finally, in the third place most of employers have put Financial analysis and reporting (29%), Spreadsheet software (Excel) (21%) and Production of reports (14%).

Table 3. The first 3 most important skills and competences

	First	Second	Third
<i>Analysing Data, Business Analytics</i>	22%	7%	-
<i>Budgeting and financial planning</i>	15%	7%	-
<i>Marketing and sales</i>	14%	7%	7%
<i>Knowledge of law and legal codes</i>	14%	-	-
<i>Accounting standards and techniques</i>	7%	-	-
<i>Business acumen</i>	7%	7%	-
<i>Performance Management</i>	7%	-	7%
<i>Risk analysis and management</i>	7%	14%	-
<i>Understanding the banking process and services</i>	7%	-	-
<i>IT and maths skills</i>	-	14%	-
<i>Value Added Analysis</i>	-	7%	-
<i>Spreadsheet software (Excel)</i>	-	7%	21%
<i>Profit and Loss understanding</i>	-	7%	-
<i>Production of reports</i>	-	7%	14%
<i>Financial analysis and reporting</i>	-	7%	29%
<i>Cash Flow Management</i>	-	7%	7%
<i>Technology savvy, flexibility and adaptability</i>	-	-	7%
<i>Applying taxation laws</i>	-	-	7%

The comparison of the table 3 with the results of graph.1 shows that the competences MA graduates respond to the demands of the labour market for the following skills: Analysing data, business analytics; Knowledge of law and legal codes, IT and math skills. All the rest is in need of improvement.

As for the future finance-specific skills and competencies that will be needed in 10 years for professionals and employees, the surveyed employers have mostly mentioned the following spheres:

- ✓ Data analytics
- ✓ Soft skills
- ✓ Cross-disciplinary analytics
- ✓ Strategic planning
- ✓ Risk management
- ✓ Presentation and negotiation
- ✓ Basic knowledge of innovative technology
- ✓ Big data
- ✓ Ability of identifying investment opportunities

All in all the conducted survey allowed us to analyse the requirements of employers toward MA graduates as well as the current level of knowledge of graduates according. In the next section are presented the current opportunities, challenges, expectations and expected developments of the banking and finance sector of Armenia based on the results of workshop with the associated partners of RAU.

1.2 Summary of main outputs from Workshop (in Armenia or Moldova) –if applicable

The table 4 presents main results of workshop with the associated partners of RAU: Avag solutions and VTB Armenia.

	Avag solutions	VTB Armenia
The main challenges and opportunities for banking and finance in Armenia	<p><i>Main challenges:</i> Low level of economic activity. Small market size decreases the effectiveness of advanced risk managing tools.</p> <p><i>Main opportunities:</i> High levels of human capital and technological advancement may present potential for growth in the changing financial landscapes due to emergence of new tech.</p>	<p><i>Main challenges:</i>Regulatory pressure, consumer expectations</p>
Impact of Financial Technologies on banking and finance in Armenia / areas of strongest effects	Strong impact / Data based risk management tools, online banking and portfolio management, crypto-assets.	Strong impact / Especially in consumer service area

Expectation of a big change in a need for more technology focused graduates in the near future	Yes	Yes
Fin Tach involvement in the education of economists vs to have separate technology and data service specialists	It is better to improve basic groundwork for economists by including basic coding and CS courses in the curriculum. The replacement should be done on voluntary bases as supplementary coursework. The possibility to have separate technology and data service specialists depends on the scale. Specialization is usually better, if you can afford it	Separate technology and data service specialists
Finance jobs that will be mainly affected due to a high risk of automation	<ul style="list-style-type: none"> ✓ Bank tellers, ✓ Accounting may transform but not completely disappear ✓ Data entry ✓ Lawyers may transform due to improvements in blockchain tech 	The automation will affect almost all the fields of banking sphere.
Are the needs of the business sector rather clear for the next 15 years? Are companies ready to cooperate with higher educational institutions in the preparation of future driven curricula and to tailor students' skills?	No, the planning horizon is around 5-6 years. The companies are warming up to the idea, however this is a two-way street. The educational institutions need to take the job/salary after graduation as the main indicator of success. Currently it is not.	No, because in Armenia the level of both communication and experience exchange between companies and universities is low.

Overall, based on the results of the workshop with RAU's associated partners we come to the following conclusions:

- ✓ The knowledge and skills of financial technologies is highly demanded by the labour market
- ✓ Universities need to include basic coding and CS courses in the curriculum of master's in Finance
- ✓ The development of financial technologies will mostly have impact on the following areas: data based risk management tools, online banking and portfolio management, crypto-assets, consumer service:

- ✓ There is a strong need to improve the level of communication and cooperation between employers/companies of financial sector and the universities, that provide MA graduates in finance.

In the next section we will present the main recommendations that we have developed based on the analyses presented in the 1.1 and 1.2 sections.

