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Аннотация. Мақолада иқтисодиётда самарали кредитлаш механизмларини қўллашда аҳоли даромадлари тушунчаси ва уни ҳисобга олишнинг ўрни ва аҳамияти ҳамда ушбу тушунчанинг назарий асослари ёритиб берилган. Шунингдек, аҳоли даромадлари барқарорлигига тижорат банкларининг кредит портфели, истеъмол нархлари индекси, доимий аҳоли сони, кам таъминланган аҳоли улуши каби кўрсаткичлар ҳамда аҳоли даромадларини табақалашув даражасини пасайтириш бўйича чораларнинг таъсири ҳамда ўзаро боғлиқлиги таҳлил қилинган. Ва тегишли хулосалар келтирилган.

Таянч сўзлар: кредит портфели, аҳоли даромадлари, нарх индекси, аҳоли даромадларини табақалашуви, камбағаллик чегараси ва кам таъминланган аҳоли.

Аннотация. В статье раскрыто понятие доходов населения и роль и значение его учета в применении эффективных механизмов кредитования в экономике, а также теоретические основы этого понятия. Также проанализировано влияние и взаимосвязь таких показателей, как кредитный портфель коммерческих банков, индекс потребительских цен, постоянное население, доля бедного населения и меры по снижению уровня доходного расслоения на стабильность доходов населения. И представлены соответствующие выводы.

Ключевые слова: кредитный портфель, доходы населения, индекс цен, уровень стратификации населения по доходам, черта бедности и малообеспеченное население.

Abstract: The article reveals the concept of incomes of the population and the role and significance of its accounting in the application of effective lending mechanisms in the economy, as well as the theoretical foundations of this concept. The influence and relationship of such indicators as the loan portfolio of commercial banks, the consumer price index, the resident population, the share of the poor population and measures to reduce the level of income stratification on the stability of incomes of the population are also analyzed. And the corresponding conclusions are presented.

Key words: loan portfolio, population income, price index, level of population stratification by income, poverty line and low-income population.

Кириш

Бизга маълумки, банк ресурсларидан фойдаланишда иқтисодиётда аҳоли даромадларини барқарорлигини таъминлаган ҳолда кредитлашни амалга ошириш муҳим масала ҳисобланади. Бу борада, тижорат банклари томонидан амалга оширилаётган кредитлаш механизмининг таркибий элементларидан бири бўлган миқдорларнинг тўловга лаёқатлилигини баҳолаш ва бу жараёнда унинг даромадлари ҳамда уларнинг кўламини иноватга олиш орқали кредитлаш бўйича қарор қабул қилиш амалиёти мавжуддир. Аммо, бугунги кунда банклар томонидан ажратилаётган кредитлар портфелида муаммоли кредитларнинг улуши юқори даражада сақланиб қолаётгани (1-жадвал) бевосита бу борада назарий-услубий тадқиқотларни талаб қилади.

**Тижорат банкларининг кредит портфели ва уларда муаммоли кредитлар (NPL)
улуши тўғрисида маълумот¹**

млрд. сўм

Кўрсаткичлар		2021 йил 1 январь	2022 йил 1 январь	2023 йил 1 январь	2023 йил 1 июль	2023 йил 1 ноябрь
Жами:	кредит портфели	276 975	326 386	390 049	423 773	460 491
		100 %	100 %	100 %	100 %	100 %
	NPL	5 785	16 974	13 992	14 303	16 777
		2,1 %	5,2 %	3,6 %	3,4 %	3,6 %
Давлат улуши мавжуд банклар	кредит портфели	244 484	280 074	324 681	307 887	329 529
		88,3 %	85,8 %	83,2 %	72,7 %	71,6 %
	NPL	5 168	15 069	12 643	11 855	13 069
		89,3 %	88,8 %	90,4 %	82,9 %	77,9 %
Бошқа банклар	кредит портфели	32491	46 312	65 368	115 886	130 962
		11,7 %	14,2 %	16,8 %	27,4 %	28,4 %
	NPL	617	1 905	1 349	2 448	3 708
		10,7 %	11,2 %	9,6 %	17,1 %	22,1 %

Шу мақсадда тадқиқотимиз давомида “аҳоли даромадлари” тушунчаси ва уларнинг ҳажми ва сифатига таъсир этувчи омилларнинг назарий ва услубий жиҳатларни ўрганган ҳолда таҳлил қилишга ҳаракат қиламиз.

Мавзуга оид адабиётлар таҳлили

Навбатда, аҳоли даромадлари тушунчасига доир турли ёндашувларни кўриб чиқамиз. Шунинг алоҳида таъкидлаш мумкинки, даромадлар тенгсизлиги муаммоси узоқ вақтдан буён мавжуд бўлишига қарамай, 1870 йилга келибгина бу муаммони ўрганишда даромад тушунчасининг ўзидан фойдалана бошланган. Й. Шумпетер таъкидлаганидек, илгари асосан “бойлик” каби иқтисодий категориядан фойдаланилган (Шумпетер Й., 2001).

Аҳоли даромадлари моҳияти, уларнинг шаклланиши ва тартибга солиниш масалаларини турли мактаб ва йўналишдаги иқтисодчилар тадқиқотларида кўриб чиққан. Мисол учун, меркантилистлардан Ж.Б.Кольбер, Т.Ман, А.Монкретьен, Дж.Стюарт ва бошқалар: аҳоли даромадларининг шаклланиши фақат муомала соҳаси билан боғлиқ деган хулоса берганлар. Физиократлар А.Тюрго, Ф.Кенэлар аҳолининг бойлик ва даромадларини кўпайтириш асосини маҳсулот ҳажми ортишига йўналтирилган қишлоқ хўжалиги фаолиятига деб билган. Классик мактаб вакиллари А.Смит ва Д.Рикардолар эса, даромад шаклланиши ва уни тартибга солиш масалаларини бозор механизмларидан фойдаланган ҳолда ҳал қилиш имконини тадқиқ қилган. К.Маркс меҳнатнинг қиймат назариясини асослаган ҳолда даромад назариясига ўз ҳиссасини қўшган. В.Парето, М.Фридман, Ф.Хайек ва бошқалар аҳоли даромадларини тақсимлашда давлатнинг аралашмаслиги назариясини ишлаб чиққан.

Классик иқтисодчилардан У.Петти 1676 йилда ёзган “Сиёсий арифметика” китобида аҳолининг жон бошига даромади ва озиқ-овқат харажатлари ҳақида маълумотлар келтирган (Петти У., 1676). Иқтисодчи аҳолининг даромадига ишлаб чиқариш нуқтаи назаридан қараган. Унинг “меҳнат – барча бойликнинг отаси, ер – унинг онаси” деган ибораси машҳурдир. Бу билан, иқтисодчи асосий ишлаб чиқариш омилларига эътибор қаратган ҳолда, аҳоли тирикчилиги учун иш ҳақи масаласига урғу берган.

¹ Ўзбекистон Республикаси Марказий банки сайти маълумотлари асосида муаллиф томонидан тайёрланди.

А.Смит аҳоли даромадларини ўсишини мамлакатда ишлаб чиқарилган маҳсулотнинг ҳажмининг ўсиши билан боғлиқ деб ҳисоблайди (Смит А., 1802). Унинг фикрича, бозор механизмнинг амал қилиш табиати шундайки, бозор муносабатларидаги ҳар бир иштирокчи ўз манфаати(фойдаси)га интилиб иқтисодий қизиқишларини мустақил равишда амалга оширади. Натижада, шахс индивидуал мақсадларни амалга ошириш орқали маҳсулотнинг ижтимоийлашувига ва жамият даромадининг ўсишига ҳисса қўшади. А.Смит бозорнинг иқтисодий механизмида рақобатнинг ички манбаи сифатида шахсий манфаати ва аҳамиятини кўрсатиб берган. Демак, одамлар фаолиятининг асосий иқтисодий мотиви – бу инсонларнинг ўз бойлигини оширишдан шахсий манфаати деган хулоса келиб чиқади. Айнан шу мотив инсонларни ҳаракатга келтиради ва уларни бир-бирлари билан муносабатга киришишига мажбур этади. Олимнинг фикрича, юқори маош билан ҳар доим паст маошга қараганда фаолроқ, ақлли ва меҳнатсевар ишчиларни топиш мумкин.

Шундай қилиб, А.Смит даромад олишнинг асосий манбаларини, шаклланиш тартиби ва тақсимланиш шакллари хамда уларнинг ҳажмини аниқлади. Даромадларни тартибга солиш усуллари келсак, у буни бозор механизмнинг ўзи амалга оширади деб ҳисоблади. Шунинг билан бирга, давлат фаолиятининг учта функция билан, яъни, давлат ҳокимиятининг самарали тузилмасини тузиш ва сақлаш, мамлакатни муҳофаа қилиш хамда одил судлов бўлишлиги таъминлаш билан чекланишига эътибор қаратди.

Даромадларни шаклланиши ва тақсимлаш қонуниятларини асословчилардан яна бири Давид Рикардодир. У иқтисод фанининг асосий муаммосини даромадларни тақсимлашни тартибга солувчи қонуниятни топишда деб билди (Рикардо, Д., 1822). Унинг таҳлиллари даромадлар тақсимланиш муаммосига қаратилган эди. Яъни жамиятдаги турли гуруҳларнинг умумий (ижтимоий) маҳсулотдаги улушлар нисбатини тушунтиришга йўналтирилган. У фойда, рента ва иш ҳақи шаклида ҳар бир аҳоли синфига борадиган маҳсулотнинг улушини ижтимоий тараққиётнинг турли босқичларида турлича эканлигини асослаб берган. Шу аснода, иқтисодчи тадқиқотларида даромадларнинг нотекис тақсими ва ижтимоий тенгсизлик муаммоси асосий масала ҳисобланган.

Умуман олганда, классик мактаб вакиллари аҳоли даромадлари табақалашуви ва ундаги муаммоларни таҳлил қилган ҳолда иқтисодиётдаги мувозанат ва динамика ҳолатини бозор механизмлари билан асослашга интилган. Қолаверса, уларнинг фикрига кўра, даромад тақсими тартибга солинмайди ва давлатнинг ҳар қандай аралашуви самарасиздир. Шунингдек, улар томонидан тан олиндики, даромад бир томондан иқтисодий фаолиятнинг натижа кўрсаткичи бўлса, иккинчи томондан шахснинг ишлаб чиқариш ва такрор ишлаб чиқаришдаги роли ҳисобланади.

К.Маркс даромадларни тартибга солиш зарурлиги ҳақидаги фикрларни шаклланишига катта ҳисса қўшган. Унинг учун бошланғич нуқта – ишлаб чиқаришдир (Маркс К., 1957, 1983). Даромаддан фойдаланган ҳолда истеъмолчи ишлаб чиқариш жараёнининг доимий такрорланишини рағбатлантиради. Чунки ишлаб чиқарилган маҳсулотни даромад ҳисобига истеъмол қилинадиган маҳсулотларга айланиши уларни узлуксиз ишлаб чиқариш имконияти ва заруриятини беради. Бундан ташқари, даромад асосидаги истеъмол нафақат ишлаб чиқаришнинг такрорланишини рағбатлантиради, балки унинг кенгайиши ва такомиллашишига туртки бўлиб хизмат қилиш билан бирга, янги товарлар ва хизматлар хамда тармоқларнинг пайдо бўлишини рағбатлантиради. Ижтимоий нуқтаи назардан, даромад аҳолининг меҳнат кучини такрор ишлаб чиқариш мақсадида товарлардан фойдаланишга оид муносабатларини ифодалайди. Бу эса, шахсий ишлаб чиқариш омили ҳисобланади.

Маржиналистлар жамият даромадларини барча шахслар учун фойдалиликнинг массаси сифатида кўришган. Шунинг учун даромадларни тақсимлаш миқдорий ифодаланиши ва фаравонлиكنинг максимал ҳажмига тенг бўлиши шарт деб ҳисоблаган. Маржинал фойдалилик назарияси даромадларни аҳолининг юқори даромадли қатламларидан кам таъминланган қатламларга қайта тақсимлаш зарурати асосида ётади. Бу йўналишда рақобатбардош бозор мувозанати шароитида даромадни кўриб чиққан В.Парето ғояси муҳим аҳамиятга эга. Унинг ижтимоий фойдалилик ҳақидаги тушунчаси “Парето оптимали” деб номланган (Парето В., 1906, 2011). Парето самарадорлиги ресурсларни исроф қилиш ёмон, аммо самарали фойдаланиш яхши эканлигини англатади. Шу билан бирга, баъзиларнинг фаровонлигини бошқалар ҳисобидан яхшилаш билан бирга келадиган бундай харажатларни йўқ қилиш кераклиги тушунтирилган.

Аҳоли даромадларини тартибга солишнинг яна бир ёндашуви даромад ва талаб ўртасидаги боғлиқликни ўрганган Ж.М.Кейнс томонидан таклиф қилинган. Унинг фикрича

(Кейнс Д. М., 1936, 2018), ялпи талаб истеъмол ва инвестиция талабининг умумий пулдаги ифодасидир. Бу ерда, истеъмол талаби аҳолининг пул даромадлари миқдори ва қандай сарфланишига боғлиқлигига урғу берилган. Даромад ошгани сайин талаб ҳам ошади, истеъмол харажатлари ошади, лекин бу харажатлар даромад ошганидек ошмайди. Даромадларни дифференция қилиш (фарқлаш) муаммосини тадқиқ қилишда реал даромадлар ва реал харажатлар ўртасидаги боғлиқликни кўрсатадиган Кейнснинг макроқитисодий истеъмол функцияси муҳим роль ўйнайди.

Ж.М.Кейнс иқтисодиётдаги инқироз ҳодисаларнинг асосий сабабини самарали талабнинг йўқлигида кўрди, шунинг учун давлатнинг саъй-ҳаракатлари “самарали талаб” ни мавжудлигини таъминлашга ҳам қаратилган бўлиши зарур. Бундан ташқари, олимнинг фикрича давлатнинг “тунги кўриқчи” сифатидаги анъанавий функцияларини кенгайтириш керак, сабаби “иқтисодий кучларнинг эркин ўйинини чеклаш ва назорат қилиш зарур” ҳолда иқтисодий сиёсат талаб ва истеъмолни рағбатлантиришни ўз ичига олиши керак. Чунки жамият бойлигининг ўсиши маҳсулотларни сотиш орқали таъминланади. Демак, давлат истеъмолга мойиликка ҳам таъсир кўрсатиши лозим.

Монетаризмчилар аҳоли даромадлари давлат томонидан тартибга солинишини қўллаб-қувватламайдилар. Монетаризм асосчиларидан Милтон Фридман иқтисодиётда давлатнинг ролини соғлом рақобатни тартиб-қоидаларини ўрнатиш ва хусусий мулкчиликка устуворликни беришда деб билган (Фридман М., 1998, 2006). Унинг фикрича, давлатнинг асосий функцияси пулга бўлган барқарор талабни шакллантириш ва таъминлашдир. Барқарор ва адолатли тартиб-қоидалар асосида пул массасининг ортиши мамлакатда иқтисодий ўсишни рағбатлантирувчи омилга айланиши мумкин. Монетаризм назарияси вакилларига кўра, мамлакатдаги пул-кредит сиёсати иқтисодиётда аҳоли турмуш фаровонлигини ошириш ва даромадлари ўсишини белгилайди. Сабаби аҳоли даромадлари ошигани сайин пул ва қийматли активларга талаб ўзгаради. Шу сабабли, аҳоли даромадларига давлат томонидан пул муомаласини тартибга солиш билан таъсир кўрсатилади. Бунинг эвазига жорий даромадлар камайган вазиятда даврларда ҳам турмуш даражасини имкон қадар барқарор сақлаш мумкин бўлади.

Аҳоли даромадлари барқарорлигини таъмилашдаги муаммолар ҳал қилишда институционализм йўналиши иқтисодчи олимлари ҳам ўз ҳиссаларини қўшган бўлиб, улар талқинида аҳоли даромадларига маънавий, ҳуқуқий, ижтимоий, психологик ва тарихий омиллар ҳам моддий омиллар каби ҳаракатлантирувчи куч сифатида таъсир қилади. Яъни, уларнинг эътибор марказида аҳоли иқтисодий ҳаётининг барча шарт-шароитлари ҳамда таъсир этувчи омиллар ҳолатига асосан уларнинг ижтимоий ва иқтисодий ривожланиш тенденциялари, шу жумладан даромадлари барқарорлиги кузатилиши мумкиндир. Уларга кўра, аҳоли даромадларини давлат томонидан тартибга солиниш механизми самараси бозор механизмидан кам ҳисобланмайди.

Нидерландиялик иқтисодчи олим Я.Тинберген иқтисодиётда даромадларни тақсимлаш борасидаги таҳлилда тенгсизлик муаммосини ҳал этиш энг муҳим масала деб ҳисоблайди (Tinbergen J., 1975). У ўз тадқиқотларида адолатли ва оптимал тақсимлаш тушунчаларини ажратишга интиланган. Унинг фикрича, адолатли тақсимотга эришиш учун маълум ижтимоий чоралар зарурдир. Шу боисдан, Ян аҳоли даромадларини ўсишини таъминлашнинг асосий омили деб, таълимни ҳисоблаган.

Тадқиқот методологияси

Тадқиқотнинг асосий мақсади кредитлаш жараёнида аҳоли даромадларининг назарий асосларига доир иқтисодчи олимларнинг фикр ва қарашларини ўрганиш орқали тадқиқотнинг кейинги босқичларида самарали кредитлаш механизмлари орқали аҳоли даромадлари барқарорлигини таъминлашга доир илмий-амалий таклиф ва тавсиялар ишлаб чиқиш учун илмий хулосалар шакллантиришдан иборат. Ушбу мақоланинг назарий ва услубий асоси сифатида умумиқтисодий адабиёт ҳамда илмий мақолалар, иқтисодчи олимларнинг аҳоли даромадларининг шаклланиши ва қайта тақсимланиши, шунингдек табақалашув даражасининг назарий ҳамда амалий моҳияти ҳақидаги ёзма ва оғзаки фикр-мулоҳазаларини таҳлил қилиш, эксперт баҳолаш, жараёнларни кузатиш, иқтисодий ҳодиса ва жараёнларга тизимли ёндашув, муаллиф тажрибалари билан қиёсий таҳлил ўтказиш орқали тегишли йўналишларда хулоса, таклиф ва тавсиялар берилган. Мавзунинг ўрганиш жараёнида умумиқтисодий усуллар билан бир қаторда назарий маълумотларни тизимлаш бўйича махсус ёндашувлар, яъни таққослаш, назарий ва амалий материалларни жамлаш ҳамда тизимли таҳлил каби усуллар қўлланилган.

Таҳлил ва натижалар

Аҳоли даромадларини англаш, уларни тақсимланиши бўйича турли хил илмий ёндашувларга доир таҳлилни юқорида кўриб чиқдик, бу аҳоли даромадлари ва уларни тартибга солишнинг концепциясига доир асосларни шакллантиришга имкон беради.

Яъни, бизнинг фикримизча аҳоли даромадларининг барқарорлик даражаси ва уларнинг табақаланишининг иқтисодий жиҳатдан самарали ва ижтимоий жиҳатдан мақбул ҳолати ҳар бир миллий ёки ҳудудий иқтисод учун мавжуд бўлиб, бу мақбул ҳолат ҳар бир иқтисодиёт учун турлича ҳисобланади. Чунки турли иқтисодиётларда мавжуд табиий, ижтимоий, иқтисодий ва сиёсий муҳит турличадир. Бундан ташқари бозор механизмларининг ишлаши ва иқтисодиётга давлат аралашуви даражаси ҳам ҳар бир иқтисодиётда ўзига хосдир, бу эса ўз-ўзидан мавжуд жамиятлардаги аҳоли даромадлари ва уларни табақалашуви ҳолатига таъсир кўрсатади.

Бу эса, услубий асос сифатида аҳоли даромадаларига тизимли ёндашиш шарт бўлиб, бу нафақат ижтимоий, иқтисодий, сиёсий, табиий ва институционал хусусиятдаги масалаларни ўрганишни балки, жамиятда аҳолининг турли гуруҳлари ўртасидаги даромадларнинг миқдорий ва сифат жиҳатидан боғлиқлиги ҳамда улардаги истеъмол харажатларининг улушини янада кенгроқ таҳлил асосида тадқиқ қилишни талаб этади.

Шундай қилиб, аҳоли даромадлари тушунчасининг асосий жиҳатлари қуйидагилар билан ўзаро боғлиқ:

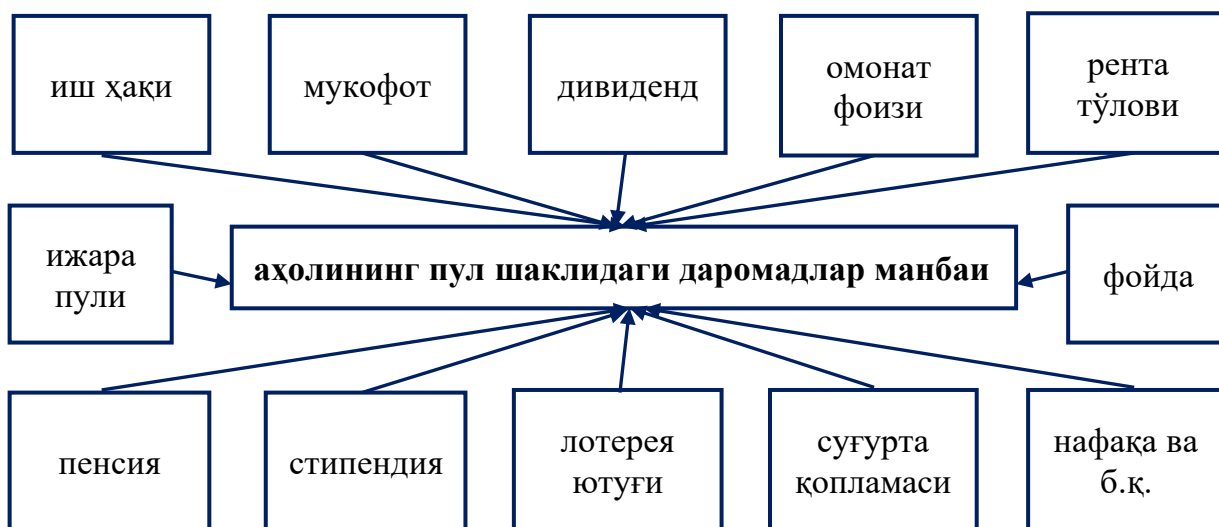
- концепцияга доир фундаментал биринчи ҳолат: жамиятда аҳоли даромадалари ўсиши жарёнидаги вужудга келадиган табақалашув икки томонлама роль ўйнайди. Бир томондан, аҳоли ўртасида даромадларнинг фарқланиши улар ўртасида маълум бир шароитда рақобат муҳитини шакллантирган ҳолда ўз-ўзини ривожлантиришнинг ички импульси бўлса, шунга мос равишда умумий миллий иқтисодиёт учун ҳаракатлантирувчи куч бўлади. Иккинчи томондан, аҳоли даромадларининг табақалашув даражасининг ортиб бориши, ушбу жамиятда ижтимоий зидиятлар шаклланишига ёки мавжудларининг кучайишига олиб келади. Бу ҳолатда аҳоли даромадалари табақалашуви даражасини пасайтириш мақсадидаги давлатнинг ижтимоий сиёсат воситасида (пул ёки натура шаклида) аралашувини кузатиш мумкин. Аммо бу аралашув воситасининг иқтисодиётдаги салбий таъсири сифатида инфляциянинг ортиши ҳолати келиб чиқиши мумкин.

- концепцияга доир фундаментал иккинчи ҳолат: биринчи ҳолатдан келиб чиққан ҳолда, аҳоли даромадалари табақалашувини миллий иқтисодиёт учун мос оптимал даражада таъминлаш учун аҳоли даромадларини доимий равишда тартибга солиш керак бўлади, бунда тартибга солиш амалга ошириш механизмларининг биринчи ҳолатдагидан фарқли жиҳати аҳоли даромадлари табақалашувини ошиб кетган қисмини пасайтиришга эмас, табақалашувни ўсишини олдини олишга қаратилади.

Шундан келиб чиқиб, бизнингча, жамиятда кенг масштабда аҳоли даромадаларини барқарорлигини таъминлашда улар даромадларининг табақалашув даражасининг бирор аниқ белгиланган меъёр ёки максимал кўрсаткичдан ошмасликка эришиш орқали эмас, балким "Парето оптимали" (Парето самарадорлиги)га асосланган йўналишда аҳоли даромадларини тартибга солиш мақсадга мувофиқ деб ҳисоблаймиз.

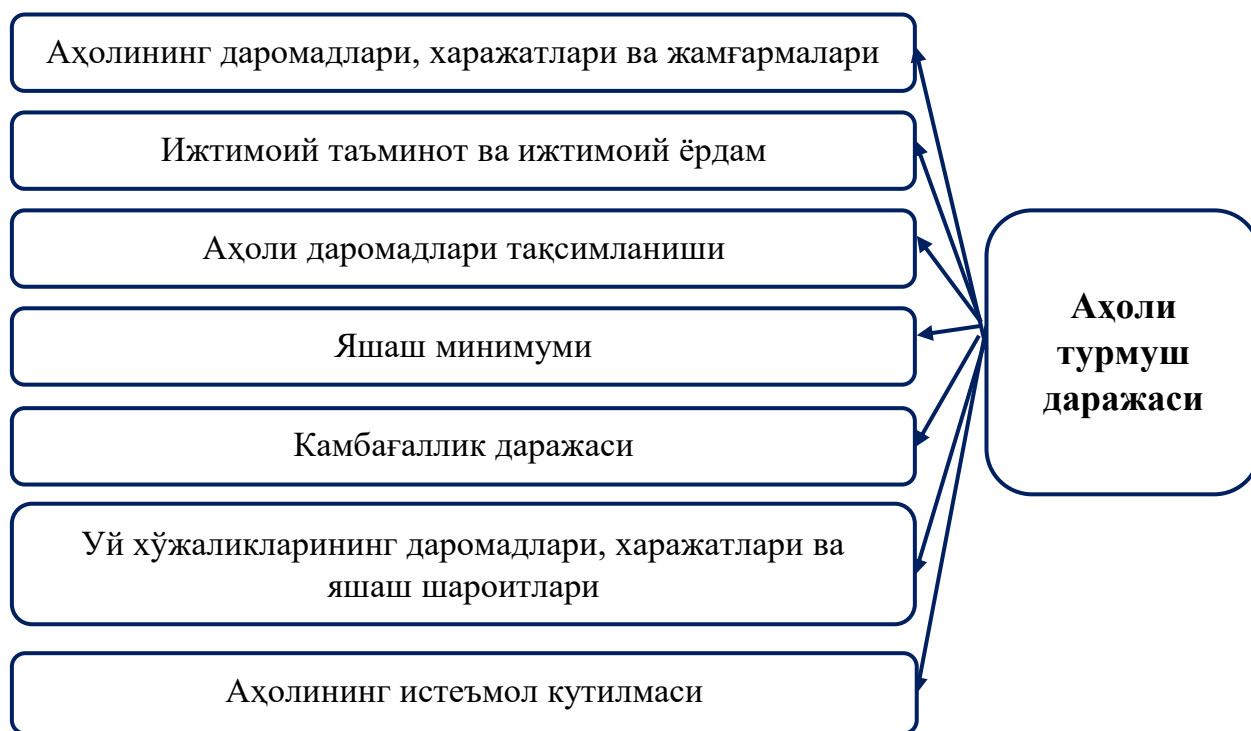
Бундан ташқари, таҳлиллар асосида иқтисодий жиҳатдан самарали ва ижтимоий жиҳатдан мақбул аҳоли даромадлари ва уларнинг табақалашув даражалари бўйича мезонларни ишлаб чиқишда миллий иқтисодиётдаги бутун жамият учун мос келадиган умумий ечим топиш жуда мураккаб ва қийин жараён ҳамда масала деган хулосага келиш мумкин.

Бозор иқтисодиётида аҳоли даромадларининг пул шаклидаги манбалари билан бирга, натура кўринишидаги даромад манбалари ҳам мавжуд бўлиши мумкин. Уларга аҳолининг томорқа хўжалигидан фойдаланган ҳолда олган маҳсулотларидан даромади ҳамда ёрдамга муҳтож аҳоли қатламига бепул кўрсатиладиган хизматлар ва бериладиган маҳсулотлар мисол бўлади.



1-расм. Пул шаклидаги аҳоли даромадлари манбаларининг турлари²

Яна бир жиҳат борки, аҳолининг даромадлари реал ва номинал даромад турларига ажратилади. Аҳолининг номинал даромади бу маълум миқдордаги пул суммаси шаклидаги даромади бўлса, реал даромади бу мазкур миқдордаги пул суммаси шаклидаги даромадга ҳақиқатда қанча миқдорда товар ва хизматлар ёки ишлар харид қилиш мумкинлигини англатади. Шу тўғайли аҳолининг реал даромадлари миқдори аҳоли турмуш даражаси кўрсаткичлар тизимининг умумий характердаги яхлит кўрсаткичи сифатида қаралади.



2-расм. Мамлакат аҳолисининг турмуш даражаси кўрсаткичлари тизими³

Тадқиқот натижаларининг муҳокамаси

Аҳоли даромадаларини тартибга солиш самарадорлигини макроиқтисодий кўрсаткичлар, жумладан, турмуш даражаси ва сифати, фаровонлик, аҳоли жон бошига ЯИМ ёки аҳоли жон бошига даромад даражаси каби кўрсаткичлар орқали баҳолаш мумкин.

² Тадқиқот манбалари асосида муаллиф томонидан тузилди.

³ Тадқиқот манбалари асосида муаллиф томонидан тузилди.

2-жадвал

Ўзбекистонда 2018-2022 йилларда аҳоли даромадлари тўғрисида маълумот⁴

Кўрсаткичлар	2018	2019	2020	2021	2022
Аҳоли умумий даромадалари, трлн. сўм	300,8	365,7	415,0	519,2	634,8
ўтган йилга нисбатан, % да	127,0	121,6	113,5	125,1	122,3
Аҳоли жон бошига умумий даромадлар, млн. сўм	9,1	10,9	12,1	14,9	17,8
ўтган йилга нисбатан, % да	124,8	119,3	111,3	122,7	119,8
Аҳоли реал умумий даромадлари, трлн. сўм	256,0	319,3	367,5	468,5	569,6
ўтган йилга нисбатан, % да	108,1	106,1	100,5	112,9	109,7
Аҳоли жон бошига реал умумий даромадлар, млн. сўм	7,8	9,5	10,7	13,4	16,0
ўтган йилга нисбатан, % да	106,2	104,2	98,6	110,7	107,5

3-жадвал

Ўзбекистонда 2018-2022 йиллардаги истеъмол нархлари индекси тўғрисида маълумот⁵

Номи	2018	2019	2020	2021	2022
Товарлар	118,8	114,3	113,6	111,6	112,8
Озиқ-овқат маҳсулотлари	120,1	116,9	117,2	114,3	115,1
Нооziқ-овқат маҳсулотлари	117,1	111,1	109,1	108,3	109,9
Хизматлар	112,1	115,5	110,6	108,2	107,0
Йиғма индекс	117,5	114,5	112,9	110,8	111,4

4-жадвал

Ўзбекистонда 2018-2022 йилларда доимий аҳоли сони тўғрисида маълумот (минг киши, йил бошига)⁶

Кўрсаткичлар	2018	2019	2020	2021	2022	2023
Аҳоли сони,	32656,7	33255,5	33905,2	34558,9	35271,3	36024,9
ўсиш, % да	101,7	101,8	101,9	101,9	102,1	102,1

2-жадвал маълумотларига кўринадики аҳолининг умумий даромадлари 2022 йилда 2018 йилга нисбатан 2,11 (634,8/300,8) баробарга ошган бўлса, реал умумий даромадлари 2,23 (569,6/256) баробарга ошган. Бундан кўринадики, ушбу даврда аҳолининг умумий даромадларининг ўсиш динамикаси мамлакатдаги истеъмол нархлари индекси кўрсаткичларидан баланд бўлган. Бу натижа миллий иқтисодиёт учун ижобий ҳолат ҳисобланади.

Ўзбекистонда 2022 йилда 2018 йилга нисбатан аҳоли жон бошига умумий даромадлар 1,96 баробарга (17,8/9,1) ошган, аҳоли жон бошига реал умумий даромадлари эса 2,05 баробарга (16,0/7,8) ўсган. Бу ҳолатда шундай ҳулосага келиш мумкинки, аҳоли жон бошига умумий даромадларнинг ўсиш динамикаси кўрсаткичи мамлакатдаги истеъмол нархлари индекси ва аҳоли сонинг ўсиш даражасининг йиғма кўрсаткичларидан ҳам баланд

⁴ Статистика агентлигининг расмий сайти маълумотлари асосида тайёрланди.

⁵ Статистика агентлигининг расмий сайти маълумотлари асосида тайёрланди.

⁶ Статистика агентлигининг расмий сайти маълумотлари асосида тайёрланди.

бўлган. Албатта бу каби ижобий натижалар, мамлакатдаги аҳоли даромадларини барқарорлигини таъминлашга қаратилган ислохотлар натижасидир.

Бугунги кунда аҳоли даромадлари ва уларнинг табақалашув даражаси аҳолининг турли фоизли гуруҳларга доир даромадлари улушларини таққослаш орқали таҳлил қилган ҳолда ўрганилмоқда. Мисол учун, децил ёки квинтил фоизли гуруҳлар бўйича дифференциация коэффициенти, Джини индекси ёки Лоренц эгри чизиги кабилар.

