

A Keynote speech at the IAFICO online Seminar 2020

Financial Education in the Era of Digital Transformation

Hongjoo JUNG

SKKU, jungprokorea@gmail.com

June 26, 2020

A ship is safe in harbor, but that is not what ships are for.

– William G. Shedd-

Contents



Financial Education



Financial Education in Digitalization







A Case: Simulation Based Education



Concluding Remark

Contents

	Financial Education●
	●
	●
	●

Financial Education should cover



Variety in Kinds or in Levels



Contents & Delivery Methods of F.E. are determined by

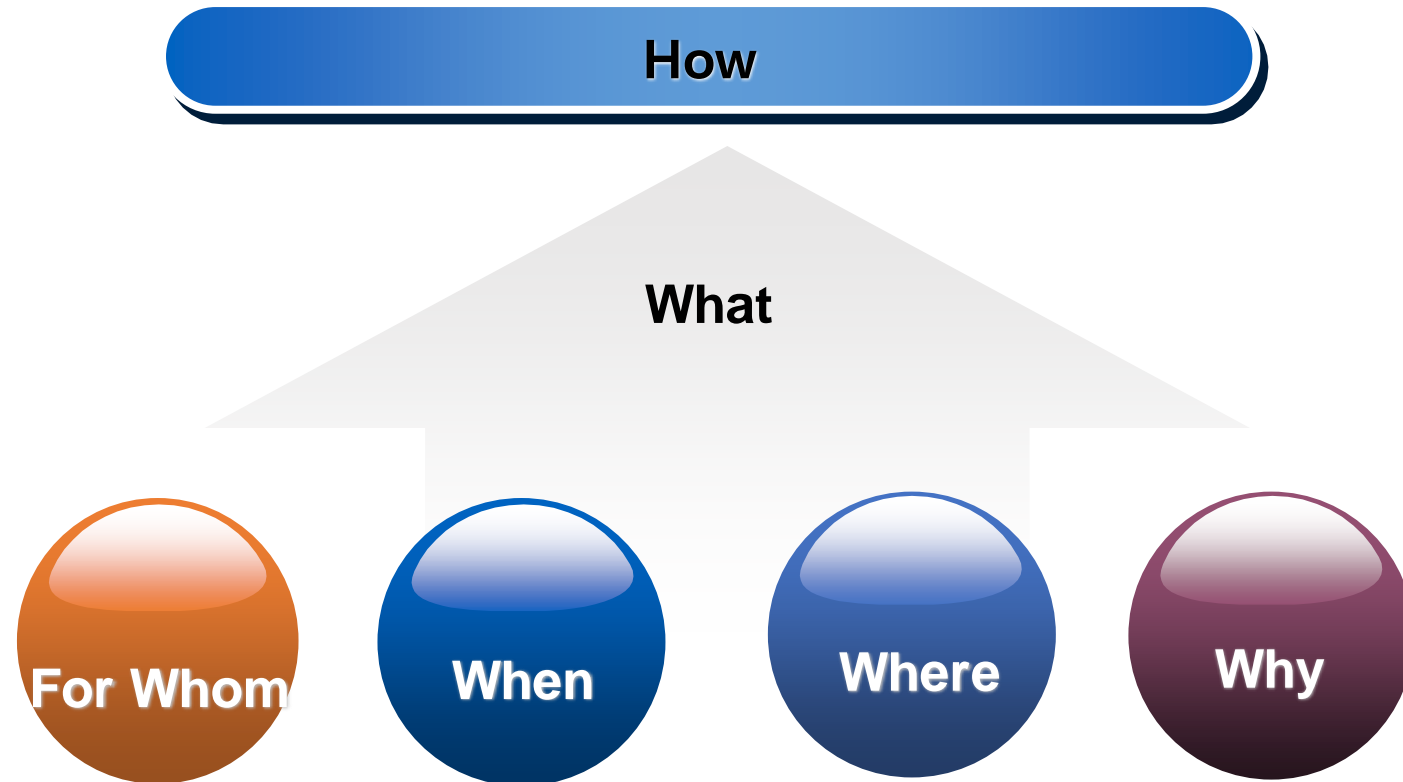
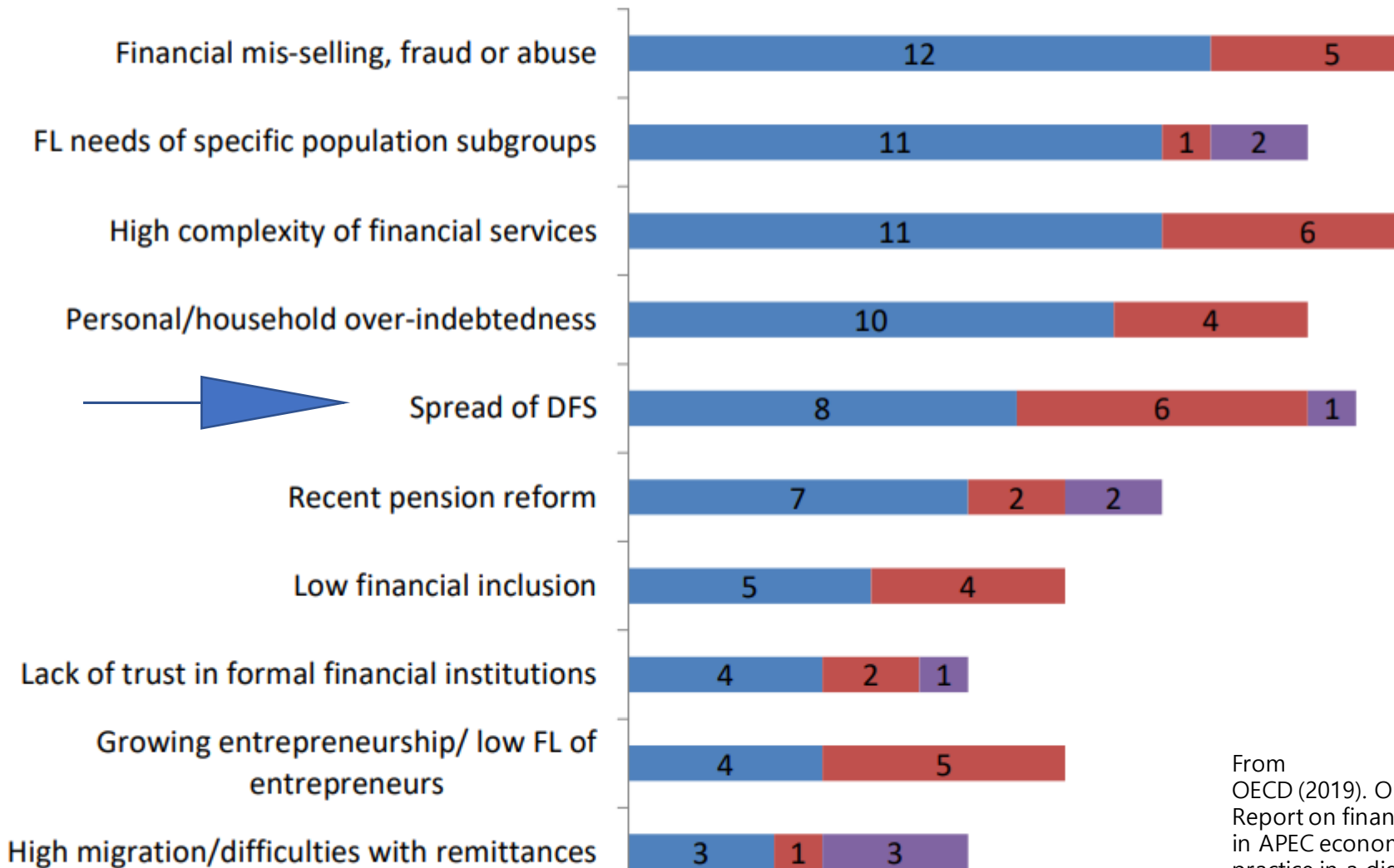






Figure 5. Rationale for financial education

Number of APEC economies indicating that a given factor motivates the development of financial education activities.



From
 OECD (2019). OECD/INFE
 Report on financial education
 in APEC economies: Policy and
 practice in a digital world

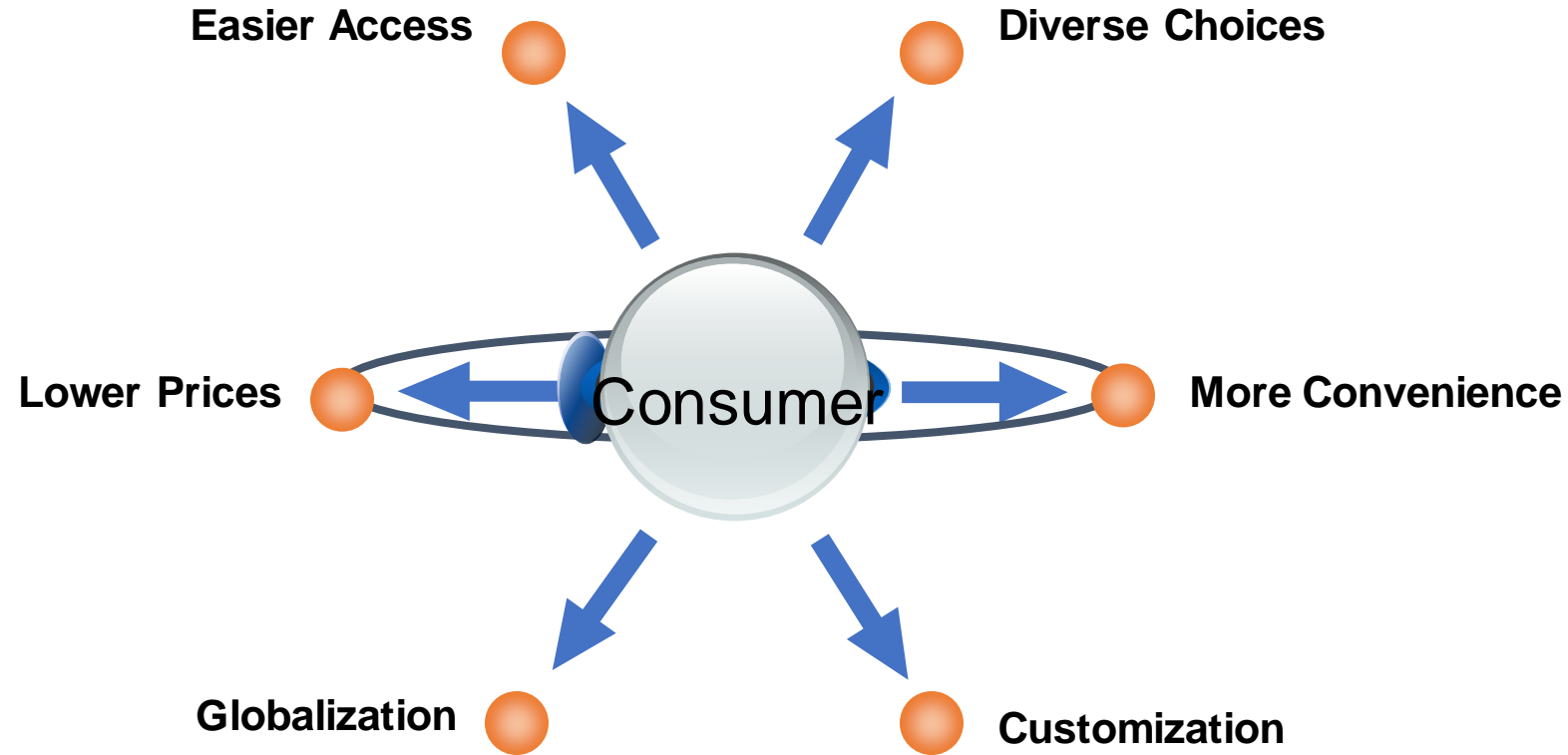
Contents

-  Financial Education.....●
-  Financial Education in Digitalization.....●
- .....●
- .....●