1.3 The main recommendation based on the labour market analyses

Based on the labour market analyses we can assume that the main requirements of employers to their employee's concern to the knowledge of Analysing Data, Business Analytics, Budgeting and financial planning, Marketing and sales, Knowledge of law and legal codes. So the main recommendations based on employer's survey will be to focus on these 4 disciplines.

We want to make some proposals for reforming the Finance MA programme of RAU based on the labour market demands and main four requirements mentioned above.

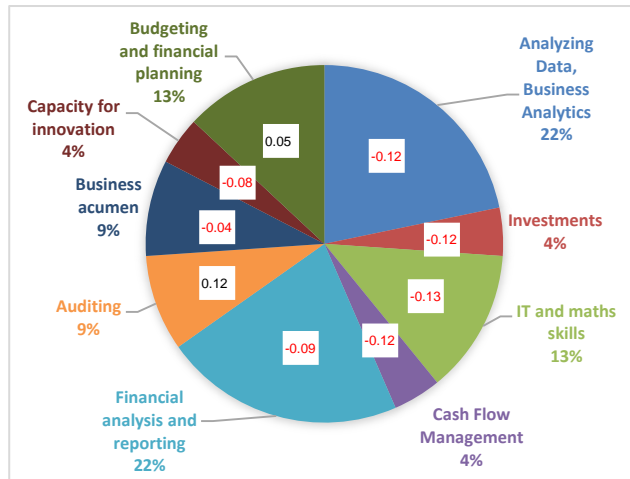
- ✓ Analysing Data, Business Analytics – as Finance MA programme of RAU already gives excellent knowledge of data analyses, it will only be necessary to improve the business analytics part of our educational programme.
- ✓ Budgeting and financial planning – We think that budgeting skill is essential for future specialists in the field of finance, it will be crucial to take into account this requirement. Our MA programme already provides its graduate students with knowledge of financial planning.
- ✓ Marketing and sales – In our opinion future financiers don't necessarily need to have deep knowledge of marketing and sales, as we provide basic knowledge of marketing in our bachelor's educational programme. Thus we will not take any action in this respect.
- ✓ Knowledge of law and legal codes – We provide basic knowledge of fiscal and accounting laws, but will consider deepening the knowledge of financial laws.

2. The Master Programme in Finance Analyses

2.1 The main results from students, academic and alumni's surveys

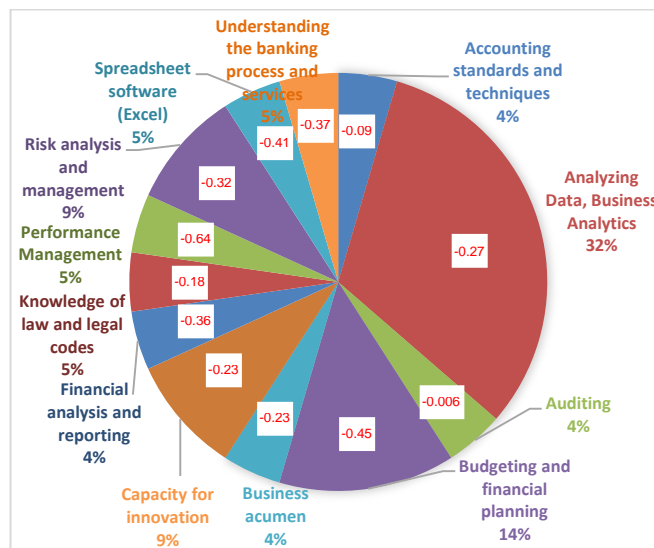
In this part of the report, we are going to summarise the main results from students (25 surveyed), academic (22 surveyed) and alumni's (8 surveyed) surveys.

As we can see from the results of MA students survey (see graph.3), they think that the first four most important competencies are financial analysis and reporting (22%), analysing data, business analytics (22%), budgeting and financial planning (13%), IT and maths skills (13%). The evaluation of their knowledge in contrast to employer's requests, that was done by students shows, that they think they completely meet the employer's demands only for 1 of these competencies: budgeting and financial planning. But overall the negative gap between the means of employers' requests and MA graduates' current level doesn't exceed even 0.15 (3% of the highest grade-5).



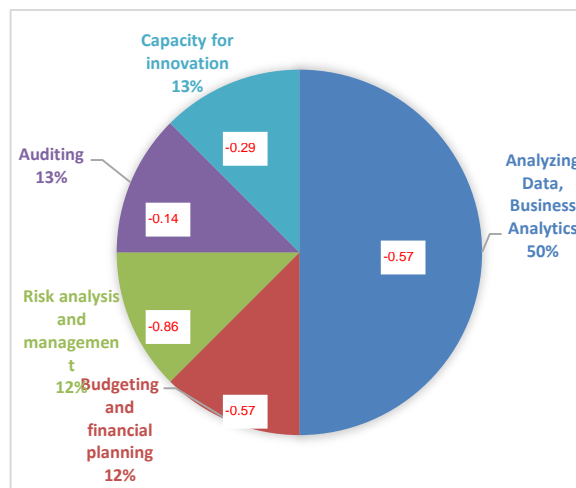
Graph.3. The first most important general skill/competence / gap between labour market demands and current level of MA graduates (Shown on the pie chart) – Students' survey

With regard to the survey done among teachers and professors (see graph.4), the results show the following 4 most important competencies, that MA graduates should have - analysing data, business analytics (32%), budgeting and financial planning (14%), capacity for innovation (9%), risk analysis and management (9%). Finally, the evaluation of students' knowledge of these competencies, which was carried out by their professors, show that the students don't meet the most important requirements of the labour market. Furthermore, the negative gap is more than 0.15 for all competencies, except Accounting standards and techniques; Auditing.