5-жадвал

Ўзбекистонда аҳоли даромадларининг аҳолининг 10 фоизли гуруҳлари бўйича тақсимланиш ҳолати⁷

Дециль гуруҳлари	2007	2010	2013	2016	2017	2018	2019	2020	2021	2022
I дециль	2,1	2,9	3,2	3,8	3,9	3,9	3,7	3,4	3,3	3,5
II дециль	3,7	4,8	5,0	5,4	5,5	5,4	5,3	5,1	5,1	5,1
III дециль	5,2	6,0	6,0	6,4	6,4	6,4	6,4	6,2	6,2	6,1
IV дециль	6,1	6,9	7,0	7,3	7,2	7,3	7,3	7,1	7,2	7,0
V дециль	8,1	7,9	7,9	8,1	8,1	8,1	8,2	8,1	8,2	7,9
VI дециль	9,2	9,1	9,0	9,1	9,1	9,1	9,2	9,1	9,3	8,9
VII дециль	10,2	10,5	10,3	10,2	10,2	10,3	10,5	10,5	10,6	10,2
VIII дециль	12,3	12,2	11,9	11,5	11,6	11,7	12,1	12,1	12,5	11,9
IX дециль	15,1	14,9	14,4	13,8	13,9	14,1	14,7	14,8	15,2	14,7
X дециль	28,7	24,8	25,3	24,4	24,1	23,7	22,6	23,5	22,5	24,8
Дифференциация коэффициенти	13,7	8,5	7,9	6,4	6,2	6,1	6,0	6,9	6,8	7,0

5-жадвал маълумотларида, мамлакатимиз аҳолисининг 10 фоизли гуруҳлар бўйича даромадаларининг аҳолининг умумий даромадларидаги улуши келтирилган бўлиб, биринчи 10 фоизли аҳоли гуруҳининг улуши таҳлил даврида 1,4 пунктга (3,5-2,1) ошганини, охириги 10 фоизли гуруҳнинг улуши 3,9 пунктга (28,7-24,4) пасайганини кўришимиз мумкин. Бу ҳолат аҳоли даромадаларини табақалашуви бўйича ҳолат салбий тенденцияда эмаслигини англатади. Баъзи иқтисодчиларнинг фикрича, аҳолининг юқори даромадли 10 фоизли гуруҳи даромадларининг аҳолининг энг кам даромадли 10 фоизли гуруҳи даромадларига нисбати 6-8 баробар бўлишлиги меъёр ёки адолатли ҳолат бўлиши мумкин⁸. Агар ушбу мулоҳазага таянсақ, бизнинг мамлакатимизда таҳлил даври бошида бу кўрсаткич 13,7 (салбий) бўлган бўлса, давр охирида 7,0 коэффициентни қайд этиб, ижобий тенденцияни қайд этган.

Аммо, таҳлилни бизнингча бошқа усулда ҳам ўтказиш мумкин. Яъни, 2022 йилда мамлакатнинг ўртача аҳолиси 35648,1 ((35271,3+36024,9)/2) минг киши эканлигини инобатга олсак, 10 фоизли гуруҳ аъзолари 3564,8 минг киши ташкил қилади. Ва уларнинг даромади мос равишда 22,218 (634,8 трлн сўмнинг 3,5 фоизи) трлн. сўмни ҳамда бу шу гуруҳдагилар учун жон бошига умумий даромад 6,232 млн сўмни, истеъмол нарх индексини ҳисобга олгандаги реал даромад эса 5,594 (6,232/1,114) минг сўмни ташкил этаётганини кўриш мумкин. Демак, аҳолининг 10-фоизли 1-гуруҳи таркибидагиларнинг жон бошига ойлик даромади аъзолари 466 (5,594/12) минг сўмдан тўғри келган. Жаҳон тажрибасига асосан, камбағаллик чегараси сифатида белгиланган минимал истеъмол харажатларининг Ўзбекистонда 2022 йил учун ушбу йил бошида эълон қилинган миқдори 498 минг сўм

⁷ Статистика агентлигининг расмий сайти маълумотлари асосида тайёрланди.

⁸ Шевяков А.Ю. 2010. Социальное неравенство: тормоз экономического и демографического роста. Уровень жизни населения регионов России. № 5. – С. 38-52.

бўлган. Бундан келиб чиқадики, аҳолининг 10-фоизли 1-гуруҳи вакиллари тўлиқ ҳамда қисман 2-гуруҳ вакиллари мамлакатдаги ижтимоий ҳимояга муҳтож бўлган камбағал оилалар аъзолари ҳисобланишган.

6-жадвал

Ўзбекистонда кам таъминланган аҳоли улуши⁹

Кўрсаткич-лар	2007	2010	2013	2016	2017	2018	2019	2020	2021	2022
Кам таъминланган аҳоли улуши	23,6	17,7	14,1	12,3	11,9	11,4	11,0	11,5	-	-
Камбағаллик даражаси	-	-	-	-	-	-	-	-	17,0	14,1

Хулоса ва таклифлар

➤ Ўзбекистонда аҳоли даромадлари, уларнинг аҳоли 10 фоизли гуруҳлари бўйича тақсимланиши ҳамда мамлакатдаги камбағаллик чегараси сифатида қабул қилинган минимал истеъмол харажатлари миқдори билан боғлиқ кўрсаткичларни ўзаро боғлиқлигини таҳлил қилган ҳолда, шундай хулоса шакллантириш мумкин:

1) аҳоли даромадларини 10 фоизли гуруҳлар бўйича тақсимланишида дифференциация коэффиценти охири йилларда 6-7 коэффицентни ташкил қилган ҳолда, ижобий ҳолатда бўлсада, охири уч йилда нисбатан ўсиш ҳолати кузатилган;

2) дифференциация коэффиценти нормал ҳолатда бўлишига қарамай, 10 фоизли гуруҳнинг жон бошига реал даромадлари мамлакатда қабул қилинган камбағаллик даражасида қолиб кетмоқда.

➤ Бугунги кунда аҳоли даромадларини барқарорлигини таъминлаш, аҳоли даромадалари ўртасидаги табақалашув коэффицентини меъёрлаштириш ва камбағаллик даражасида қолиб кетаётган аҳолини доимий даромад манбаи билан таъминлаш мақсадида мамлакатимизда иқтисодий фаолиятни амалга оширишда турли хил молиялаштириш шаклларида фойдаланилмоқда.

➤ Шулардан асосийси бу, тижорат банклари томонидан амалга оширилаётган кредитлаш амалиётидир. Бу борада, банклар томонидан кредитлаш механизмларини амалга оширишдаги муҳим жараёнлардан бири бу миқдорнинг тўловга лаёқатлигини баҳолаш жараёнидир. Бу кредитни бериш ва қайтаришни ташкил этишда жуда муҳим роль ўйнайди.

➤ Иқтисодиётда бозор механизмлари самарали ишласа, ушбу иқтисодиётда хусусий мулк устунлигини кузатиш мумкин бўлади, шунинг билан бирга иқтисодиётда аҳоли даромадлари: меҳнатдан, мулкдан, тадбиркорликдан ҳамда бюджетдан ижтимоий ҳимояга муҳтож қатламга бериладиган маблағлар (трансферт) кўринишидаги каби даромадлардан ташкил топади.

➤ Аҳоли даромадлари – бу маълум бир ҳудуд ёки иқтисодиётдаги жамият аъзоларига тегишли бўлган пул ва натура кўринишидаги уларнинг тушумлари ҳамда улар томонидан истеъмол қилинган бепул хизматларнинг маълум бир даврдаги йиғиндисидир¹⁰. Агар ушбу давр календарь йилидан иборат бўлса, унда миллий иқтисодиётдаги аҳоли даромадларини ялпи ички маҳсулотдаги аҳолини улуши сифатида қараш мумкин. Ўз-ўзидан англаш мумкинки, аҳоли даромадлари барқарорлиги бевосита ялпи ички маҳсулотнинг барқарор динамикасини ҳам таъминлашга хизмат қилади.

➤ Юқоридаги назарий ва баъзи амалий кўрсаткичлар билан боғлиқ таҳлилларимиз ва бугунги кунда банкларимизнинг кредит портфелида муаммоли кредитлар улушининг юқорилиги бу борада ҳам назарий ва услубий тадқиқотлар амалга оширишни ва тизимни самарадорлигини оширишга қаратилган таклиф-тавсиялар ишлаб чиқишни тақозо қилади.

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⁹ Статистика агентлигининг расмий сайти маълумотлари асосида тайёрланди.

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What are the Benefits and the challenges of inclusion for disability children in Uzbekistan?

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Abstract

This research provides a critical prospective of current literature surrounding inclusive education in mainstream schools. The paper is divided into three basic themes. That is to say, “What is inclusion?”, “Key challenges of inclusive education”, “Benefits of inclusive education”. Literally, the whole children in Uzbekistan –with or without disability, upper-class or middle-class in accordance with social mobility, regardless of ethnicity, gender, religious, cultural origins –are enabled to attend regular schools which fully nurture every child’s great potential (UNICEF, 2013). Therefore, how the authority supplies this education is of great essence, or even how policy is implemented in an equitable manner. For this crucial reason, we should comprehend how inclusive education is defined, before one can progress a deeper comprehension of mainstream schools as well as their associated outcomes. Furthermore, this paper will involve a review of the problems faced in the system of inclusive education, which feeds into an understanding of what inclusion is, who they are for as well as what they suggest. This review of literature will further explore the effects of children attending mainstream schools, touching on both the merits and the demerits of these placements. These kinds of effects come in a great number of forms, such as surrounding friendly relationships with both staff and peers, a huge success, the curriculum, besides, the influence on mainstream children. Finally, this literature review will end by founding the best and the highest productive approach to education in Uzbekistan, based on the comparison and the critical analysis of British and Uzbek, also other current researches; What are the benefits and the challenges of inclusion for disability children in Uzbekistan?

Key words: inclusion, different levels of policy in inclusive education, discursive/critical analysis of inclusive education, key benefits and challenges of inclusive education, Special Education Needs (SEN)

Introduction**What is inclusion?**

Inclusion has multiple definitions in different contexts. In particular, Terzi (2014) pinpoints that the concept of inclusive education has been widely defined in terms of education, namely all children in regular schools which had previously excluded the interventions of qualification. In spite of their current origin, this kind of idea has been adopted in academic research, besides, in economic as well as social policy. Moreover, sociological and pedagogical significance of inclusive education for all seems paradoxically during the process of policy

making due to various policy levels and distinctive realisations of culture and social actions (Felder, 2018). However, Barclay (2013) argues that according to the aim of democratic society, both individuals and groups are forever pivotal to act politically. On the other hand, children with disability sometimes do not fit for democracy. This is mainly because they are not deemed to own the skills thought essential for participation in the process of policy, such as reason or rationality, or since the disabilities do not subscribe to the principal values of democracy, for example, liberties and civil rights. It should be admitted that one of the prominent challenging sample for inclusion into making a decision democracy is disability (Barclay, 2013).

For the purpose of this essay, I will take 'inclusion' to me which means 'creating accessible tools for all in the whole spheres of education essentially, political, economic in an equal manner and it is portrayed as a continuous process, so it should not be an ambitious goal as something to be achieved' (Lees, 2014). Owing to the fact that despite the disabilities have some difficulties physically, they are forever capable in every field of social life by comparison of non-disabled people. Even it should be admitted that the power of mind is forever eternal to lead people further development in a maximal manner (Messiou, 2017).

What policies are there?

In spite of international commitments to the education of inclusion, segregation still prevails in the education system of Uzbekistan (World Bank, 2018). According to the Report of World Bank Group's (2018) argument that in 2009, the Government of Uzbekistan adopted the 'National Concept of Inclusive Education' pinpoints the need to provide quality education to all children irrespective of their physical, social, as well as capacities, intellectual conditions. Additionally, Education Sector Plan of Uzbekistan for 2013-2017 involved a strategic direction to assist the inclusion of children with special needs in mainstream education, besides, key measures, for example:

- ❖ Improving infrastructure of education
- ❖ Enhancing educators, pedagogies' abilities and school administrators
- ❖ Developing a dedicated monitoring and assessment
- ❖ Consciousness raising on the advantages of inclusive education

Source: World Bank, (2018, p. 47)

School cultures of inclusion are important for implementing sustainable inclusive education systems. Nevertheless, it is undoubtedly true that adequate tools as well as powerful leadership are vital to build such a culture. That is to say, Ainscow and Booth (2011) highlight that cultural factors come in handy with promoting inclusion strongly in schools. For this crucial reason, building inclusive schools is complicated and it needs adequate tools along with mechanisms in a maximal manner. As an example of them is the 'Index for Inclusion' enhanced by two British scientists who are named Mel Ainscow and Tony Booth, over three years with the help from the staff of governors, teachers team, parents, researchers and representatives of people with disability organizations. The 'Index for Inclusion' provides schools within a self-evaluation tool for all aspects of school, for instance, different useful activities in playgrounds, staff rooms, colourful classrooms, communities as well as the atmosphere around the school, involving review of beliefs, values, and educating practices. It is being utilized in approximately 45 countries around the world, and has been translated into 21 languages (ibid. p.44).

From another angle, the adoption which is very prompt and the perceptible influence of distinctive points of view belonging to inclusion or inclusive education attest to their importance of theory as well as their positive, immediate appeal. Especially, the 1994 UNESCO Salamanca Statement acknowledged the notion of inclusive education in terms of a right to education in regular schools for children with special needs and as a means of to the establishment of inclusive society (UNESCO, 1994). Therefore, according to the perspective of Norwich (2013) the system of inclusive education is comprehended widely in the branch as regarded to the

specific values or beliefs of a democratic society, besides, as generally promoting educational provision for the disabilities and struggles.

Discursive/critical analysis of inclusion based on a variety of researches

Key challenges of inclusive education

Due to the fact that tensions between inclusive and exclusive education are highly discursive and sometimes extremely argumentative to the process of getting new or accomplishing equalities. So, thinking critically about the dimensions of inclusion or inclusive education face is forever valuable for grabbing the core features of them thoroughly. For this main reason, I analyse my literature review in a critical way. In terms of theme, resources based on inclusive education, attitude towards children with special education needs, parents' treatment for children with disability.

Liasidou (2012) puts forward that the whole children ought to be taught in mainstream schools, which are flexible and enable to respond to variations without any special provision if we consider inclusive education as a fundamental process. Alternatively, Terzi's (2008) argument that if we reckon inclusive education as an optimal education, it entails special help so as to meet children's individual requirements. It is the fact that policy levels are complicated in a wide range of contexts, for instance, education system is characterised by inclusive as well as special schools, which outcome in broader inequalities in provision.

Comprehension of special educational needs and disability issues in children's education is portrayed a bit lack due to its inaccessibility to a relative newcomer to the field. The author's depth of knowledge is much more theoretical and abstracted in the process of explanation about the dilemmas of inclusion. Moreover, the vast majority of words or phrases are technical and philosophical in terms of terminology (Lees, 2014). A myriad of case studies which are helpful to perspect human 'stories' in their social life, especially, they make sense of the strength, power, vulnerability whereas the survey of inclusion is shown with historical approaches (qualitative method, mixed) and the term used in "schooling work; curricula issues, pedagogical issues, schooling, child and parent dynamics as well as philosophical matters of relevance", besides, it is some type of 'who's who' of problems, actors, considerations, which in spite of some silenced voices has much to suggest new viewpoints (Lees, 2014, p. 258-259).

An overwhelming majority of scholars, professionals and educators, who carry out several researches related to the identification of the barriers to inclusive education, particularly, inadequacies in policy and legal support, opportunities and resources, specialised staff, teacher training, pedagogical techniques, flexible curricula, cultural attitudes, supportive leadership as well (Eleweke & Rodda, 2002; Mittler, 2000; Messiou, 2017; Phasha, Mahlo & Dei, 2017; Schuelke & Johnstone, 2012).

It can be considered that psychological and sociological importance of inclusive education for all children, actually, the disabilities who really need special behavioural as well as environmentally-friendly atmosphere, or accessible enough facilities to study equally (Cullen et al., 2020). Particularly, in accordance with this evidence review, systematic reviews (quantitative synthesis) are relevant to the questions of review. This carried out "the highest quality proof within the constraints of the time and budget available" (Cullen et al., 2020, p.26). Positivists' altitude towards improving mainstream schools' opportunities for all children without any barriers.

From Norwich's perspective, inclusive education is its rejection of specialization during the usage of categories related to the difficulties or disorder, in curricula, a wide range of teaching approaches as well as the settings of education provision. This leads some questions about when specialized or distinguished aspects of the system are humiliating and excluding and when they are not; when they serve the interests. That is one of the central problems along with tensions declared in this paper, namely which has been named dilemmas of distinction (Minow, 1990; Norwich, 2008). Some inclusive theorists draw attention to the policy adoption of

inclusive education by national and international organizations. As a proof of that, Allan and Slee (2008) demonstrate inclusive education like 'troubled and troubling': 'troubled since it has identified respectability in practice as well as policy, when troubling because which means to be an intentionally bothersome ethical project' (p. 99). From another angle, inclusion is considered as a theoretical weakness due to the 'pragmatic watering down of the underlying idealism of inclusion' (Armstrong et al., 2011, p.37) associated with the 'escapism' of postmodern reckoning about inclusion.

In other words, some of pupils have visual problems. These kinds of pupils or children need other sighted people's help in some cases. Owing to the fact that some of teachers lacked abilities as well as competence of working with such children or pupils (Norwich, 2008). In addition, the sizes of class, shortage of trained or professional educators in the field of special education needs as well as lack of specialized equipment (Igune, 2009).

Lack of skills as well as competence

The vast majority of regular teachers lacked abilities and competence to include children or pupils who are blind indoor and outdoor activities. The main dilemma here was on how to be ready for the lessons, besides, how to make modifications on the learning materials that suit the special needs of blind pupils or children (ibid., p.89). For this crucial reason, some teachers trained in special education needs. Moreover, some teachers had not enough skills in some specialistic fields, for instance, sports for people with visual problem, orientation as well as mobility. Having such limited skills in these fields interfered with the inclusion of children who are blind in outdoor activities (Lees, 2014).

Class size

The explanation of teachers on having enormous children or pupils in the classroom was made it challenge for them to adequately educate in inclusive classrooms. In accordance with Igune` (2009) s findings, the enrolment in the classes ranged from 70 or more pupils. Even though this huge numbers of pupils in the classes, teachers had to spend more time for working in the syllabus (Cullen et al., 2020). Additionally, they had to evaluate the pupils or children`s exercise books, also prepare teaching and learning materials and at the same time teachers had to pay attention to all pupils with special education needs. In fact, having lots of pupils in the class made it struggle for the teachers to pay individual attention to pupils or children who are blind (Igune, 2009).

Shortage of teachers trained in Special Education Needs

According to the study of Igune (2009), some specialist teachers are not enough in mainstream schools. As a consequence, it has posted a big dilemma of heavy workload among teachers. However, Cullen et al. (2020) emphasize that psychological and sociological factors can be a big trouble to work with children or pupils who are blind. Igune (2009) implies that most of teachers who are non-specialst, they do not know how to conduct lessons with the inclusion of children who are blind in classroom as well as outdoor activities, also the provision of quality education. Furthermore, it should be stated that teachers have other functions to carry out (Lees, 2014). This kind of scenario becomes a difficulty. This is mainly because a small number of specialist teachers that are available in the schools cannot run all the subjects in all the classes as well (ibid., p. 67).

Shortage of resources

It is undoubtedly true that shortage of resources has been broken into educating as well as learning processes and infrastructure. Therefore, an overwhelming majority of researchers, Cullen et al. (2020), Norwich (2008), Phasha, Mahlo and Dei (2017), Schuelke and Johnstone

(2012), Igune (2009) argue that specialized equipments are lacking or inadequate in lower primary classes. Besides, some furniture in the classes is lacking in lower primary classes.

Key benefits of inclusive education

It can be thought that a little thing is a big difference, namely efficacious educating strategies are specifically necessary in order to achieve ambitious goals of children with special educational needs. That is to say, if a right approach is used in a lesson perceptibly or "many different types of activities and interactions with various types of objects or symbols" in which individuals are actively dived into (Rosa & Tudge, 2013, p.255). Additionally, the synthesis of Hattie (2009) over 800 meta-analysis as well as Mitchell`s (2014) meta-analysis of research specifically concentrate on effective teaching for pupils with special educational needs argue 27 strategies are applicable to all pupils. As a consequence of above viewpoints, quantitative methods are available for justifying how importance of inclusive education for all children (ibid., p.2). Overall, the system of successful inclusive education requires school transformation as well as system alteration.

Social benefits

On a daily basis, some of pupils who are visual impairment sit together with the sighted pupils. At that time, they will interact with each other as well as they will attempt to know closely: make a friend; share emotions as well as experiences; they improve tolerance with pupils` wrong accomplishments (Igune, 2009). It should be noted that social interaction can help to acquire new things or to figure out some problems, namely Igune (2009) continues that they can acquire to ask as well as argue their struggles. For example, sighted children can learn to support pupils who are blind to find their way out whereas moving around the school or in the class (Singal, 2009).

Academic benefits

In accordance with Igune (2009) `s studying, some of teachers interviewed considered that pupils who are blind might benefit academically like any child in the class. In particular, they discussed that if all children have enough accessible tools or all essential learning materials, they will improve their academic knowledge and skills in an equitable manner. Due to the fact that while these pupils access this crucial equipment, they can easily accomplish basic knowledge, such as substraction, multiplication as well as division (Fullan, 2007). Most importantly, when blind pupils are supplied with brailed books, they can read common story books or fairy-tale books tactually. Furthermore, the respondents approved that pupils who are visual impairments can academically benefit in the mainstream school. This is mainly because sighted classmates or peers can assist them in areas of challenge (Igune, 2009).

Acquisition of special skills

It is a fact that blind pupils or children cannot learn any skills by imitation in a manner sighted pupils or children can do. So that, Igune (2009) highlights that blind pupils or children need to be guided by above-mentioned people close to them, but also their parents, siblings. Additionally, children or pupils who are blind can acquire special skills with the help from peers, classmates or teachers as well in mainstream schools (ibid., p. 86). He reveals that children or pupils who are blind are supported to learn special skills, such as: `slef-support skill like to toileting during health education lessons. In fact, teachers are always an essential role to teach their pupils in any circumstances, of course. That is to say, teachers take children or pupils who are blind to the pit latrines as well as educate them how to use the pit latrine. Mainly, "these kinds of capabilities need to be educated to pupils or children who are blind as early as possible to avoid embarrassment as they grow up" (Igune, 2009, p. 87)

Teachers role in the system of inclusive education

On a daily basis, some of educators underestimate that crucial resources and effective teaching support or approaches in mainstream schools. Nevertheless, Singal (2009) comes up with above-mentioned factors which become a top-down burden rather than a collaborative process. For this reason, it is necessary for educators, pedagogies to have top-down and bottom-up knowledge as well as vital abilities to easily create inclusive classrooms, besides, for school leadership to provide an inclusive and a variety of innovative atmosphere for a great number of teachers to blossom as Fullan (2007), Kuroda, Kartika and Kitamura (2017) persuade them like 'parachute' trainings do little in terms of influence and systematic alteration in a perceptible manner. It should be noted that these kinds of creative methods and approaches are of great success in both academic and social lives for every child through more sustainable inclusive education implementation. In particular, this is positively efficacious teachers' attitudes to inclusion by exaggerating that this process is accomplished with their professional role to involve all children in their classroom (Subban & Mahlo, 2017; Forlin & Chambers, 2011; Graham & Scott, 2016; Sharma, Simi & Forlin, 2015).

Basically, Florian and Linklater (2010) convince that teachers' professional skills are thoroughly productive and highly helpful to work with all students, disabled and non-disabled in inclusive classrooms. Although it is sometimes problematic to make a decision, teachers' role is significant to figure out the offensive issues. This paper acknowledges findings of a study of a new teacher education course. The theoretical rationale for the enhancement of the course is outlined, additionally, examples of how many teachers might dive into more inclusive practice are showed (ibid., p.371). However, Jordan, Schwartz and McGhie-Richmond argue that schools frequently exclude, or reject to include, some students on the ground that teachers do not have the requisite different capabilities and knowledge to educate them (2009). Florian and Linklater's study is based on a large mixed programme of research, especially, qualitative data collection (ibid., p. 374). Triple key terms are presented, namely 'transformability', 'key pedagogical principles' and 'improved capacity to acquire' in accordance with the paper of Florian and Linklater (2010).

Florian and Beaton (2018) pinpoint that 'inclusive pedagogy' is the same as 'inclusive pedagogical approach, mostly, both of them are pedagogical replies to individual distinctions between pupils that avoids the marginalisation that can happen within differentiation strategies that are designed merely with individual requirements in mind. These kinds of issues involve the 'repetitive exclusion' (Slee, 2010; Allan, 2006) whereby pupils are included in the classroom, yet excluded from facilities to attend in collaborative or else group or team activities. This is mainly because, the task they are given is distinguished to such an extent that they over separated from the classroom community although they may be physically present. Interestingly, 'inclusive pedagogical approaches were improved in response to various questions which are about how individual learners can accept the extra help or additional support they require without treating them variously from others' (Florian & Black-Hawkins, 2011). In accordance with Florian and Beaton's data analysis, it is based on a myriad of methods which comprised: note-taking, video footage, semi-structured interviews with a huge number of pupils about their delivering reflections between teachers as well as independent researchers, learning process as well (2017). Furthermore, key 'learning moments' illustrated by Coyle as well as her teams (2010) as experiences identified by teachers and learners that describe incidents, they deem essential.

Conclusion

This paper has drawn from a variety of literature as well as research to offer a holistic comprehension of inclusive education. It set out by giving a specific definition of 'inclusion' or 'inclusive education' in mainstream schools and exploring both why and how children's education may differentiate from this pathway. Particularly, this involved analysing three key

factors: 'What is inclusion?', 'Key challenges of inclusive education', 'Benefits of inclusive education', besides, the most perceptible challenges, for example, enough resources, parents and teachers attitude towards the children with special educational needs and non-disabled. Ultimately, this essay explored inclusive education or mainstream schools system from multitude viewpoints, enriching to take into account a broader distinction of stakeholders. It should be noted that children, parents, teachers and authorities' opinions were explored, in terms of what an inclusive education is or what mainstream schools are and the possible outcomes of such. The consequences of these schools were analysed through following sub-themes: teacher relation, staff relation or peer-relations and policy enactment, impact on the mainstream as well as the result. None of these sub-themes were holistically merit or demerit, with all sub-themes existing wealthy researches pursuing the advantages and the disadvantages of mainstream schools or inclusive education.

Due to the fact that by comparison of the effects of mainstream and special schools on National Curriculum consequences in children with special educational needs can be preceded research into the success of such inclusive practices, additionally, this is essentially concerning children with autism spectrum disorder as Humphrey and Parkinson (2006) and Reed and Osborne (2014) implied. In other words, mainstreaming is also considered to enhance the social consciousness of the other children exposed to the included children (Kurth and Mastergeorge, 2010; Knight, Petrie Zuurmond et al., 2009). Literally, Smith and Matson recommend (2010) that greater academic successes are made by children who are disabled behaviour or issues in special schools.

In conclusion, this paper is that improving individualised inclusion units, within mainstream schools, suggests a perfect solution that gives children social benefits of mainstream education whereas targeting their educational needs. By this solution, the whole pupils can feel inclusive, without any barriers the significant needs-based approach that permits children to gain their full potentials in a maximal way.

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Важность баланса между работой и личной жизнью

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Аннотация: Достижение здорового баланса между работой и личной жизнью имеет решающее значение в современной быстро меняющейся и требовательной рабочей среде. В этой статье исследуется значение баланса между работой и личной жизнью и его влияние на различные аспекты жизни людей. Обзор литературы показывает, что баланс между работой и личной жизнью положительно влияет на здоровье, производительность труда, отношения и удовлетворенность работой. Исследования показывают, что у людей со здоровым балансом между работой и личной жизнью снижается уровень стресса, улучшаются показатели психического здоровья и снижается риск выгорания.

Ключевые слова: баланс между работой и личной жизнью, благополучие, здоровье, производительность труда, удовлетворенность работой, выгорание, организационные результаты, гибкость.

Oila va kasb muvozanatining ahamiyati

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Oliy ta'lim, fan va innovatsiyalar vazirligi bosh mutaxassisi

Annotatsiya: Sog'lom oila va kasb muvozanatiga erishish bugungi tezkor va talabchan ish muhitida juda muhimdir. Ushbu maqola oila va kasb muvozanatining ahamiyati va uning shaxslar hayotining turli jabhalariga ta'sirini o'rganadi. Adabiyotlarni o'rganish shuni ko'rsatadiki, oila va kasb muvozanati salomatlik, ish samaradorligi, shaxslararo munosabatlar va ishdan qoniqishga ijobiy ta'sir qiladi. Tadqiqotlar shuni ko'rsatadiki, sog'lom oila va kasb muvozanatiga ega bo'lish stress darajasini pasayishiga, ruhiy salomatlik natijalarini yaxshilanishiga va psixologik hamda fiziologik charchashning kamayishiga olib keladi.

Kalit so'zlar: oila va kasb muvozanati, farovonlik, sog'liq, ish samaradorligi, ishdan qoniqish, charchash, mahsuldorlik, tashkiliy natijalar, moslashuvchanlik.

The Importance of Work-Life Balance

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Abstract: Achieving a healthy work-life balance is crucial in today's fast-paced and demanding work environments. This article explores the significance of work-life balance and its impact on various aspects of individuals' lives. The literature review reveals that work-life balance positively influences health, job performance, relationships, and job satisfaction. Research demonstrates that individuals with a healthy work-life balance experience reduced stress levels, improved mental health outcomes, and lower risk of burnout.

Key words: work-life balance, well-being, health, job performance, job satisfaction, burnout, organizational outcomes, flexibility.

Введение

В сегодняшних быстро меняющихся и требовательных рабочих условиях достижение здорового баланса между работой и личной жизнью становится все более важным. Баланс между работой и личной жизнью означает равновесие между профессиональными обязанностями и личной жизнью, включая семью, досуг и деятельность по уходу за собой. Это предполагает эффективное управление своим временем, энергией и ресурсами, чтобы обеспечить должное внимание и удовлетворение как работе, так и личной жизни.

В последние годы концепция баланса между работой и личной жизнью привлекла значительное внимание, поскольку люди стремятся найти гармонию между своей профессиональной и личной сферой. Быстрое развитие технологий и глобализация размывают границы между работой и личной жизнью, что усложнило сохранение разделения. В результате людям часто приходится совмещать несколько обязанностей, что приводит к усилению стресса, выгоранию и неудовлетворенности.

Значение баланса между работой и личной жизнью выходит за рамки индивидуального уровня, поскольку оно также влияет на организации и общество в целом. Исследования показали, что люди, которые достигают здорового баланса между работой и личной жизнью, улучшают физическое и психическое благополучие, что приводит к повышению производительности, удовлетворенности работой и общего качества жизни [7]. С другой стороны, те, кто борется с балансом между работой и личной жизнью, могут столкнуться с неблагоприятными последствиями, такими как снижение производительности труда, напряженные отношения и ухудшение здоровья.

Стремление к балансу между работой и личной жизнью является не только индивидуальной, но и общественной проблемой. Организации, которые отдают приоритет балансу между работой и личной жизнью и предоставляют необходимую поддержку и ресурсы своим сотрудникам, могут создать позитивную рабочую культуру, которая способствует благополучию и вовлеченности сотрудников. В свою очередь, это способствует повышению удовлетворенности работой, повышению уровня удержания сотрудников и улучшению результатов найма. Кроме того, общество выигрывает от людей, которые ведут сбалансированную жизнь, поскольку они с большей вероятностью будут активными участниками своих сообществ, имеют более здоровые отношения и вносят вклад в общую социальную структуру [2].

Целью этой статьи является изучение важности баланса между работой и личной жизнью и его влияния на различные аспекты жизни людей. Опираясь на соответствующую литературу, мы углубимся в влияние баланса между работой и личной жизнью на здоровье и благополучие, производительность труда, отношения и организационные результаты. Понимая важность баланса между работой и личной жизнью и его последствия, отдельные лица и организации могут принимать обоснованные решения и предпринимать активные шаги для обеспечения здорового баланса между работой и личной жизнью для устойчивого благополучия и успеха.

Литературный обзор

Многочисленные исследования подчеркнули важность баланса между работой и личной жизнью и его влияние на индивидуальное благополучие, производительность труда, отношения и удовлетворенность работой. Вот некоторые ключевые выводы из литературы: Поддержание здорового баланса между работой и личной жизнью имеет решающее значение для укрепления общего здоровья и благополучия.

Многочисленные исследования неизменно демонстрируют положительное влияние баланса между работой и личной жизнью как на физическое, так и на психическое здоровье. Когда люди могут эффективно управлять своей работой и личной жизнью, они испытывают снижение уровня стресса, улучшение показателей психического здоровья и улучшение общего благополучия. Высокий уровень стресса, связанного с работой, и продолжительное рабочее время могут иметь пагубные последствия для физического здоровья. Хронический стресс связан с различными проблемами со здоровьем, включая сердечно-сосудистые заболевания, гипертонию и ослабление иммунной системы [12].

Способность отстраняться от работы и заниматься личной деятельностью и уходом за собой необходима для снижения стресса и общего физического благополучия. Более того, баланс между работой и личной жизнью играет важную роль в предотвращении выгорания — состояния хронического истощения, возникающего в результате длительного стресса, связанного с работой. Выгорание характеризуется эмоциональным истощением, деперсонализацией и снижением личных достижений [11]. Достижение баланса между работой и личной жизнью позволяет людям восстановить силы, расслабиться и заняться деятельностью, способствующей психическому и эмоциональному благополучию. Исследования показали, что конфликт между работой и личной жизнью, когда требования работы вмешиваются в личную жизнь, связан с различными негативными последствиями для здоровья. Амстад и др. (2011) провели метаанализ, который выявил значительную связь между конфликтами между работой и личной жизнью и повышенным риском психологического стресса, депрессивных симптомов и проблем со сном [3]. Напротив, люди, которые достигают здорового баланса между работой и личной жизнью, сообщают о более низком уровне стресса, улучшении психического здоровья и большей общей удовлетворенности жизнью.

Кроме того, баланс между работой и личной жизнью тесно связан с практикой ухода за собой, такой как физические упражнения, правильное питание и достаточный сон. Когда у людей есть время и силы вне работы, чтобы уделять приоритетное внимание своему физическому здоровью, они с большей вероятностью будут вести здоровый образ жизни, который будет способствовать их общему благополучию. Достаточный сон, регулярные физические упражнения и сбалансированное питание необходимы для поддержания уровня энергии, улучшения когнитивных функций и снижения риска хронических заболеваний [7]. Содействие балансу между работой и личной жизнью также имеет положительные последствия для психического здоровья людей. Селигман (2018) подчеркивает, что баланс между работой и личной жизнью способствует общему благополучию, предоставляя возможности для отдыха, досуга и социальных связей [12]. Участие в деятельности вне работы, которая приносит радость, удовлетворение и чувство цели, может улучшить психическое благополучие и защитить от негативных последствий стресса, связанного с работой. Таким образом, баланс между работой и личной жизнью имеет решающее значение для укрепления как физического, так и психического здоровья. Это снижает стресс, связанный с работой, предотвращает выгорание и способствует общему благополучию. Позволяя людям уделять приоритетное внимание заботе о себе, заниматься личной деятельностью и поддерживать здоровую границу между работой и личной жизнью, баланс между работой и личной жизнью способствует улучшению показателей здоровья, улучшению психического благополучия и повышению общего качества жизни.