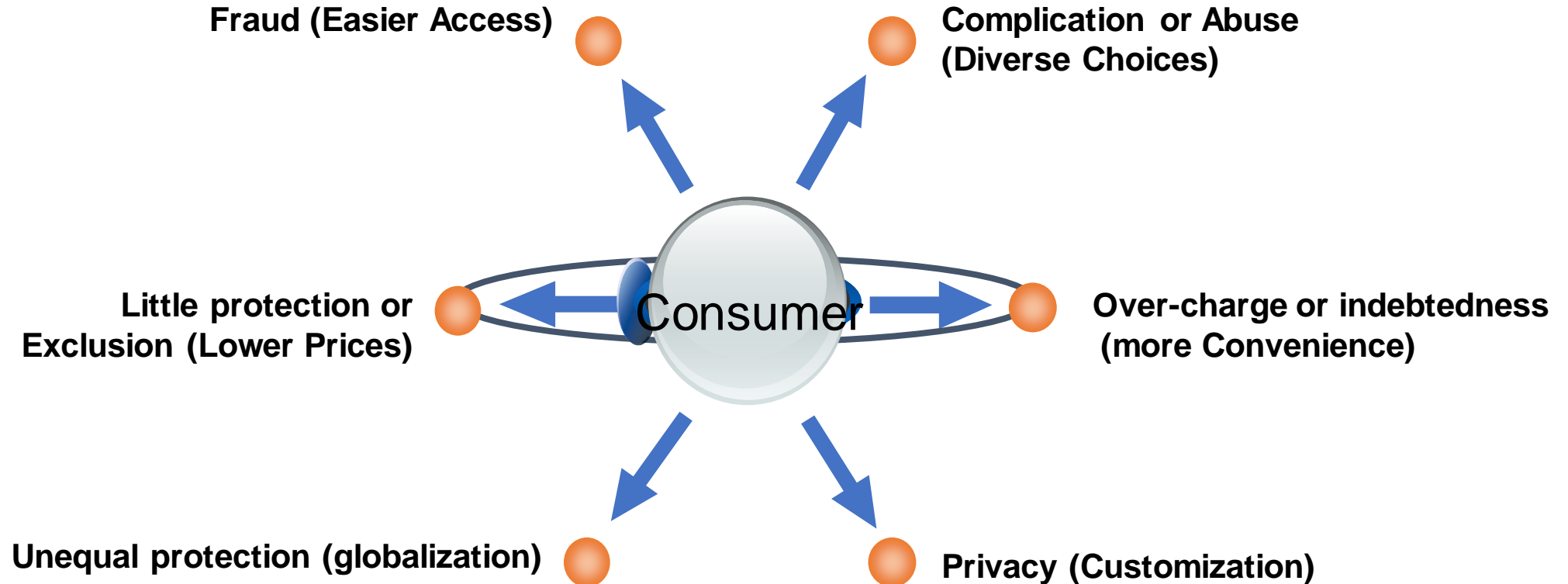
Digital Transformation (of institutions or markets)
gives consumers



Particularly, opportunities for consumers include ...



Also, threats or risks against consumers include ...



Persistent inequality in account ownership

Even as account ownership continues to grow, inequalities persist. While 72 percent of men have an account, 65 percent of women do. The gap of 7 percentage points was also present in 2014 and 2011. In developing economies the gender gap remains unchanged at 9 percentage points (Figure O.1).

Nor has the gap between richer and poorer narrowed. Among adults in the richest 60 percent of households within economies, 74 percent have an account. But among those in the poorest 40 percent, only 61 percent do, leaving a global gap of 13 percentage points. The difference is similar in both developed and developing economies, and neither gap has changed meaningfully since 2014. Account ownership is also lower among young adults, the unemployed, and those who are out of the labor force.

But the picture is not entirely bleak. Consider India, where a strong government push to increase account ownership through biometric identification cards helped narrow both the gender gap and the gap between richer and poorer adults. And several developing economies have no significant gender gap, including Argentina, Indonesia, and South Africa.

Figure O.1

The gender gap in account ownership persists in developing economies

Adults with an account (%)



ALIGNING WITH THE AMBITION OF THE EUROPEAN COMMISSION

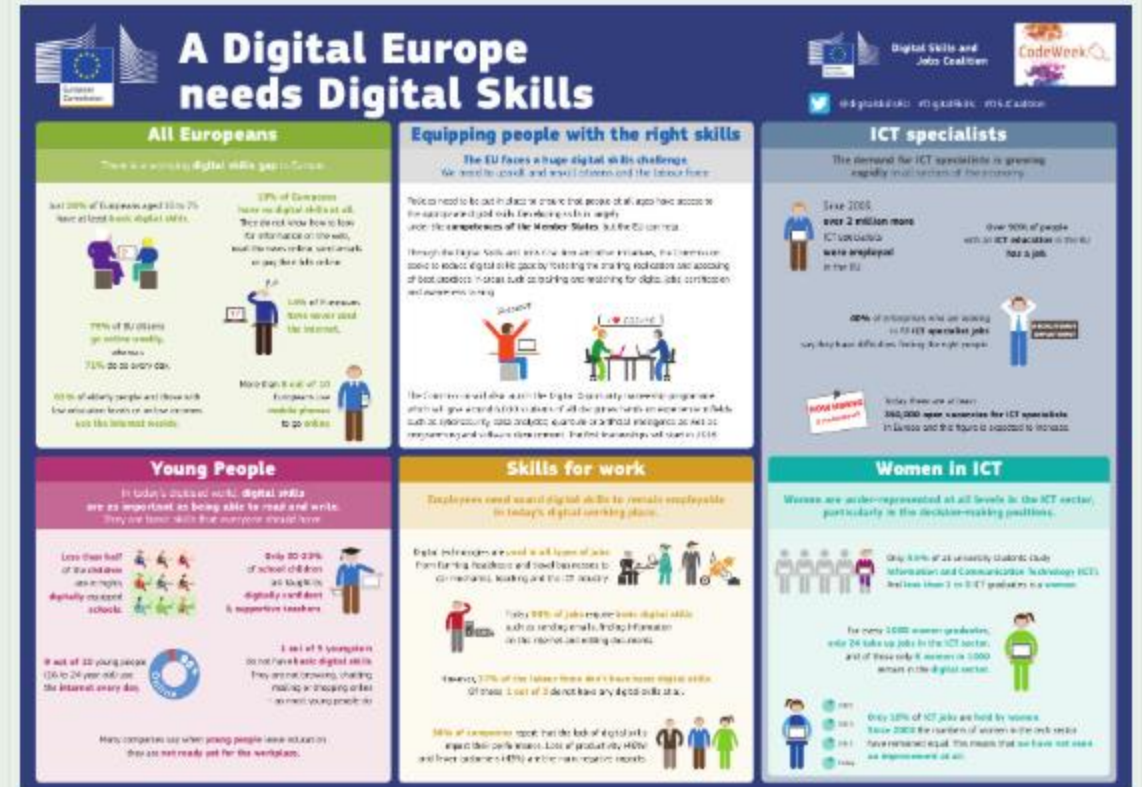
Data shows that, currently, 44% of European citizens do not have basic digital skills. 37% of people in the labour force – farmers, bank employees and factory workers alike – also lack sufficient digital skills, despite the increasing need for such skills in all jobs. It is estimated that there will be 500,000 unfilled vacancies for ICT professionals by 2020. A real digital skills gap.

The European Commission is promoting various initiatives aimed at increasing training in digital skills for the workforce and for consumers; modernising education across the EU; harnessing digital technologies for learning and for the recognition and validation of skills; and anticipating and analysing skills needs.



On 17 January 2018, the European Commission adopted the Communication on the Action Plan on Digital Learning. The Action Plan outlines how the EU can help individuals, educational institutions and education systems to better adapt for life and work in an age of rapid digital change by making better use of digital technology for teaching and learning. Read more

As a strong supporter of the Digital Single Market initiative of the European Commission and with a clear focus on empowering human capital, the EBF firmly believes in enhancing the core digital skills of citizens, consumers, customers and employees of the financial sector. See also [EBF response to the EC Proposal for a European Cybersecurity Industrial, Technology and Research Competence Centre](#)