Graph.4. The first most important general skill/competence / gap between labour market demands and current level of MA graduates (Shown on the pie chart) – Academic's survey

And finally the surveyed alumni have mentioned "Analysing Data, Business Analytics" as the most important skill (50%) (see graph.5). According to this survey MA graduates don't have sufficient level of the first most important skills demanded by the labour market.



Graph.5. The first most important general skill/competence / gap between labour market demands and current level of MA graduates (Shown on the pie chart) – Alumni's survey

As we can notice the first two most important competencies that in students', alumni's and professors' opinion the labour market requires of MA graduates are the same: analysing data, business analytics; budgeting and financial planning.

Thus, MA programs in the field of Finance should try to focus on developing courses that will give data analysis, business analytics, as well as budgeting and financial planning skills to their graduate students. In the next section, we have done a SWOT based on the results presented in the previous sections.

2.2 SWOT analyses of existing MA programmes

SWOT analyses based on:

- Students survey
- Academic survey
- Employers survey
- Alumni survey

Strengths	Opportunities
<ul style="list-style-type: none"> • Flexible policy for educational program development; • Involvement of the best experts with practical experience to teaching in the master's educational program; • Invited lecturers. • 2 master's degree diplomas (Armenian and Russian) • Student mobility • The only university, where education is in Russian • Provision of IT and math skills 	<ul style="list-style-type: none"> • Russian new academic standard – FGAS 3++; • Development and implementation of new courses; • Opportunity to use foreign experience; • Implementation of an asynchronous learning system; • Student mobility; • The faculty mobility; • Optimization of the curriculum under needs of labour market.
Weaknesses	Threats
<ul style="list-style-type: none"> • Decreased interest in scientific activities, and decreased motivation for teaching; • Low level of the payments to the faculty 	<ul style="list-style-type: none"> • Russian new academic standard - FGAS 3++; • Professional standards of RF; • Sample curricula under FGAS 3++;

<ul style="list-style-type: none"> • Students have low level of knowledge of Armenian language. • Low level of knowledge of Budgeting and financial planning • Insufficient skills of Financial analysis and reporting • Insufficient knowledge of data analyses and business analytics • Insufficient knowledge of law and legal codes 	<ul style="list-style-type: none"> • Reduction of demand for master's EP; • Implementation of an asynchronous learning system. • Strong competition (American University, French University)
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3. Reform strategies for the MA Programme in Finance

3.1 Desired learning outcomes on programme level

According to Russian Academic Standards (FGAS3++), which are obligatory for RAU, at the end of the study program students must have certain general and finance specific skills and competences which are presented bellow.

The general learning outcomes are:

- ✓ Ability of systemic and critical thinking
- ✓ Ability to develop and implement a project
- ✓ Ability of team work and leadership
- ✓ Ability to apply modern communication technologies for academic and professional interaction
- ✓ Ability of self-organisation and self-development

The finance specific learning outcomes are:

- ✓ Ability to apply fundamental knowledge in the field of finance when solving practical and research problems
- ✓ Ability to apply advanced instruments of economic analysis in applied and/or fundamental research
- ✓ Ability to make financially sound organizational and managerial decisions and bear responsibility for them
- ✓ Ability to use modern information technologies and software in solving professional problems

3.2 Suggestions for curriculum reforms

- 1: Practice orientation
- 2: Involving employers in curriculum reforming process
- 3: Involving employers in teaching process
- 4: Joint internships with employers
- 5: Master's thesis should be cases and not only theories

3.3 Suggestions for course content reforms

- 1: Include business analytics
- 2: Improve financial planning and accounting
- 3: Include courses on understanding banking process
- 4: Improve risk analyses and management
- 5: Include courses on law and legal codes

3.4 Suggestions for reforms of teaching methodologies/pedagogical approaches

- 1: Lectures should be practice oriented

- 2: Lectures should include case studies
- 3: Apply bank simulator
- 4: Apply financial Simulator
- 5: Apply accounting simulator

3.5 Suggestions for reforms to enhance the labour market relevance

- 1: Improve Financial analysis and reporting skills of MA students
- 2: Improve Analysing Data, Business Analytic skills of MA students
- 3: Improve Budgeting and financial planning skills of MA students
- 4: Improve Knowledge of law and legal codes skills of MA students
- 5: Improve Strategic planning skills of MA students