Достижение здорового баланса между работой и личной жизнью оказывает существенное влияние на производительность и производительность труда. Вопреки мнению, что приоритет личной жизни препятствует профессиональному успеху, исследования неизменно показывают, что люди, которые поддерживают баланс между работой и личной жизнью, более мотивированы, вовлечены и продуктивны в своей работе. Когда у людей есть время для личной деятельности, хобби и ухода за собой, они испытывают более высокий уровень мотивации и вовлеченности в свою работу. Баккер и др. (2012) обнаружили, что сотрудники, которые могли отвлечься от работы и заниматься приятной деятельностью вне работы, сообщали о более высоком уровне вовлеченности в работу [4]. Эта возросшая вовлеченность приводит к повышению производительности труда, поскольку люди становятся более сосредоточенными, энергичными и преданными своим рабочим обязанностям.

Баланс между работой и личной жизнью также связан с удовлетворенностью работой, которая, в свою очередь, влияет на производительность труда. Когда люди удовлетворены своей работой, они с большей вероятностью будут вкладывать в свою работу усилия, творческий подход и преданность делу. Гринхаус и др. (2003) подчеркивают положительную взаимосвязь между балансом между работой и личной жизнью и удовлетворенностью работой, подчеркивая важность полноценной личной жизни как источника мотивации и положительного влияния, которое распространяется и на рабочую сферу [7]. Более того, поддержание баланса между работой и личной жизнью помогает людям избежать выгорания — состояния хронического истощения, возникающего в

результате длительного стресса, связанного с работой. Выгорание отрицательно влияет на производительность труда, снижая когнитивные способности, увеличивая количество ошибок и снижая общую производительность. Когда у людей есть время и энергия, чтобы восстановить силы и заняться деятельностью вне работы, они лучше подготовлены к предотвращению выгорания, что приводит к устойчивому высокому уровню производительности. Было доказано, что гибкие условия работы, такие как удаленная работа или гибкий график, повышают производительность и производительность труда. Исследование Амабайл и Крамер (2011) показало, что сотрудники, которые могли гибко контролировать свой график и место работы, испытывали более высокую удовлетворенность работой и уровень производительности по сравнению с теми, у кого был жесткий график работы [2]. Гибкость позволяет людям лучше управлять своей работой и личными обязанностями, что приводит к улучшению результатов работы.

Кроме того, баланс между работой и личной жизнью положительно влияет на когнитивное функционирование и способность принимать решения, которые имеют решающее значение для производительности труда. Когда у людей есть время для отдыха, релаксации и достаточного количества сна, их когнитивные способности улучшаются. Адекватный сон и досуг связаны с улучшением концентрации, навыками решения проблем и творческими способностями [9]. Уделяя приоритетное внимание личному времени и заботе о себе, люди могут поддерживать оптимальное когнитивное функционирование, что приводит к повышению качества работы и повышению производительности. Организации, которые отдают приоритет балансу между работой и личной жизнью и оказывают поддержку сотрудникам в его достижении, также получают выгоду от повышения производительности труда и производительности. Когда сотрудники чувствуют, что их ценят и поддерживают в достижении баланса между работой и личной жизнью, они с большей вероятностью будут вовлечены, преданы делу и мотивированы на хорошую работу. Это приводит к более высокому уровню производительности, лучшей командной работе и улучшению организационных результатов.

Баланс между работой и личной жизнью существенно влияет на отношения и семейную динамику. В современном быстро меняющемся мире людям часто сложно выделить время и энергию для развития личных отношений. Тем не менее, исследования постоянно подчеркивают важность поддержания здорового баланса между работой и личной жизнью для развития крепких отношений и позитивной семейной динамики. Выделение качественного времени личным отношениям имеет важное значение для построения и поддержания прочных связей [8]. Когда у людей здоровый баланс между работой и личной жизнью, они могут уделять достаточно времени своим партнерам, детям и расширенным членам семьи. Это качественное время позволяет проводить значимые взаимодействия, укрепляя эмоциональную поддержку, доверие и понимание. Кроме того, баланс между работой и личной жизнью играет решающую роль в улучшении общения внутри семьи. Когда люди перегружены стрессом, связанным с работой, и у них мало времени для личных дел, общение обычно страдает. Однако, достигнув баланса между работой и личной жизнью, люди получают возможность открыто и эффективно общаться со своими близкими. Регулярное общение укрепляет семейные узы, разрешает конфликты и гарантирует удовлетворение потребностей и проблем каждого [10].

Баланс между работой и личной жизнью также положительно влияет на удовлетворенность семьей. Когда люди могут участвовать в семейных делах, посещать важные мероприятия и выполнять свои обязанности в семье, общее удовлетворение и счастье внутри семьи возрастают. Исследования Амстада и др. (2011) поддерживают эту идею, подчеркивая, что баланс между работой и личной жизнью связан с уменьшением количества конфликтов и повышением общего счастья как отдельных людей, так и их близких [3]. Более того, баланс между работой и личной жизнью имеет решающее значение, в частности, для родителей. Сбалансировать требования работы и воспитания детей может быть непросто, но здоровый баланс между работой и личной жизнью позволяет родителям больше присутствовать и заниматься своими детьми. Родители, у которых есть время для таких занятий, как помощь с домашними заданиями, посещение школьных мероприятий и развлекательные мероприятия со своими детьми, способствуют эмоциональному благополучию и развитию своих детей. Баланс между работой и личной жизнью также приносит пользу отношениям пар. Когда партнеры могут проводить время

вместе, участвовать в общих мероприятиях и поддерживать личные и профессиональные устремления друг друга, их отношения процветают. Здоровый баланс между работой и личной жизнью позволяет парам развивать эмоциональную связь, поддерживать близость и укреплять партнерство. Уделяя приоритетное внимание своим отношениям, пары могут поддерживать долгосрочное удовлетворение и счастье [1].

Одним из важнейших аспектов баланса между работой и личной жизнью является его влияние на удовлетворенность работой. Удовлетворенность работой относится к субъективной оценке человеком своей работы и уровню удовлетворения и удовлетворенности, которую он испытывает. Несколько исследований установили значительную связь между балансом между работой и личной жизнью и удовлетворенностью работой, подчеркивая важность достижения здорового баланса между работой и личной жизнью. Когда люди могут эффективно управлять своей работой и личными обязанностями, они испытывают более высокий уровень удовлетворенности работой. Это связано с тем, что здоровый баланс между работой и личной жизнью позволяет людям иметь время и энергию для личных интересов, хобби и отношений, которые способствуют их общему благополучию и счастью [7]. Участие в деятельности вне работы, которая приносит радость и удовлетворение, повышает удовлетворенность работой, обеспечивая ощущение цели и смысла, выходящих за рамки профессиональных обязательств. Кроме того, баланс между работой и личной жизнью играет решающую роль в снижении связанного с работой стресса и выгорания, которые могут существенно повлиять на удовлетворенность работой. Когда люди перегружены чрезмерными требованиями к работе и чувствуют себя неспособными удовлетворить свои личные потребности, их удовлетворенность работой имеет тенденцию снижаться. С другой стороны, когда у людей есть гибкость и поддержка для поддержания баланса между работой и личной жизнью, они испытывают меньший уровень стресса и более удовлетворены своей работой.

Организации, которые отдают приоритет балансу между работой и личной жизнью и предоставляют необходимые ресурсы и поддержку сотрудникам для его достижения, как правило, имеют более высокий уровень удовлетворенности работой сотрудников. Предлагая гибкие условия работы, продвигая культуру поддержки и внедряя политику, которая ценит баланс между работой и личной жизнью, организации демонстрируют свою приверженность благополучию и счастью сотрудников. Когда сотрудники чувствуют поддержку в достижении баланса между работой и личной жизнью, они с большей вероятностью будут чувствовать, что их ценит и ценит их организация, что приводит к повышению удовлетворенности работой. Кроме того, баланс между работой и личной жизнью влияет на восприятие конфликта между работой и личной жизнью. Когда люди испытывают конфликт между работой и личной жизнью, это может негативно повлиять на их удовлетворенность работой [6]. Однако, когда люди способны эффективно ориентироваться и балансировать между своей работой и личными обязанностями, они испытывают меньше конфликтов и получают большее удовлетворение от работы. Это говорит о том, что баланс между работой и личной жизнью действует как защитный фактор от конфликтов между работой и личной жизнью, способствуя более высокому уровню удовлетворенности работой. Более того, здоровый баланс между работой и личной жизнью позволяет людям восстановить силы и восстановить силы вне работы, что приводит к повышению удовлетворенности работой, когда они возвращаются к своим профессиональным обязанностям. Наличие времени для личной деятельности, ухода за собой и отдыха позволяет людям расслабиться, снизить стресс и поддерживать общее благополучие. Когда сотрудники способны достичь этого баланса, они с большей вероятностью подходят к своей работе с новой энергией и энтузиазмом, что приводит к более высокому удовлетворению работой [5]. Важно отметить, что баланс между работой и личной жизнью — это ответственность не только отдельных лиц; организации также играют решающую роль в создании рабочей среды, которая поддерживает баланс между работой и личной жизнью. Это включает в себя реализацию политик и практик, способствующих гибкости, предоставление ресурсов для управления рабочей нагрузкой и развитие культуры, которая ценит интеграцию между работой и личной жизнью. Когда организации осознают важность баланса между работой и личной жизнью и принимают активные меры

для его поддержки, они способствуют более высокому уровню удовлетворенности работой среди своих сотрудников.

Обсуждение

Обзор литературы предоставляет убедительные доказательства важности баланса между работой и личной жизнью в различных аспектах жизни людей. Достижение здорового баланса между работой и личной жизнью приносит пользу не только отдельным людям, но и имеет положительные последствия для организаций. Баланс между работой и личной жизнью тесно связан с удовлетворенностью работой, поскольку люди, которые могут эффективно управлять своей работой и личными обязанностями, испытывают более высокий уровень удовлетворения и удовлетворенности своей работой. Когда у людей есть время и энергия для личных интересов, хобби и отношений, они более позитивно и заинтересованно относятся к своей работе, что приводит к повышению удовлетворенности работой. Кроме того, баланс между работой и личной жизнью играет решающую роль в снижении связанного с работой стресса и выгорания, которые вредны для удовлетворенности работой. Организации, которые отдают приоритет балансу между работой и личной жизнью и предоставляют необходимую поддержку сотрудникам для его достижения, с большей вероятностью будут иметь более высокий уровень удовлетворенности работой сотрудников. Предлагая гибкие условия работы, продвигая культуру поддержки и внедряя политику, которая ценит баланс между работой и личной жизнью, организации демонстрируют свою приверженность благополучию сотрудников. Это, в свою очередь, приводит к повышению удовлетворенности работой и общему успеху организации. Сотрудники, которые чувствуют поддержку в достижении баланса между работой и личной жизнью, с большей вероятностью будут вовлечены, мотивированы и преданы своей работе, что приводит к более высокой производительности и показателям удержания сотрудников.

Однако достижение баланса между работой и личной жизнью является обязанностью не только отдельных лиц. Организации также играют решающую роль в создании рабочей среды, которая поддерживает баланс между работой и личной жизнью. Это включает в себя реализацию политик и практик, способствующих гибкости, предоставление ресурсов для управления рабочей нагрузкой и развитие культуры, которая ценит интеграцию между работой и личной жизнью. Признавая важность баланса между работой и личной жизнью и предпринимая активные шаги для его поддержки, организации могут создать более здоровую и приносящую удовлетворение рабочую среду для своих сотрудников. Стоит отметить, что баланс между работой и личной жизнью выглядит по-разному для каждого человека, поскольку у каждого свои личные и профессиональные обстоятельства. То, что работает для одного человека, может не работать для другого. Поэтому для отдельных лиц важно оценить свои собственные приоритеты и потребности, а для организаций — предложить ряд вариантов и поддержки для удовлетворения разнообразных предпочтений в трудовой жизни.

Заключение

В заключение следует отметить, что баланс между работой и личной жизнью является решающим фактором общего благополучия людей, удовлетворенности работой и успеха организации. Это положительно влияет на здоровье, производительность труда, отношения и удовлетворенность работой. Достижение баланса между работой и личной жизнью требует совместных усилий отдельных лиц и организаций, чтобы расставить приоритеты и поддержать его. Признавая важность баланса между работой и личной жизнью и предпринимая активные шаги для его достижения, люди могут вести более полноценную жизнь, а организации могут создавать позитивную и продуктивную рабочую среду для своих сотрудников.

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O'ZBEKISTONDA SOYADAGI TA'LIMNING RIVOJLANISHI
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ANNOTATSIYA

Ushbu maqolada asosan O'zbekistonda soyadagi ta'limning rivojlanish omillarini muhokama qilinadi. Ayniqsa, unga bo'lgan talabning o'sishi va o'quvchi-yoshlarni “repetitor” kurslaridan foydalanishga majbur qiladigan sabablar o'rganilgan. Shuningdek, maqolada repetitorlarning ta'lim berish sifati haqida ham so'z yuritilgan.

Kalit so'zlar: soyadagi ta'lim, talab, neoliberalizm, iste'molchilik, xususiyashtirish, davlat tomonidan tartibga solish, tarqatish, kasb-hunar kollejlari.

АННОТАЦИЯ

В данной статье в основном рассматриваются аспекты распространения теневого образования в Узбекистане. В частности, триггеры спроса и то, что заставляет студентов нанимать частных репетиторов. В нем также описывается качество репетиторских центров и государственная политика в отношении частных репетиторских центров.

Ключевые слова: образование, спрос, неолиберализм, потребительство, приватизация, государственное регулирование, распространение, профес-сионально технические колледжи.

Ayni paytda mulkni xususiyashtirish- neoliberalizm ko'p davlatlarda jadal suratlarda rivojlanib bormoqda va jamiyatning barcha sohalariga kirib bordi. Mulkni xususiyashtirish va davlat tasarrufidan chiqarish bu neoliberal yondashuv bo'lib, bunda davlat aktivlari xususiyl mulk tarkibiga kiradi. Ta'lim sohasiga neberal yondashuv kirib keldi va ayni paytda o'quv dargohlarni xususiyashtirish odatiy holatga aylanib bo'lgan. Ta'limni xususiyashtirish ham global hodisaga aylanib turlicha ko'rinishlarga ega. Masalan buning bir turi xususiyl universitet, maktab, bog'chalarni paydo bo'lishi bo'lsa yana bir turi “repetitorlik” markazlarining jadal tarzda rivojlanishidir. Bu jarayon butun dunyoda “shadow education-soyadagi ta'lim” deb nom olgan.

Verger (2016) ta'limni xususiyashtirish ilgari kuzatilgan jarayon emasligini ta'kidlaydi. O'quv dargohlari oilalar tomonidan moliyalashtiriladi. Bunda albatta moliyaviy ta'minlangan oilalar farzandlarini bilim oladi, kam ta'minlangan oilalar farzandlari esa chetda qoladi yoki davlat yaratgan bepul maktablarda o'qiydilar. Shunda: “Butun dunyo bolalar huquqi konvensiyasi” nima uchun kerak? - degan savol tug'iladi.

Repetitorlik-neoliberal element qadriyatlari o'z ichiga oladi va yashirin xususiyashtirish jarayoniga kiradi (Zhang & Bray, 2017, 64-bet). Repetitorlik kurslari asosan maktabdagi asosiy darslardan keyin amalga oshadi. Repetitorlar-o'quvchilarning maktabdagi fan o'qituvchisi yoki universitet talabasi bo'lishi mumkin.

Baker (1992) “shadow education-soyadagi ta'lim” iborasini 1992 yili muomalaga olib kirdi va bu metafora 1999 yildan buyon ta'limda keng qo'llana boshlandi. Keyinchalik bu ibora ko'plab olimlarning ilmiy asarlarida uchray boshladi. Nima uchun soyadagi ta'lim iborasi olindi degan savolga Bray (1999): “...chunki repetitorlarning dasturi asosan maktabdagi o'quv dasturidan olinadi. Shunday qilib soyadagi ta'lim bu-bolalar bilan maktab dasturi ustida intensiv shug'ullanish jarayonidir” deb ta'kidlagan.

Bray (1999), shuningdek, soyadagi ta'limni quyosh-soatiga taqqoslagan, chunki quyosh osmon bo'ylab harakatlanar ekan, uning soyasi quyosh-soatining turli soat chizig'iga to'g'ri keladi. Xuddi

shunday, soyadagi ta'lim asosiy maktab ta'lim dasturidan olinadi va maktab dasturiga chambarchas bog'liqdir.

Hozirda "repetitor", "repetitorlik kursi" atamaları o'zbek tilida ko'p qo'llanadigan atamalarga aylangan. Aslida bu so'z rus tilidan olingan bo'lib o'zbek tilida aniq talqini yo'q. "Repetitor" o'zbek tiliga xususiy murabbiy deb tarjima qilinadi ammo muloqotda murabbiy so'zi kamdan kam "repetitor" ma'nosida ishlatiladi. Shuning uchun ruscha "repetitor" so'zi repetitor, repetitorlik hodisani tasvirlash uchun olingan.

O'zbekistonda soyadagi ta'lim fenomeni

O'zbekistonda soyadagi ta'lim jarayonini o'rganishdan oldin, mamlakatning geografik joylashuvi va tarixiy kelib chiqishiga to'xtalib o'tish maqsadga muvofiqdir. O'zbekiston Markaziy Osiyodagi ikkita davlat tomonlama dengizga chiqa olmaydigan yagona davlat bo'lib, shimoldan Qozog'iston, shimoli-sharqdan Qirg'iziston, janubi-sharqdan Tojikiston, janubi-g'arbdan Afg'oniston va Turkmaniston bilan chegaradoshdir. O'zbekiston Sotsialistik Respublikasi 1924-yilda sobiq Ittifoq tomonidan tuzilgan. 1991 yilda Sovet Ittifoqining parchalanishi O'zbekistonga, boshqa O'rta Osiyodagi mamlakatlar singari, mustaqillik olib keldi. O'zbekiston mineral resurslarga boy, asosiy iqtisodiyoti paxta yetishtirish, dehqonchilik, chorvachilikdan iborat. O'zbekiston jahonda paxta yetishtiruvchi yetakchi davlatlardan biri sanaladi. Mamlakat aholisi 33 milliondan ortiq kishidan iborat bo'lib, o'zbeklar, ruslar, tojiklar, qozoqlar, qirg'izlar va ozroq qismini koreyslar tashkil etadi.

Mustaqillikdan so'ng O'zbekiston ta'lim tizimi deyarli Sovet Ittifoqi tizimiga o'xshab ketardi. Postsovet davrida O'zbekiston ta'lim tizimi maktabgacha ta'lim (2-7 yosh), boshlang'ich ta'lim (1-4-sinf) va o'rta maktab (5-11-sinf) ta'limidan iborat bo'lgan. O'rta maktabni tugatgandan o'quvchilarda ikkita tanlov bor edi ya'ni 5 yillik yoki 7 yillik ta'limni tanlash kerak edi. 5 yillik ta'limni tamomlagan talabalar "Профессиональное-техническое училище" (PTU) nomi bilan mashhur bo'lgan o'rta ta'lim muassasalariga o'qishga kirardilar. O'quvchilar o'rta maktabni (11 yillik ta'limni) tugatgan so'ng oliy o'quv yurtlarida o'qishni davom ettirishi mumkin bo'lgan.

Birlashgan Millatlar Tashkiloti (2007-2008) ta'kidlanganidek, 1997-2001 yillar O'zbekistonda milliy ta'lim siyosatini shakllantirish davri bo'lgan. 1997 yilda ta'lim vazirligi tomonidan milliy dastur qabul qilindi va u milliy qonunchilik darajasigacha shakllantirildi. O'zbek milliy dasturi Sovet Ittifoqidan keyingi dastlabki vaqtinchalik islohotlarni to'xtatdi va ta'lim islohotlarini amalga oshirish uchun izchil harakat boshladi. 1998-yilda O'zbekistonning Birinchi Prezidenti tashabbusi bilan sohada jiddiy islohot amalga oshirildi. Ushbu islohot tufayli barcha o'rta maktablar bitiruvchilari majburiy ta'lim sifatida professional va kasb-hunar ta'lim muassasalari belgilandi. Bunday islohot o'rta maktabda o'qish muddatini 11 yildan 9 yilga qisqartirdi. Bundan tashqari, islohotda umumta'lim maktablarini bitiruvchilar uchun qo'shimcha 3 yillik majburiy ta'lim belgilandi. Professional va kasb-hunar kollejlarning joriy etishning maqsadi o'qitish sifatini oshirish, yoshlarning kasbiy mahoratini oshirish va mehnat bozoriga kirish uchun ko'proq imkoniyatlar yaratish edi (UNDP, 2007). Kollejlardan farqli o'laroq, litseylar o'quvchilarni davlat dasturi orqali oliy o'quv yurtlariga tayyorlashga yo'naltirilgan (Zaylobidinova, 2021).

O'zbekistonda 1998-yildan boshlab kollejlarda tahsil olish majburiy ta'lim sifatida joriy etilgan, biroq majburiy ta'lim o'z maqsadlarini oqlay olmadi. O'quvchilarning kollejlarda davomati pastligi va litseylarda repetitorstvaga bo'lgan talabning yuqoriligi hukumat vakillarini tizimga o'zgartirish kerakligi haqida o'ylantirdi. Qolaversa, aksariyat ota-onalar kollejlarda ta'lim sifati qoniqarli emasligidan shikoyat qilar edilar. Shuning uchun aholining fikrini aniqlash maqsadida, umumta'lim maktablarida majburiy ta'lim islohotini saqlab qolish yoki o'zgartirish haqida so'rovnoma o'tkazildi va ta'lim sohasida o'zgarishlarga sabab bo'ldi. Shu munosabat bilan litseylar ikki yillik o'quv dargohiga aylandi. O'quvchi litseyni tugatgandan so'ng o'rta maktabni tamomlaganlik to'g'risidagi guvohnoma oladi. Kollejlarda esa to'lov-kontrakt asosida o'qitish joriy etildi va 11 yillik majburiy o'rta ta'limni tugatgan talabalarni qabul qilishni boshladi. Kollejlarda o'qish muddati talabalar tanlagan fakultet va mutaxassislikka bog'liq (odatda 1,5-2 yil). Hozirgi kunda O'zbekistonda aksariyat yoshlar majburiy ta'limni tugatgandan so'ng, oliy o'quv dargohida o'qishga kirishga harakat qilishadi. Odatda oliy o'quv yurtlariga kirish imtihonidan muvaffaqiyatli o'ta olmagan yoshlar kollejlarga boradi.

Mustaqillikka erishgandan so'ng, O'zbekiston iqtisodiy tanazzulga yuz tutdi, bu esa ta'limga sarflanadigan mablag' va xarajatlarni sezilarli darajada qisqartirdi. O'zbekistonga ierarxik markaziy

rejalashtirish va resurslarni samarasiz taqsimlash Sovet Ittifoqi siyosatidan meros bo'lib qoldi, bu nafaqat ta'lim, balki boshqa sohalarni moliyalashtirishda ham ko'plab muammolarni keltirib chiqardi. Birlashgan Millatlar Ta'lim, Fan va madaniyat Tashkilotining (2001) (UNESCO) ma'lumotlariga ko'ra, davlatning ta'limga sarflangan xarajatlari 6,8% gacha qisqartirilgan, ammo ota-onalarning ixtiyoriy hisssasi 55% gacha oshgan. O'zbekiston hukumati ta'lim sohasiga katta sarmoya kirita olmadi va moliyaviy yukni mahalliy hokimiyat o'rganlar, maktablar va ota-onalar zimmasiga yuklab, ta'limni markazlashtirishga harakat qildi (Ochiq Jamiyat Instituti, 2002). Maktablar bolalarni tekin kitoblar bilan, o'quv xonalarni esa jihoz va texnologiya bilan ta'minlay olmadi. O'qituvchilarning maoshi 3-4 oyga kechiktirildi va shu sababli ko'plab malakali o'qituvchilarning ish tashlash jarayoni kuzatildi. Odamlar maktablardagi sifatli ta'limga bo'lgan ishonchini yo'qotib, o'zlari farzandlari uchun xususiy repetitorlar yollashni boshlashdi. Shunday omillar va ayniqsa, ish haqining kechikishi, o'qituvchilar oilasini boqish uchun boshqa daromad manbaini izlashga majbur qildi (Zaylobidinova, 2021). Bunga o'xshash omillar Sovet Ittifoqi parchalanganidan keyin gruziyalik o'qituvchilarni ham ish tashlab repetitorlik bilan shug'ullanish jarayoni jaddalashdi. (Kobaxidze, 2018).

O'zbekistonda soyadagi ta'limning rivojlanishining yana bir sababi, markazlashtirilgan test tizimining joriy etilishidir. Abiturientlar o'rtasida raqobatni kuchayishi, xususiy repetitorlikni rivojlanishiga asos bo'ldi. 2013 yil manba'siga asosan O'zbekistonda 100 o'rin uchun 633 nafar abituriyent kurash olib bordi. Imtixon topshiruvchilar eng yuqori ball olishga va grant asosida o'qishga harakat qiladilar, chunki pul to'lab o'qishga ko'p odamlarning moliyaviy ahvoli to'g'ri kelmasdi. Shuning uchun ota-onalar farzandlarini pullik repetitor bilan shug'ullanishlari uchun sharoit yaratib berishga kirishdilar.

O'zbekistonda o'quv markazlari nafaqat maktab fanlarini, balki bolalar bog'chasi, pazandachilik va hunarmandchilikni o'rgatish ham o'z ichiga oladi. O'quv markaz egalari odatda xususiy tadbirkorlardir. Ularning maqsadi qo'shimcha daromad topish shuning uchun binoni ijaraga oladilar, repetitorlik qiluvchi o'qituvchilarni yollaydilar va davlatga daromad solig'ini to'laydilar. Bunday markazlarni ochish uchun markazlashgan yagona darcha-elektron tizimidan litsenziya oladilar. O'zbekistonda kengayib borayotgan o'quv markazlardan yana biri bu IELTS (ingliz tilini bilish darajasi) repetitorlik markazlaridir. IELTS markazlarini har bir xohshi bor xususiy tadbirkor yoki xususiy repetitor ochishi mumkin. Odatda repetitorlik kurslarini o'tkazish uchun bo'sh bino ijaraga olinadi va hukumat ro'yxatidan o'tkaziladi. Statistik ma'lumotlarga ko'ra, bugungi kunga kelib Farg'ona viloyatida 220 repetitorlik markazlari faoliyat ko'rsatmoqda.

Yana bir qiziq hodisa shundaki, repetitorlik Farg'onaning ayrim tumanlarida oilaviy biznesga aylangan, ya'ni oila a'zolari bilan repetitorlik qilishadi. Hindistonlik Puballi Ghoshning (2019) ta'kidlashicha Hindistonning ayrim shaharlarida oilaviy repetitorlik faoliyati kuzatish mumkin. Biroq, soyadagi ta'limning ushbu shakli chuqur o'rganilmaganligi tufayli bu haqda ma'lumotlar kam uchraydi. Farg'ona shahrida oilaviy repetitorlik rivojlanganlik jarayonini esa quyida tasvirlashga harakat qildim.

O'zbekistonda abituriyentlarning bilimi oliy ta'lim muassasasining muayyan fakultetiga kirish imtihonida 1994-2021 yillar oralig'ida uchta majburiy fanlardan iborat bo'lgan. Asosiy fanlar "blok" nomini olgan. "Blok" so'zi ruschadan olingan bo'lib "bo'lim" ma'nosiga egadir. Barcha fanlar bo'yicha 36 ta test savollar tuzilib faqatgina uchta yo'nalish bo'yicha davlat test imtihonlarida abituriyentlarga tarqatilar edi. Ana shunday fanlar triangulyatsiyasi mavjudligi sababli, ayrim xususiy repetitorlar oila a'zolari, qarindoshlari yoki do'stlarini repetitorlik qilish jarayoniga jalb qilar edilar va shu tufayli oilaviy biznes yaratar edilar. Masalan, tarix fanidan ota, ona-tilidan o'g'il va ingliz tilidan qiz farzand repetitorlik bilan shug'ullanar edi. Bunday sharoitda abituriyentlar nafaqat o'qishardi, balki repetitorning uyida ham yashashardi. Taxminan 40 nafar abituriyent xonadonning bitta katta xonasiga joylanar edi va mana shu xona ularning bir yil davomida uxlash va ovqatlanish xonasiga aylanardi. Biroq, agar qizlar va o'g'il bollar birga o'qisa, xonalar ajratilar edi. Oilaviy repetitorlarning hozirda ham mavjud bo'lib intensiv kurslari odatda sentyabr oyida boshlanadi va iyun oyining oxirida tugaydi. Bunday sharoitda abituriyentlarga smartfonlardan foydalanish, televizor ko'rish taqiqlanadi, abiturientlar faqatgina o'qish bilan ovvora bo'ladilar. Talabalar har ikki haftada repetitorlik to'lovi va yashash uchun yetarli oziq-ovqat olib kelish uchun uylariga borishadi. Oilaviy repetitorlar abiturientlarni kirish imtihonlarida 90% muvaffaqiyat va'da qilishar, kirolmagan abiturientni esa aybi o'zida ekanligini ta'kidlashadi. Ularning uyqu soatlari, repetitorlik mashg'ulotlari, ovqatlanish va

mustaqil o'rganish vaqti rejalashtirilgan va bu qoidalarga barcha ta'lim olayotgan yoshlar rioya qiladilar. Bilimlarni o'zlashtira olmagan yoki qoidalarga rioya qilmagan o'quvchi repetitorlik kurslaridan chetlanadi. Bunday oilaviy repetitorlik Farg'onaning Vodil, Qo'qon va Rishton viloyatlarida keng tarqalgan.

Hozirda repetitorlik qilish faolligi O'zbekistonda ancha pasaygan. Bunga sabab oliy o'quv yurtlariga kirish imtihonlari talablari o'zgarganligi, xususiyl universitetlar, maktablar va bog'chalar paydo bo'lganligidandir. Oliy o'quv yurtiga kirish imtihonlarining talabini o'zgarganligi, masalan, uchta asosiy fanlar qisqartirilib ikkita bo'lib qolgan ammo uchta majburiy fanlar qo'shilgan. Boshqa tomondan qaraganda imtihonlarda fanlar soni ko'payib abituriyentlarni yanada ko'proq repetitor kurslariga qatnashga majbur qilib qo'ydi. Chunki O'zbekistonda aksariyat xususiyl repetitorlarning asosiy maqsadi talabalarni har yili bo'ladigan oliy o'quv yurtiga kirish imtihoniga tayyorlashdir. Ammo yildan yilga imtihon shartlari o'zgarib boryapti. Chet tiliga bo'lgan e'tibor kuchaygani tufayli magistratura va doktorantura bosqichida o'qimoqchi bo'lgan talabgorlarga til bilish xalqaro sertifikatini hal qiluvchi vazifani bajaryapti. Shuning uchun hozirgi kunda chet tilidan repetitorlik kurslari yanada rivojlanib eng qimmat pul to'lab o'qiladigan kursga aylangan.

Repetitorlik markazlarida talabalarining soni odatda 30-40 abituriyentni tashkil qiladi. Repetitor kurslariga oylik to'lov repetitorning maqomi va fanga ko'ra bir oz farq qiladi. Agar repetitor, "mashhur" bo'lsa, uning xizmati boshqalarga qaraganda qimmatroqdir. Ingliz tili hozirda elita va talabgorlar soni yuqori fan hisoblanadi, shuning uchun ingliz tilidan repetitorlik narxi qimmatroqdir. Xususan, IELTS repetitorlari eng qimmat hisoblanadi. Uzoq vaqt davomida IELTS dan saboq berib, shu yillar davomida shuhrat qozonayotgan usta-repetitorlar biznesi ancha rivojlangandir. Aksariyat hollarda IELTS xalqaro imtihondan yuqori bal olgan o'quvchilar o'zlari tahsil olgan repetitorlik markazlarida ishlagani qoladilar.

Xulosa qilib aytganda, O'zbekistonda ingliz tili bo'yicha xususiyl repetitorlik ancha kengaygan. Bunga asosiy sabab hozirgi kunda yoshlarning chet elda o'qish tendensiyasi kundan kunga o'sib bormoqda va bu fenomen ota-onalar tomonidan qo'llab-quvvatlanmoqda. Vestminster (Buyuk Britaniya), Inha (Koreya), Turin politexnika universiteti, Singapur menejmentni rivojlantirish instituti kabi jahon universitetlarining Toshkentdagi filiallari IELTS bali bilan talabalarni o'qishga qabul qilinadi. Shu sababli, odamlarning talabini qondirish uchun IELTS o'qitish markazlari soni ortib bormoqda. Boshqa fanlardan masalan: tarix, o'zbek, biologiya, kimyo fanlari ham yetakchi o'rinda turadi, chunki O'zbekistondagi nufuzli universitetlarga (masalan: Toshkent jahon iqtisodiyoti va diplomatiya universiteti, Toshkent davlat yuridik universiteti, Toshkent tibbiyot akademiyasi) kirish uchun talabgorlar tarix, ingliz va o'zbek tili fanlaridan imtihon topshirishlari kerak. Ammo, xususiyl repetitorlik davlat tomonidan tartibga solinishi kerak, chunki ayrim markazlarda repetitorlarning bilimi va dars berish metodikasi davlat ta'lim standartlariga to'g'ri kelmaydi.

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MOSLASHUVCHAN VA SHAXSIYLASHTIRILGAN TA'LIMNI TATBIQ ETISHDA SUN'IY INTELEKT TEXNOLOGIYALARI**Alisher MAMATOV,**

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ABSTRACT. In this article, we delve into the experiences of developed foreign countries in the application of artificial intelligence technologies within their educational systems. The analysis extends to several intelligent educational platforms. Furthermore, the article presents scientifically grounded proposals and recommendations concerning the integration of these innovative technologies into educational frameworks. Additionally, the article introduces a model and operational technology designed for the development of an intelligent educational platform, with a specific focus on tailoring the educational journey to the individual trajectory of each student.

KEYWORDS: *Education, artificial intelligence, personalized learning, intelligent learning platforms, digital content, virtual assistant.*

АННОТАЦИЯ. В данной статье мы углубляемся в опыт развитых зарубежных стран по применению технологий искусственного интеллекта в своих образовательных системах. Анализ распространяется на несколько интеллектуальных образовательных платформ. Кроме того, в статье представлены научно обоснованные предложения и рекомендации по интеграции этих инновационных технологий в образовательную среду. Кроме того, в статье представлены модель и операционная технология, предназначенные для разработки интеллектуальной образовательной платформы с особым упором на адаптацию образовательного пути к индивидуальной траектории каждого студента.

КЛЮЧЕВЫЕ СЛОВА: *Образование, искусственный интеллект, персонализированное обучение, интеллектуальные обучающие платформы, цифровой контент, виртуальный помощник.*

АННОТАЦИЯ. Mazkur maqolada sun'iy intellekt texnologiyalarini ta'lim tizimiga tatbiq etish bo'yicha xorijiy rivojlangan davlatlar tajribasi o'rganilib, bir qancha aqlli ta'lim platformalari tahlil qilingan. Shuningdek, ushbu innovatsion texnologiyalarni ta'lim tizimiga joriy etish bo'yicha ilmiy asoslangan taklif va tavsiyalar ishlab chiqilgan. Bundan tashqari, ta'lim jarayonida o'quvchining shaxsiy trayektoriyasiga yo'naltirilgan aqlli ta'lim platformasini ishlab chiqish bo'yicha model va ishlash texnologiyasi keltirilgan.