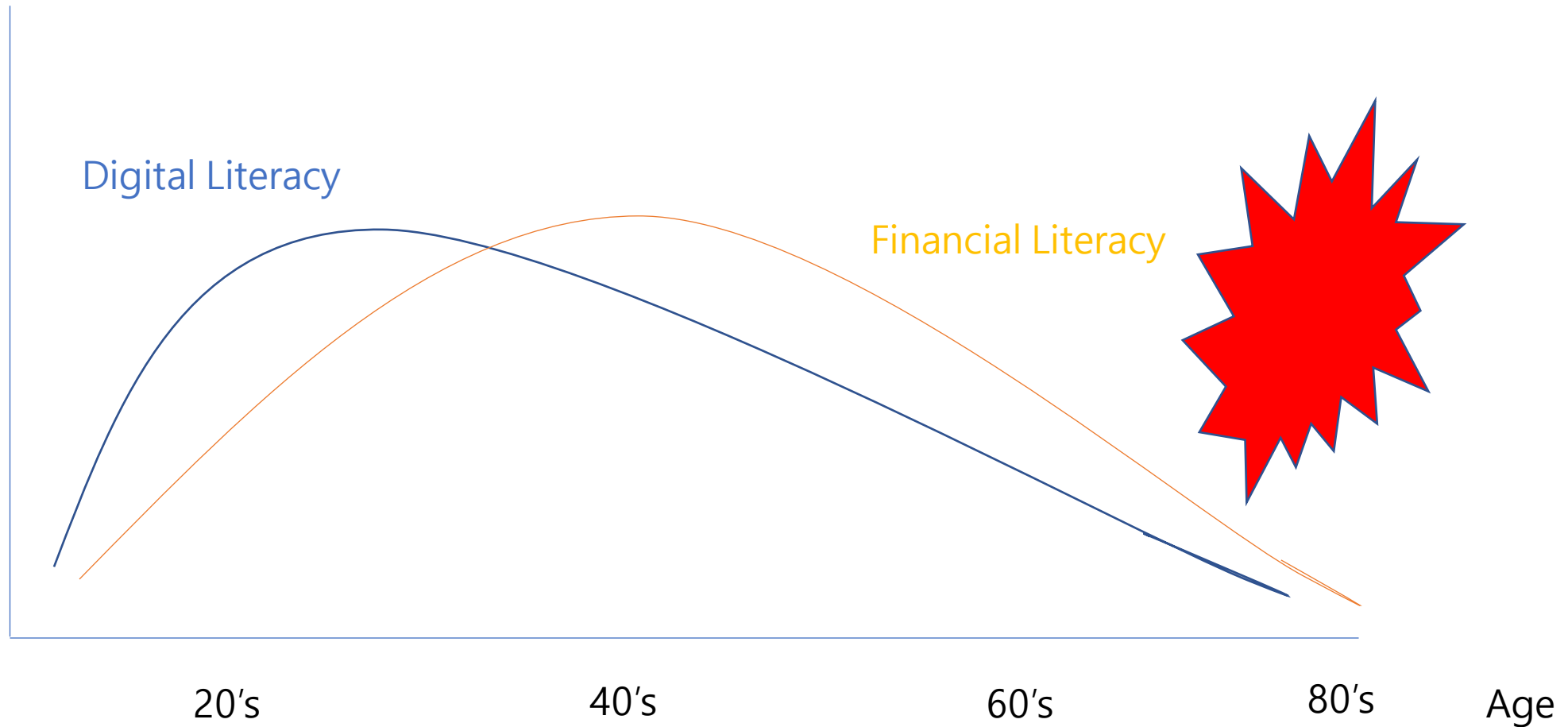
Download the European Commission Factsheet "A Digital Europe needs Digital Skills"

By Peter J. Morgan, Bihong Huang, and Long Q. Trinh

Digital financial literacy (DFL) is likely to become an increasingly important aspect of education for the Digital Age. The development of the 'gig' economy means that individuals will become more responsible for their own financial planning, including for retirement. Consumers will need to have increasing financial sophistication to make effective use of financial technology (fintech) products and avoid fraud and costly mistakes. G20 countries need to agree on a standardized definition of digital financial literacy, design tools to assess it, and develop strategies and programs to promote digital financial education, including special programs for vulnerable groups.

<https://t20japan.org/policy-brief-need-promote-digital-financial-literacy/>

Digital Financial Literacy in the Aging (Aged) Society



The digital gender divide has three components: (1) access and use of digital technologies and the internet; (2) development of the skills needed to use digital technologies and to participate in their design and production; and (3) advancement of women to visible leadership and decision making roles in the digital sector.

----- Important skills, such as literacy, numeracy, and content knowledge in academic subjects need to remain part of the curricula, but information literacy, digital skills, critical thinking and complex problem solving also need to be prioritized. Individuals need to be able to analyze and create meaning from the vast amounts of information available. Moreover, as economies continue to digitize, digital skills are becoming essential. xxiii Recent analysis shows that, at least within developed economies, 90% of jobs require some level of digital skills.xxiv

Women20 (W20) is the official G20 dialogue focusing on women's economic empowerment. W20 joins the global experiences of women's civil society organizations, women's entrepreneur associations and academia.

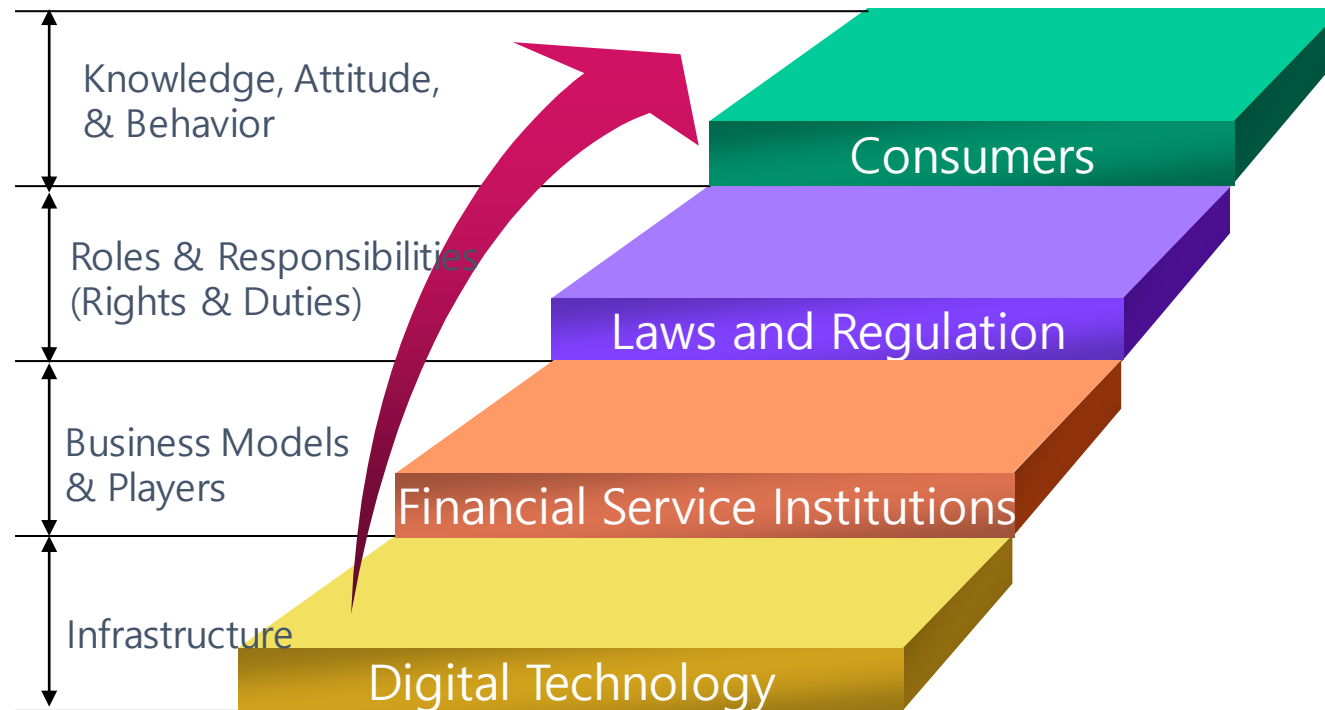
China and Russia exhibit rather small gender gaps in labor market participation and financial literacy, compared to the other emerging economies among the G20. But the gender gaps among highly qualified managers and self-employed are wide, and remain largely unaddressed by governmental programs. Unlike Russia, China additionally exhibits wide gaps in higher education, which are also largely unaddressed by policy to our knowledge.

Women20 Study, 2017

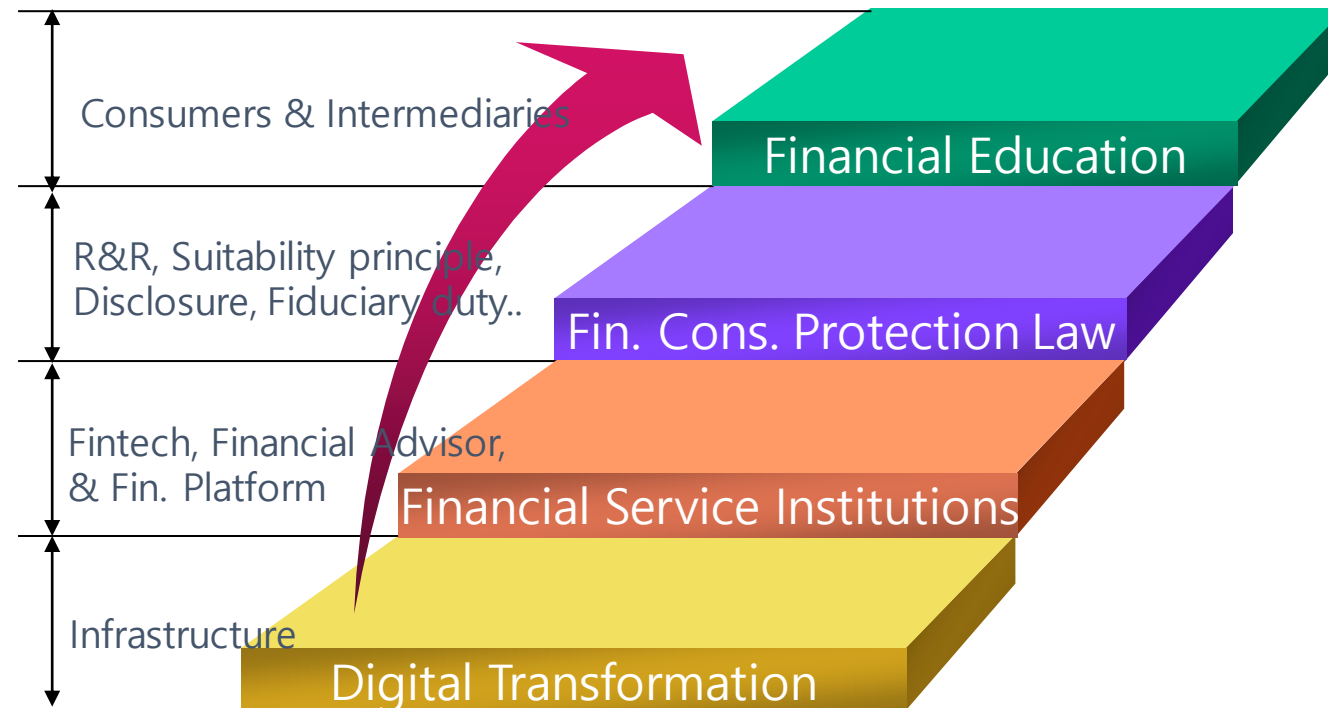
„The Effects of Digitalization on the
Gender Equality in the G20 economies“

Alina Sorgner, Eckhardt Bode, Christiane Krieger-Boden

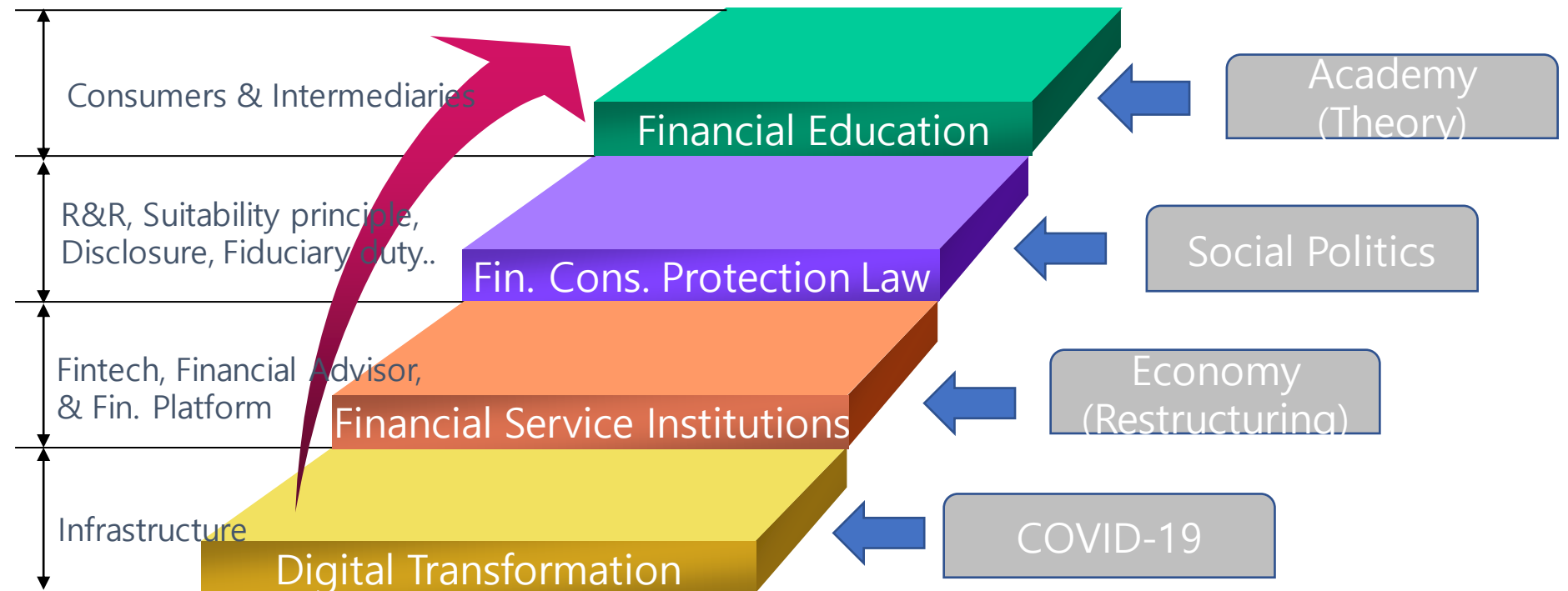
Technology affects education through market system, laws, & regulation.



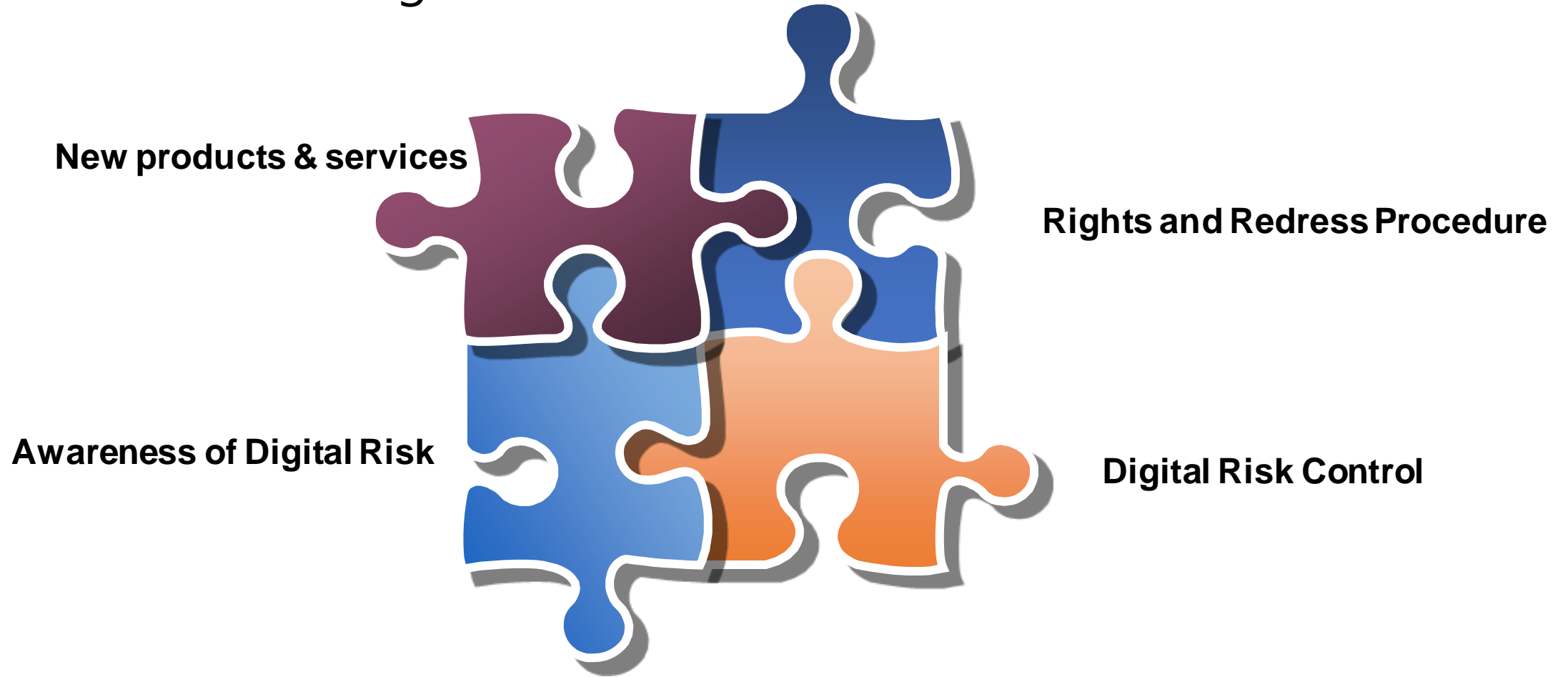
In case of Korea, new FCP law was enacted in year 2020.



In Korea, Financial Education is affected by other factors too.



New knowledge/attitude/behavior required for consumers to have in financial digitalization



<https://t20japan.org/policy-brief-need-promote-digital-financial-literacy/>

Financial Education in the Digital Age: It's affordable, it's scalable – but does it work?

Financial education is recognized as a key strategy for achieving full financial inclusion, but current methods – which often involve in-person group trainings by a human trainer – have failed to consistently improve the knowledge and behavior of beneficiaries.

<https://nextbillion.net/financial-education-in-the-digital-age/>

Develop digital financial education strategies and programs

The OECD/INFE also recommends that countries establish and implement national strategies to ensure a co-ordinated approach to financial education (OECD/INFE 2019), including the following aspects:

- recognizing the importance of financial education – through legislation where appropriate – at the national level;
- involving cooperation with relevant stakeholders and identifying a national leader or coordinating body/council;
- establishing a roadmap to support the achievement of specific and predetermined objectives;
- providing guidance on individual programs to be implemented under the national strategy in order to efficiently and appropriately contribute to the overall strategy; and
- incorporating monitoring and evaluation processes to assess the progress of the strategy and amend it accordingly.

All of these aspects should be applied to the development and implementation of national strategies and programs for DFE as well. The OECD and other relevant organizations should incorporate such recommendations in to their guidelines for national financial education policies, such as OECD (2012). Within the context of such national strategies, the G20 should also support the development of recommendations for regulating financial service providers such as fintech companies, including requiring them to fully disclose the product information and relevant risks to the general public in an appropriate way.

Contents



Financial Education



Financial Education in Digitalization



A Case: Simulation Based Education



질문) 귀하는 현재 스마트폰을 사용하십니까?

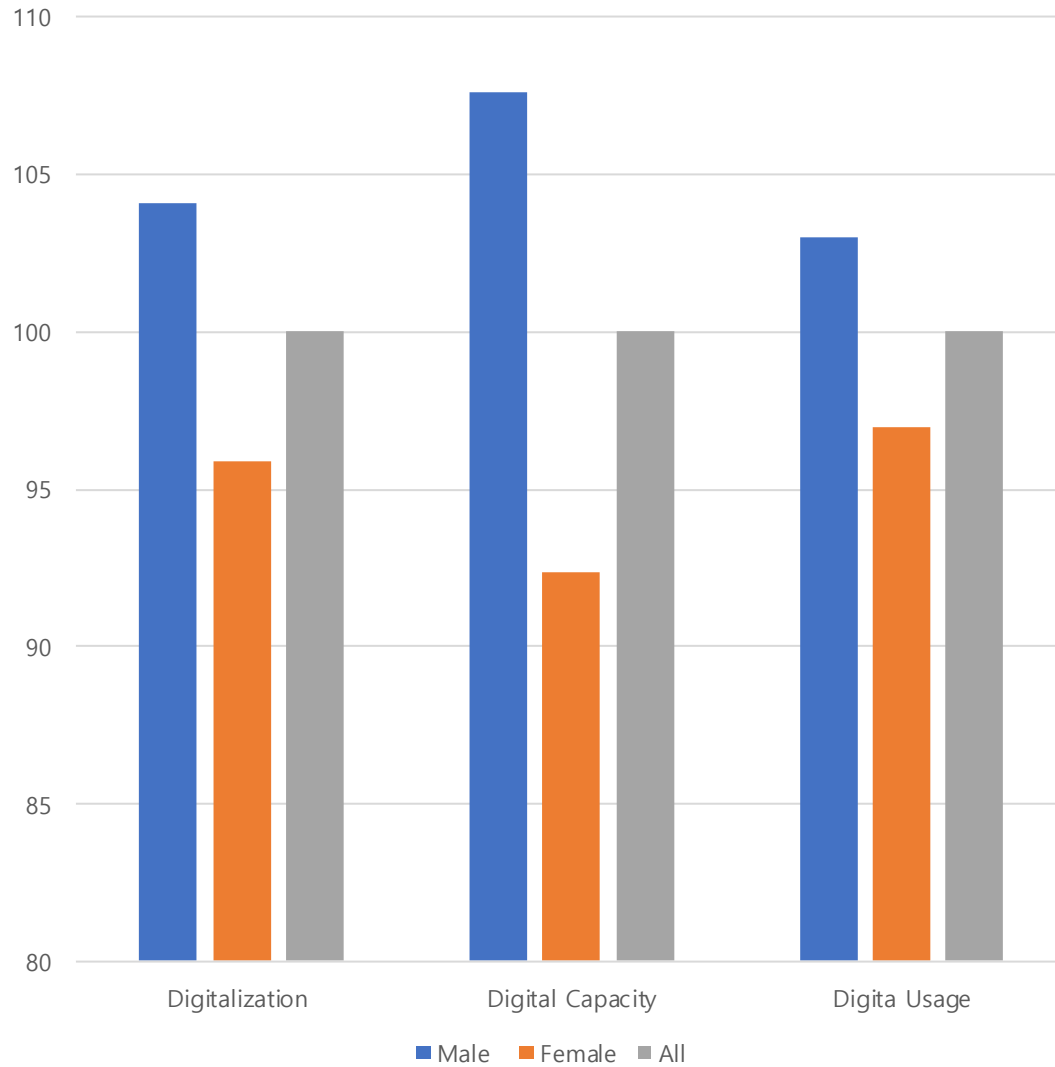
	2019년 7월 30일~8월 1일	사례수 (명)	스마트폰 사용 여부	
			사용한다	사용하지 않는다
전체		1,002	93%	7%
성별	남성	497	97%	3%
	여성	505	89%	11%
연령별	19-29세	174	100%	0%
	30대	167	99%	1%
	40대	198	99%	1%
	50대	201	99%	1%
	60대 이상	262	76%	24%
성/연령별	남성 19-29세	92	100%	0%
	남성 30대	85	99%	1%
	남성 40대	101	100%	0%
	남성 50대	101	99%	1%
	남성 60대 이상	118	90%	10%
	여성 19-29세	83	100%	0%
	여성 30대	81	100%	0%
	여성 40대	97	98%	2%
	여성 50대	100	99%	1%
	여성 60대 이상	144	65%	35%
지역별	서울	194	93%	7%
	인천/경기	305	95%	5%
	강원	30	-	-
	대전/세종/충청	106	96%	4%
	광주/전라	100	88%	12%
	대구/경북	100	88%	12%
	부산/울산/경남	155	94%	6%
	제주	13	-	-
직업별	농/임/어업	23	-	-
	자영업	116	100%	0%
	블루칼라	160	96%	4%
	화이트칼라	330	100%	0%
	가정주부	169	83%	17%
	학생	72	100%	0%
	무직/은퇴/기타	132	81%	19%
생활수준별	상/중상	157	99%	1%
	중	424	95%	5%
	중하	223	97%	3%
	하	146	79%	21%