КАЛИТ СЎЗЛАР: *Ta'lim, sun'iy intellekt, shaxsiylashtirilgan ta'lim, aqlli ta'lim platformalari, raqamli kontent, virtual yordamchi.*

KIRISH

Hozirgi globallashuv jarayonida raqamli texnologiyalar sog'liqni saqlash, davlat boshqaruvi, qishloq xo'jaligi, iqtisodiyotning real sektori kabi ustuvor sohalar bilan bir qatorda ta'lim sohasida ham ko'plab imkoniyatlarni yaratib bermoqda. Shu o'rinda XXI asrning eng ustuvor texnologiyalaridan biri bo'lgan Sun'iy intellekt (*keyingi o'rinlarda SI*) nafaqat ta'lim jarayonlarini boshqarish, balki ta'lim oluvchilar uchun muhim kontentlarni yaratish va ularga taklif bera oladigan shaxsiylashtirilgan kontentni taklif etish imkonini bermoqda.

Bu kabi innovatsion texnologiyalarni O'zbekiston Respublikasining ustuvor yo'nalishlariga tatbiq etish bo'yicha bir qancha islohotlar amalga oshirilmoqda. Shulardan, O'zbekiston Respublikasi Prezidentining 2021-yil 17 fevraldagi **"Sun'iy intellekt texnologiyalarini jadal joriy etish uchun shart-sharoitlar yaratish chora-tadbirlari to'g'risida"**gi PQ-4996-sonli Qarorining qabul qilinishi, respublikamizda sun'iy intellektni qo'llashning asosiy yo'nalishlari va tamoyillarini, shuningdek, yaqin va uzoq istiqbolda ushbu sohani kompleks shakllantirish uchun shart-sharoitlarni belgilovchi Sun'iy intellektni rivojlantirish strategiyasini ishlab chiqish uchun asos bo'ldi.

Bundan tashqari, O'zbekiston Respublikasi Prezidentining 2020-yil 5 oktyabrdagi **"Raqamli O'zbekiston-2030" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risida"**gi PF-6079-sonli Farmonida O'zbekistonni 5 ta ustuvor yo'nalishi bo'yicha 2030-yilga qadar barcha sohalarga raqamli texnologiyalarni keng joriy etish bo'yicha ustuvor vazifalar belgilab qo'yilgan. Shu bilan birga, ushbu strategiyada ta'lim muassasalarining tegishli sohalarida "Buyumlar interneti" (IoT¹), robototexnika, sun'iy intellekt texnologiyalarini qo'llash va o'rganish bo'yicha laboratoriyalar, shuningdek, xorijiy korxonalarni ushbu sohaga jalb qilishni tashkil qilish bilan bir qatorda o'quvchilarni bilimni baholash bo'yicha samarali avtomatlashtirilgan axborot tizimlarini ishlab chiqishda SIDan foydalanish ham nazarda tutilgan.

Sun'iy intellekt (SI) – raqamli texnologiyalar yordamida inson onining ayrim jihatlarini (masalan, muloqot qilish, muammolarni yechish, mantiqiy fikrlash, o'rganish) modellashtirish texnologiyasi.

Shu o'rinda, O'zbekiston Respublikasi Prezidentining 2022-yil 6-iyuldagi **"2022 – 2026-yillarda O'zbekiston Respublikasining innovatsion rivojlanish strategiyasini amalga oshirish bo'yicha tashkiliy chora-tadbirlar to'g'risida"**gi PF-307-sonli Farmonida ham bir qancha ustuvor vazifalar keltirilgan. Jumladan, ushbu yillarda ilmiy tashkilotlar tomonidan amalga oshiriladigan "drayver" innovatsion loyihalar ro'yxatining 7-bandi (Masofaviy ta'lim uchun sun'iy intellektga asoslangan platforma ishlab chiqish), 117-bandi (Shaxsning biometrik ma'lumotlarini (*nutq, tasvir, video*) aniqlashning sun'iy intellekt texnologiyalariga asoslangan tizimini yaratish), hamda 302-bandida (Sun'iy intellekt asosida fan va ta'limga oid axborot manbalarini foydalanuvchi ehtiyojlariga ko'ra tavsiya etish tizimini yaratish) respublikamizning ta'lim sohasiga SIni tatbiq etish bo'yicha bir qator ustuvor vazifalar keltirib o'tilgan.

Yuqoridagi me'yoriy-huquqiy hujjatlarning mazmunidan ko'rinib turibdiki, O'zbekiston Respublikasining ta'lim tizimiga ham SI texnologiyalarini keng joriy etish bugungi kundagi eng dolzarb masalalardan biri ekanligini ko'rishimiz mumkin. Bunday innovatsion texnologiyalarni ta'lim

¹ **Internet of things** (buyumlar interneti) – bu ma'lumotlarni to'plash va almashish imkonini beruvchi sensorlar, dasturiy ta'minot va tarmoq ulanishi bilan o'rnatilgan jismoniy qurilmalar, transport vositalari, jihozlar va boshqa jismoniy obyektlar tarmog'ini anglatadi.

olish jarayoniga tatbiq etish nafaqat ta'lim oluvchilar, balki ta'lim beruvchilarni ham shaxsiy trayektoriyasiga yo'naltirilgan aqlli ta'lim platformasini yaratish imkonini beradi.

MAVZUGA OID ADABIYOTLAR TAHLILI

Bugungi kunda SI ni barcha sohalarga keng tatbiq etish bo'yicha dunyoning yetakchi olimlari bir qancha ilmiy tadqiqotlar olib bormoqda. Shu jumladan ta'lim tizimiga ham SI texnologiyalarini tatbiq etish va ularning samaradorliklari bo'yicha turli xil yondashuvlar mavjud. Bularga, AQSH Prezidentining ta'lim bo'yicha maslahatchisi M.Kardona, uning o'rinbosari R. Rodrigues va ushbu davlatning ta'lim texnologiyalari ofisi direktori o'rinbosari K.Ichmaillar tomonidan 2023-yilda chop etilgan "Sun'iy intellekt, o'qish va ta'limning kelajagi" nomli taklif va tavsiyalarga asoslangan tahliliy materialida SI ni ta'lim tizimiga taqdim etish bo'yicha yaqin kelajakdagi yutuqlarni keltirib o'tishgan. Shuningdek, SI ga asoslangan intellektual repetitorlik tizimi modelini tavsiya etishgan.

Shu bilan birga, 2020-yilda Buyuk Britaniyalik tadqiqotchi J.Gardner, Irlandiyalik olim M.Oleariy va Xitoylik olim L.Yuanlar tomonidan chop etilgan "Ta'limni baholashda sun'iy intellekt: yutuqmi?" nomli hammualliflikda chop etishgan ilmiy maqolasida formativ va summativ ta'limni baholash usullarida SI ning o'рни bo'yicha taklif hamda tavsiyalar berishgan. Ular SI yordamida ta'lim oluvchilarning insholarini va onlayn test orqali baholash bo'yicha o'zlarini modellarini ishlab chiqishgan.

Bundan tashqari Xitoylik tadqiqotchilar Y.Li, S.Meng va J.Vanglar tomonidan 2021-yilda "Ta'lim, axborot boshqaruvi va xizmat ko'rsatish fani" nomli xalqaro konferensiyasida chop etgan ilmiy maqola (Sun'iy intellekt negizida shaxsiylashtirilgan ta'limni tadqiq qilish va qo'llash) sida SI yordamida shaxsiylashtirilgan ta'limning "Onlayn + oflayn" shakli kichik sinflar talqinida muhokama qiladi va "o'qituvchi markazlashtirilgan" dan "o'quvchiga yo'naltirilgan" o'qitish islohotini ilgari suradi.

Maykrosoft korporatsiyasining ta'lim strategiyasi bo'yicha direktori Stiven Daggenning "Ta'limda sun'iy intellekt: o'quv jarayonini o'zgartirish" nomli tahliliy materialida SI dan ta'lim jarayonida foydalanish o'quvchilarni yoshi, mavqeyi, boyligi va joylashgan joyidan qat'iy nazar sifatli ta'lim olishlari hamda ta'lim darajasini oshirishini ta'kidlab o'tgan. Shuningdek, Hindiston texnologiyalar instituti olimlari Sh. Chatterjee va K. Bhattacharjee o'zlarining "Oliy o'quv yurtlariga sun'iy intellektni tatbiq etish: tarkibiy tenglamani modellashtirish yordamida miqdoriy tahlil" nomli ilmiy maqolasida SI ni Hindiston oliy ta'lim muassasalariga qo'llash imkoniyatlarini o'rganib chiqib, uni ta'lim tizimiga tatbiq etishga yordam beradigan va tezlashtiruvchi determinantlarni aniqlovchi modelni taqdim etgan.

Yuqoridagi ilmiy asarlar va maqolalar tahlilidan ko'rinib turibdiki, ta'lim tizimiga SI texnologiyalarini tatbiq etish nafaqat ta'lim sifatini oshirish uchun, balki ta'lim oluvchilar uchun o'quv kontentlarini taklif etadigan innovatsion texnologik yechim ekanligini ko'rishimiz mumkin. Shundan kelib chiqqan holda, ushbu ilmiy maqolaning asosiy maqsadi bugungi kunga kelib eng rivojlangan SI texnologiyalarini ta'lim tizimiga joriy etish orqali, ta'lim oluvchilarga yanada sifatli ta'lim berishga qaratilgan.

TADQIQOT METODOLOGIYASI

Tadqiqot davomida SI texnologiyalarini ta'lim tizimiga joriy etish bo'yicha xalqaro tajribalarni tahlili qilish, tajribalarni o'rganish, ma'lumotlarni to'plash, guruhlashtirish, tahlilning mantiqiy va taqqoslama usullari, qiyosiy tahlil va boshqa usullardan foydalanilgan.

TAHLIL VA NATIJALAR

Tadqiqotchilar va yirik korxonalarning **sun'iy intellekt** (*artificial intelligence*) va unga bog'liq texnologiyalar, ya'ni **mashinaviy o'rganish** (*machine learning*), **chuqur o'rganish** (*deep learning*), **neyron tarmoqlari** (*neural networks*) va shuningdek, **tabiiy tilni qayta ishlash** (*natural learning processing*) va **kompyuter ko'rishi** (*computer vision*) kabi texnologiyalardan foydalanishlari ortib bormoqda. SI texnologiyalarini ta'lim tizimiga joriy etish, shaxsiylashtirilgan aqlli o'qitish kerakligini

talab qiladi. Bu esa o'z navbatida ta'lim beruvchilarga qo'shimcha vazifalarga vaqt ajratishdan ko'ra ko'proq vaqtini o'quv jarayoniga qaratishga yordam beradi.

Hozirgi kunga kelib bir qator ta'lim muassasalari va o'quv markazlari o'qitish uchun SI tizimlarini ishlab chiqmoqdalar. Ular o'zlarining o'quv kurslarini video darslar, taqdimotlar, animatsion materiallar orqali interaktiv modullardan foydalangan holda tashkil etishmoqda. Bunday tizimlar ta'lim oluvchilarning bilim darajasini baholaydi, fikr-mulohaza bildiradi, zaif tomonlarini aniqlaydi va tushunishni yaxshilash uchun SI tizimi ko'rsatmalar beradi. Shuningdek, nafaqat o'quvchi balki o'qituvchini ham bilimini baholab uni rivojlanishi uchun qo'shimcha materiallarni taqdim etib boradi. Bundan tashqari, SI har bir ta'lim oluvchi uchun muvaffaqiyatli ta'lim olish va keyingi kasbiy o'sish uchun individual ta'lim trayektoriyasini yaratishga imkon beradi.



Rivojlangan davlatlarning tajribasini o'rganish natijasida, ta'lim tizimiga asosan quyida keltirilgan SI texnologiyalariga asoslangan aqlli ta'lim platformalari tahlil va tatbiq etilayotgani aniqlandi. Ular:

Aqlli ta'lim platformalari tahlili — bu tizimlar ta'lim oluvchining bilim darajasini baholaydi, fikr-mulohazalarni bildiradi, zaif tomonlarini aniqlaydi va tushunishni yaxshilash uchun ko'rsatmalar beradi. Ushbu texnologiya tajribasi kam bo'lgan ta'lim beruvchi va oluvchilar uchun qo'shimcha materiallarni taqdim etadi. Masalan, *Pearsonning WriteToLearn*² dasturiy ta'minoti foydalanuvchilarga imlo ko'nikmalarini yaxshilash bo'yicha maslahatlar berish uchun tabiiy tilni qayta ishlash (NLP) texnologiyasidan foydalanadi.

1-jadval.

Sun'iy intellekt texnologiyalariga asoslangan o'quvchining shaxsiy trayektoriyasi aniqlash uchun ta'lim jarayoniga tatbiq etilgan aqlli ta'lim dasturlari

T/r	Nomi	Maqsadi	Xususiyat va afzalliklari
1	Knewton www.knewton.com	Ushbu aqlli platforma asosan shaxsiylashtirilgan ta'limda tushunchalarni mustahkamlash va bilimlardagi kamchiliklarni to'ldirish uchun javobning to'g'ri yoki noto'g'riligidan qat'iy nazar, har bir savolga moslashtirilgan tezkor va	Amaliyot va sharhlar bilan uzluksiz o'rganish imkonini beradi; Shaxsiy trayektoriyadan kelib chiqib tahlil natijalarini ta'minlaydi; Ta'lim oluvchilarga mos keladigan maqsadli ta'lim tajribalarini osongina yaratadi.

² *Pearson's WriteToLearn* - bu yozish ko'nikmalarini shakllantirish va o'qishni tushunishni rivojlantirish uchun vebga asoslangan dasturiy ta'minot. *WriteToLearn*-dan foydalanib, bilim oluvchilar yaxshi o'qiydiganlar tabiiy ravishda ega bo'ladigan qobiliyatni rivojlantiradilar - o'qiganlarini umumlashtirish qobiliyati. Yozish va o'qishni tushunish ko'nikmalarini shakllantirishda ular insho yozish va umumlashtirishni mashq qiladilar.

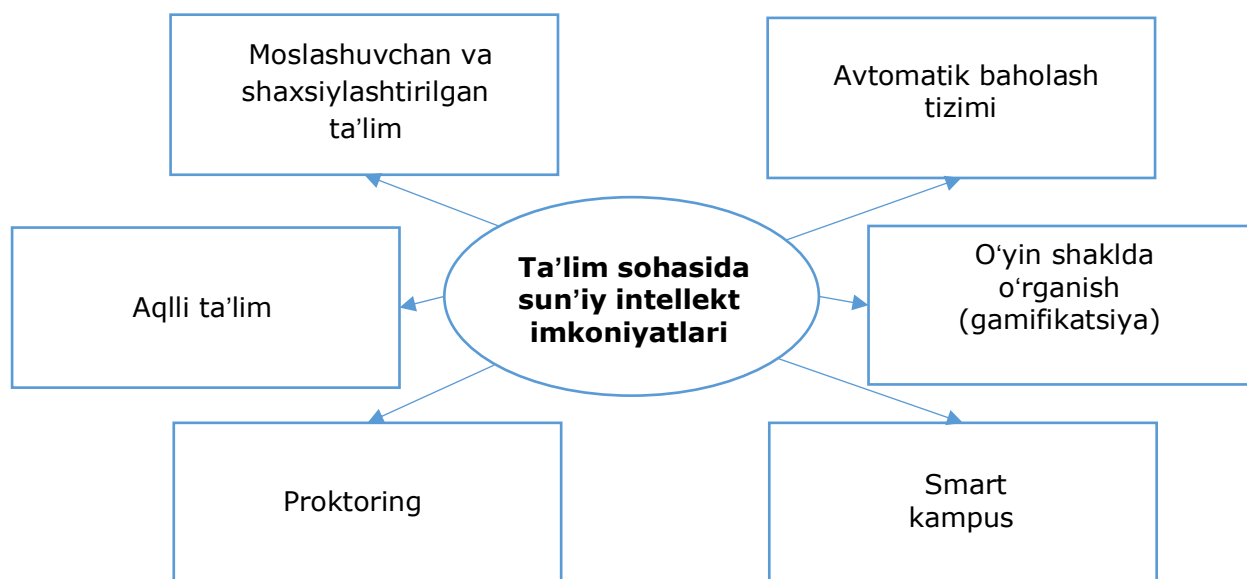
		batafsil fikr-mulohazalarni SI yordamida taqdim etadi va tavsiyalar beradi.	
2	Alef Education www.alefeducation.com	Ushbu aqlli ta'lim platformasi ta'lim samaradorligini oshirish va shu bilan barcha ta'lim oluvchilar uchun istalgan vaqtda va istalgan joyda o'z tezligida o'rganishlari uchun shaxsiylashtirilgan ta'lim tajribasini ta'minlaydigan AI texnologiyaga asoslangan o'quv tajribalarini loyihalashtirish maqsadlarini yaratilgan.	Alef platformasi barcha ta'lim oluvchilar uchun moslashtirilgan ta'lim tajribasini taqdim etadi, shuning uchun ular istalgan vaqtda va istalgan joyda o'z tezligida o'rganish imkoniyatini beradi. SI ta'lim oluvchilarga individual ta'lim olish imkoniyatlarini yaratgan holda ularga qanday o'rganishni afzal ko'rishni tanlash imkonini beradi; SI tomonidan shaxsiylashtirilgan ta'lim; Qiziqarli kontent; Darhol fikr-mulohaza taqdim etish; Haqiqiy vaqtda ma'lumotlar; Tegishli o'quv dasturi.
3	EdApp www.edapp.com	Sun'iy intellekt texnologiyalari asosida yaratilgan ushbu ta'lim platformasi, ta'lim oluvchilarning ilm-fanga qiziqtirish va shaxsiy ta'lim trayektoriyasini yaratib berish imkoniyatlarini ochib beradi. Bu, ta'limning samarali, yanada qiziqarli va qulay bo'lishiga xizmat qiladi.	Mobil ariza: Mobil qurilmalar uchun mo'ljallangan ta'lim tizimi hisoblanib, barcha platformalarda, veb brauzerlarda va boshqa dastururiy ta'minotlarda ham ishlaydi; Interfaol ta'lim: Interaktiv darsliklar, testlar, sinovlar, va qiziqarli ma'ruzalar orqali o'quvchilarni qiziqtirish uchun yaratilgan. Bu, ta'lim jarayonini qiziq va amaliy qiladi; Shaxsiylashtirilgan ta'lim: Platforma shaxsiy ta'lim tajribasini yaratishga imkon beradi. O'quvchilar uchun ma'lumotlar, testlar va darsliklar shaxsiylashtirilgan ravishda to'plab, boshqariladi va taqdim etiladi; Natijalarni monitoring va treking qilish: Ta'lim oluvchilarning faoliyatlari ustida monitoringni yaxshi olib boradi. Bu, o'quvchilarning rivojlanishini

			kuzatib borish va ma'lumotlarini baholashga imkon beradi; O'quv materiallarini boshqarish: Aqlli platforma, o'quv materiallarini boshqarish va yangilashga yordam beradi. Ta'lim oluvchilar uchun o'quv materiallarini yaratish va ularga kirishni boshqarish imkoniyatlarini beradi; Gamifikatsiya, mobil qurilmalar uchun qulay, xAPI va SCORM tizimlarini qo'llab-quvvatlaydi.
4	Adaptemy www.adaptemy.com	Adaptemy, shaxsiy ta'lim prinsiplari va aqlli texnologiyalar(SI/ML)dan foydalanib, ta'lim oluvchilarning shaxsiy ta'limini yanada barqaror va samarador qilishga intiladigan platforma hisoblanib, har bir o'quvchi uchun moslashtirilgan (adaptiv), interaktiv va dinamik ta'lim tajribasini taqdim etadi.	Dinamik ta'lim materiallari: Platforma, o'quv materiallarini dinamik tarzda taqdim etadi. Bu, ta'lim oluvchilarning yangi ma'lumotlarni o'rganish va o'zlarini o'zlashtirishiga yordam beradi; Aqlli ta'lim: Bu platforma aqlli o'qitish prinsiplari asosida ishlaydi. Ta'lim oluvchilarning o'zlashtirilgan ta'lim yo'nalishlarini aniqlab chiqish va ularni moslashtirish uchun aqlli algoritmlardan foydalaniladi; Shaxsiylashtirilgan ta'lim: Har bir ta'lim oluvchilar uchun shaxsiy ta'lim dasturlarini yaratishga imkon beradi. Bu dasturlar o'quvchining mahorati, qobiliyatlari va talablari bo'yicha moslashtiriladi; Doimiy monitoring: Ta'lim oluvchilarning o'zlashtirishlarini kuzatish va natijalarini baholashda aqlli texnologiyalardan foydalaniladi. Bu, ularning rivojlanishini kuzatib borish va ularni individual tarzda yordam beradi; Ishtirok etishlik: Ushbu aqlli platforma, ta'lim oluvchilarni qiziqtirish va ta'lim jarayonini interfaol qilishga xizmat qiladi. Shuningdek, sinovlar, testlar, ma'ruzalar va boshqa interfaol ta'lim vositalari orqali o'quvchilarni motivatsiyalarda ishlatiladi.

5	CogBooks www.cogbooks.com	CogBooks- eng qiziqarli onlayn aqli ta'lim tajribalari va ta'lim oluvchilarning qiziqish doirasidan kelib chiqqan holda moslashuvchanlik algoritmlari asosida yaratilgan platformadir. 2005-yildan beri CogBooks o'qituvchilarni o'quv jarayonining markazida ushlab turadigan moslashuvchan ta'lim hamkori hisoblanadi. CogBooks butun dunyo bo'ylab ta'lim muassasalari ma'murlari, o'qituvchilari va o'quvchilari arzon moslashuvchan bilim olish imkoniyatlarini taqdim etadi. Cambridge University Press & Assessment kompaniyasi CogBooks -ni ta'sischi hisoblanib, bu ilg'or onlayn ta'lim texnologiyalari kompaniyasi va adaptiv o'quv dasturlari bo'yicha yetakchilik qiladi. Cambridge — ni o'zining mashhur ta'lim va ta'lim mazmunini va CogBooks kompaniyasining ushbu sohadagi tajribasi, o'rnatilgan platformasi va o'quv dasturlari bilan birlashtirib, adaptiv o'rganishning birinchi qatoriga qo'yadi. CogBooks foydalanuvchi tajribasi hamma uchun tanish, xuddi darslikning onlayn versiyasida navigatsiya qilish kabi, har bir o'quvchi o'zlariga topshirilgan o'quv kurs materiallarini o'rganish davomida dinamik ravishda moslashadi va 1:1 ta'lim olishni ta'minlaydi.	Moslashuvchan ta'lim: CogBooks har bir talaba uchun o'rganish tajribasini shaxsiylashtirish uchun moslashuvchan o'rganish texnologiyasidan foydalanadi. Platforma shaxsiy rivojlanish va ishlashga kontent va murakkablikni osonlashtiradi. Tahlil va hisobot: Platforma odatda o'qituvchilarga talabalarning muvaffaqiyati va samaradorligini kuzatish imkonini beruvchi tahliliy vositalarni taklif qiladi. Shaxsiylashtirilgan fikr-mulohaza: CogBooks ta'lim oluvchilarga shaxsiy fikr-mulohazalarni taqdim etishlarini ta'minlaydi, bu ularga o'zlarining kuchli tomonlarini va yaxshilash sohaslarini tushunishga yordam beradi. Foydalanish imkoniyati: Ta'lim texnologiyalari platformalari, jumladan CogBooks, mavjudlik xususiyatlariga ustunlik beradi. Bu turli xil ta'lim ehtiyojlarini qondirish uchun matndan nutqqa, shrift o'lchamlari sozlanishi va boshqa imkoniyatlarni ta'minlaydi. Ta'limni boshqarish tizimlari (LMS) bilan integratsiya: CogBooks ta'limni boshqarish tizimlari bilan integratsiyalashishi va ta'lim muhitlariga uzluksiz integratsiyalashish imkoniyatlarini yaratadi.
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6	Realizeit www.relizeit.com	Sun'iy intellekt texnologiyalariga asoslangan adaptiv ta'lim olish, shaxsiylashtirilgan va uzluksizga ta'lim provayderi "Realizeit" ta'lim oluvchilarni sezilarli darajada samaraliroq ta'lim olishlarini ta'minlaydi. Platforma ko'p sonli foydalanuvchilarni o'z ichiga oladigan qilib ishlab chiqilgan. Bu uni K-12 maktablaridan tortib oliy o'quv yurtlarigacha bo'lgan turli ta'lim muassasalari uchun mos qiladi. Ushbu aqlli platforma ta'lim oluvchilar uchun umumiy o'quv jarayonlarini soddalashtirish uchun ta'limni boshqarish tizimlari (LMS) va boshqa ta'lim texnologiyalari bilan integratsiyalash imkoniyati mavjud.	Ma'lumotlar tahlili: Platforma ta'lim oluvchilarning muvaffaqiyati va progresslarini uzluksiz kuzatish uchun ma'lumotlar tahlilini o'z ichiga oladi. Tahlillar natijalarida o'quv jarayoni haqida tushuncha hosil qilish, o'qituvchilar va muassasalarga ta'lim strategiyalari bo'yicha ongli qarorlar qabul qilishda yordam berish uchun ishlatiladi. Shaxsiylashtirilgan ta'lim: Platforma har bir ta'lim oluvchilarning kuchli, zaif tomonlari va o'rganish afzalliklariga moslashtirilgan tarkib, baholash va fikr-mulohazalarni moslashtirish orqali shaxsiylashtirilgan ta'lim tajribasini taqdim etishga qaratilgan. Kontentni yetkazib berish: Platforma ta'lim oluvchilarni jalb qilish uchun turli xil multimedia elementlari va interaktiv kontentni o'z ichiga oladi. Bu videolar, simulyatsiyalar, viktorinalar va o'rganish tajribasini yaxshilash uchun mo'ljallangan boshqa interaktiv materiallarni SI yordamida bilim oluvchining qiziqtirish algoritmlari orqali yondashadi. Baholash va fikr-mulohazalar
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1-jadvalda keltirilgan SI texnologiyalariga asoslangan o'quvchining shaxsiy trayektoriyasi aniqlash uchun yaratilayotgan aqlli ta'lim platformalarining soni kundan-kunga ortib bormoqda. Bundan ko'rinib turibdiki ushbu dasturiy mahsulotlarni ta'lim jarayonini tashkil etishda foydalanish, ta'lim oluvchi va beruvchilarning shaxsiy o'quv trayektoriyasini aniqlash va bilimini uzluksiz oshirishida yanada ko'proq samaradorliklarga olib keladi.



1-Rasm. Ta'limda sun'iy intellektdan foydalanishning istiqbolli yo'nalishlari

1. Moslashuvchan va shaxsiylashtirilgan ta'lim har bir ta'lim oluvchining turli darajadagi akademik ko'rsatkichlarga ega bo'lgan ehtiyojlariga mos keladigan, o'rganishdagi muvaffaqiyatni kuzatish va natijalarga qarab uning trayektoriyasini o'zgartirish qobiliyatiga ega bo'lgan zarur ta'lim mazmunini tanlashni o'z ichiga oladi.

2. Avtomatik baholash tizimi ta'lim oluvchining bilim darajasini avtomatlashtirilgan, xolis baholashni amalga oshirish, o'quv natijalari to'g'risidagi ma'lumotlarni tahlil qilish, tavsiyalar berish va samarali individual o'quv rejalarini ishlab chiqish imkonini beradi.

3. Aqlli ta'lim – ta'lim jarayoniga raqamli texnologiyalarni tatbiq etish orqali passiv elementlarni faol, vizual va interfaol qilish imkonini beradi.

4. O'yin shaklda o'rganish (gamifikatsiya) imkoniyati o'quv jarayonida o'yin texnologiyalari va o'quv simulyatorlaridan foydalanishda ifodalanadi.

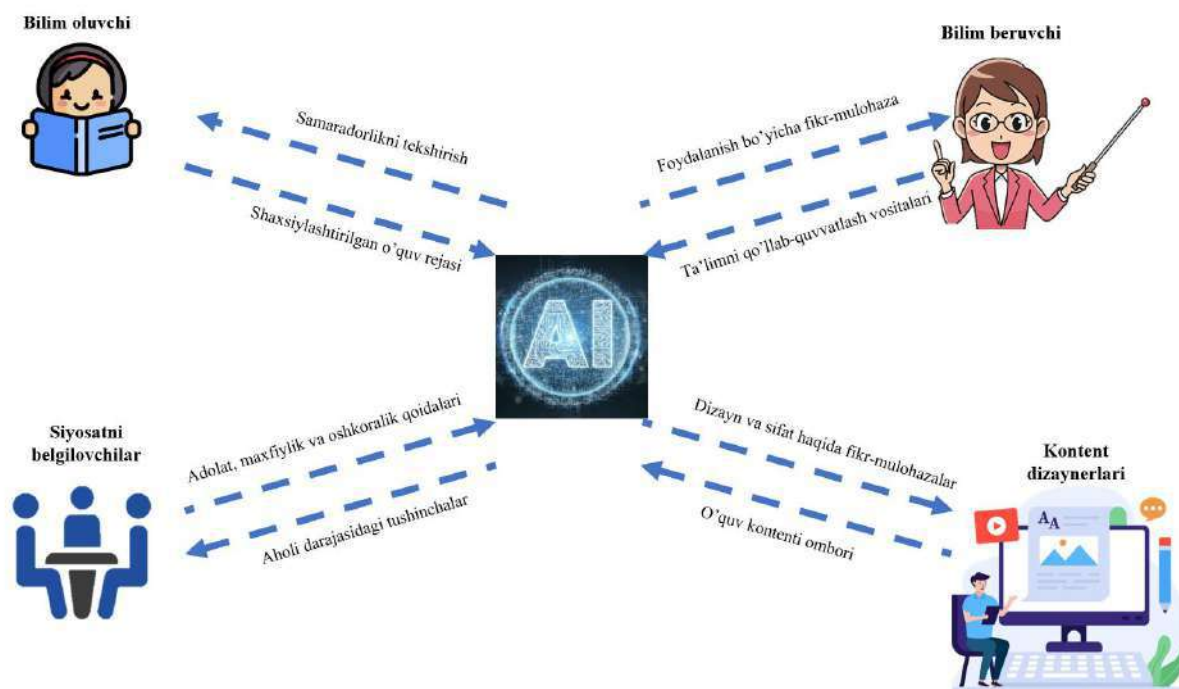
4. Proktoring tizimi imtihan topshirayotgan ta'lim oluvchining xatti-harakatlarini masofadan turib tahlil qilish imkoniyatiga ega istiqbolli tizim hisoblanadi: monitordan uzoqqa qarash chastotasi, brauzerdagi yorliqni o'zgartirishga urinish, ruxsat etilmagan shaxslar yoki ovozlarning mavjudligi va boshqalarni nazorat qilish imkonini beradi.

5. Smart kampus — loyihasi ta'lim oluvchilarning turli savollariga tezkor javob berish imkonini beradi: dars jadvali, darslar o'tkaziladigan sinfxonalarni qidirish, ta'lim muassasalari, o'qituvchining fikr-mulohazalari, video-ma'ruzalar, audio materiallar, taqdimotlar va boshqalarga kirish, nazorat topshiriqlarini qabul qilish, turli ta'lim dasturlari, kurslar uchun ro'yxatdan o'tish, kutubxonada zarur adabiyotlarning mavjudligi, yotoqxonada bo'sh joy mavjudligi, joy tanlash imkoniyati, bepul mashinalar joyini qidirish va boshqalarni o'z ichiga oladi.

Sun'iy intellekt texnologiyalarining ta'lim tizimiga ijobiy ta'siri

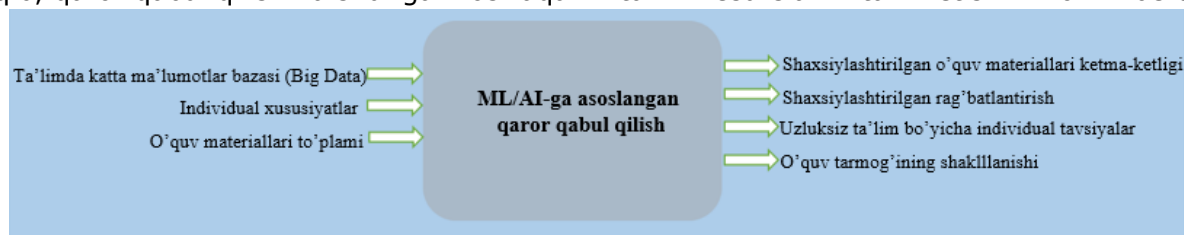
Ma'lumki, COVID-2019 pandemiyasi butun dunyo ta'lim sohasiga juda qattiq ta'sir qildi va deyarli barcha davlatlarda raqamli ta'limni yanada rivojlanishiga o'z hissasini qo'shdi desak mubolag'a bo'lmaydi. Natijada ta'lim oluvchilar va beruvchilarning raqamli savodxonligi ham sezilarli darajada oshdi. Bu esa SI kabi innovatsion texnologiyalarni ta'lim jarayoniga kengroq tatbiq etish imkonini beradi. Bugungi kunga kelib SIni quyidagi ta'lim jarayonlariga tatbiq etilayotganligini ko'rishimiz mumkin:

- Individual ta'lim;
- O'qituvchilarga yordam;
- Proktorlangan onlayn baholash;
- Javoblar varag'ini baholash;
- Avtomatlashtirilgan vazifalar;
- Universal foydalanish imkoniyati;
- 24X7 o'quvchilarni qo'llab-quvvatlash va repetitorlik;
- Virtual yordamchi;
- Smart kontent va boshqalar.



2-rasm. Sun'iy intellektga asoslangan shaxsiylashtirilgan ta'limning asosiy ekotizimlari.

Mashinaviy o'rganish ta'limda mavjud kamchiliklarni bartaraf etish uchun katta imkoniyatlar yaratib beradi. U ta'lim oluvchiga moslashuvchi va majburiyatlari bo'yicha resurslarni taqsimlaydigan yangi va yanada moslashuvchan o'quv jarayonini yaratadi. Bunday aqlli texnologiyalar onlayn o'qish va individual repetitorlikni qo'llab-quvvatlaydi. Qolaversa, SIga asoslangan shaxsiylashtirilgan ta'lim har bir ta'lim oluvchining shaxsiy trayektoriyasidan kelib chiqib, qaror qabul qilish va shunga mos raqamli ta'lim resurslarini taklif etish imkonini beradi.