*50사례 미만은 수치를 제시하지 않음

*한국갤럽 데일리 오피니언 www.gallup.co.kr

2019 Gallup Survey (July 30-August 1)

Digital Gender Divide in Korea



	Male	Female	All
Digitalization	104.1	95.9	100
Digital Capacity	107.6	92.4	100
Digital Usage	103	97	100

Korea Information Promotion Institute (2019), 2018 Digital Divide Survey

Recent Trend in Insurance Education

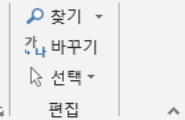
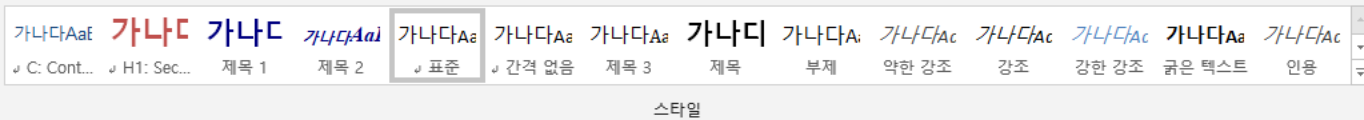
- Insurance & Financial Literacy education
- Japan (2019), JAIS' project on insurance curriculum
- Korea (2020), KIAS international symposium on insurance education including experiences of U.S.A., Switzerland, China and Vietnam experiences in insurance education with Simulation or Games

Using right brain mostly, male students like to play a visual and active game of competition while female do passive one.

Hye-Jung Jang et. Al (2011), Game Design based on Learner's Gender, Journal of Korea Contents Academic Society, Vol.11 No.3

Korea ranks number 1 or 2 in the world in terms of gender divide in mathematical/scientific ability among middle or high school students so that the problem, which is not so serious in Japan, Singapore, or Hong Kong, may undermine global competitiveness as well as gender equality.

The Woman Development Institute of Korea (2004),



iSim Insurance Simulation

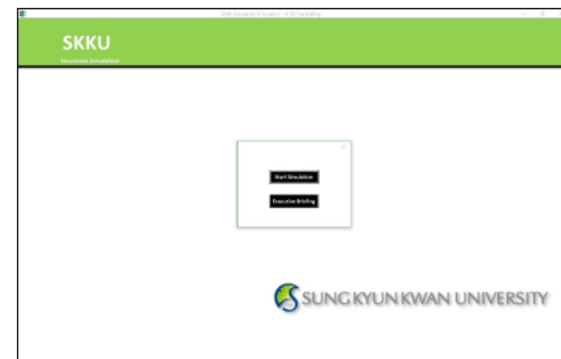
User Guide

OPENING THE APPLICATION

The start screen will allow each team to choose a name. It is possible for the team name to be pre-set by the facilitator in advance of the event and this might be worth considering when the event is time-constrained, as it saves a little time. On balance, it is probably better to allow teams to select their own names, as this does tend to encourage participants to take ownership of their company.



After selecting a name, the user can either start the simulation or read the Executive Overview. The latter will always be available within the model, if they want to revert to this at a later time.

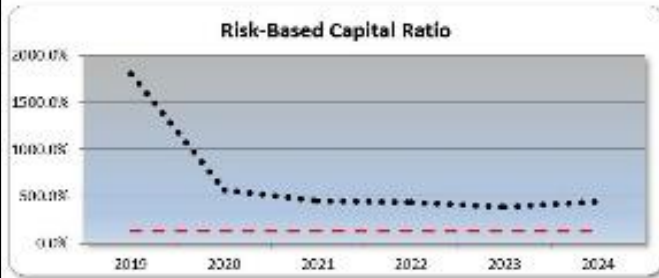


DASHBOARD

After opening the application, the user will be confronted with the main working screen

- Decisions
- Reports
- Key Information
- Tools
- Save
- Quit
- Dashboard
- Submit Plan

Regulatory Ratios



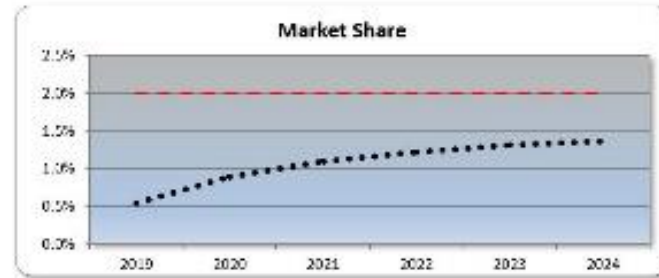
Risk-Based Capital Ratio



Team: Team 1 Default
 Year: 2019
 Corporate Status: Mutual

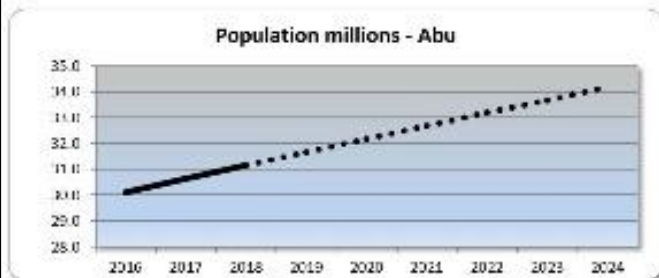
Key Objectives	Target	Actual	Variance
Market Share	2.0%	1.1%	-0.9%
Surplus Ratio	3.0	1.11	-1.89
Combined Ratio	100.0% (less than)	102.8%	2.8%
Customer Experience	80.0	72.8	-7.2

Key Management Ratios



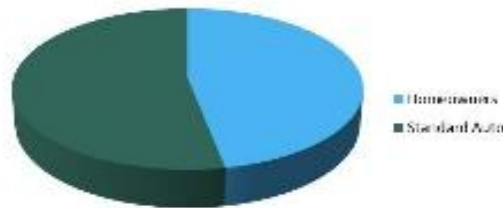
Market Share

Socio-economic Data



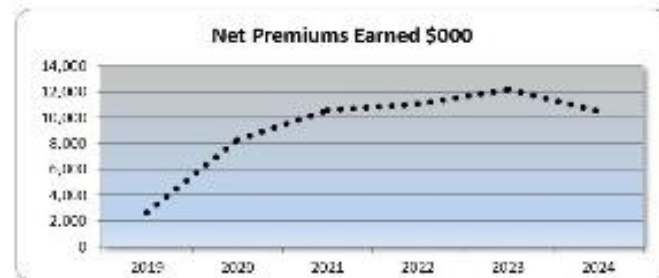
Population millions - Abu

Direct Premiums Written Analysis



Direct Premiums Written by Product

Income Statement Highlights



Net Premiums Earned \$000

Decisions

Reports

Key Information

Tools

Save

Quit

Dashboard

Submit Plan

Executive Report

2019

2020

2021

2022

2023

2024

Key Performance Indicators

Development Highlights

		% change		% change		% change		% change		% change		
Market Share	0.48%	n/a	0.79%	65.2%	0.98%	24.0%	1.09%	11.1%	1.17%	7.7%	1.21%	4.2%
Direct Premiums Written	29,039	n/a	49,281	69.7%	62,205	26.7%	69,997	12.5%	75,999	8.6%	80,082	5.4%
Operating Revenue	(6,816)		(3,863)		(569)		(1,149)		380		(2,310)	

Regulatory Ratios

Risk-Based Capital Ratio	1251.9%	n/a	467.5%	-62.7%	382.0%	-18.3%	367.1%	-3.9%	399.1%	8.7%	332.9%	-16.8%
Premium-to-Surplus Ratio	0.86	n/a	1.29	48.0%	1.31	1.7%	1.30	0.3%	1.09	-16.5%	1.41	29.8%
Change in Net Premiums Written	N/A	n/a	17.5%	n/a	-2.8%	-115.7%	-9.1%	-231.2%	-14.2%	-55.1%	6.0%	142.5%
Investment Yield	4.9%	n/a	4.0%	-18.7%	4.0%	0.0%	4.2%	4.0%	4.0%	0.0%	4.1%	0.2%
Two Year Overall Operating Ratio	N/A	n/a	195.7%	n/a	124.5%	-36.4%	106.2%	-14.7%	99.5%	-6.7%	105.3%	5.8%
Change in Surplus	N/A	n/a	-20.9%	n/a	-4.4%	-78.9%	-8.9%	-100.8%	2.8%	-111.1%	-18.3%	-765.0%

Key Management Ratios

Loss Ratio	64.8%	n/a	67.2%	3.7%	55.0%	-18.1%	61.7%	12.2%	51.4%	-16.7%	71.6%	39.5%
Loss Adjustment Expense Ratio	46.0%	n/a	25.2%	-45.2%	25.2%	0.1%	26.4%	4.5%	32.8%	24.5%	29.4%	-10.4%
Underwriting Expense Ratio	60.6%	n/a	34.7%	-42.8%	22.1%	-36.4%	20.5%	-6.0%	12.5%	-39.2%	22.1%	76.8%
Combined Ratio	171.4%	n/a	127.1%	25.0%	102.3%	19.3%	108.6%	6.2%	96.7%	-11.0%	123.1%	27.8%
Return on Surplus / Equity	-48.6%	n/a	-34.8%	28.4%	-5.4%	84.0%	-7.4%	37.3%	8.1%	210.1%	-23.2%	386.8%
Customer Experience Index	75.9	n/a	72.9	-4.0%	72.5	-0.5%	75.7	4.4%	76.6	1.2%	76.2	-0.7%

Income Statement Highlights

Student Reports on the insurance Simulation (iSIM) developed by Steve Crook

1. Participants

- May 2020 (4 weeks: before, 1/2/3 week after classes)
- Reported by 53 students of 2 classes (39/50, 14/25)
- 20 Males and 33 Females in total
- 1 point awarded as class participation

2. Major findings

- Highly satisfactory
- Huge gender difference (more influential on Females)

Questionnaire sample

Evaluation of Learning by Simulation

2020 Spring GRMI, SKKU (May)

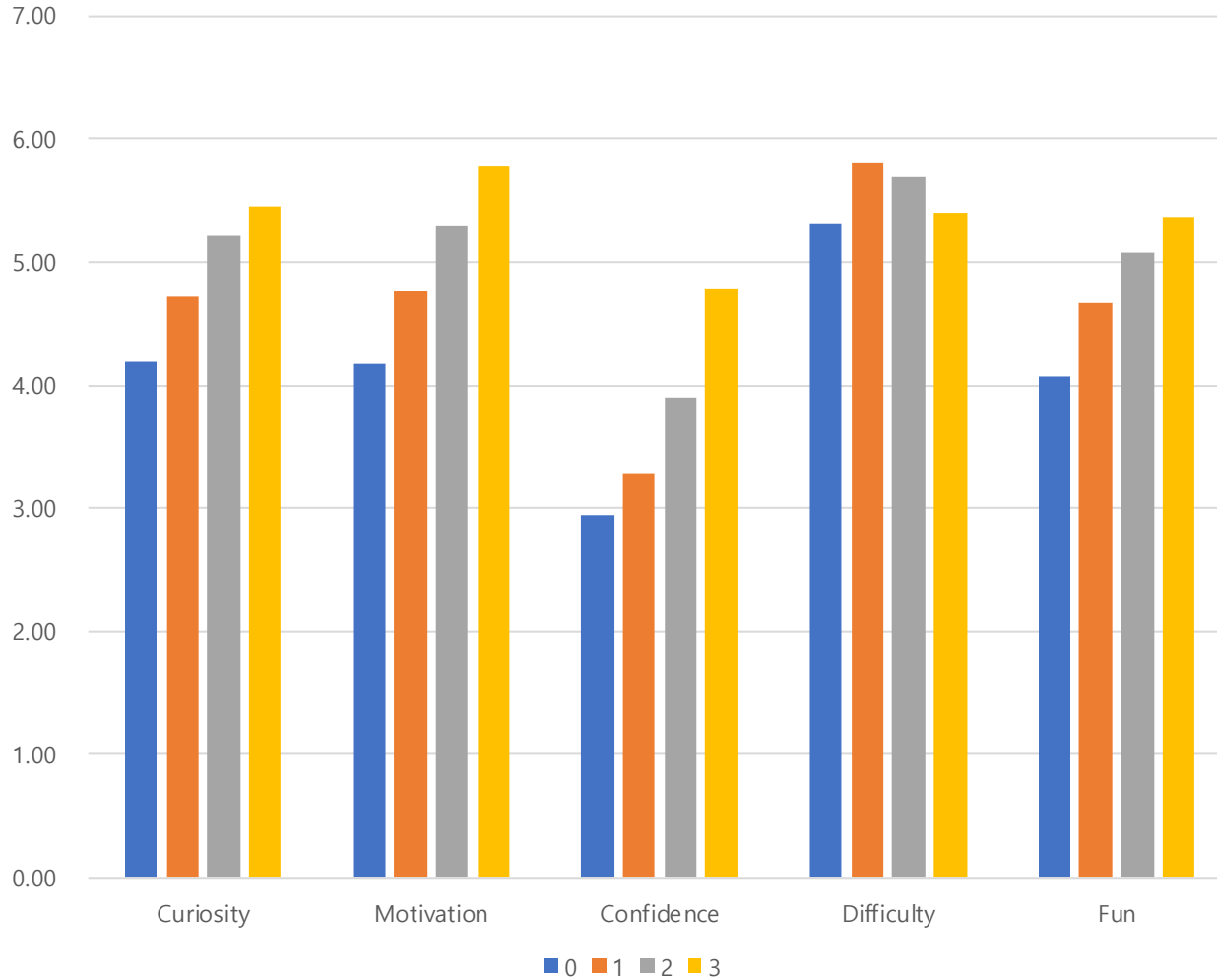
You name

- No judgement of your personal evaluation
- 1 point out of 100 points will be given as your class participation.

Questionnaire sample

		Evaluate yourself in 7 point scale (1 absolutely low, 2 very low, 3 low, 4 average, 5 high, 6 very high, 7 absolutely high) 7점 만점으로 스스로에 대해 평가하시요 (학점과 아무 관계 없습니다)				
1. Primary Questionnaires		0. 학습 시작전	제1주 수업 직후	제2주 수업직후	제3주 수업직후	
	사전 느낌 또는 실제 느낌	Subjective feeling	Expectation before the 1st week learning	Feeling after 1st week	Feeling after 2nd week	Feeling after 3rd week
	호기심 (흥미)	Curiosity about learning				
	동기부여 (학습 의지)	Motivation (Incentive of learning)				
	자신감	Confidence (self efficacy)				
	어려움	Challenge (difficulty)				
	학습 재미	Fun of learning				
	새로운 지식 형성	New knowledge				
	새로운 태도 형성	New Attitude				
	새로운 기술 (보험, IT)	New Skill (Behavior)				
	가치 평가	Value of learning				
2. Secondary Questionnaires (subjective notes)						
	가장 흥미로운 부분	What was the most interesting				
소감을 매주 수업후 간단히 평가						
	가장 힘든 부분	What was the most challenging?				

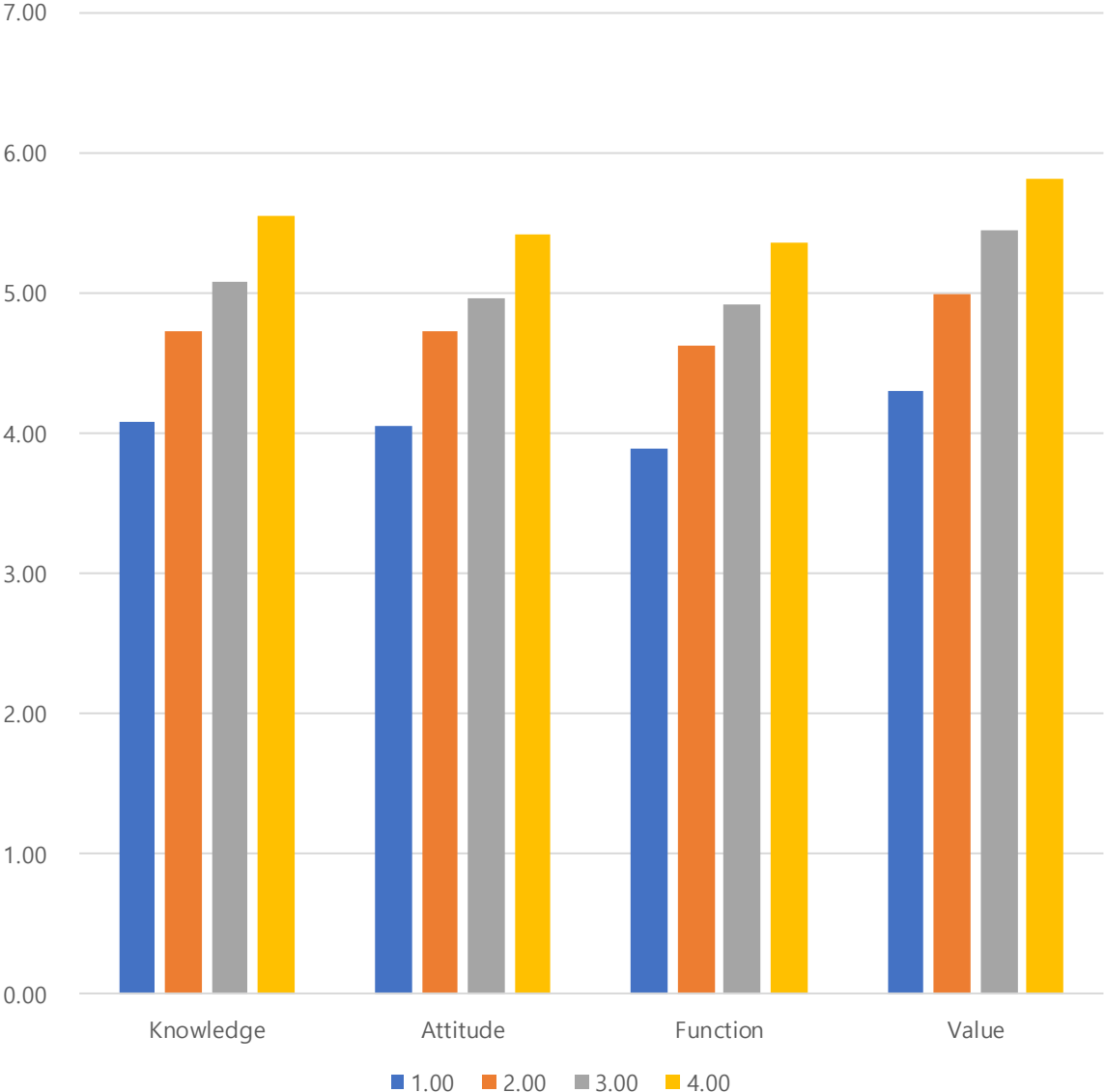
General opinion 1



* 7 point scale (from 1 min to 7 max)

	0	1	2	3
Curiosity	4.19	4.72	5.21	5.45
Motivation	4.17	4.77	5.30	5.77
Confidence	2.94	3.28	3.91	4.79
Difficulty	5.32	5.81	5.70	5.40
Fun	4.08	4.66	5.08	5.36