3-rasm. Sun'iy intellektga asoslangan shaxsiylashtirilgan ta'limning asosiy konsepsiyasi

3-rasmda ko'rsatilganidek, mashinaviy o'rganish(ML)ni qo'llab-quvvatlaydigan ta'lim qarorlar qabul qilish strategiyalarining katta to'plamini o'z ichiga oladi, ular mavjud ma'lumotlarni individual xususiyatlar bilan birgalikda turli shaxsiylashtirilgan o'quv materiallari va tavsiyalari bilan taqqoslaydi.

An'anaviy topshiriqlar (muammolar to'plami, kompyuter dasturlari va laboratoriyalar), shuningdek, onlayn mashqlar va testlar bo'yicha ma'lumotlar to'planishi mumkin. U darslar ketma-ketligini optimallashtirishning muhim qismi sifatida o'rnatilgan baholash vositalarini o'z

ichiga oladi. Shunday qilib, u keng ko'lamli fanlar bo'yicha yangi o'qitish usullarini ishlab chiqishda ta'lim hamjamiyatini qo'llab-quvvatlaydi.

SI ta'lim oluvchilar va beruvchilarga quyidagi aqlli va interfaol ta'lim resurslari va dasturiy vositalaridan foydalanish imkoniyatlarini yaratib bermoqda:

Chatbotlar. Bu sun'iy intellekt va tabiiy tilni qayta ishlash tamoyillari asosida qurilgan kompyuter dasturi. Chatbotning asosiy vazifasi mijoz bilan muloqot qilishdir. Mijoz chatbotga savol berganida, chatbot mijozga darhol javob beradi. Chatbot bilan muloqotda bo'lgan mijoz o'zini aslida odam bilan gaplashayotganini his qiladi. Hozirda Hostinger³ va Dominos kabi yirik kompaniyalar o'z mijozlari bilan muloqot qilish uchun chatbotlardan foydalanmoqda.

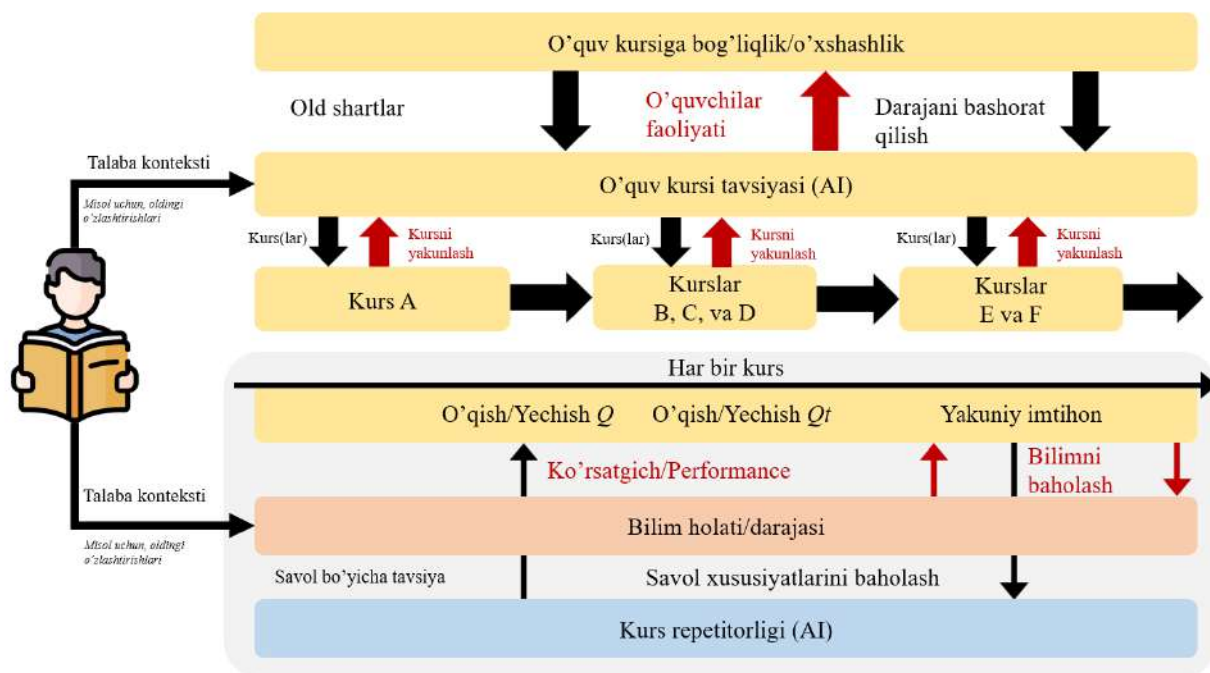
Virtual reallik (VR). Foydalanuvchini ekran ortidagi tasavvur qilinadigan olamga sho'ng'ituvchi vizual va tovushli effektlarni ta'minlaydigan texnologiya. Bundan tashqari, u foydalanuvchiga borliqni haqiqiy bo'lishga undaydigan tarzda taqdim etiladi. Ya'ni, foydalanuvchi ko'rgan, eshitayotgan va his qilayotgan narsasini haqiqatan ham mavjud ekanligiga ishonishi uchun virtual muhit yaratib beradi. Bunday texnologiya yordamida virtual laboratoriyalar o'tkazish, virtual muhitlarda dars jarayonlarini olib borish, 3D modellarni qurish va boshqa ta'lim jarayonlarida ta'lim oluvchilarning amaliy ko'nikmalarining shakllantirishga yordam beradi.

Tavsiya qilish tizimlari(Recommender Systems). Kollaborativ filtrlash va kontentga asoslangan tavsiyalar tizimlari odatda ta'lim oluvchining afzalliklari, o'tmishdagi xatti-harakatlari va o'rganish uslubiga asoslangan shaxsiylashtirilgan o'quv resurslarini taklif qilish modeli hisoblanadi.

Mashinaviy o'rganish algoritmlari: O'quvchining shaxsiy o'quv trayektoriyasidan kelib chiqib, ma'lumotlarini tahlil qilish va shaxsiy fikr-mulohazalarni taqdim etish, o'rganish yo'llarini moslashtirish va individual talabalar qo'shimcha yordamga muhtoj bo'lgan tomonlarini aniqlash uchun turli xil mashinaviy o'rganish algoritmlarini qo'llash modeli;

Chuqur o'rganish tarmoqlari: Neyron tarmoqlar kabi chuqur o'rganish arxitekturalari tasvirni aniqlash, nutqni aniqlash va ta'lim texnologiyasidagi boshqa murakkab naqshlarni aniqlash modeli;

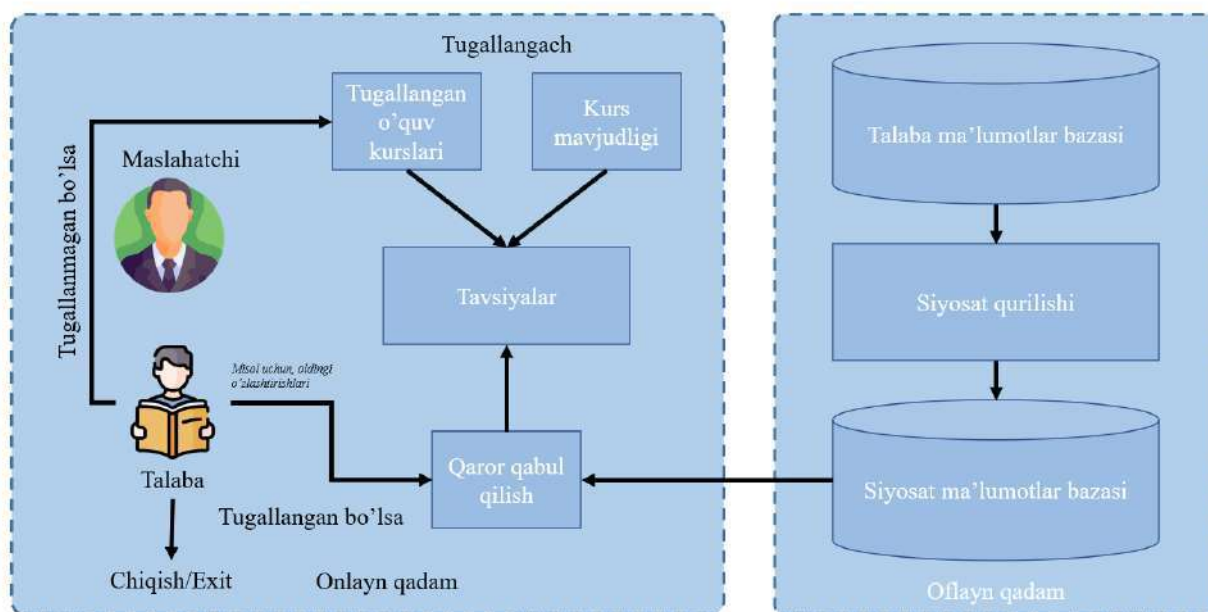
Moslashuvchan/adaptiv ta'lim platformalari: Bu aqlli platformalar o'quvchining taraqqiyoti, kuchli va zaif tomonlari asosida real vaqt rejimida o'rganish tajribasini moslashtirish modellari.



4-rasm. O'quv kurs tavsiyalarining batafsil doirasi.

³ Veb-xosting xizmati kompaniyasi <https://www.hostinger.com/>

4-rasmda o'quv kursi tavsiyalarini optimallashtirish uchun kontekst, bashorat, fikr-mulohaza va boshqalar kabi turli elementlar o'rtasidagi o'zaro ta'sir ko'rsatilgan. Shuni ta'kidlash kerakki, yuqorida tavsiflangan yondashuvlar umumiy bo'lib, ular turli ta'lim sohalarida, shu jumladan signallarni qayta ishlashda, ehtimol kichik domenga bog'liq moslashuvlar bilan keng qo'llanilishi mumkin. Misol tariqasida, eTutor⁴-ni ishlab chiqish uchun mualliflar bir nechta g'oyalarni qo'llaydilar, bu shaxsiylashtirilgan, veb-texnologiyaga asoslangan ta'lim tizimini talaba konteksti va ilgari ko'rsatilgan fikr-mulohazalar asosida taqdim etish uchun o'quv materiallarining optimal ketma-ketligini o'rganadi. O'quv materiallari, tajribada ular eTutor tizimini quyidagi ssenariyda qo'llashadi. Ya'ni uning roli ta'lim oluvchilarga o'quv materiallarini tavsiya etishdan iborat bo'lib, ularning fikrini eng kam vaqt ichida *Discrete Fourier transform*⁵ haqida yangilash uchun ishlatilgan. eTutor tasodifiy va qat'iy tanlov qoidalariga nisbatan yaxshiroq ishlashni ko'rsatadi.



5-rasm. Sun'iy intellekt texnologiyalariga asosidagi o'quv kurslarini ketma-ketligi bo'yicha tavsiya beruvchi model

Shaxsiylashtirilgan, bashoratli va moslashtirilgan ta'limni rejalashtirish uchun SI texnologiyalari quyida tavsiflanganidek, bir necha o'lchovlarni ifodalaydi, jumladan:

- Birinchidan, kurslar ketma-ketligi bo'yicha tavsiyalar, kurslar soni bilan kombinatsion ravishda o'sib boruvchi katta qaror maydoni bilan shug'ullanishni talab qiladi;
- Ikkinchidan, kurslar ketma-ketligini tavsiya qilishda katta moslashuvchanlik mavjud, chunki bir vaqtning o'zida bir nechta kurslarni olish mumkin bo'ladi, shu bilan birga u shartlar va mavjudlik tufayli ko'plab cheklovlarga duch keladi;
- Uchinchidan, har qanday statik kurs ketma-ketligi optimal emas, chunki ular ta'lim oluvchining bilimi, tajribasi va faoliyatini o'rganish jarayonida rivojlanadi.

Misol uchun, yuqorida qayd etilgan muammolarni hal qilish uchun avtomatlashtirilgan kurslar ketma-ketligini tavsiya qilish tizimini modelini taklif etib o'tganmiz.

XULOSA VA TAKLIFLAR

Xulosa o'rnida shuni ta'kidlab o'tishimiz lozimki, ta'lim jarayoniga zamonaviy raqamli texnologiyalar, ayniqsa SIni tatbiq etish natijasida quyidagilarga erishiladi:

- o'quvchilar va talabalar bilimini baholashda shaffoflik;
- har bir o'quvchi uchun moslashtirilgan va shaxsiylashtirilgan ta'limni joriy etish;

⁴ eTutor — Shaxsiylashtirilgan, yakkama-yakka virtual repetitorlik xizmatlari

⁵ Discrete Fourier transform - Diskret Fure transformatsiyasi — ilg'or matematikada qo'llaniladigan texnika.

- vaqt va xarajatlarning tejaliishi natijasida ish samaradorligi oshiriladi;
- sun'iy intellekt va katta ma'lumotlardan (Big Data) foydalanish orqali tez va to'g'ri qarorlar qabul qilinadi;
- aqlli raqamli kontentni yaratish;
- o'qituvchi va talabalar uchun virtual yordamchilarni yaratish;
- aqlli chatbotlar;
- statistik va tahliliy ma'lumotlarni avtomatik tayyorlash;
- yuzni tanib olish orqali harakatlarni boshqarish;
- ota-onalar uchun farzandlarini kunlik o'zlashtirish darajasini onlayn tahlil qilib borish;
- ta'lim jarayonini boshqarish va boshqa ko'plab samaradorliklarga erishish imkoniyatini yaratib beradi.

Demak, SI texnologiyalarini ta'lim jarayoniga tatbiq etish o'qituvchi va o'quvchilar uchun quyidagi afzalliklarni beradi desak mubolag'a bo'lmaydi.

O'quvchilar uchun SIning afzalliklari:

O'zini-o'zi o'qitish – odatda o'quvchilar ko'p vaqtini smartfonlar va planshetlardan foydalanishga sarflashadi. Shuningdek vazifalarni ham mobil qurilmalar orqali bajarishni afzal ko'rishadi. Shu sababli SIga asoslangan ilovalar ularning bo'sh vaqtlarida vazifalarni bajarish uchun 10-15 daqiqa ajratishiga yordam beradi. Bundan tashqari o'quvchilar bunday ilovalar yordamida real vaqt rejimida o'qituvchilari bilan virtual aloqa qilish imkonini ham beradi;

Shaxsiylashtirilgan ta'lim – SIga asoslangan yechimlar o'quvchining bilim darajasiga, qiziqishlariga va uning imkoniyatlariga moslashishi mumkin. Tizim o'quvchilarning bilim olishdagi zaif tomonlarini aniqlab, ularga yordam berishga intiladi. Masalan, biron bir o'quv dasturidan foydalanishni boshlashdan oldin o'quvchi diagnostika testidan o'tadi hamda ilova javoblarni tahlil qilib, unga mos o'quv materiallarini taqdim etadi.

Professor-o'qituvchilar uchun SIning afzalliklari:

O'quvchilarning bilimlarini baholash – bunda SI o'quv mashg'uloti davomida o'quvchilarning o'zlashtirishdagi kamchiliklarini aniqlash imkonini beradi. Masalan, o'quvchilarning 50% dan ortig'i savollarga noto'g'ri javob beradigan bo'lsa, SI ilovasi o'qituvchini xabardor qilishi va unga tahliliy materiallar tayyorlab berishi mumkin;

O'quvchilarning darslarga qiziqishini oshirish – virtual haqiqat⁶ ilovalari va turli xil viktorinalar orqali o'quvchilarni dars mashg'ulotlariga qiziqishini oshiradi. Shuningdek ularning amaliy mashg'ulotlariga ko'maklashib, darslarni yanada interaktiv bo'lishini ta'minlaydi;

Shaxsiylashtirish – SIni qo'llab-quvvatlaydigan turli xil algoritmlar o'quvchilarning bilim va qiziqishlarini tahlil qilishi, ularga mos materiallarni taqdim etishi, o'quv dasturlarini moslashtirishi hamda o'qituvchining o'rniga savollarga javob berishi mumkin;

O'quv dasturlarini avtomatik ishlab chiqish – odatda o'qituvchilar SIni rivojlanishidan ko'proq samara oladilar. Chunki ular SI yordamida hisobotlarni, o'quv dasturi va boshqa turli xil materiallarni tayyorlash hamda qidirishga kamroq vaqt sarflashadi. Natijada o'qituvchilarning o'zlari ustida ishlashi uchun qo'shimcha imkoniyatlar yaratiladi.

Bundan ko'rinish turibdiki SI texnologiyalari ta'lim muassasalarining tashkiliy, o'quv, ilmiy-tadqiqot va boshqa faoliyatlariga tatbiq etiladigan bo'lsa, malakali kadrlarni tayyorlash bo'yicha ko'plab muammolarga raqamli yechimlar topish imkoniyatini yaratib beradi.

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⁶ Virtual haqiqat — real dunyoga o'xshash yoki undan butunlay farq qilishi mumkin bo'lgan simulyatsiya qilingan tajriba hisoblanadi.

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ЗНАЧЕНИЕ НАУЧНЫХ ИССЛЕДОВАНИЙ В ПОДГОТОВКЕ КАДРОВ ВЫСШЕГО ОБРАЗОВАНИЯ

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Аннотация: Данная статья исследует важность научных исследований в контексте подготовки кадров для высшей школы. Она анализирует, как активное участие студентов и преподавателей в научных исследованиях способствует формированию компетентных специалистов, способных к академическому росту и инновационной деятельности. Статья также рассматривает влияние научных исследований на развитие критического мышления, практических навыков и академической карьеры студентов. Результаты исследования подчеркивают важность интеграции научных исследований в учебный процесс высшей школы для обеспечения качественной подготовки будущих кадров и развития образовательной сферы.

Annotatsiya: Ushbu maqola oliy ta'lim kadrlarini tayyorlash kontekstida ilmiy tadqiqotlarning ahamiyatini o'rganadi. U talabalar va o'qituvchilarning ilmiy tadqiqotlardagi faol ishtiroki akademik o'sishga va innovatsiyalarga qodir bo'lgan malakali mutaxassislarni shakllantirishga qanday hissa qo'shishini tahlil qiladi. Maqolada, shuningdek, ilmiy tadqiqotlarning talabalarning tanqidiy fikrlashi, amaliy ko'nikmalari va ilmiy martaba rivojlanishiga ta'siri ko'rib chiqiladi. Tadqiqot natijalari bo'lajak kadrlarni sifatli tayyorlash va ta'lim sohasini rivojlantirish uchun ilmiy tadqiqotlarni oliy ta'limning o'quv jarayoniga integratsiyalashuvi muhimligini ko'rsatadi.

Abstract: This article explores the importance of scientific research in the context of training for higher education. She analyzes how the active participation of students and teachers in scientific research contributes to the formation of competent professionals capable of academic growth and innovation. The article also examines the impact of scientific research on the development of critical thinking, practical skills, and academic careers of students. The results of the study emphasize the importance of integrating scientific research into the educational process of higher education to ensure high-quality training of future personnel and the development of the educational sphere.

Ключевые слова: научные исследования, подготовка кадров, высшая школа, компетентность, инновации, критическое мышление, практические навыки, академическая карьера, качество подготовки, образовательная сфера.

Kalit so'zlar: ilmiy tadqiqot, kadrlar tayyorlash, oliy ta'lim, kompetentsiya, innovatsiya, tanqidiy fikrlash, amaliy ko'nikmalar, akademik martaba, kadrlar tayyorlash sifati, ta'lim sohasi.

Введение:

В современном мире высшее образование становится неотъемлемой частью процесса формирования кадров для различных областей экономики и науки. Но как обеспечить высокое качество этого образования и подготовку кадров, способных решать современные вызовы и проблемы общества? Одним из ключевых факторов, влияющих на качество образования, являются научные исследования. В данной статье мы рассмотрим важность научных исследований в контексте подготовки кадров высшей школы и их воздействие на образовательные процессы

Основная часть:

Для того чтобы понять текущее положение научных исследований в высшей школе и их влияние на образовательный процесс, необходимо обратить внимание на богатую историю исследований в этой области.

В начале XX века, когда системы высшего образования начали формироваться в современной форме, акцент делался на приобретении студентами четких профессиональных навыков [1]. Исследования в то время фокусировались на технических и инженерных науках, с акцентом на практическом применении знаний.

В середине XX века, с расширением высшего образования и увеличением числа студентов, акцент в исследованиях сместился на педагогические и психологические аспекты образования [2]. В этот период исследователи стали изучать методики обучения, формирование креативных способностей и развитие критического мышления.

С началом информационной эры в конце XX века и начале XXI века, исследования в области подготовки кадров в высшей школе стали связываться с использованием современных технологий в образовательном процессе [3]. Это включает в себя исследования в области дистанционного обучения, эффективного использования интернет-ресурсов и разработки онлайн-курсов.

Сегодня, в эру быстро меняющейся информации и глобализации, исследования в области высшего образования стали акцентировать внимание на готовности выпускников к адаптации к изменениям и развитию навыков, необходимых для успешной карьеры [4]. Исследования в области высшей школы продолжают развиваться, чтобы лучше понимать, как обучение может быть наиболее эффективным и соответствовать современным требованиям общества и рынка труда.

Современная сфера высшего образования сталкивается с рядом актуальных трендов и вызовов, которые оказывают влияние на ее развитие.

Первым из них является интеграция технологий в образовательный процесс. Расширение доступности интернета и развитие онлайн-платформ позволили разработать гибкие и удаленные образовательные программы. Этот тренд не только увеличивает доступ к высшему образованию, но и поднимает вопросы о качестве онлайн-образования и необходимости развивать цифровые навыки у студентов.

Вторым трендом является акцент на интернационализации образования. Студенты и ученые сталкиваются с растущей потребностью в межкультурных коммуникациях и навыках, а также опыте обучения за границей. Международные программы обмена и сотрудничество между университетами становятся все более важными, для подготовки студентов к решению глобальных проблем и возможностей. Но нельзя забывать, что использование международного опыта при построении гибридных моделей подготовки научных и научно-педагогических кадров необходимо творчески и органически вписывать в конкретные условия нашей страны. В основу должны быть положены результаты научных исследований, в том числе проработка новых моделей подготовки кадров высшей квалификации на практике.

Также стоит выделить аспектов в виде финансирования высшего образования. Многие страны сталкиваются с проблемой роста затрат на образование и необходимостью обеспечить доступ к обучению для всех слоев населения. Это требует поиска устойчивых моделей финансирования и рассмотрения альтернативных форм образования, таких как бесплатные курсы и открытые образовательные ресурсы.

Все эти тренды и вызовы в сфере высшего образования представляют сложную картину, требующую совместных усилий образовательных учреждений, преподавателей и политических решений для создания более гибких, качественных и доступных образовательных систем, способных адаптироваться к быстро меняющемуся миру.

Научные исследования играют фундаментальную роль в образовательном процессе, привнося в него ценное измерение знаний и опыта.

Во-первых, они способствуют генерации новых знаний и инноваций, обогащая учебные программы и стимулируя интеллектуальное развитие студентов. Студенты, участвующие в научных исследованиях, учатся критически мыслить, анализировать информацию и решать сложные проблемы, что является фундаментом для развития высших когнитивных навыков.

Во-вторых, научные исследования интегрируют студентов в активный учебный процесс, позволяя им прямо участвовать в создании новых знаний. Это способствует глубокому пониманию учебного материала и мотивирует студентов к саморазвитию и самообразованию. Научные исследования также способствуют развитию коммуникативных навыков, сотрудничеству и лидерству, что является важным аспектом подготовки к современной рабочей среде.

В-третьих, научные исследования связаны с развитием креативности и инновационного мышления. Они позволяют студентам экспериментировать, создавать новые концепции и решать сложные проблемы и задачи. Таким образом, роль научных исследований в образовательном процессе не ограничивается только приобретением знаний, они формируют креативных, аналитических и критических деятелей, способных вносить вклад в науку и общество.

В заключение, научные исследования в образовательном процессе не только обогащают знания студентов, но и развивают критическое мышление, инновационное мышление и коммуникационные навыки, делая образование более глубоким и подготавливая студентов к успешной карьере и активному участию в развитии общества.

Методология и исследование:

Рассмотрим на примере Московского Государственного Университета. 27 октября 2021 года опубликован очередной глобальный репутационный рейтинг университетов World Reputation Rankings от международного агентства Times Higher Education. Московский государственный университет имени М.В.Ломоносова вошел в топ-40 лучших вузов мира, заняв 38-ю строчку рейтинга.

Рейтинг составляется на основе 13 индикаторов, объединенных в 5 групп: обучение и образовательная среда, научная работа, цитируемость научных публикаций, международная мобильность студентов и сотрудников.[5] Университет играет ведущую роль в области подготовки новых специалистов для космической отрасли, ведет обширную научную и образовательную программу в области медицинской деятельности, генетики, искусственного интеллекта, экологических задач, фотонных и квантовых технологий и т.д. В настоящее время МГУ перестраивает свою научно-образовательную политику, концентрируя беспрецедентные ресурсы на развитии недавно созданных междисциплинарных научно-образовательных школ, соответствующих приоритетам стратегии научно-технологического развития страны. В их работу уже сегодня включены десятки факультетов, сотни научных сотрудников, тысячи молодых ученых и студентов. Научные исследования в Московском государственном университете (МГУ) играют важную роль в подготовке кадров:

- Поддержка докторантов и аспирантов: МГУ является ведущим центром подготовки исследователей. Аспиранты и докторанты активно участвуют в научных проектах, проводимых университетом, что помогает им развивать навыки исследования и публиковать свои работы в научных журналах. Научные лаборатории и исследовательские центры: МГУ обладает множеством лабораторий и исследовательских центров, где студенты могут учиться и работать в тесном взаимодействии с профессорами и учеными. В университет МГУ ВМК входит 19 научно-исследовательских лабораторий, три лаборатории поддержки научно-образовательного процесса и две студенческие лаборатории [6] .

- Проекты с участием студентов: Многие студенты МГУ принимают участие в научных проектах, которые решают практические проблемы. Например, инженерные и биологические проекты, связанные с разработкой новых технологий или решением экологических задач.

- Международное сотрудничество: МГУ активно сотрудничает с мировыми университетами и научными институтами, что позволяет студентам участвовать в международных исследовательских проектах и обмениваться знаниями с учеными из разных стран. МГУ тесно сотрудничает с университетами Джорджа Мейсона (США), Международной школой бизнеса Йёнчёпинг (Швеция), Университетом Сэнт-Эндрюс (Великобритания), Университетом Рединга (Великобритания), Евразийским национальным университетом имени Л.Н. Гумилёва (Казахстан), Университетом Примоска (Словения).[7]

- Подготовка будущих преподавателей и ученых: Многие выпускники МГУ становятся профессорами и преподавателями в различных университетах и учебных заведениях. Опыт участия в научных исследованиях в МГУ помогает им при передаче знаний и менторстве будущих поколений ученых и исследователей.

- Развитие инноваций и экономики: Многие научные исследования в МГУ имеют практическое применение и способствуют развитию инновационных технологий и бизнес-проектов. Это важно для экономического роста и содействия технологическому развитию страны [8].

Итак, научные исследования в МГУ охватывают широкий спектр областей и предоставляют студентам и аспирантам возможность не только получить образование, но и

активно участвовать в формировании новых знаний и решении актуальных проблем, что делает их кадрами, готовыми к решению сложных задач в различных сферах общества.

Заключение и рекомендации

В заключении научной статьи о значении научных исследований в подготовке кадров высшей школы можно сформулировать следующий вывод:

- Научные исследования играют ключевую роль в повышении качества образования в высшей школе. Они способствуют развитию критического мышления, практическому применению знаний и формированию исследовательских навыков у студентов.

- Интеграция научных исследований в учебный процесс обогащает образовательные программы. Это делает учебу более интересной и актуальной, мотивируя студентов к активной учебной деятельности.

- Научные исследования способствуют инновациям и развитию общества. Студенты, принимающие участие в исследовательской деятельности, могут внести вклад в создание новых знаний и технологий.

- Исследования в высшей школе создают условия для сотрудничества с мировым научным сообществом. Это помогает студентам и преподавателям быть частью глобального образовательного процесса.

- Научные исследования подготавливают студентов к будущей карьере. Они развивают навыки, ценные на рынке труда, и делают выпускников более конкурентоспособными.

- С учетом современных трендов и вызовов в сфере высшего образования, научные исследования становятся неотъемлемой частью образовательной стратегии университетов. Это помогает подготавливать выпускников, способных адаптироваться к быстро меняющейся образовательной среде.

В целом, система подготовки кадров высшей квалификации теряет соответствие складывающейся социально-экономической ситуации в стране и нуждается в глубоком содержательном реформировании. Она должна меняться в соответствии с социально-экономическими процессами, которые протекают в обществе. Без учета этого факта реализация любых проектов реформирования будет малоэффективной.

Эти выводы подчеркивают значимость научных исследований в формировании качественных кадров в высшей школе и их влияние на образовательный процесс и общество в целом

Рекомендации:

1. Поддерживать и стимулировать студентов участвовать в научных исследованиях. Университеты могут создавать программы и инициативы, которые позволяют студентам более активно участвовать в исследовательской деятельности.

2. Развивать междисциплинарные исследования. Университеты могут способствовать сотрудничеству между разными факультетами и институтами для решения комплексных проблем.

3. Инвестировать в инфраструктуру исследований. Обеспечить студентов и преподавателей современным оборудованием и ресурсами, необходимыми для успешных исследований.

4. Создавать курсы и образовательные программы, интегрирующие научные исследования. Разработать учебные планы, которые активно включают научные исследования в образовательный процесс.

5. Формировать партнерства с индустрией и бизнесом. Установить сотрудничество с внешними организациями, которые могут предоставить студентам возможность проводить исследования в реальных рабочих условиях.

6. Обучать преподавателей и научных сотрудников методам внедрения научных исследований в учебный процесс. Университеты могут проводить семинары и обучение для преподавателей, чтобы они могли эффективно интегрировать исследования в учебу.

7. Следить за современными трендами и изменениями в сфере высшего образования. Университетам важно адаптироваться к изменяющейся среде и внедрять новые методы обучения на основе научных исследований.

8. Поддерживать долгосрочное видение. Университеты должны инвестировать в научные исследования с долгосрочной перспективой, осознавая, что их результаты могут сказаться на образовании и обществе в будущем.

Эти рекомендации могут помочь университетам улучшить интеграцию научных исследований в образовательный процесс и сделать обучение более актуальным и эффективным.

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What is the impact of cultural diversity on teaching English in public primary schools in Uzbekistan?

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Abstract:

This research delves into the challenges faced by Uzbek instructors when teaching English to Russian children in the public primary schools of Uzbekistan, a nation marked by a rich cultural tapestry and linguistic diversity. With over 80 ethnic groups and a multitude of languages spoken, including Uzbek and Russian, the complexities of this cultural differences pose unique hurdles for educators. The study aims to investigate the specific difficulties encountered by Uzbek teachers in classrooms where both Uzbek and Russian students coexist or where Russian children are predominant. The official language being Uzbek, coupled with the historical influence of Russian due to the country's Soviet past, creates a distinctive linguistic landscape. Through an exploration of teachers' perspectives, this research seeks to unravel the intricate relationship between cultural diversity and its impact on the teaching and learning of English in this dynamic educational setting. By identifying and understanding these challenges, the study aims to contribute valuable insights for the enhancement of language education strategies in a culturally heterogeneous context like Uzbekistan.

Introduction

Teachers may face difficulties when teaching a foreign language to students from diverse cultural backgrounds. Teaching English as a second language can be particularly difficult in Uzbekistan, which has a diverse range of cultures and languages. Uzbekistan is a country with a long cultural past and more than a hundred ethnic groupings (Adams, L. L, 2010). According to a report by the United Nations, Uzbekistan has a population of over 34 million people, with over 80 ethnic groups and a range of different languages spoken. The country's official language is Uzbek, but Russian is also commonly used due to the country's background as a Soviet Union member (Pavlenko, A, 2008). In Uzbekistan, English is taught as a second language in primary public schools, and many Russian children attend these schools. These kinds of schools have separate classes for Russian and Uzbek pupils. There are also some classes where there is a mixture of Uzbek and Russian students. On the other hand, cultural and linguistic disparities between Uzbek and Russian students might present considerable obstacles for Uzbek teachers. The primary goal of this research is to investigate the difficulties that Uzbek teachers confront when teaching English to Russian children in Uzbekistan's public primary schools. The research will examine Uzbek teachers' viewpoints to understand better the impact of cultural diversity on English language teaching in this environment.

The research topic for this study is:

What are the problems that Uzbek instructors experience when teaching English to Russian kids in Uzbekistan's public primary schools, and how does cultural diversity affect English teaching and learning in this context?

2. Literature review

The impact of cultural diversity on English language teaching has been much debated in the field of language education. Cultural differences between teachers and students have been found in studies to reduce language training efficiency (Garcia & Wei, 2014). The cultural variety of Uzbekistan provides substantial obstacles to English language instruction, notably in public primary schools where Uzbek teachers are responsible for teaching English to students from

different cultural and linguistic backgrounds. Cultural differences between the two groups are one of the most difficult obstacles for Uzbek teachers while teaching English to Russian students. Uzbekistan has a distinct cultural history substantially different from Russian culture. Cultural differences could hinder efficient communication and language acquisition between teachers and students (Atabaeva, 2018). Furthermore, the linguistic distinctions between Uzbek and Russian languages might present substantial obstacles for teachers, particularly when teaching English as a second language (Kamaev & Pozdnyakova, 2015). It is common for Uzbek teachers to use a variety of classroom management strategies in order to promote an inclusive classroom environment that encourages language learning among all students. Visual aids, such as drawings and diagrams, are used in these methods to help students learn new languages and concepts (Ismoilova & Alimova, 2017). In addition to this, teachers also use games and interactive activities to engage students in the learning process and to foster a positive learning environment in the classroom (Nabiyeva, 2016).

Despite these attempts, some researches imply that Uzbek teachers' language proficiency can be an essential factor in the success of English language education in Uzbekistan's public primary schools (Kudaybergenova & Ismailova, 2019). This is especially true when teaching English to Russian pupils, who may require more assistance due to linguistic and cultural differences between Uzbek and Russian. In addition, successful English language education in Uzbekistan, as emphasized by experts such as Rahimov and Karimova (2020), necessitates an awareness of students' cultural origins as well as the ability to recognize and appreciate cultural differences. Despite the increased emphasis on cultural diversity in language education, there is still a need to investigate teachers' specific challenges and experiences in this environment.

3. Methodology

3.1 Participants

Three Uzbek teachers having at least one-year experience educating English to Russian children in public primary schools in Uzbekistan were selected as participants. The teachers were chosen based on their previous experience teaching English in a culturally diverse classroom. Wu (2016) says choosing participants with experience teaching English to children from diverse cultural backgrounds is critical for reliability and validity.