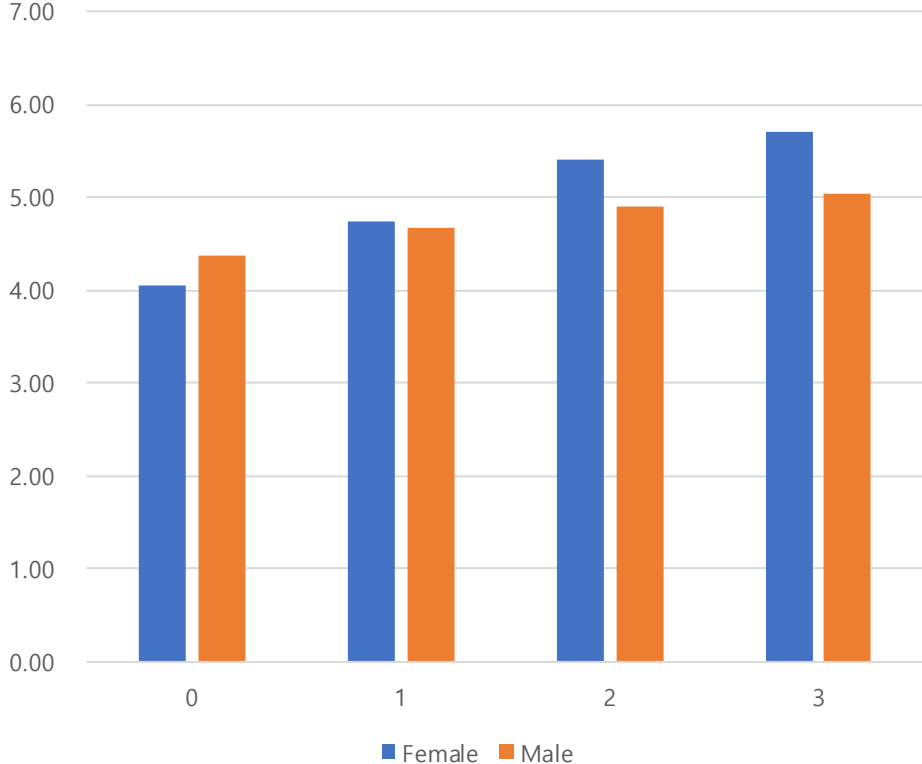
General Opinion 2



	1.00	2.00	3.00	4.00
Knowledge	4.08	4.74	5.08	5.55
Attitude	4.06	4.74	4.96	5.42
Function	3.88	4.62	4.92	5.36
Value	4.31	5.00	5.45	5.81

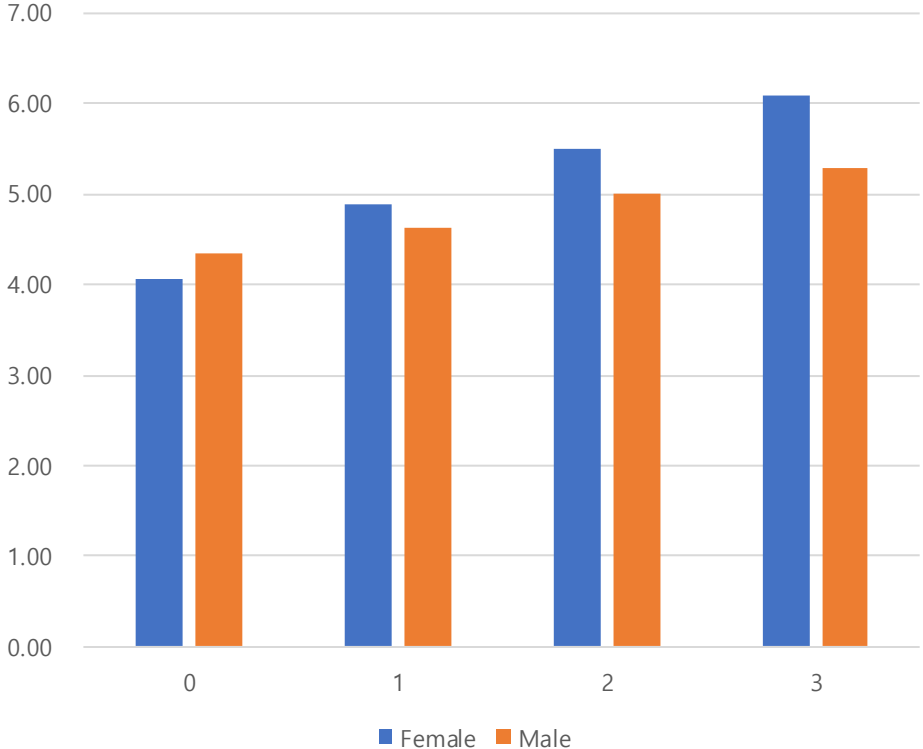
Gender Difference

Curiosity



	0	1	2	3
Female	4.06	4.75	5.41	5.72
Male	4.38	4.67	4.90	5.05

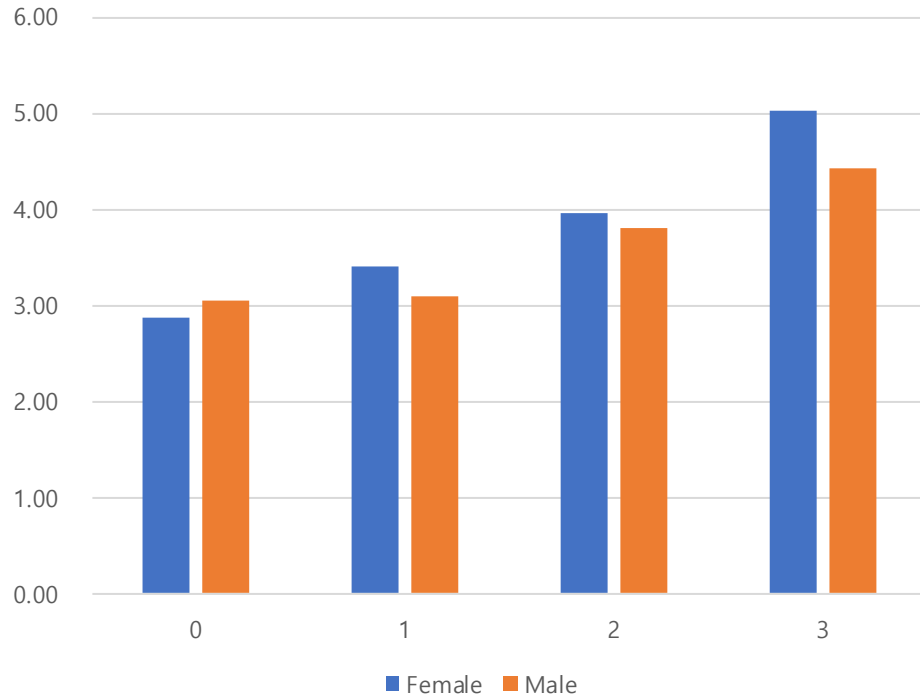
Motivation



	0	1	2	3
Female	4.06	4.88	5.50	6.09
Male	4.33	4.62	5.00	5.29

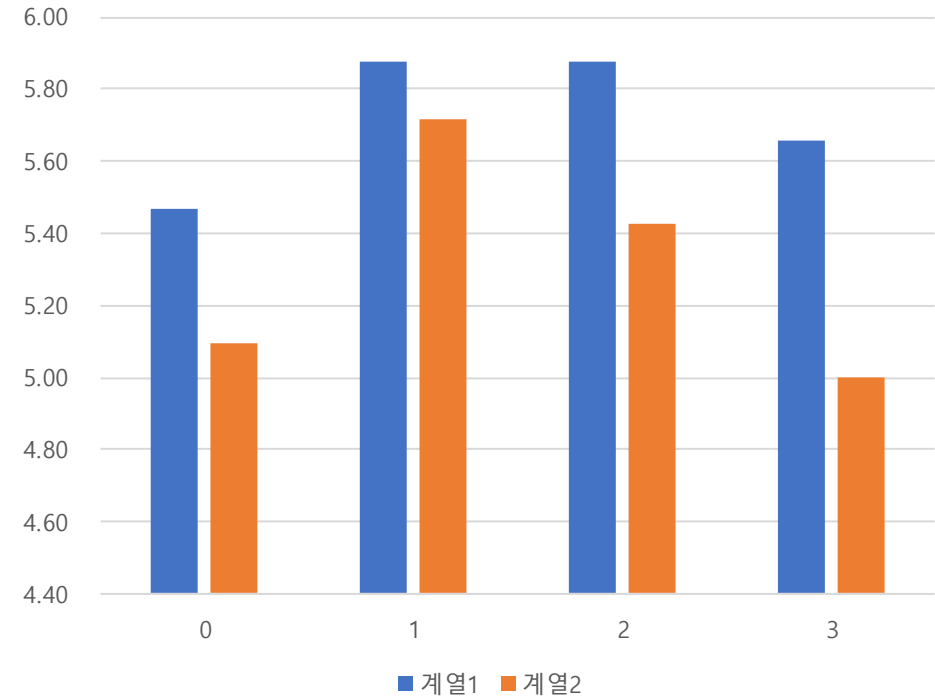
Gender Difference

Confidence



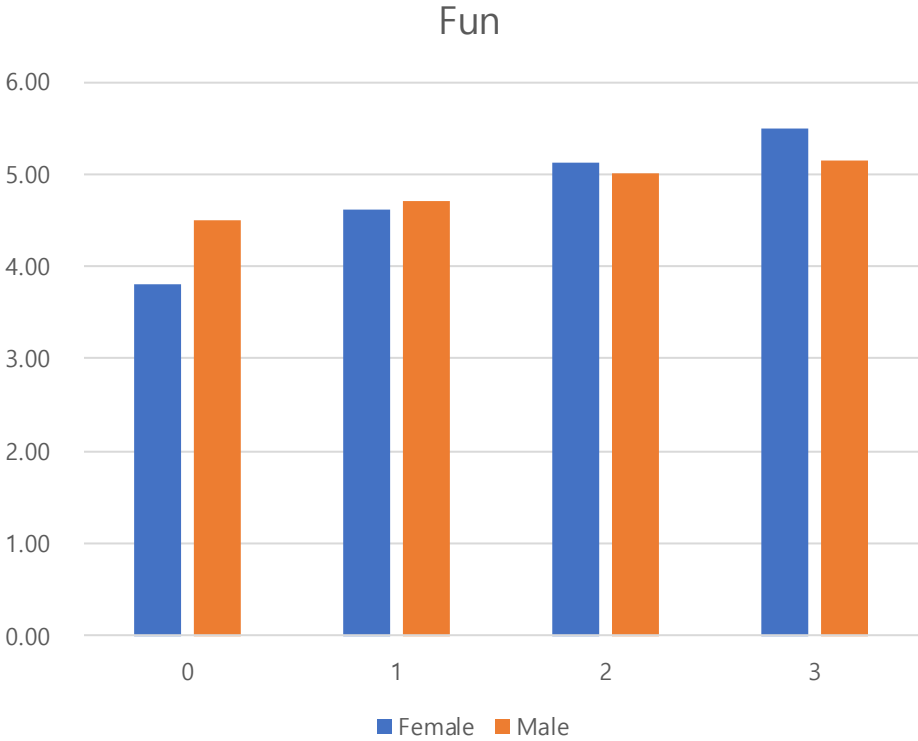
	0	1	2	3
Female	2.88	3.41	3.97	5.03
Male	3.05	3.10	3.81	4.43