3.2 Types of Methodology

The qualitative research method was employed for this investigation. Qualitative research investigates complicated topics such as cultural diversity in the classroom. According to Creswell (2014), qualitative research is beneficial when the research topic seeks to investigate individuals' experiences and viewpoints. In this case, the study topic focuses on Uzbek teachers' experiences teaching English to Russian children.

3.3 Data Collection and Analysis.

A questionnaire was the primary data collection tool. The questionnaire included open-ended questions about the obstacles teachers face while teaching English to Russian children in a culturally diverse classroom and the influence of cultural diversity on English teaching and learning. There were questions more than ten, but responses for five essential questions were focused. The questionnaire was created after analyzing literature on cultural diversity and English language teaching. The questionnaire was translated into Uzbek, the participant's first language, to ensure clarity and ease of understanding. Harklau (2000) says employing participants' L1 can boost data validity and reliability.

The questionnaire responses were recorded, transcribed, and analyzed using thematic analysis. Thematic analysis detects and interprets patterns and themes in data in relation to the research issue. Thematic analysis is beneficial when the research topic investigates individuals' experiences and viewpoints (Braun and Clarke, 2006).

3.4 Validity and Reliability

Various strategies were used to ensure validity and reliability. The questionnaire was pilot-tested with a group of instructors (volunteers) before being delivered to participants to guarantee the validity of the data acquired. Pilot testing identified any unclear or ambiguous items in the questionnaire, which were revised (Dikko, M, 2016).

Findings and discussion

Due to cultural differences, the findings of this study revealed that Uzbek teachers have substantial obstacles while teaching English to Russian students. Differences in learning styles,

language barriers, attitudes toward education, attitudes toward authority, and cultural norms are among the challenges. The participants observed that Russian students may be more accustomed to traditional lecture-style teaching methods, whereas Uzbek teachers may utilize more interactive and collaborative teaching methods, resulting in a conflict of teaching styles and making adaptation difficult for both parties. According to Hofstede and Hofstede (2005), Uzbekistan scores better on collectivism than Russia, which is more individualistic. This could explain why Uzbek teachers choose more interactive and collaborative teaching techniques that emphasize group activities and debates. However, Russian pupils are more accustomed to traditional lecture-style teaching methods that promote individual learning. This could be linked to Uzbek culture's collectivist orientation, which emphasizes group-oriented activities and conversations. Russian culture, on the other hand, is more individualistic, emphasizing autonomous thinking and self-expression. Language limitations have also been noted as a key obstacle, as Russian students may have little knowledge of Uzbek, resulting in communication difficulties between the teacher and pupils. Linguistic barriers can lead to miscommunication, misconceptions, and biases between cultures (Brown and Durrheim, 2009). This makes it difficult for Uzbek teachers to communicate efficiently and accurately explain concepts to Russian students, resulting in a lack of understanding. As well, it is possible to observe Uzbek teachers who do not possess sufficient knowledge of the Russian language and are incapable of effectively delivering the material. Participants stated that the main cause of this problem is the lack of Russian-speaking teachers. Furthermore, differences in attitudes toward education have been identified as a potential issue, as Uzbek culture places a high value on education, whereas Russian culture may place a greater emphasis on practical skills and job readiness. Heyneman and Loxley (1983) argue that Uzbekistan placed a high value on education, with a strong emphasis on academic achievement as a means of social mobility. This could result in a misalignment of expectations between the teacher and the students. In addition, differences in attitudes toward authority were identified, with Uzbek culture being more respectful to authority figures such as teachers, whereas Russian culture may have a more democratic approach to teaching and learning, resulting in tension between the teacher and students if expectations are not aligned. Students from collectivist cultures were more respectful of teachers and authoritative figures, but students from individualistic cultures were more likely to challenge authority and express their ideas (Stobie, Shipton, and Slade, 2010). It can be seen even in primary schools. Another challenge identified by participants was cultural norm differences (Akbaba-Altun and Can, 2016), with Uzbekistan having a strong Islamic influence and Russia having a predominantly Orthodox Christian culture, resulting in misunderstandings or discomfort around certain topics such as holidays, traditions, or gender roles. This also might result in misunderstandings or cultural clashes between the teacher and pupils, such as differing views on suitable dress, behavior, or social interactions. This study's findings emphasize the significance of knowing and accepting cultural variations while teaching students from varied origins. To guarantee that kids receive an effective and culturally sensitive education, teachers must address these problems. Several textbooks contain such texts, some of which deal with Uzbek culture and others with Russian culture. Students and teachers struggle to explain and understand the original content of descriptive texts describing national holidays (Song and Zhang, 2019) since they represent different cultures. It is possible that Russians may not know about the national holiday of Navruz, which is frequently found in textbooks, and even the New Year holiday may be celebrated differently in both countries. There are a number of examples of this type. In addition, based on the collected data, it can be said that giving feedback or assessment is more critical for Russian students than for Uzbek students. Shim and Ryan (2012) state that cultural variations can influence how students respond to assessments. Shim and Ryan (2012) state that cultural variations can influence how students respond to assessments. A simple mark in a diary or verbal encouragement will not suffice to motivate a student. For the motivation of Russian students, additional marks or stickers should be used during the assessment. To improve education quality, teachers must study students' character more deeply. In addition, representatives of the two nationalities are fundamentally different in accepting or understanding reprimands or punishments. Uzbek children are shy by nature and raised with respect for adults. Maybe that is why they accept without protest when teachers tell them about their mistakes. On the contrary, Russian students are often more self-confident than Uzbek students and like to demand their mistakes and shortcomings based on reasonable details and evidence. This requires caution from Uzbek teachers teaching Russian children. The findings and analyses illustrated the complexities of teaching cultural diversity to Uzbek teachers

and Russian students. Learning styles, language limitations, attitudes toward education, authority, and cultural conventions can all provide challenges in the classroom, requiring both the instructor and students to adapt and discover successful communication methods. Teachers may create a more inclusive and encouraging learning environment for all students, regardless of their cultural backgrounds, by identifying and addressing these problems.

Recommendations

Teachers must be culturally aware and adaptive in their teaching approaches to overcome cultural diversity obstacles in the classroom. According to Kumaravadivelu (2012), language instruction must extend beyond linguistic competency and consider the sociocultural environment in which it is taught. Therefore, it is crucial that teachers in Uzbekistan's public primary schools gain a better understanding of Russian culture, traditions, and learning styles to establish a healthy learning environment for all pupils. By incorporating cultural diversity into their lesson plans, teachers can promote an inclusive and friendly classroom atmosphere that encourages collaboration among students from varied backgrounds. Byram and Zarate (1997) suggest that intercultural competency is a vital component of language learning, and teachers must be equipped with the skills and knowledge to encourage it in students. Furthermore, teachers should be encouraged to participate regularly in professional development and training programs that address cultural sensitivity and understanding. Seeking help from colleagues, school administration, or professional development programs to handle any cultural issues that may arise in the classroom can be beneficial for teachers.

Limitations

This questionnaire-based study conducted with only three participants had several limitations in examining the impact of cultural diversity on English teaching in public primary schools in Uzbekistan. CandNO:2610835 As Creswell (2014) notes, small sample sizes limit the generalizability of findings to a larger population, and the participants may not necessarily be typical of all primary school teachers in Uzbekistan. Moreover, Hsieh and Shannon (2005) suggest that using a questionnaire may have limited the depth and quality of the data acquired, as it does not allow for the study of nuances and details of the topic. Therefore, future research on this topic should consider using multiple data collection methods and involving a more diverse and larger sample size to gain a more comprehensive understanding of the impact of this issue.

Conclusion

In conclusion, this study demonstrates the enormous impact of cultural differences on English instruction in Uzbekistan's public elementary schools. According to Kumaravadivelu (2012), language instruction must extend beyond linguistic competency and consider the sociocultural environment in which it is taught. According to this study, Uzbekistan's cultural diversity provides a variety of obstacles for teachers. These obstacles include variances in learning styles, language barriers, and cultural norms. These obstacles can result in communication breakdowns, misplaced expectations, and ethnic misunderstandings. The study discovered, however, that cultural diversity provides a chance for teachers to improve their teaching techniques by including cultural components in their lessons. This encourages collaboration among students from varied backgrounds. According to Holliday (2018), a culture's understanding is essential for teachers to engage with pupils from various cultures properly. Teachers should be encouraged to participate regularly in professional development and training programs that address cultural sensitivity and understanding. Furthermore, according to this study, creating an inclusive and supportive learning environment is critical to promoting cultural diversity in the classroom. Byrd and Bredeson (2016) claim that teachers encourage students to share their cultural experiences and allow pupils to learn about different cultures. By recognizing and addressing these challenges and promoting cultural awareness and inclusivity in the classroom, teachers can create a more successful and enriching learning environment for all students, regardless of their cultural background.

Reflection

By researching this issue, I obtained a deeper understanding of the issues teachers face in this context. The questionnaire results emphasized the significance of cultural understanding and sensitivity in English language instruction, particularly when working with students from varied backgrounds. As Kramsch (1993) points out, language and culture are inextricably linked, and it is critical for teachers to become familiar with the cultural contexts in which their pupils operate to enable effective language learning. Similarly, Byram and Zarate (1997) suggest that

intercultural competency is vital to language learning. Teachers must be equipped with the skills and knowledge to encourage it in students. Furthermore, I learned about qualitative methods using questionnaires in this research. It was a challenging but rewarding experience as it allowed me to gather rich and in-depth data about participants' experiences and perspectives. I had to carefully create the questions and ensure that they were clear and concise, while also allowing room for participants to elaborate on their responses. Overall, I feel like I gained valuable skills in conducting research and analyzing qualitative data using questionnaires. CandNO:2610836.

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The significance of written feedback in enhancing students' research writing
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Abstract: Developing strong academic writing skills is crucial for students who are pursuing higher education in order to attain academic excellence. Therefore, the present study was undertaken to investigate the viewpoints of students on the instructional techniques used by their teachers in providing written feedback, with the objective of improving their proficiency in academic writing.

Аннотация: Развитие сильных навыков академического письма имеет решающее значение для студентов, получающих высшее образование, чтобы достичь академических успехов. Таким образом, настоящее исследование было предпринято для изучения точек зрения студентов на методы обучения, используемые их учителями для предоставления письменной обратной связи, с целью улучшения их навыков академического письма.

Аннотация: Академик ёзиш кўникмаларини ривожлантириш ҳар бир олий маълумотга эга бўлган талаба учун муҳим ҳисобланади. Шу сабабли ушбу тадқиқот талабаларнинг академик ёзиш кўникмаларини ошириш мақсадида ўқитувчилар томонидан ёзма мулоҳаза билдириш учун қўллаган ўқитиш усулларига оид нуқтаи назарларини ўрганиш учун олиб борилди.

Keywords: academic writing, research writing, written feedback.

Introduction

Enhancing the English language proficiency of students, especially in the domain of academic writing within higher education, is widely recognized as a prerequisite for the advancement and expansion of scholarly and professional research fields, both inside and outside educational establishments. Therefore, the use of a critical progressive approach for acquiring academic English may enhance the capacity of novice writers to actively participate in critical discourse and engage in critical analysis of the established conventions within the subject. Moreover, it is imperative for students enrolled in tertiary education to engage in critical writing. Consequently, it becomes essential to enhance their academic writing skills by establishing connections between their writing and a certain discipline. This approach enables students to develop a strategic mindset towards their written work (Bloor & Bloor, 2013). Irrespective of the level of proficiency in writing skills, the total academic achievement of students exhibits a notable association with their mastery of the four fundamental elements of language, namely reading, writing, grammar, and vocabulary.

Literature review

It is the duty of higher education students to generate scholarly written work, encompassing publications, reports, and scientific articles. This requirement has been implemented to ensure that students have the opportunity to showcase their proficiency in the subject matter. Hence, it is imperative to fulfill this requirement in order to gain admission and successfully complete undergraduate programs, as well as other advanced degree programs, across various fields of study. In addition, it is essential for academic writing assignments at higher education levels to possess a level of critical literacy in order to effectively synthesize data and substantiate a theory. However, a significant number of

students are facing difficulties as their teachers hold them to high standards and expect them to have already acquired proficient academic writing skills from their previous language instructors. Consequently, a significant portion of our student body is currently experiencing a state of confusion, which is further exacerbated by a lack of adequate feedback from their instructors.

For an instrument to be deemed valuable, it is essential that it demonstrates both validity and reliability. Creswell posited that a legitimate instrument is distinguished by its capacity to effectively evaluate the desired purpose of the user. Patton (2015) emphasizes the need of giving priority to inter-coder reliability when using open-ended questions in research. The degree of consensus among unbiased researchers and experts in the respective discipline exceeded 80%, suggesting a good level of dependability as it falls below the barrier set by Creswell & Creswell (2017).

Research Methodology

In order to examine the viewpoints of students regarding the effectiveness of their professors' written feedback methods in enhancing their academic writing skills, a qualitative approach was employed by the researcher. Data was collected through interviews conducted with the students. The interviews were conducted utilizing a semi-structured methodology, incorporating a blend of open-ended and closed-ended inquiries. The utilization of probing questions was employed to aid in the acquisition of thorough and elaborate information, as recommended by Tenny et al. (2017). Therefore, this methodology is considered the most appropriate approach for conducting a comprehensive investigation into the use of written feedback strategies by educators in enhancing students' academic writing skills. The interview questions were formulated using the questionnaires developed by Tom et al. (2013) and relevant scholarly literature. The aim of this study was to analyze the specific written feedback strategies employed by instructors with the goal of enhancing the development of students' academic writing skills.

Analysis and results

The semi-structured interviews were recorded and afterwards transcribed. The researcher meticulously reviewed each recorded interview and conducted an in-depth analysis to ascertain the extent to which it aligned with the predetermined categories of student interviews. Data triangulation was used by the researcher in order to provide a comprehensive and in-depth understanding of students' perspectives on the various written feedback methods and strategies employed by their professors to enhance their academic writing abilities. The technique included the generation, manipulation, and classification of transcriptions as integral components of the qualitative study. The process involved in this task necessitated the identification of the relevant data, further refinement of its definition, classification, and expansion (Rubin & Rubin, 2011). The analysis included topics derived from both interview data and existing literature. Following the completion of the coding process, a comprehensive elucidation was given for each thematic element. The core topics were elucidated, categorized, and consolidated, revealing the essential concerns and potentially a range of findings.

Discussion

The comments provided by the participants, in alignment with the research goals of the study, revealed a range of effective feedback strategies and techniques used by their instructors to foster the development of academic writing abilities. These methods and tactics are delineated below. According to the students, the strategy of providing written feedback, as used by the professors, was seen as very successful. According to student feedback, it is considered optimal to provide chances for students to identify and acknowledge their flaws and blunders, so enabling them to prevent their recurrence in subsequent writing assignments. Hosseiny (2014) asserts that providing constructive comments on writing projects of ESL students has a dual purpose. On one hand, it facilitates self-correction among students, while on the other hand, it contributes to the improvement of their writing abilities.

The most essential part of academic writing in the English language is the examination of grammar. Hence, students have significant challenges in this domain, particularly when it

comes to composing essays or comprehending texts. In this context, the students identified the grammatical correction approach, which involves identifying inaccuracies in students' blunders, as the most successful strategy. Hence, the primary worry of students is to the grammatical difficulties encountered throughout the writing process. Consequently, students regard grammar corrections as the most advantageous kind of feedback approach. Hence, it is vital for educators to provide students with feedback that not only acknowledges and commends their aptitudes but also offers constructive critique pertaining to grammatical inaccuracies. This will aid students in preventing the repetition of errors in their subsequent tasks.

According to the study conducted by Tom et al. (2013), it was shown that students viewed feedback in the form of recommendations to be the most advantageous. Hence, it is essential for educators to provide students with feedback that not only acknowledges their strengths but also includes constructive criticism that highlights their areas for improvement. This practice will assist pupils in mitigating the repetition of faults in their future academic endeavors.

Furthermore, the students identified the practice of identifying errors and offering correct responses as an additional very useful tactic. The process of rectifying errors in writing may include modifying the punctuation, lexicon, and verb selection within the sentences. According to Wirantaka (2019), it was shown that students exhibited a preference for obtaining feedback in the form of mistake correction due to the prompt provision of the right writing form by the instructor. Nevertheless, it is not recommended for educators to offer excessive feedback through error correction. As Amara (2015) asserts, error correction can be detrimental to students as it hinders their active engagement in the learning process by merely providing them with the correct form, thereby fostering dependence on the teacher.

Conclusion/Recommendations

The study revealed many effective written feedback strategies used by instructors to improve students' academic writing abilities. These tactics include grammar correction, constructive comments, mistake flagging, and repair provision. Nevertheless, faculty members endeavor to assume a supportive position by offering constructive feedback to students with the aim of fostering the enhancement of their academic writing abilities. However, for the faculty members to effectively accomplish their objectives, it is imperative that the institution provide support and help. Within the educational setting, it is important for educators to provide constructive feedback including both grammatical aspects and content-related elements. Educators should prioritize careful deliberation of the comments or recommendations they provide on their students' papers prior to their dissemination. To foster a mindset where students see constructive criticism as a catalyst for motivation, it is important for educators to provide positive feedback, even in instances when students make errors. It is recommended that universities provide seminars or training programs with the aim of improving instructors' ability to use diverse feedback strategies in order to foster the development of academic writing skills among undergraduate students. In conclusion, it is important for educators to ensure that the feedback provided is both comprehensible and beneficial in facilitating the development of students' writing skills.

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Prioritization of barriers to the adoption of Renewable Energy Sources in Uzbekistan

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Summary

Uzbekistan is a country with considerable potential for renewable energy (RE) penetration. Their widespread adoption can significantly save natural gas and improve the environment by reducing greenhouse gas (GHG) emissions. It can also cover the growing demand for electricity by economic and social sectors, thus contributing to the economic development and prosperity of the country. However, this potential has not yet been fully exploited due to barriers hindering their development. A current study was carried out to identify and prioritise these barriers to adopting renewable energy sources (RES) based on the degree to which they impede RE adoption in Uzbekistan. Initially, twenty-three barriers were identified from the thorough literature review, which were then filtered with the help of seventeen experts in the field using the Modified Delphi method. Fifteen obstacles were finalized under five main dimensions such as social, technological and technical, economic and financial, administrative and market, and regulatory. The Best Worst Method (BWM) was used to get weights and rankings of each main barrier and sub-barrier with the participation of seven experts from the energy sector of Uzbekistan. Results showed the technological and technical dimension of barriers as the most crucial category, with a weight of (0.4216), followed by economic and financial (0.1951), regulatory (0.1556), administrative and market (0.1359), and social (0.0918). The ranking of sub-barriers revealed inadequate technology as the most significant sub-barrier to the development of RES in Uzbekistan, with a global weight of (0.2346), followed by the lack of skilled personnel (0.1255) and the high investment cost (0.0955). The last two sub-barriers in the row are lack of social acceptance (0.0137) and lack of social awareness (0.0088).

Keywords: Barriers, Renewable Energy Sources, Modified Delphi, BWM, Uzbekistan.

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Definitions and Abbreviations

AHP	Analytical Hierarchy Process
BWM	Best Worst Method
GHG	Greenhouse gases
HPP	Hydropower plant
MCDM	Multi-criteria decision-making
PV	Photovoltaic
RE	Renewable Energy
RES	Renewable Energy Sources
TPP	Thermal power plant
WPP	Wind power plant
USD	United States Dollars
UZS	Uzbekistan Som

1 Introduction

Energy is the foundation for the development of any state. Countries must generate and supply enough energy to meet social, economic, technological and other goals. Worldwide energy consumption is expected to grow by 50% by 2050, driven mainly by Asian countries (IMF, 2022). Except for the last few decades, most energy supplies came from fossil fuels (IEA, 2021). However, obtaining energy from fossil fuels is accompanied by significant emissions of GHG, which in turn will introduce environmental problems associated with global warming (Kweku et al., 2018). This fact forced world governments to pay attention to developing and adopting RES, as a percentage increase in RE consumption leads to a decrease of 0.98% in CO₂ emissions. Therefore, it helps reduce harmful GHG emissions into the air and improves the state of the environment (Mirziyoyeva and Salahodjaev, 2022). A stable supply of energy resources is the key to the sustainable development of the state economy (IMF, 2022). The shortage and high prices for traditional resources require the authorities to take decisive measures to expand RES and thus provide the economy and the population with energy resources.

Uzbekistan has a rapidly growing economy; in this context, meeting the economy's and the population's increasing electricity demand is the key to success (WB, 2022a). Even though Uzbekistan has a vast potential in RES, its share in the country's energy balance is meagre. The cause of this can be various barriers to the widespread penetration of RES. This paper aims to recognise these barriers and prioritise them based on their importance. The work is carried out in the following order:

- (i) Through a thorough review of the existing literature, potential barriers are identified;
- (ii) The Modified Delphi method is applied to the finalising barriers and dividing them into categories;
- (iii) The BWM is employed to prioritise categories and barriers in terms of their importance.

Seventeen experts from the Uzbek energy sector are involved in Modified Delphi, whereas seven are engaged in BWM.

Hence, this paper aims to help policymakers and decision-makers better understand barriers that hinder the penetration of RES in Uzbekistan and accelerate their use for sustainable development and improving the national economy's competitiveness.

This study is structured as follows: Section 2 provides information about Uzbekistan's energy profile, including the RE scenario in Uzbekistan; Section 3 presents the extensive literature review of past studies on RE barriers in different countries and the description of the research gap; the methodology of the study is developed in Section 4; The finalisation and categorisation of barriers into five clusters using Modified Delphi and the conduction of ranking analysis using BWM discussed in Section 5; Section 6 presents data analysis and results; The discussion and recommendation are developed in Section 7; Section 8 concludes the paper.

2 Energy profile in Uzbekistan

Uzbekistan has immense natural and energy resources and a vast RE potential, which serves as the foundation for the sustainable development of the country and its further prosperity.

2.1 Overall energy

Uzbekistan, the country with the largest population in Central Asia, is rich in natural resources such as natural gas, oil, coal and uranium. Production of 91.3% of primary energy comes from natural gas. Table 1 shows the reserves and production of fossil fuels for 2017 (SCoGaMR, 2019).

Table 1 – Amount of reserves and extraction of fossil fuel in 2017

Fossil fuel	Reserves	Extraction
Natural gas (billion cm)	2239.9	55,4
Oil (Mt)	178.1	0.9
Coal (Mt)	1950.1	3.5
Uranium (Kt)	96.7	3.6

A few years ago, the new President of Uzbekistan initiated large-scale reforms across all sectors, including the energy sector. In 2019, by the Presidential Decree, the vertically integrated joint-stock company Uzbekenergo was divided into three companies: 'Thermal Power Plants' Joint Stock Company, which is engaged in the generation of electricity; 'National Electric Grids of Uzbekistan' Joint Stock Company, responsible for the transmission of electricity; 'Regional Electric Networks' Joint Stock Company engaged in the distribution of electricity (lex.uz, 2019c).

Most of the electricity in Uzbekistan generates from Thermal power plants (TPPs) by burning natural gas and coal. As shown in Figure 1, as of January 2021, the installed generation capacity was 16.5 GW, of which 14.2 GW (86%) come from TPPs, 1.9 GW (12%) come from Hydropower plants (HPPs), 0.13 GW come from consumers generator and isolated plants, and 0.1 come from Photovoltaic (PV) plants (MoE, 2022).

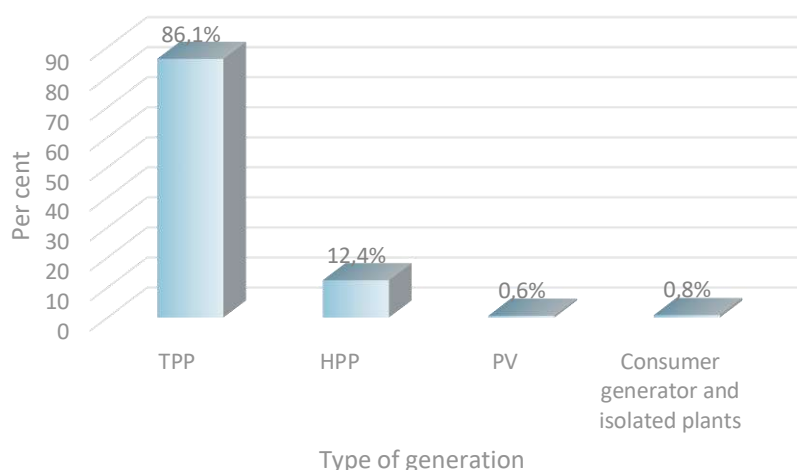


Figure 1 – Percentage of installed generation capacity as of January 2021

As of 2019, 11 TPPs were operated in the country, comprising three central heating and power plants. The capacity of modern energy-efficient power units was 2825 MW, or about 25% of the total capacity of TPPs. Also, in the same 2019, TPPs generated 89.6% of the total electricity generated in the country (IEA, 2021).

As shown in Figure 2, by 2030, power generation will reach 120.8 billion kWh, whereas demand will rise to 85.0 billion kWh by the economy sector and 21.9 billion kWh by population. This amount of power generation is 1.9 times more than in 2018. In order to cover forecasted electricity demand, it is planned to increase the generation capacity up to 29.3 GW by constructing

new power plants, including 3.8 GW of hydropower, 5 GW of solar and 3 GW of Wind power plants (WPPs). Figure 3 illustrates the power generation structure from RES by 2030 (MoE, 2020a).

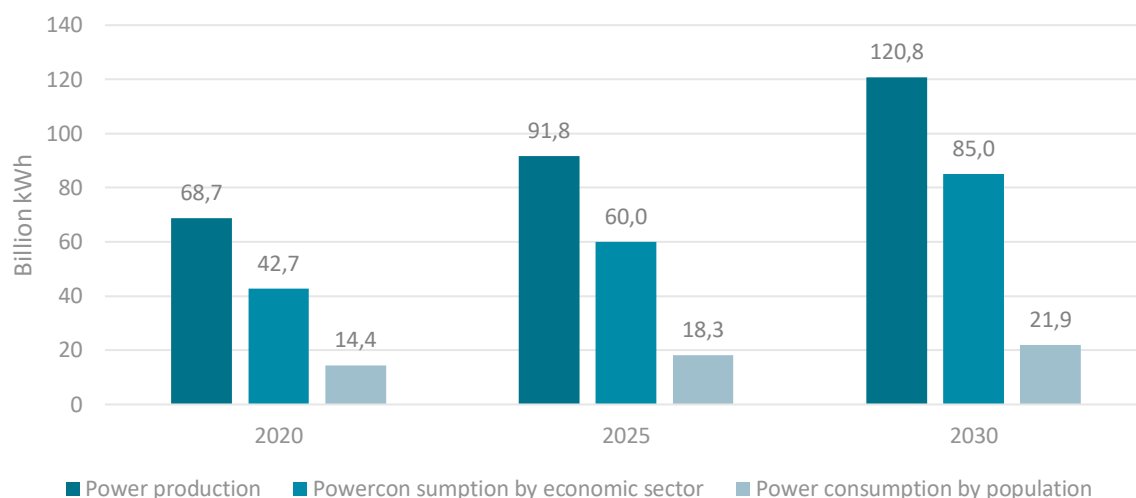


Figure 2 – Forecast of power generation and consumption by 2030

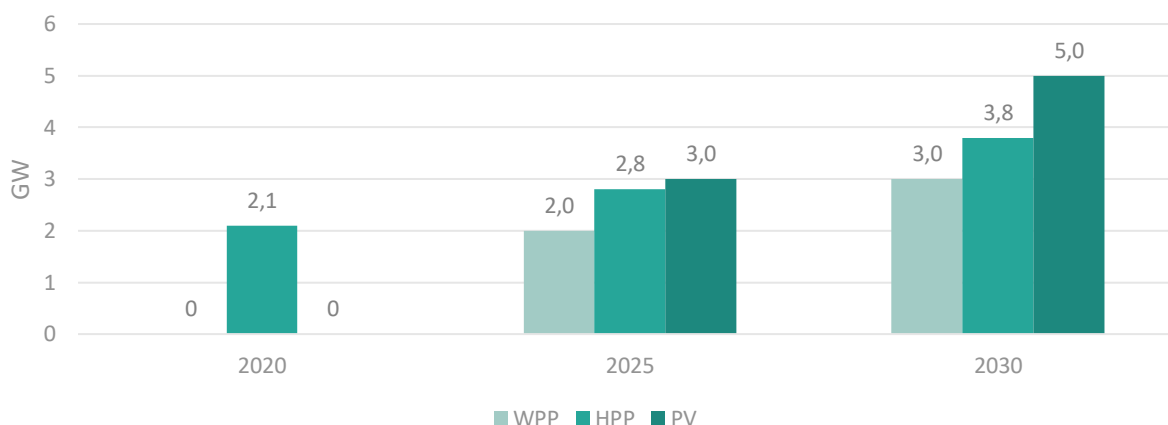


Figure 3 – The structure of power generation from RES by 2030

2.2 Renewable energy

Uzbekistan recently began to pay special attention to the development of RES (except hydropower). In 2018, the country ratified the Paris Agreement, under which, by 2030, it committed to reducing GHG emissions per unit of GDP by 10% from 2010. Moreover, in 2019, the regulatory framework was improved by adopting the Law on the Use of RES and the Law on Public-Private Partnerships, which served as the foundation for switching the country to sustainable development (IEA, 2021). According to the Strategy on the Transition of the Republic of Uzbekistan to the 'Green' Economy for the Period 2019-2030 (lex.uz, 2019b), Uzbekistan intends to increase the share of RES to 25% in the country's total electricity generation by 2030.

Table 2 shows that the task set is feasible as the Government has excellent opportunities to develop RES. The total RES potential is 117,997.8 Mtoe, 182.2 Mtoe, which is technically available (IEA, 2021, Matchanov, 2019).

Table 2 – Potential of RES in Uzbekistan

Type of RES	Gross potential	Technical potential
Hydropower (Mteo)	9.2	2
Wind (Mteo)	2.2	0.4
Solar (Mteo)	50,973	177
Geothermal (Mteo)	67,000	0.3
Biomass (Mteo)	13.8	2.92
Total (Mteo)	117,997.8	182.2

2.2.1 Hydropower Energy.

Hydropower is the most developed type of RES in Uzbekistan. The total hydropower capacity is 1.94 GW, 12% of the country's total installed capacity (MoE, 2020a). As of January 2021, 42 HHPs were operating in the country, including 12 large HPPs with a total capacity of 1.7 GW, 29 small HPPs with a total capacity of 255 MW, and six micro HPPs with a total capacity of 1.3 MW. The largest HPP is the Charvakskaya HPP, with a nominal capacity of 666 MW (IECh, 2022). The estimated hydro potential of the country is 27.5 billion kWh of energy per year, while it is only 27% utilized (IEA, 2021). By 2030, it is planned to increase the installed capacity of HPPs by 1,723 MW and bring it to 3,785 MW through the construction of 35 new HPPs and the modernization of 27 existing HPPs (Dentons, 2021).

2.2.2 Solar Energy.

Due to its geographical location, Uzbekistan has a vast potential for developing solar energy. Depending on the region in the country, there are an average of 260 sunny days with 3000 hours of sunshine per year, and solar radiation reaches 1675 w/m² (Matchanov, 2019). As can be seen in

Table 2, the total potential of solar energy is 50,973 Mtoe, while the technical potential is estimated at only 177 Mtoe (IEA, 2021). According to MoE (2020a), the country intends to build solar PV plants with a total capacity of 5 GW. In 2021, a solar PV plant with a capacity of 100 MW was put into operation in the Navoi region (Masdar, 2022). The construction of 5 more PV plants with a total capacity of 1,197 MW is also ongoing, the commissioning of which is planned for the next few years (IECh, 2022).

2.2.3 Wind Energy.

Uzbekistan has good climatic conditions for the development of wind farms. As seen in

Table 2, the total potential of wind energy is 2.2 Mtoe, while the technical potential is 0.4 Mtoe. According to MoE (2021), the wind energy potential is estimated at 520-1000 GW. The most promising regions for wind farms are the mountainous areas of Tashkent, Samarkand and Jizzakh regions, as well as the plains of Navoi region and Karakalpakstan (IEA, 2021). Nowadays, the country has one pilot wind station with a capacity of 750 kW, installed in the Tashkent region in 2017. However, wind farms with a total capacity of 3 GW are planned to be commissioned by 2030 (MoE, 2020a). To achieve this goal, two wind farms with a total capacity of 1500 MW are under development in the Navoi and Bukhara regions (IECh, 2022).

2.2.4 Geothermal Energy.

Geothermal energy sources, one of the essential RES, are available in almost all regions of Uzbekistan. Studies have shown that there are eight largest basins in the country. The most suitable areas for introducing geothermal sources are the Bukhara and Syrdarya regions, with the highest water temperature of 56 degrees and 50 degrees Celsius, respectively (Matchanov, 2019). As shown in

Table 2, the total potential of geothermal energy sources is 67,000 Mtoe, while the technical potential is minimal at only 0.3 Mtoe. According to MoE (2021), low enthalpy geothermal waters could supply up to 1 GW of capacity. Also, it is worth noting that the temperature of rocks at a depth of 4000 m to 6000 m is in the range of 70-300 degrees Celsius in all regions of the country, which indicates the possibility of developing geothermal energy sources in the future (IEA, 2021).

2.2.5 Biomass

In Uzbekistan, it is possible to use cotton stalks, wheat residues and other agricultural waste, but people in remote areas use this waste for cooking and feeding livestock (IEA, 2021). According to the MoE (2021), the estimated biomass potential is 15-17 GW, mainly for agricultural and domestic use.

Table 2 shows that the total biomass potential is 13.8 Mtoe, while the technical potential is 2.92 Mtoe (Matchanov, 2019).

3 Literature Review

Except for the last few decades, most of the world's energy supply has come from fossil fuels. However, generating energy from fossil fuels is accompanied by significant emissions of GHG, which in turn introduce environmental problems associated with global warming. This fact forced world governments to pay attention to developing and adopting RES, which could reduce harmful emissions of GHG and improve the current situation. Several barriers hinder the deployment of RES to get benefits from it. Numbers of studies related to RES adoption barriers in different countries were selected for reviewing the relevant literature (2014-2022). Most of them employed various types of integrated Multi-criteria decision-making (MCDM) techniques to identify, categorize and rank RES barriers to adoption rate.

Shah et al. (2019) analysed RE obstacles in Pakistan and utilized Modified Delphi and the Analytical Hierarchy Process (AHP) to identify and rank RE obstacles. The study has identified twenty-one barriers, which were categorized into five main ones: political and regulatory, market competitiveness, institutional, technical, and social. The study ranked the political and regulatory barrier as the highest barrier category, whereas the political instability sub-barrier is more critical than the twenty sub-barriers. Gomez-Navarro and Ribo-Perez (2018) assessed obstacles to the development of RES in Colombia. They applied the Analytical Network Process (ANP) to identify eleven barriers categorized into three clusters: technical, social and economic. The study ranked investment and operation costs as the most crucial barrier, followed by a lack of public and private coordination and a lack of development planning for RES. They also found that wind and geothermal power sources are the most hindered barriers.

Using the AHP method, Luthra et al. (2015) have reviewed twenty-eight barriers adoption of renewable and green energy technologies in the Indian context and classified them into seven dimensions of barriers, i.e. Economical & Financial; Market; Awareness & Information; Technical; Ecological and Geographical; Cultural & Behavioural; and Political & Government Issues. The study

found the Ecological and Geographical dimensions as the top barriers, whereas the Market was the lowest. (Bhandari et al., 2019) have employed the AHP model and graph theoretic approach (GTA) to prioritise the barriers to adopting cleaner technologies to make the manufacturing sector sustainable and competitive. They have studied four clusters named Technical Information, Operational and strategic barriers, Financial and economic barriers, and Human barriers. The study showed that financial and economic barriers are the main obstacles to adopting cleaner technologies. Pathak et al. (2022) have utilized a systematic framework to identify the RE barriers to adoption rates in India. Using the Modified Delphi method, they have selected twenty barriers and categorized them into five clusters named social and economic barriers, policy and political barriers, technical barriers, administrative and Market barriers and geographical and environmental barriers. From the results of the AHP, the policy and political barriers are ranked the most critical barriers, whereas Corruption and nepotism sub-barrier have the highest overall weight among other sub-barriers. Ghimire and Kim (2018) have identified thirty-two obstacles to the development of RES in the context of Nepal and grouped them into six categories. Based on the results of the AHP model, the policy and political, economic, geographic, administrative, social, and technical barriers were realized as the most significant obstacles in RES development in descending order, respectively. To assess the barriers to RES development in Chile and rank them using AHP method, Nasirov et al. (2016) have classified barriers into six dimensions: technical, regulatory and institutional, financial and economic, Market, cultural and social and awareness and information issues. The study found regulatory and institutional, and technical barriers as the most important barriers to developing RES.

Oryani et al. (2021) have investigated the barriers to penetration of RES, such as solar PV, wind turbines, and biomass, in the context of Iran. They identified thirteen barriers and categorized them into five clusters: Economic & financial, Social, Cultural & behavioural, Political & regulatory, Technical, and Institutional. The results of the AHP method showed that the Economic & financial dimension of barriers is the most important, whereas the institutional dimension is the least. Ljovkina et al. (2021) analysed the RE barriers in Russia. They used the STEEP (an acronym for the external sociological, technological, economic, environmental and political factors that may influence an object under study) analysis to classify barriers into five groups and used quantitative research to understand the interconnection and interdependence of obstacles. Their study identified the political stake in hydrocarbons, state control of the energy sector, and the lack of consistent policies on RES barriers as the primary socio-cultural roots of RES development. Sadat et al. (2021) have employed the FAHP and Fuzzy TOPSIS method to overcome the obstacles to solar PV energy development in Iran. The results showed that messy economic situations and ineffective bureaucracy are the most significant barriers to developing PV energy production. Laldjebaev et al. (2021) have investigated RE potentials, deployment, outlook, and obstacles in the context of Central Asia. The study found that barriers such as regulatory framework, infrastructure, finances, expertise, awareness and support, and data and information hinder RES development in the region. Reviewing the literature on barriers to RE penetration in the context of Bangladesh, Mahmud and Roy (2021) have identified thirteen obstacles to RE penetration in Bangladesh. Therefore, interpretive structural modelling (IMS) and cross-impact matrix multiplication applied to classification (MICMAC) were employed to identify the interactions and interrelations among the barriers. Based on the result, the top-down policy formulation process was identified as the most significant factor driving other barriers. Employing the FAHP approach, Alidrisi (2014) have identified seventeen non-technical barriers to geothermal resource utilization in Saudi Arabia and categorized them into four groups such as social, political, economic and educational. The study showed that educational and social barriers are more significant than economic and political barriers.

Several studies associated with RES were recently conducted in the context of Uzbekistan. Ao Xuan et al. (2022) have investigated the usage of solar energy to generate hydrogen in 13

regions of Uzbekistan. They employed a combined stepwise weight assessment ratio analysis (SWARA) for weighting of criteria and using the weighted aggregated sum product assessment (WASPAS), the complex proportional assessment of alternatives (COPRAS), the evaluation based on distance from average solution (EDAS), and the weight sum model (WSM) for ranking locations. They identified that the three most important criteria are solar radiation, sun hours, and average wind speed. The Bukhara region is the most appropriate place in Uzbekistan for solar-powered hydrogen production. Using combined BWM and EDAS, as well as WASPAS, ARAS, and WSM techniques, Mostafaeipour et al. (2021) have analysed the suitability of seventeen regions of Uzbekistan for wind-powered hydrogen production in terms of four categories, including technical, economic, social, and environmental factors. Based on results, Nukus, Bukhara, and Kungrad are introduced as the top three most appropriate locations for hydrogen development from wind plants. Eshchanov et al. (2021) analysed a relationship between cognitive abilities and RE adoption using household-level data from the Uzbekistan perspective. The study based on micro-level data collected in three regions of Uzbekistan showed a positive correlation between the cognitive abilities of individuals and environmentally friendly behaviour. Using a survey-based analysis, Eshchanov et al. (2013) assessed the perception of Khorezmian people (Uzbekistan region) on adopting RES in the residential sector. The study found three major enablers of the adoption of RES, including the opportunity of becoming autonomous from the centrally supplied electricity grid and natural gas and availability of state funded financing, whereas the higher price of energy from the RES poses a main barrier. The most relevant literature reported on the barriers to adoption of RES are summarized in Table 3.

Table 3 – List of studies on barriers to the adoption of RES

Name of author and Reference	Year	Country	MCDM technique	Name of the study
(Ao Xuan et al., 2022)	2022	Uzbekistan	SWARA, WASPAS, COPRAS, EDAS, and WSM.	Use of hybrid MCDM methods for site location of solar-powered hydrogen production plants in Uzbekistan
(Pathak et al., 2022)	2022	India	Modified Delphi and AHP	Prioritization of barriers to the development of RE technologies in India using integrated Modified Delphi and AHP method
(Mostafaeipour, 2021)	2021	Uzbekistan	EDAS, WASPAS, ARAS, and WSM	A thorough analysis of renewable hydrogen projects development in Uzbekistan using MCDM methods
(Oryani et al., 2021)	2021	Iran	AHP	Barriers to RE technologies penetration: Perspective in Iran
(Ljovkina et al., 2021)	2021	Russia	STEEP analysis	RE in Russia: system analysis of barriers
(Sadat et al., 2021)	2021	Iran	Fuzzy AHP and Fuzzy TOPSIS	Barrier analysis of solar PV energy development in the context of Iran using fuzzy AHP-TOPSIS method
(Mahmud and Roy, 2021)	2021	Bangladesh	ISM and MICMAC	Barriers to Overcome Accelerating RE Penetration in Bangladesh
(Solangi et al., 2021)	2021	Pakistan	AHP and Fuzzy TOPSIS	Assessing and overcoming the RE barriers for sustainable development in Pakistan: An integrated AHP and fuzzy TOPSIS approach

(Shah et al., 2019)	2019	Pakistan	Modified Delphi and AHP	Analysis of barriers to the adoption of cleaner energy technologies in Pakistan using Modified Delphi and Fuzzy AHP
(Bhandari et al., 2019)	2019		AHP and GTA	Prioritization and evaluation of barriers intensity for implementation of cleaner technologies: Framework for sustainable production
(Gomez-Navarro and Ribo-Perez, 2018)	2018	Colombia	ANP	Assessing the obstacles to the participation of RES in the electricity market of Colombia
(Ghimire and Kim, 2018)	2018	Nepal	AHP	An analysis of barriers to RE development in the context of Nepal using AHP
(Nasirov et al., 2016)	2016	Chile	AHP	Assessment of barriers and opportunities for RE development in Chile
(Luthra et al., 2015)	2015	India	AHP	Barriers to renewable/sustainable energy technologies adoption: Indian perspective
(Alidrisi, 2014)	2014	Saudi Arabia	Fuzzy AHP	Prioritization of non-technical barriers for geothermal energy utilization using fuzzy analytic hierarchy process: The case of Saudi Arabia

As seen in the previous part, the barriers that hinder the development of RES, and their extent of importance, differ from country to country, depending on the political, economic, technical, environmental, geographical and other conditions of a particular country. The absence of such a study of RE barriers can lead to negative consequences in the introduction and development of RES. Therefore, it is vital to conduct such a study to clearly understand the nature of the RE barriers and formulate suitable measures to overcome or mitigate them, thus increasing the share of RE by reducing GHG emissions. Although there are so many studies of this kind for different countries, and for some countries, even several studies using other research methods, for Uzbekistan, it was impossible to find such studies in the existing literature. In order to fill this gap in the literature, this study was conducted to identify the current RE barriers in the context of Uzbekistan. Hence, the present work's primary objective is to identify the RE barriers and rank them according to their importance, thus helping to expand the introduction of RES in Uzbekistan for sustainable development. The analysis contributes in three ways. Firstly, it identifies potential barriers to RES adoption by extensive literature review. Secondly, identified barriers are finalized and categorized by conducting Modified Delphi. Thirdly, the BWM is applied to rank categories of obstacles and barriers within categories in terms of their importance.

4 Methodology

A systematic framework was employed to conduct this research. Firstly, an extensive literature review of previous relevant studies was carried out to identify the RE barriers. Then, the Modified Delphi Method was utilized to finalize and categorize these barriers in the context of Uzbekistan. Later, the BWM was used to assign weights to the obstacles and rank them in significance. Seventeen relevant experts have participated in the Modified Delphi method and BWM. Figure 4 displays the systematic approach of the current study.

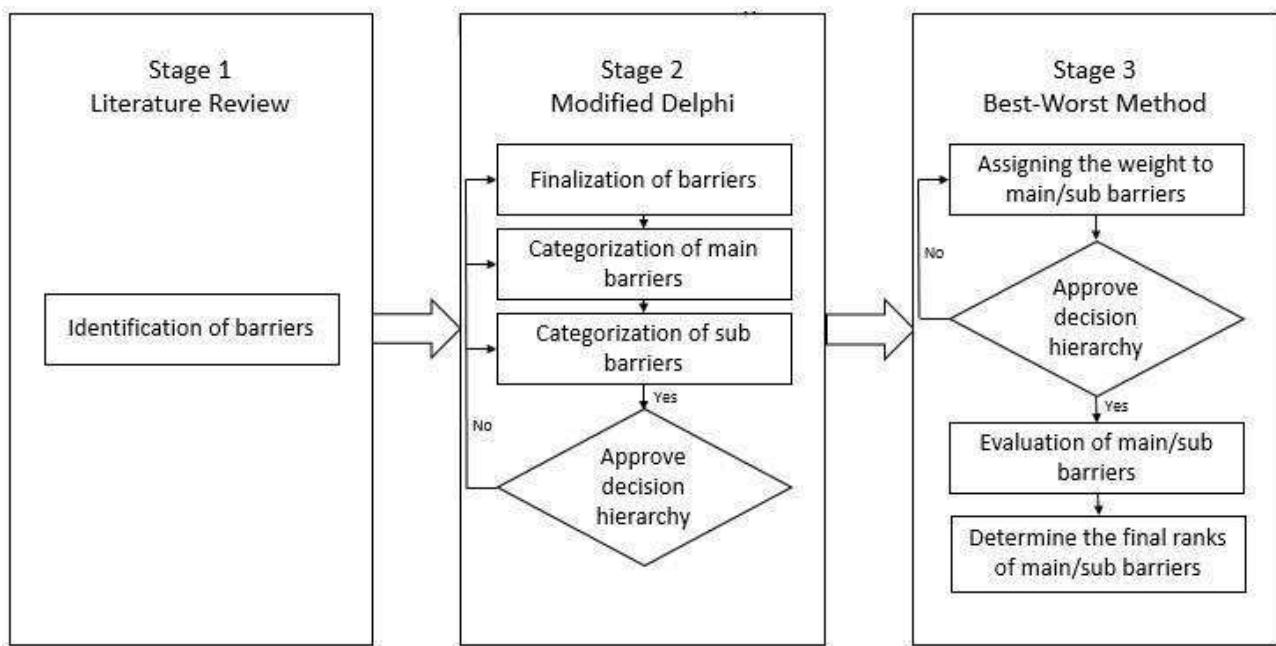


Figure 4 – The systematic approach of the current study

4.1 Modified Delphi

The Modified Delphi Method is used to finalize and categorize the barriers that impede penetration of RES in Uzbekistan. This method systematically collects experts' opinions through group discussions and surveys. In this approach, experts from relevant scopes share their knowledge, experience, thoughts, and skills to reach mutual assumptions. (Lummus et al., 2005, Trevelyan and Robinson, 2015, Tengan and Aigbavboa, 2021).

The method contents the following five consecutive steps: (1) selection of competent experts with relevant experience and knowledge in the relevant field; (2) conducting the first round of a questionnaire; (3) conducting a second round of a questionnaire; (4) conducting the third round of a questionnaire; (5) analysis of the obtained results for the formation of the final document. The (3) and (4) stages of the method will be carried out until a mutual consensus among the experts is reached (Sung, 2001, Njuangang et al., 2017).

No particular literature mentions a number of experts that must be selected for conducting this approach. Different papers suggested different guidelines for determining the number of experts (Custer et al., 1999, Eubank et al., 2016). While Lynn (1986) proposed that five to ten experts are sufficient for content validation, Okoli and Pawlowski (2004) advised that ten to eighteen experts' opinions can be effectively summarized. Therefore, this paper has recruited seventeen experts from Uzbekistan's energy sphere.

4.2 Best-Worst Method

The MCDM techniques are widely used for decision-making tasks in various industries and areas (Malek and Desai, 2020). Although BWM was introduced recently by Rezaei (2015), it has quickly gained popularity among other methods due to its simplicity and ease of use. According to Mi et al. (2019), in the three years since Rezaei (2015) was published, it has been cited in 124 different publications. For instance, Marinelli et al. (2022) have used BWM to prioritize and mitigate barriers to green cement production in India. Using this method, Wang et al. (2022) assessed interventions in response to the COVID-19 outbreak, Khan et al. (2022) analyzed the barriers to management of halal supply chains using BWM, Gupta and Barua (2016) investigated enablers of technological innovation for Indian small and medium-sized enterprises. Unlike other

methods, namely AHP, the main advantage of the method is that it provides more consistent results using only two vectors instead of a full pairwise comparison of matrix, due to which it requires fewer pairwise comparisons. The method consists of the following steps (Rezaei, 2015, Rezaei, 2016):

Step 1. Determine a set of decision criteria. This step is dedicated to considering the criteria ($C_1, C_2, \dots, C_n$) that should be used to arrive at a decision.

Step 2. Determine the best (e.g. most desirable, most important) and the worst (e.g. least desirable, least important) criteria.

Step 3. Determine the preference of the best criterion over all the other criteria using a number between 1 and 9. The resulting best-to-others vector would be:

$$A_B = (a_{B1}, a_{B2}, \dots, a_{Bn}), \quad (1)$$

where a_{Bj} indicates the preference of the best criterion B over criterion j . It is clear that $a_{BB} = 1$.

Step 4. Determine the preference of all the criteria over the worst criteria by using a number between 1 and 9. The resulting Others-to-Worst vector would be:

$$A_W = (a_{W1}, a_{W2}, \dots, a_{Wn})^T, \quad (2)$$

where a_{jW} indicates the preference of criterion j over the worst criterion W . It is clear that $a_{WW} = 1$.

Step 5. Find the optimal weights ($w_1^*, w_2^*, \dots, w_n^*$). The optimal weight for the criteria is the one where we have w_B/w_j and w_j/w_W for each pair of $w_B/w_j = a_{Bj}$ and $w_j/w_W = a_{jW}$.

To satisfy these conditions for all j , we should find a solution where the maximum absolute differences $|w_B/w_j - a_{Bj}|$ and $|w_j/w_W - a_{jW}|$ for all j are minimized.

The equivalent problem to be solved is:

Min ξ

$$\left| \frac{w_B}{w_j} - a_{Bj} \right| \leq \xi, \text{ for all } j$$

$$\left| \frac{w_j}{w_W} - a_{jW} \right| \leq \xi, \text{ for all } j$$

$$\sum w_j = 1$$

$$w_j \geq 0, \text{ for all } j \quad (3)$$

Then, optimal weights ($w_1^*, w_2^*, \dots, w_n^*$) and ξ^* can be obtained.

In order to check the consistency extent of the process, the consistency ratio must be calculated:

$$CR = \xi^* / \text{Consistency Index}, \quad (4)$$

where Consistency Index (CI) is the maximum value of ξ for the different number of criteria as presented in Table 4. When the value of CI is close to 0, the process is more consistent, whereas, with CI close to 1, the process is less consistent.

Table 4 – Consistency Index values

a_{BW}	1	2	3	4	5	6	7	8	9
$CI (max \xi)$	0.00	0.44	1.00	1.63	2.30	3.00	3.73	4.47	5.23

Sometimes, when a problem is not fully consistent, and there are more than three criteria, BWM might bring several optimal solutions because of inconsistency in the provided data. In this case, decision-makers can use the linear BWM model to have a unique solution.

The linear problem is the following:

$$\text{Min } \xi^L$$

$$|w_B - a_{Bj} w_j| \leq \xi^L, \text{ for all } j$$

$$|w_j - a_{jW} w_W| \leq \xi^L, \text{ for all } j$$

$$\sum w_j = 1$$

$$w_j \geq 0, \text{ for all } j \quad (5)$$

Then, the problem has a unique solution which includes the optimal weights ($w_1^*, w_2^*, \dots, w_n^*$) and ξ^{L*} can be obtained.

5 The finalization of barriers and assigning weights

The Modified Delphi was employed to finalise and categorise RE barriers in Uzbekistan, whereas the BWM was used to assign weights and prioritise them in terms of the importance of each.

5.1 Barriers finalization using Modified Delphi

In the context of Uzbekistan, a thorough literature review was conducted to identify barriers to adopting RES. The different keywords used to search the obstacles comprise 'Renewable energy barriers in Uzbekistan', 'Renewable energy challenges in Uzbekistan', and 'Renewable energy issues in Uzbekistan'. The search engines such as Google Scholar, Scopus, and Science Direct were used to find RE barriers in Uzbekistan. Twenty-three RE barriers were identified through a literature review, from which fifteen RE barriers in the sense of Uzbekistan were finalized using the Modified Delphi method. Then, these finalized barriers were clustered under five main barriers, i.e. Social barriers (SB), technical and technological barriers (TTB), economic and financial barriers (EFB), administrative and market barriers (AMB), and regulatory barriers (RB). Each barrier consists of three sub-barriers. Table 5 shows the classification of these barriers, followed by the description of each in the next part.

5.1.1 Social barriers (SB)

Social barriers are associated with the social perception of advanced technologies such as RE. These barriers can significantly hinder RE development, as the population is one of the primary

consumers of electricity (Ghimire and Kim, 2018, Shah et al., 2019). The following three social barriers are specific to Uzbekistan.

5.1.1.1 Lack of social awareness (SB-1)

Although Uzbekistan has a huge potential for the development of RES, its adoption remains relatively low. One of the factors for this is the population's lack of knowledge and awareness about the advantages of using RES (Ghimire and Kim, 2018). This factor can be eliminated by increasing information about the benefits of RES in the media and TV, as well as introducing illustrative installations of RES in social facilities such as municipal buildings, schools, markets, parks, streets, etc.

5.1.1.2 Lack of social acceptance (SB-2)

In Uzbekistan, different people have different points of view regarding RES. For example, people with a car and a large family are more likely to switch to RE when the authorities or businesses deploy RE, whereas people with cognitive skills are less likely to do so (Eshchanov et al., 2021). The acceptance of RES by the population can be increased by increasing the knowledge and awareness of people about the benefits and advantages of using RES.

5.1.1.3 Lack of customer paying capacity (SB-3)

The cost of installing RES is considered high relative to the average monthly income for the population living in rural and remote areas. However, the power generation from large-scale PV plants is cheaper than that from rooftop solar panels (Luthra et al., 2015).

5.1.2 Technical and technological barriers (TTB)

Unlike developed countries, where sufficient funds are allocated for developing new technologies, developing countries do not have sufficient resources for developing new technologies, such as RES. In most cases, developing countries such as Uzbekistan depend on the import of new technologies from developed countries (Luthra et al., 2015, Ghimire and Kim, 2018). Below we will discuss three technological and technical barriers concerning Uzbekistan.

5.1.2.1 Inadequate technology (TTB-1)

RE technologies are relatively new and still in development compared to traditional resource technologies, reflected in the efficiency and cost of electricity generated by RES. During a conversation with experts, it turned out that another rather acute problem in this area is the regulation of power in the system during peak hours (morning and evening maxima), caused by the intermittency of electricity generated from RES due to weather conditions (lack of sun and wind). The fact is that during peak hours, electricity consumption increases markedly when, for example, solar power plants do not have the ability to generate electricity in the morning and evening. In order to cover the demand during peak hours, it is necessary to launch additional capacities, leading to power unit wear and tear and excessive fuel consumption. This problem can be solved by installing energy storage facilities, but the cost of these technologies is still considered high for developing countries.

5.1.2.2 Lack of skilled personnel (TTB-2)

For effective management and operation of RE, it is necessary to have personnel with appropriate skills. Due to the lack of experienced specialists in rural and remote areas, people are not ready to install RES due to fear of failure (Gabriele, 2004).

5.1.2.3 Limited numbers of local manufacturers (TTB-3)

Even though there are several manufacturers in the country, in most cases, they do not produce the RE technologies but assemble imported components. This factor leads to higher prices for RE technologies making them less competitive (Shah et al., 2019).

5.1.3 Economic and financial barriers (EFB)

It is difficult to overestimate the role of economic and financial barriers in developing and adopting RES. The high investment cost and long payback period of RE projects make them unattractive to investors compared to traditional energy sources (Viardot, 2013).

Table 5 – Classification of RE barriers in Uzbekistan

Barriers	Barriers Code	Sub-barriers	Sub-barriers code	References
Social barriers	SB	Lack of public awareness	SB-1	(Sadat et al., 2021), (Shah et al., 2019), (Luthra et al., 2015), (Soltani et al., 2021), (Bhandari et al., 2019), (Alidrisi, 2014)
		Lack of social acceptance	SB-2	(Shah et al., 2019), (Byrnes et al., 2013), (Soltani et al., 2021), (Pathak et al., 2022), (Alidrisi, 2014)
		Lack of customer paying capacity	SB-3	(Shah et al., 2019), (Luthra et al., 2015), (Ahlborg and Hammar, 2014)
Technical and technological barriers	TTB	Inadequate technology	TTB-1	(Sadat et al., 2021), (Shah et al., 2019), (Luthra et al., 2015), (Soltani et al., 2021)
		Lack of skilled personnel	TTB-2	(Shah et al., 2019), (Luthra et al., 2015), (Ahlborg and Hammar, 2014), (Pathak et al., 2022), (Bhandari et al., 2019), (Alidrisi, 2014), (Laldjebaev et al., 2021)
		Limited numbers of local manufacturers	TTB-3	(Sadat et al., 2021), (Shah et al., 2019)
Economic and financial barriers	EFB	High investment cost	EFB-1	(Sadat et al., 2021), (Shah et al., 2019), (Gomez-Navarro and Ribo-Perez, 2018), (Luthra et al., 2015), (Pathak et al., 2022), (Alidrisi, 2014), (Nalan et al., 2009)
		Long payback period	EFB-2	(Sadat et al., 2021), (Alidrisi, 2014), (Nalan et al., 2009)
		Transmission and distribution losses	EFB-3	(Luthra et al., 2015)

Administrative and Market barriers	AMB	Lack of institutional coordination	AMB-1	(Sadat et al., 2021), (Shah et al., 2019), (Pathak et al., 2022), (Alidrisi, 2014)
		Lack of market base	AMB-2	(Luthra et al., 2015), (Xin-gang et al., 2014)
		Unfavourable electricity prices	AMB-3	(Shah et al., 2019), (Gomez-Navarro and Ribo-Perez, 2018), (Ahlborg and Hammar, 2014), (Soltani et al., 2021), (Laldjebaev et al., 2021)
Regulatory barriers	RB	Lengthy regulatory approval and permit procedures	PRB-1	(Sadat et al., 2021), (Shah et al., 2019), (Byrnes et al., 2013)
		Highly regulated power sector	PRB-2	(Alidrisi, 2014)
		Inadequate legal framework	PRB-3	(Sadat et al., 2021), (Shah et al., 2019)

5.1.3.1 High investment cost (EFB-1)

The high investment cost is one of the main barriers to the development of RES. Investors and consumers are often inclined to choose projects with a lower investment cost, as a high initial cost increases the risks for the investor and may lead to an increase in the interest rate of bank loans. In addition, many consumers prefer low upfront costs over low operating expenses (Gomez-Navarro and Ribo-Perez, 2018, Shah et al., 2019, Reddy and Painuly, 2004).

5.1.3.2 Long payback period (EFB-2)

The high investment cost of RES projects will lead to an increase in the payback period. According to IEA (2021), Uzbekistan is one of the countries with the cheapest price for electricity with a price of 295 UZS (0.027 USD at the exchange rate of the Central Bank of Uzbekistan on 22/07/2022) per 1 kWh for households (CBU, 2022). This fact negatively affects the development of RES in Uzbekistan.

5.1.3.3 Transmission and distribution losses (EFB-3)

Most of the generation capacities of TPPs in Uzbekistan were put into operation more than 25 years ago. They, therefore, had low efficiency (25%-35%) and high fuel consumption compared to modern combined cycle processes (almost twice) (MoE, 2020a). Moreover, in 2013, the technical and commercial losses of electrical grids during the transmission and distribution of electricity amounted to 23% (IECh, 2022). Suppose that the geographic point of electricity generation through RES may be far from that of electricity consumption. In this case, there will be a need to transmit electricity over long distances, and then significant losses in the grids can lead to large financial losses (Luthra et al., 2015).

5.1.4 Administrative and Market barriers (AMB)

As everyone knows, for the effective delivery of services by the Government, the policy also needs to be supported by administrative measures in order to achieve its goals. In this sense, administrative and Market barriers to the development of RES are significant and neglecting them can lead to negative consequences for the development of RES (Ohunakin et al., 2014). In the context of Uzbekistan, the following three administrative and Market barriers were identified.

5.1.4.1 Lack of institutional coordination (AMB-1)

Another main barrier to the development of RES is that several ministries and institutions are involved in forming a development strategy, investment policy and administration, etc. The lack of proper cooperation and coordination between them can lead to a decrease in investment attractiveness and, as a result, delays in the adoption of RES (Pathak et al., 2022).

5.1.4.2 Lack of market base (AMB-2)

Forming the price of electricity based on supply and demand is a common practice. Considering that the development of RES requires significant investment in the construction of power plants based on RES, the lack of a market base can lead to difficulties in attracting private investment in large RE projects (Xin-gang et al., 2014).

5.1.4.3 Unfavourable electricity prices (AMB-3)

Low tariffs for electricity based on traditional fuels create unequal conditions for RE technologies. External costs, such as environmental costs, are not considered for fossil fuels, while the ecological benefits of RE technologies are not considered when setting their prices. Because of this, it seems to consumers that RE-based electricity is disadvantageous compared to traditional energy sources (Shah et al., 2019).

5.1.5 Regulatory barriers (RB)

The role of regulatory and legal barriers is essential in the development of RE technologies. Since RES technologies are relatively new in the formation of RE policy by the Government, it may be necessary to improve the current regulatory framework. A comprehensive solution to these problems can help develop RES in the country (Ghimire and Kim, 2018).

5.1.5.1 Lengthy regulatory approval and permit procedures (RB-1)

Many experts agree that the lengthy regulatory approval and permitting procedures can be a potential obstacle. Involving several institutions in this process can negatively affect the adoption of RES projects (Byrnes et al., 2013).

5.1.5.2 Highly regulated power sector (RB-2)

Uzbekistan has a highly regulated energy sector. The setting of prices for electricity by the Interdepartmental Tariff Commission (ITC) under the Cabinet of Ministers and the lack of a market base negatively impact the widespread introduction of RE in the country. State-owned companies have a dominant role in the energy sector. All these factors create additional barriers to the penetration of RES (IEA, 2021).

5.1.5.3 Inadequate regulatory framework (RB-3)

Although many measures have been taken in Uzbekistan in recent years to improve the legislative framework, the legal framework for economic mechanisms is still insufficient. In particular, there are no financial support mechanisms (tariffs and taxes) that encourage the use of RES (IEA, 2021).

5.2 Assigning weights of barriers using BWM

After identifying 15 barriers and dividing them into five categories using Modified Delphi, interviews were conducted with seven experts from the energy sector of Uzbekistan to assign

weights to these barriers for the BWM. The interview was conducted with each expert individually via ZOOM video conferencing from 29 July to 1 August 2022. Experts were provided with detailed information regarding the steps of implementation of BWM and instructions for assigning weights to barriers. First, the main barrier categories (5 categories) were ranked, and then the sub-barriers within each category were ranked. The results obtained are described in the next section. Experts from the Cabinet of Ministers, the Ministry of Energy and the Tashkent State Technical University have 5 to 25 years of experience in the energy sector. Five of the seven experts are postgraduates, while the remaining two are graduate and a PhD. Table 6 shows the information on the experts who participated in the interview.

Table 6 – List of experts participating in BWM

No.	Position of expert	Qualification	Department/ Organization	Years of experience
1.	Government official	Postgraduate	Government	12
2.	Deputy Director	Graduate	Ministry personnel	20
3.	Head of a department	Postgraduate	Ministry personnel	5
4.	Head of a department	Postgraduate	Ministry personnel	15
5.	Head of a department	Postgraduate	Ministry personnel	15
6.	Chief specialist	Postgraduate	Ministry personnel	5
7.	Professor	PhD	University	25

6. Data analysis and results

Table 5 shows the final list of barriers provided to the experts for ranking using BWM. As noted earlier, the ranking was carried out in two stages. In the first step, the categories were ranked, and then the barriers within the class were ranked.

According to the results of the first step (Table 7), the most important (Best) barriers were technological and technical barriers (5 votes) and economic and financial barriers (2 votes). In comparison, the least important (Worst) were social barriers (4 votes), administrative and Market barriers (2 votes), as well as technological and technical barriers (1 vote).

Table 7 – Main barriers weights assigned by Experts under BWM

Main barriers (categories)	Code	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Group Average
Social barriers	SB	0.0449 (W)	0.0475 (W)	0.0816	0.0587 (W)	0.0587 (W)	0.0912	0.2601	0.0918
Technological and technical barriers	TTB	0.5385 (B)	0.5151 (B)	0.0372 (W)	0.5968 (B)	0.5968 (B)	0.4931 (B)	0.1734	0.4216
Economic and financial barriers	EFB	0.0962	0.0860	0.4530 (B)	0.0832	0.0832	0.1595	0.4046 (B)	0.1951
Administrative and Market barriers	AMB	0.2244	0.1506	0.1427	0.1663	0.1663	0.0435 (W)	0.0578 (W)	0.1359
Regulatory barriers	RB	0.0962	0.2008	0.2855	0.0950	0.0950	0.2127	0.1040	0.1556

ξ^{L*} Consistency check		0.1346	0.0872	0.1179	0.0685	0.0685	0.1450	0.1156	0.1053
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The average of allocated weights, as illustrated in Figure 5, shows that the technological and technical barriers (TTB) category obtains the highest weight and is ranked the most important (0.4216) in the penetration of RES in Uzbekistan. Economic and financial barriers (EFB) ranked second highest. They got a weight of (0.1951), followed by regulatory barriers (RB) (0.1556), administrative and market barriers (AMB) (0.1359), and social barriers (SB) ranked as least important (0.0918) and completed this list of categories of barriers. It is worth noting that the difference between the first place and the second is significant, more than twice, while the difference between the other main barriers is not so big, within 0.05. The value of ξ^{L*} is close to zero, indicating the presented data's reliability.

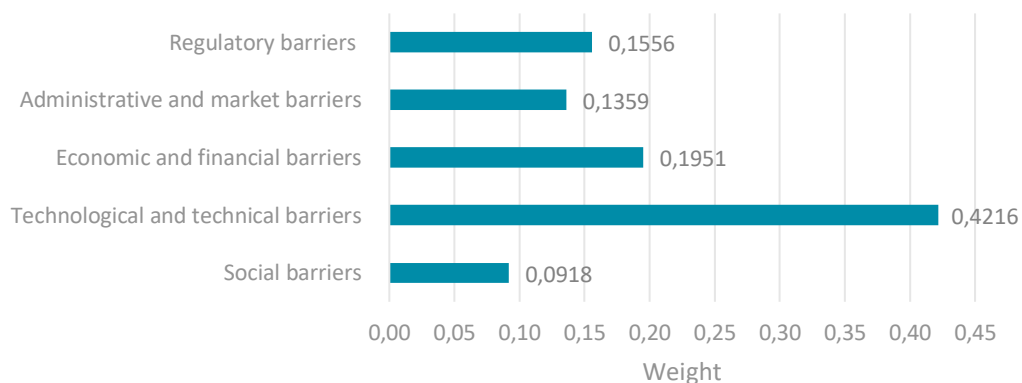


Figure 5 – The ranking of main barriers

Then, the experts analysed the sub-barriers of each category of barriers, and the respective weights were calculated. Figure 6, Figure 7, Figure 8, Figure 9 and Figure 10 illustrate the local weight and rank of each sub-barrier within each category.

From Figure 6, it is apparent that the 'Lack of customer paying capacity (0.7547)' which comes under the 'Social' dimension of the barrier to adopting RE technologies, was identified as the most crucial barrier, followed by 'Lack of social acceptance (0.1491)', and 'Lack of social awareness (0.1676)'.

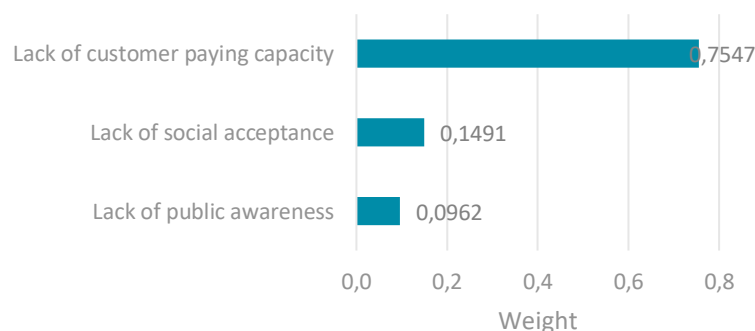


Figure 6 – The ranking of social barriers

Figure 7 demonstrates that 'Inadequate technology (0.5565)' was found as the most significant barrier to the adoption of RE technologies in the 'Technological and technical' category,

followed by 'lack of skilled personnel (0.2978)' and 'Limited number of local manufacturers (0.1457)'.