Difficulty

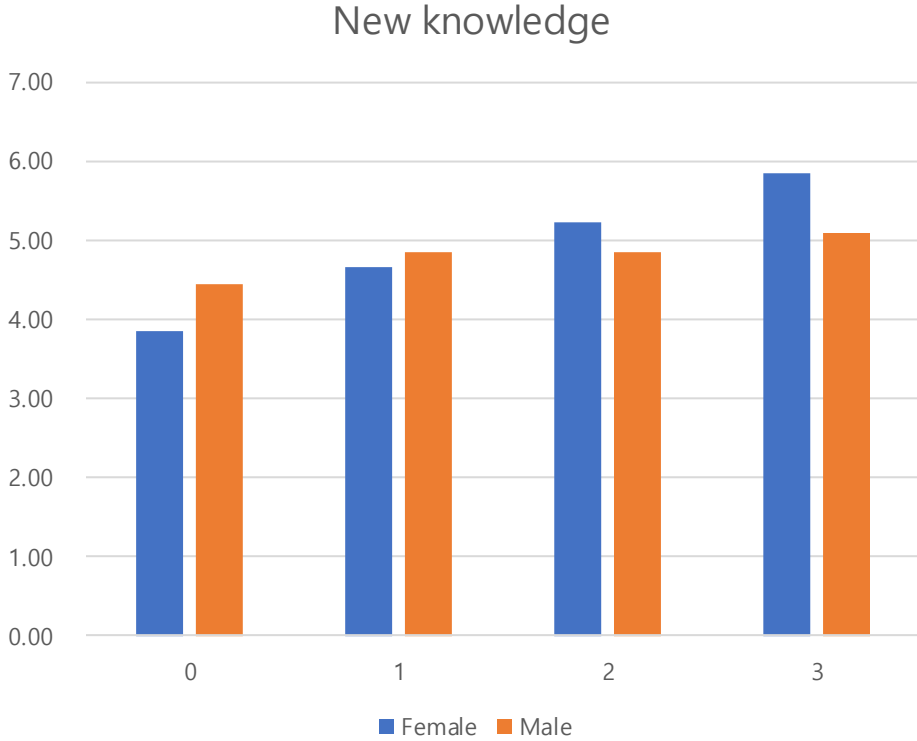


	0	1	2	3
Female	5.47	5.88	5.88	5.66
Male	5.10	5.71	5.43	5.00

Gender Difference



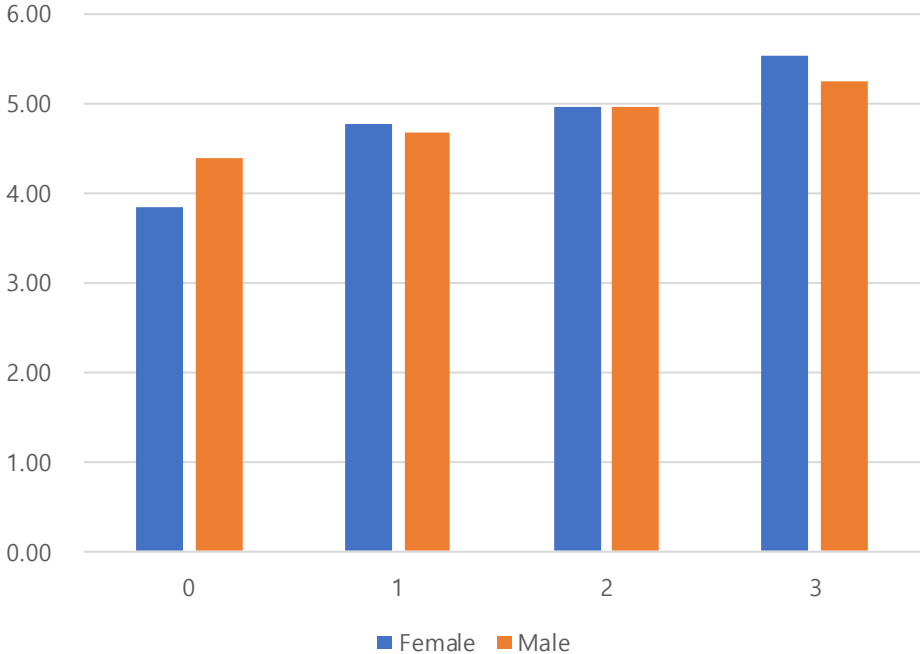
	0	1	2	3
Female	3.81	4.63	5.13	5.50
Male	4.50	4.71	5.00	5.14



	0	1	2	3
Female	3.84	4.66	5.22	5.84
Male	4.45	4.86	4.86	5.10

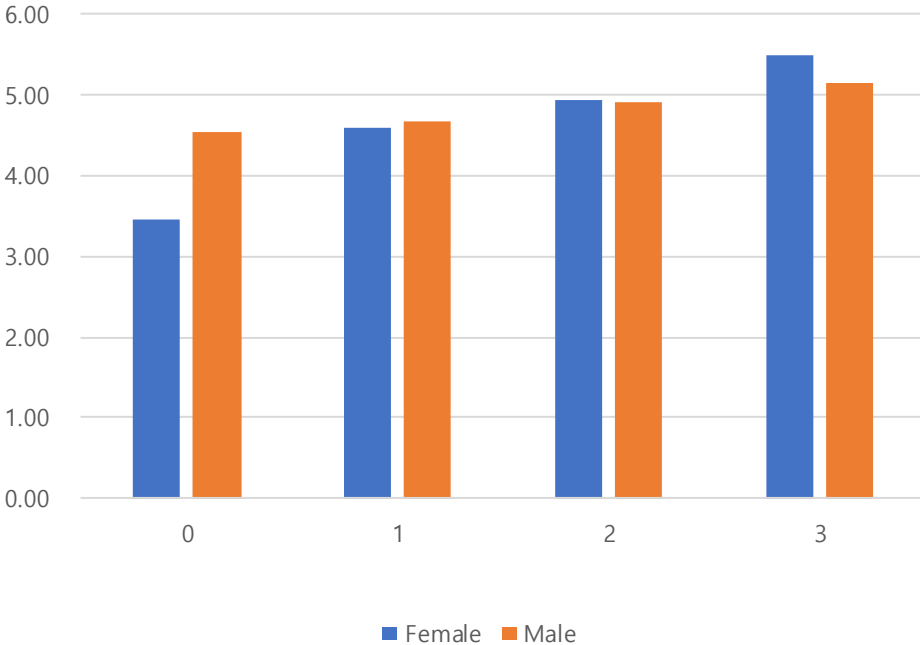
Gender Difference

New attitude



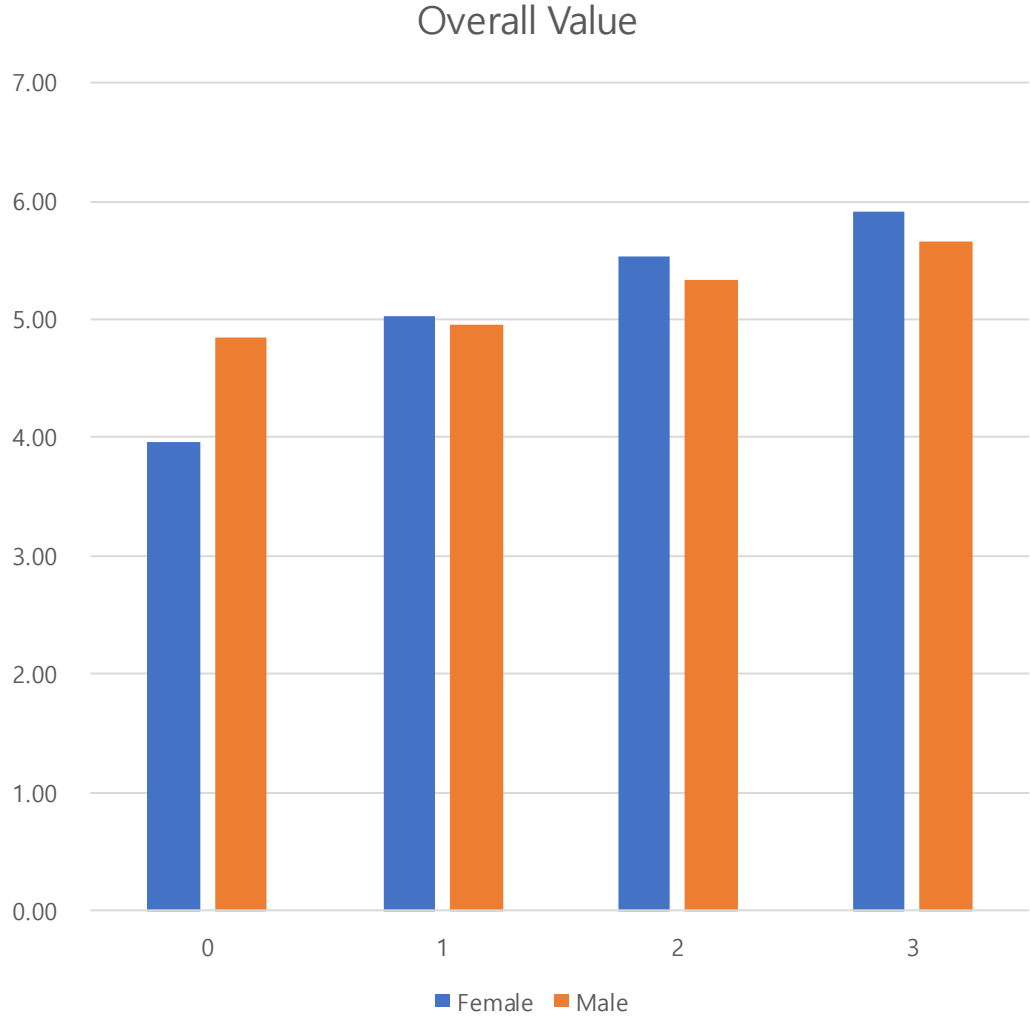
	0	1	2	3
Female	3.84	4.78	4.97	5.53
Male	4.40	4.67	4.95	5.24

New skills







	0	1	2	3
Female	3.47	4.59	4.94	5.50
Male	4.55	4.67	4.90	5.14

Gender Difference



	0	1	2	3
Female	3.97	5.03	5.53	5.91
Male	4.85	4.95	5.33	5.67

Contents

-  Financial Education.....●
-  Financial Education in Digitalization.....●
-  A Case: Simulation Based Education.....●
-  Summary.....●

Summary

- Financial education covers various topics of Finance including products, suppliers, consumers, markets, laws, regulation, etc.
- The topics can be changed by goals, players, environment of the education.
- Digital Financial literacy, combination of digital literacy and financial literacy, may be critical for aging (aged) population, which is observable across many countries.
- Financial Digitalization provided opportunities (new products and services) and threats (Digital Finance Risk) to consumers in general.
- Consumers should be educated for knowledge, attitude, and behavior to cover the new environmental challenges and also for how to control and manage the risk.
- Digital education using simulation method needs to be increased in university education, if possible, which may contribute to enhancement of gender equality in financial literacy.
- More research should be done with respect to Digital financial education in the future.