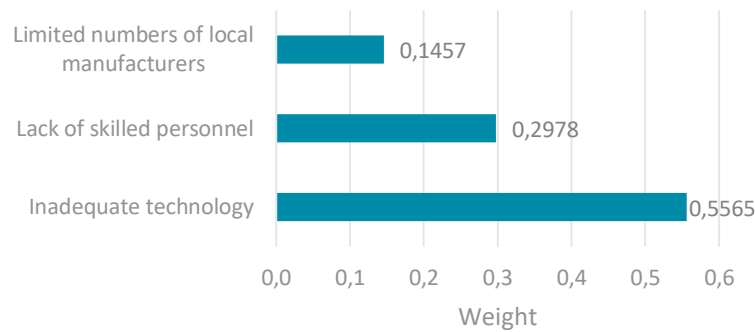


Figure 7 – The ranking of technological and technical barriers

'High investment cost (0.4895)' was described as the most critical challenge in the 'Economic and financial' dimension of obstacles to the adoption of RE solutions, followed by 'Long payback period (0.3518)' and 'Transmission and distribution losses (0.1587)' as shown in Figure 8.

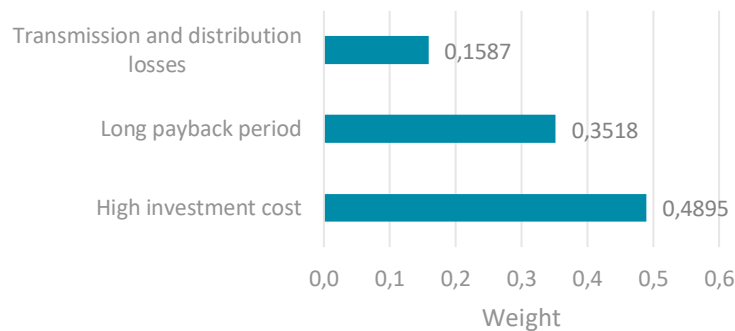


Figure 8 – The ranking of economic and financial barriers

Figure 9 presents that the most crucial challenge for the 'Administrative and Market' category of barriers to the adoption of RES is 'Lack of market base (0.4240)', followed by the 'Lack of institutional coordination (0.3664)', and 'Unfavourable electricity prices (0.2096)'.

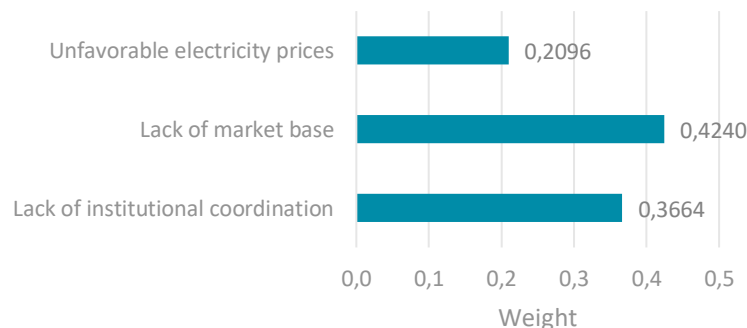


Figure 9 – The ranking of administrative and market barriers

As demonstrated in Figure 10, the 'Lengthy regulatory approval and permit procedures (0.4317)' is the biggest obstacle to the adoption of RES concerning the 'Regulatory' group of

barriers, followed by 'Highly regulated power sector (0.3650)' and 'Inadequate regulatory framework (0.2033)'.

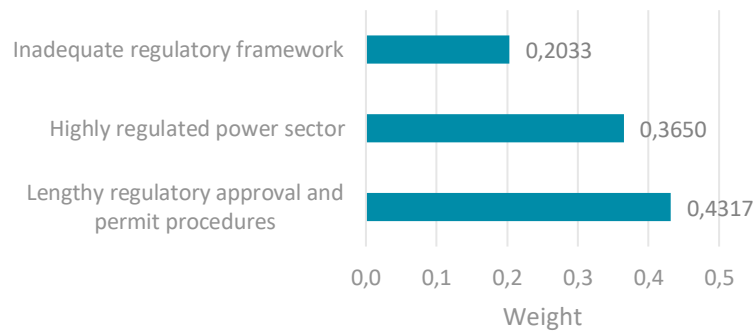


Figure 10 – The ranking of regulatory barriers

The global weights and rankings of sub-barriers were determined by multiplying the sub-barrier average weight within the group by the average weight of its respective group. Table 8 shows the sub-barriers' global weights.

Figure 11 illustrates the sub-barriers' overall ranking based on calculated global weights. The ranking of sub-barriers is as follows: TTB-1>TTB-2>EFB-1>SB-3>EFB-2>RB-1>TTB-3>AMB-2>RB-2>AMB-1>RB-3>EFB-3. Among all sub-barriers, 'Inadequate technology' received the highest weight (0.2346), followed by 'Lack of skilled personnel' (0.1255). The third important sub-barrier is the 'High investment cost' (0.0955). The next three sub-barriers with slight weight differences are 'Lack of customer paying capacity', 'Long payback period' and 'Lengthy regulatory approval and permit procedures' with respective weights of (0.0693%), (0.0686) and (0.0672). The last two sub-barriers in the row are 'Lack of social acceptance' (0.0137) and 'Lack of social awareness' (0.0088).

Table 8 – The global weights of sub-barriers under BWM

Barriers	Code	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Expert 6	Expert 7	Within group average	Global average weights
Lack of public awareness	SB-1	0.1204	0.0833 (W)	0.0714 (W)	0.0769 (W)	0.0769 (W)	0.1442	0.1 (W)	0.0962	0.0088
Lack of social acceptance	SB-2	0.0833 (W)	0.1204	0.1735	0.1648	0.1648	0.0769 (W)	0.26	0.1491	0.0137
Lack of customer paying capacity	SB-3	0.7963 (B)	0.7963 (B)	0.7551 (B)	0.7582 (B)	0.7582 (B)	0.7788 (B)	0.64 (B)	0.7547	0.0693
Inadequate technology	TTB-1	0.8083 (B)	0.7788 (B)	0.0667 (W)	0.7188 (B)	0.7188 (B)	0.5921 (B)	0.2121	0.5565	0.2346
Lack of skilled personnel	TTB-2	0.1083	0.0769 (W)	0.72 (B)	0.0625 (W)	0.0625 (W)	0.3553	0.6970 (B)	0.2978	0.1255
Limited numbers of local manufacturers	TTB-3	0.0833 (W)	0.1442	0.21	0.2188	0.2188	0.0526 (W)	0.0909 (W)	0.1457	0.0614
High investment cost	EFB-1	0.7188 (B)	0.6750 (B)	0.5972 (B)	0.6029 (B)	0.6029 (B)	0.0769 (W)	0.1528	0.4895	0.0955
Long payback period	EFB-2	0.2188	0.2625	0.3472	0.3382	0.3382	0.1731	0.7847 (B)	0.3518	0.0686
Transmission and distribution losses	EFB-3	0.0625	0.0625 (W)	0.0556 (W)	0.0588 (W)	0.0588 (W)	0.75 (B)	0.0625 (W)	0.1587	0.0310

Lack of institutional coordination	AMB-1	0.5972 (B)	0.6 (B)	0.0769 (W)	0.2706	0.2706	0.0667 (W)	0.6825 (B)	0.3664	0.0498
Lack of market base	AMB-2	0.3472	0.23	0.1868	0.6706 (B)	0.6706 (B)	0.6533 (B)	0.2063	0.4240	0.0576
Unfavourable electricity prices	AMB-3	0.0556 (W)	0.1667 (W)	0.7363 (B)	0.0588 (W)	0.0588 (W)	0.28	0.11 (W)	0.2096	0.0285
Lengthy regulatory approval and permit procedures	RB-1	0.75 (B)	0.1875	0.1635	0.8077 (B)	0.8077 (B)	0.0556 (W)	0.25	0.4317	0.0672
Highly regulated power sector	RB-2	0.1875	0.75 (B)	0.0769 (W)	0.1154	0.1154	0.6667 (B)	0.6429 (B)	0.3650	0.0568
Inadequate regulatory framework	RB-3	0.0625 (W)	0.0625 (W)	0.7596 (B)	0.0769 (W)	0.0769 (W)	0.2778	0.1071 (W)	0.2033	0.0316

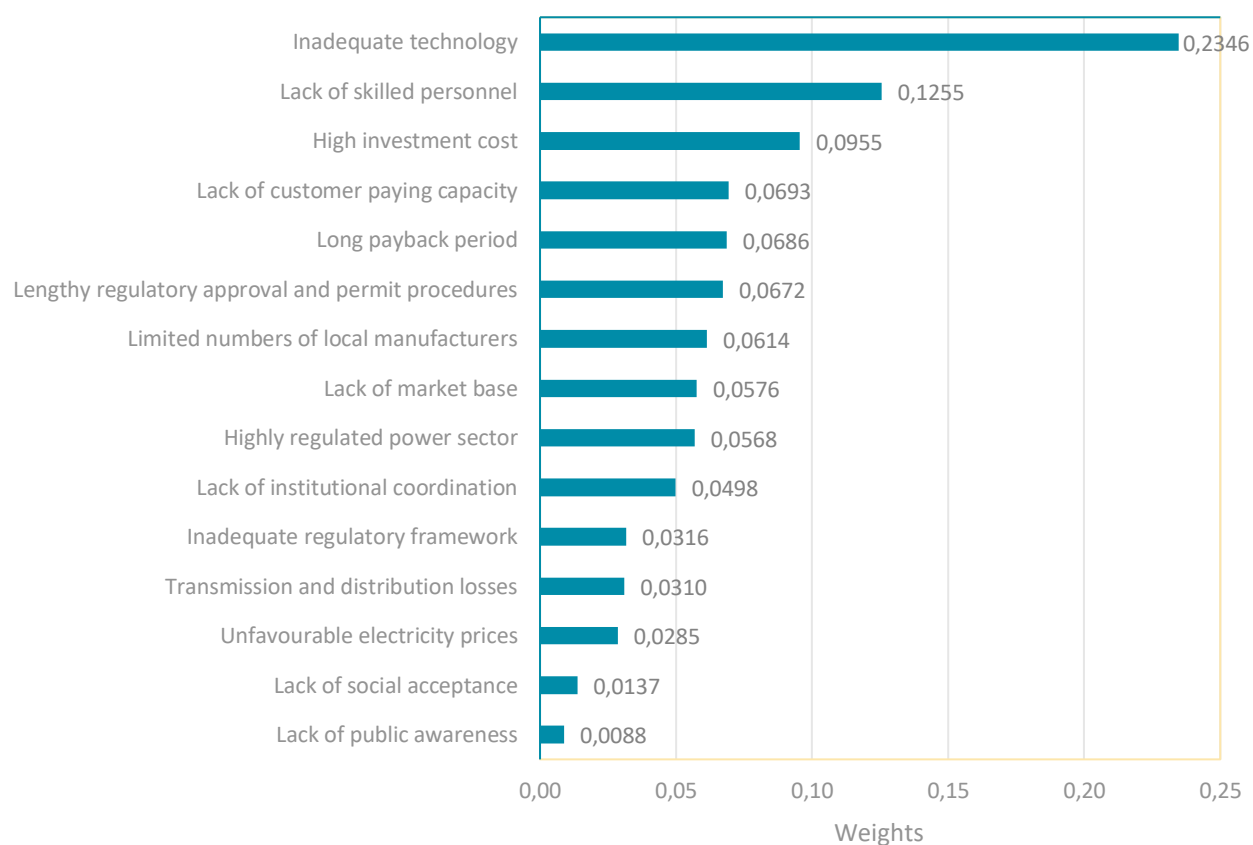


Figure 11 – The global ranking of sub-barriers

6 Discussion and recommendations

According to the BWM results, the five most significant sub-barriers to the development of RE technologies in Uzbekistan, by a wide margin from the rest, are recognized as inadequate technology, the lack of skilled personnel and high investment costs, followed by the lack of customer paying capacity and long payback period. This part of the paper will look at these sub-barriers and suggest ways to eliminate or mitigate them.

6.1 Inadequate technology

Indeed, RE technologies are developing rapidly today, and it is difficult for developing countries like Uzbekistan to keep up with them. This factor is a severe problem in the development of RE. Five of seven experts indicated this problem as the most important concerning Uzbekistan. For example, solar panels with flexible solar cells have rapidly replaced semiconductor silicon solar panels and amorphous silicon photovoltaic panels. The costs of acquiring, installing and maintaining RE technologies remain high as local production of RE technologies is still underdeveloped in Uzbekistan (IEA, 2021). Since electricity generation from renewable sources is intermittent (the absence of the sun, gusts of wind, etc.), the question of installing energy storage facilities, which are quite costly, is increasingly being raised. Moreover, the rapid development of the industry requires the quick replacement of obsolete technologies with new ones.

Although, according to Presidential Decree No. UP-5544 dated 21 September 2018, R&D spending in Uzbekistan was planned to increase to 0.8% of GDP by 2021; in 2020, these R&D expenditures amounted to only 0.14% of GDP, while, for example, in India, the same spending in 2018 amounted to 0.66% of GDP (WB, 2022a). As can be seen, funding for R&D is noticeably low compared to other developing countries, the interaction between research institutions and sectors of the economy is at a low level, and the coordination of ministries and agencies in the field of innovative development is very weak. In the Global Innovation Index for 2021, the country is ranked 86 out of 132 (WIPO, 2021).

To overcome this barrier, the Government must continue to pay more attention to R&D in RES, creating research institutes, and training qualified personnel in this industry. The creation of its technologies can reduce the cost of RE technologies and thus serve their rapid development and fulfil the Government's goals of bringing the share of RE to 25% of total electricity generation by 2030 (MoE, 2020a).

6.2 Lack of skilled personnel

The presence of skilled personnel is the key to the success of any campaign and even industry. Although Uzbekistan has a well-developed research base and qualified scientific personnel, the broader development of RES increases the demand for qualified personnel in this area. This aspect can be one of the keys in Uzbekistan, where there is great potential for developing RE technologies.

According to the Presidential Decree No. PP-5063 dated 9 April 2021, "On measures for the development of renewable and hydrogen energy in the Republic of Uzbekistan", the National Research Institute of RES with a research centre for hydrogen energy and a laboratory for testing and certification renewable and hydrogen energy technologies was established based on the International Institute of Solar Energy under the Ministry of Energy. The objectives of the institute are as follows: The formation of priority areas for expanding the possibilities of using RES and developing hydrogen energy through fundamental and applied research; study and adoption of practical ways to use RES and hydrogen in high-tech areas and sectors of the economy; establishing cooperation with scientific institutions, centres and experts from advanced countries in these areas and organizing joint research with their participation; training of highly qualified scientific personnel (lex.uz, 2021).

Moreover, today in the country, skilled personnel for the RE sector are being trained in several universities, such as the State Technical University named after Islam Karimov, the Yeoju Technical Institute in Tashkent, etc. The decisive measures taken by the Government should

undoubtedly give considerable impetus to the broader development of RE in the country and nullify the barrier associated with the lack of skilled personnel in this area.

6.3 High investment cost

The analysis showed that the high investment cost of introducing RE technologies is the third most crucial barrier to developing RE in Uzbekistan. This barrier is also negatively reflected in the penetration of RE technologies in other developing countries (Ghimire and Kim, 2018, Luthra et al., 2015). As mentioned above, the lack of production of RE technologies can be the main reason for the high initial cost since importing them, and their components from developed countries incur additional logistics, customs, etc.

Discussion with experts revealed a few ways to mitigate the negative impact of this barrier—first, the development of the production of national RE technologies. Second is the encouragement of local producers by providing various subsidies, tax benefits and preferences. The third is the increase in funding in R&D in this area. These measures can significantly facilitate reducing the initial costs of introducing RE technologies and, as a result, increase the share of RE use.

In addition, given that the population's access to electricity is 100% (IRENA, 2022), another solution to this problem can be the construction of large-scale power plants based on RES in areas unsuitable for agriculture. This action can reduce the cost of generated electricity due to the economies of scale of production rather than installing RE technologies in households separately. Although the operating cost of using RE technologies is low, practice shows that for the population, a low initial cost is preferable to a low operating cost.

6.4 Lack of customer paying capacity

The lack of customer paying capacity allocated at fourth position in global ranking with 6.9%. Uzbekistan is a rapidly developing country with annual GDP growth of 7.4%; in 2021, the GDP amounted to 69.24 billion USD. However, the country is still part of the low-middle income countries, and the GDP per capita in 2021 was only 1,983.1 USD. Moreover, about 50% of the population in Uzbekistan lives in rural and remote areas, which undoubtedly affects household income (WB, 2022b). All these factors negatively influence the development of RES in Uzbekistan due to a lack of customer paying capacity. Therefore, most of these people prefer to use energy from traditional sources due to their cheapness compared to RE technologies.

To solve this problem, the Government should actively continue to encourage users of RES through subsidies and tax incentives for the costs associated with the acquisition, installation and maintenance of RE technologies. It should be noted that the Government has already taken measures to promote the use of RE technologies. In particular, the Decree of the President dated 22 August 2019, No. PP-4422 provides for the financing of the following activities from the budget from 1 January 2020, within the annually approved parameters (lex.uz, 2019a):

- providing individuals with compensation in the amount of 30% of the costs of purchasing solar photovoltaic stations, solar water heaters, as well as energy efficient gas burners;
- providing individuals and legal entities compensation to cover interest expenses on loans from commercial banks for purchasing RES, energy-efficient gas burners and boilers, and other energy-efficient equipment.

The Government needs to continue to financially support the population, especially in rural and remote areas, in the use of RE technologies and thus achieve an increase in the use of RE technologies with a decrease in the financial burden for the population.

7.5 Long payback period

The BWM evaluated the long payback period as Uzbekistan's fifth most crucial barrier. This may be due to several factors. First, as discussed earlier, RES technologies have a high investment cost as they are considered relatively new and still in development. Active financing of R&D and introducing proprietary technologies may help reduce the investment cost and, subsequently, the payback period.

The second severe factor affecting the payback period is low energy tariffs due to heavy government subsidies. According to MoE (2020b), as of 31 March 2020, 403 UZS were spent on producing 1 kWh of electricity, while the price of 1 kWh of electricity for the households was 295 UZS, which is 36.6% lower than its cost. The state subsidizes the difference. In 2019, the Government spent US\$1.4 billion on electricity subsidies (IECh, 2022). In order to solve this problem, policymakers should review the subsidy policy and thus help to reduce the payback period for the introduction of RE technologies.

The most important barriers can be overcome or mitigated by introducing various economic incentives and subsidies, such as a green certificate system, green and feed-in tariffs, tax benefits and preferences. This measure can ultimately create favourable conditions for the wider development of RE technologies in Uzbekistan (IEA, 2021).

8. Conclusion

Uzbekistan is a country with a vast potential for RE introduction. The widespread introduction of them for generating electricity and heating system can serve as the followings: a significant saving of natural gas for its further refining and obtaining materials for other industries, such as construction; improving the environment by reducing GHG emissions; covering the growing demand for electricity by economic and social sectors and thus contributing to the economic development and prosperity of the country. However, this potential has not yet been fully exploited. A current study was carried out to identify and prioritize barriers to adopting RES based on the degree to which they impede RE introduction in Uzbekistan. Initially, twenty-three barriers were identified from the thorough literature review, which were then filtered with the help of seventeen experts from the relevant field using the Modified Delphi method. Fifteen obstacles were finalized under five main dimensions such as social, technological and technical, economic and financial, administrative and market, and regulatory. BWM was used to get weights and rankings of each barrier and sub-barrier with the participation of seven experts from the energy sector of Uzbekistan. Results showed the technological and technical barrier (0.4216) as the most crucial category, followed by economic and financial (0.1951), regulatory (0.1556), administrative and market (0.1359), and social (0.0918). The ranking of sub-barriers revealed inadequate technology (0.2346) as the most significant sub-barrier to the development of RES in Uzbekistan, followed by the lack of skilled personnel (0.1255), the high investment cost (0.0955), the lack of customer paying capacity (0.0693), and the long payback period (0.0686). In contrast, the lack of social acceptance (0.0137) and lack of social awareness (0.0088) ranked the two last sub-barriers on the list.

It is worth noting that the adoption of RE technologies in Uzbekistan began only a couple of years ago, with major structural reforms in all spheres also taking place in the energy sector. The Government intends to bring the development of RES to a completely different, higher level of use of RE technologies and is taking measures to implement them. However, despite all the efforts made, as the results of this work show, there are still problems and challenges in developing and adopting RE technologies that are typical for most developing countries. Eliminating these barriers, identified as the most important in adopting RE technologies in Uzbekistan, requires decisive measures to be taken to eliminate or mitigate them. In particular,

to eliminate technological and technical barriers, such as inadequate technology and lack of skilled personnel, it is recommended to implement a program to develop R&D in this area and establish the production of domestic RE technologies. This measure will reduce the cost of acquiring foreign technologies, strengthen the production and scientific base, and reduce the gap between national and foreign technologies, thus turning Uzbekistan into one of the most technologically advanced countries in the region. This proposed measure, as well as encouraging producers and users of RE technologies by providing various subsidies, tax benefits and preferences in the medium and long term, will also positively impact mitigating economic and financial barriers associated with high investment costs and long payback period. Introducing different economic incentives by the Government, such as green certificate systems, green and feed-in tariffs, will also help overcome and alleviate the identified major barriers.

Uzbekistan, as a country with great economic, energy and human potential, sets ambitious goals and objectives to accelerate economic development and ensure high growth rates. In particular, the Government aims to bring the GDP to 4,000 USD per capita and enter the category of states with an upper-middle income by 2030. Of course, these ambitious goals will be difficult to achieve without sufficient energy supply to the sectors of the economy through the diversification of electricity generation and the widespread introduction of RE technologies. Moreover, the Government is increasingly focusing on saving natural gas as a fuel for generating electricity, instead directing it to process and obtain high-value-added goods for other industries' needs. For example, a goal has been set for developing the chemical and gas industries by bringing the level of natural gas processing from 8% to 20% by 2026 (lex.uz, 2022). In this sense, the role of developing RE technologies is one of the most important. As this study shows, the Government needs to pay more attention to the barriers that hinder the widespread introduction of RE technologies by developing its technologies in this area to achieve its goals.

Limitation of the study and direction of future work

The present study contributes to the existing literature as an essential study contemplating the development of RE technologies in Uzbekistan. Identifying and prioritizing barriers to adopting RES in the context of Uzbekistan, using Modified Delphi and BWM, limited this study. The Modified Delphi was applied to finalizing RE barriers, whereas BWM was employed to prioritise them. The scope of future research could include the followings:

- The same systematic approach can be used to identify and rank barriers to adopting a particular type of RES in Uzbekistan, such as solar energy, wind energy, geothermal energy or bioenergy;
- Different integrated MCDM techniques, such as AHP and TOPSIS, may be used for solving the same problem, and results can be compared with the present study results;
- The implementation of an interpretive structure model for the wider understanding of the interrelations between the RE barriers in Uzbekistan;
- the investigation of successful governmental policies, strategies and law-making measures in force in other countries with a significant share of RE generation in overall energy balance;

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OLIIY TA'LIM MUASSASALARIDA RUS TILI FANINING O'QITISH HOLATI VA ZARURIYATI**Nematova Nargizaxon Muxtor qizi**

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Annotatsiya: Ushbu maqolada ta'lim jarayonida turli vazifalarga asoslangan innovatsion metodlarni qo'llashda o'qituvchining roli va til o'rganuvchilarning mashg'ulot davomida faolroq bo'lishiga yordam beradigan muammolar yoritilgan.

Kalit so'zlar: o'rganuvchi, kommunikatsion vazifalar, kompetensiyalar, mahorat, pedagogi texnologiyalar.

Annotation: The article deals with the issues based on analyzing the role of teachers in using innovative methods in the process of educating, based on different tasks, alternative possibilities for improving participation of learners in different activities, which can help them, become more active and more sociable through the type of commutative tasks, competence, cooperative learning, skill, pedagogic technology.

Key words: Learners, communicative tasks, competence, skill, pedagogic technology.

Аннотация: В статье рассматриваются вопросы, основанные на анализе роли учителей в использовании инновационных методов в процессе обучения, исходя из разных задач, альтернативных возможностей улучшения участия, учащихся в различных видах деятельности, которые могут помочь им стать более активными и более общительными благодаря типу коммутативных задач, компетентности, совместному обучению, навыкам, педагогическим технологиям.

Ключевые слова: Обучающиеся, коммуникативные задачи, компетентность, умение, педагогическая технология.

Bugungi kunda nafaqat jahonda, balki mamlakatimizni oliy ta'lim muassasalari o'rtasidagi raqobatni borishi va "TOP" reytinglar mezoniga kiritilishi oliy ta'lim muassasalari raqobatbardoshligini oshirishning strategiyalari va mexanizmlaridan samarali foydalanish bo'yicha bir necha izlanishlar olib borilmoqda. So'nggi yillarda mamlakatimizda oliy ta'lim tizimida xalqaro standartlar asosida juda ko'p keng ko'lamli ishlar amalga oshirildi. Bunda, asosiy e'tiborni o'quvchi-talaba-yoshlarning ta'lim olishlari uchun zarur shart-sharoitlar yaratilishi bilan birga, davlat byudjetining 3/1 qismi ta'limga yo'naltirilganidan dalolat beradi.

Natijada, o'tgan 6 yil mobaynida oliy o'quv yurtlari soni 77 tadan 210 taga yetdi, ularga qabul 3,5 baravarga ortdi. Yoshlarning oliy ta'lim bilan qamrov darajasi 9 foizdan 39 foizga oshirildi. Bu esa, oliy ta'limda ta'lim xizmati sifati va raqobatbardoshligini oshirishga alohida e'tibor qaratish va ta'lim jarayonini xalqaro talablarga moslashtirish, oliy ta'lim raqobatbardoshligini oshirishda innovatsion va animatsion texnologiyalardan foydalanishga oid ilmiy tadqiqotlar olib borishni taqozo etadi.

Keyingi yillarda mamlakatimizda ijtimoiy-iqtisodiy rivojlanishning ustuvor yo'nalishlariga hamda xalqaro standartlar talablariga mos keladigan oliy ta'lim tizimini yaratish bo'yicha keng ko'lamli ishlar amalga oshirilmoqda. Hududlarda, yangi oliy ta'lim muassasalarining tashkil etilishi, kadrlar tayyorlashning zamonaviy ta'lim yo'nalishlari va mutaxassisliklari yo'nalishdagi muhim islohotlar hisoblanadi.

Shu bilan birga oliy ta'lim muassasalarida ta'lim sifatini oshirishga, respublikada amalga oshirilayotgan keng qamrovli islohotlar, ijtimoiy va iqtisodiy sohalaridagi yangilanishlarda ushbu muassasalarning faol ishtirokini ta'minlash choralari ko'rish lozim. Hozirgi vaqtda O'zbekistonda rus tilini o'qitilishi mamlakatning barcha oliy ta'lim muassasalarida o'rganish majburiy, shuningdek respublikamizni barcha shahar va qishloqlarida ish yuritishning asosiy tili hisoblanadi. 2023/2024 o'quv yili holatiga ko'ra rus tilida o'qitish 1003 ta maktabda faoliyat ko'rsatib kelmoqda.

Amaldagi qonunda ya'ni 1989 yildagi "O'zbekiston Respublikasining davlat tili o'zbek tili" deb e'lon qilingan va rus tili millatlararo aloqa tili sifatida belgilangan. Haqiqatan ham, hozirgi paytda O'zbekistonda rus tilidan foydalanish, ayniqsa turli hujjatlar borasida noaniqliklar mavjud. "Bir qator xorijiy davlatlarning ijobiy tajribasiga ko'ra, davlatning davlat tilidan foydalanish, himoya qilish va rivojlantirish bo'yicha asosiy vazifalari va siyosati, shuningdek ushbu qoidaga rioya qilmaslik va yetarli darajada nazorat qilinmasligi uchun javobgarliklar bor.

Shu munosabat bilan, oliy ta'lim muassasalarida rus tilini o'qitish sifatini yaxshilash juda muhimdir. O'zbekiston respublikasi oliy ta'lim tizimini 2030 yilgacha rivojlantirish konsepsiyasida "O'zbekiston Respublikasida oliy ta'limni tizimli isloh qilishning ustuvor yo'nalishlarini belgilash, zamonaviy bilim va yuksak ma'naviy-axloqiy fazilatlarga ega, mustaqil fikrlaydigan yuqori malakali kadrlar tayyorlash jarayonini sifat jihatidan yangi bosqichga ko'tarish, oliy ta'limni modernizatsiya qilish, ilg'or ta'lim texnologiyalariga asoslangan holda ijtimoiy soha va iqtisodiyot tarmoqlarini rivojlantirish", to'g'risida aytib o'tilgan. Aniqlangan asosiy kamchilik va muammolarni hal qilish usullarini va yo'llarini izlab topishga qaror qildik. Hozirgi vaqtda oliy ta'lim muassasalarida rus tilini o'qitishni sezilarli darajada pasayishi, shuningdek mavjud uslubiy metodik va kadrlar muammolari. Qolaversa rus tilidagi o'quv dasturlarining mazmunini tubdan takomillashtirish, tegishli o'quv adabiyotlarni, shuningdek metodika va texnologiyalarni ustuvor rivojlantirish, bo'lajak pedagoglarning o'z ustilarida mustaqil ishlashga yo'naltirish. Bo'lajak pedagoglar bilan darsdan tashqari qo'shimcha mashg'ulotlar olib borish, rus tili fanini fan dasturlaridagi mavzulardan tashqari boshqa fan mavzulari bilan shakllantirishga yo'naltirish va uni tarkibiy qismni kuchaytirish lozim. Bo'lajak pedagoglar rus tili fanini o'zlashtirish jarayonida turli xil adabiyotlarni o'qish, tinglash, nutq qobiliyatlarini shakllantirish, chunki o'qish jarayonida uning axloqiy fazilatlari va ijodiy qobiliyati rivojlanadi, xorijiy madaniyati bilan tanishadi, milliy an'analarni davom ettirish va avlod ajdodlarimizni tarixini o'rganadi. Rus tili haqidagi nazariy ma'lumotlarning asosiy qismini o'rganish, bo'lajak pedagoglar tomonidan bilimlarni amalda qo'llash qobiliyatini namoyon qila olishi, shuning uchun oliy ta'lim muassasalarida rus tili fanini o'qitish juda zarur va muhimdir. "Rus tili" fani ko'proq matn bilan ishlashga qaratilgan til tizimi va til to'g'risidagi mavjud bilimlarni tizimlashtirish me'yorlar va kommunikativ kompetensiyalarni shakllantirishdir. "Nutq madaniyati", rus tilining me'yorlariga bag'ishlangan yoki unda aks ettirilgan dasturning mazmuni — bu amalga oshirilgan ma'lum bir mavzuning o'ziga xos xususiyatlari o'quv ta'limidir.

Bugungi kunda shiddat bilan o'zgarib borayotgan zamonda har bir shaxsni bir necha tillarni bilishi shubhasiz o'z imkoniyatini yanada samarali amalga oshirishga imkon beradi, shaxsiy hayotida va shaxsiy qobiliyatini faoliyatning turli sohalarida kerak bo'ladi. Rus tili har doim millatlararo aloqa vositasi hisoblangan, ya'ni inson o'zini o'zi anglash imkoniyatini beradigan ko'p millatli ko'p madaniyatli vositadir. Filologik ta'lim shakllanish bilan chambarchas bog'liq inson axborot madaniyati deb aytishadi. Oliy ta'lim tizimida kadrlar tayyorlashda o'qitiladigan fanlar qatorida "Rus tili" fanining o'rni alohida. "Rus tili" fani bilan "Ona tili til"ning farqi shundaki nutq amaliyotining miqdori yuqoriligi (oilada, do'stlar, tanishlar va boshqalar bilan) va rus tilida muloqot qilishi, oliy ta'limdagi chegaralangan haftalik soatlardagi amaliy seminarlar doirasi bilan cheklanadi. Rus tilini yanada samarali o'rgatish va o'qitish uchun nutq ko'nikmalarini nutq amaliyoti hajmini oshirish kerak, an'anaviy va noan'anaviy, yuzma-yuz mashg'ulotlarida rivojlantirish kerak. Rus tilini chet tili sifatida o'qitish universitetga kirishdan oldin, bo'lajak pedagoglar tilning so'z boyligi va uning grammatik tuzilmalarini o'rganganlarida amalga oshiriladi. Oliy ta'lim muassasalarida bilimlar ma'ruza va amaliy didaktik tizimlar bo'yicha ishlab chiqiladi, bu

yerda jarayon o'qituvchi tomonidan taqdim etilgan o'quv materiallari bilan boyitiladi. Ammo bu fanning hozirdagi o'quv soatlari bo'lajak pedagoglarni til savodxonligini oshirish uchun yetarli hisoblanmaydi. Bu fanni 1 semestr o'qitilishi esa mavjud muammoni yaqqol ko'rsatib beradi. Agar 1 semestrda o'qitilsa, natija yaxshi bo'lmaydimi, degan savol tug'ilishi tabiiy. Fan soatlari qisqa bo'lganligi uchun bo'lajak pedagoglarga ketma-ket topshiriqlarni berish, ma'ruza, amaliy, seminar darslarida rus tili faning mavzularini tushuntirish juda ko'plab muammolarni keltirib chiqaradi. Sababi bo'lajak pedagoglar olayotgan bilimlarini tushunishlari, tasavvur eta olishlari va tahlil qila olishlari lozim. Agar bo'lajak pedagoglarning egallayotgan bilimlari ko'nikma va malakaga aylanmasa, demak, fanni o'zlashtirish ko'rsatkichlari pastligicha qolaveradi. Ayniqsa, rus tilini o'qitishda animatsion yondashuv asosida o'qitish muhim vazifalaridan biri hisoblanadi. "Rus tili" fanini o'qitish jarayonida bo'lajak pedagoglar imlo kompetensiyalari rivojlanishi, birinchi navbatda, hal etilishi lozim. An'anaviy ta'lim amaliyotida, odatda, bo'lajak pedagoglarning adabiy tilning o'ziga xos tomonlari jumladan, ularning kundalik, ilmiy va kasbiy sohalarida faoliyat olib borishlari uchun o'qitishning kommunikativ-nutqiy tamoyili asosida ularda fan bo'yicha egallangan bilim, ko'nikmalarni muloqot va ish faoliyati jarayonida qo'llash malakasini, amaliy topshiriqlar vositasida shakllantiriladi va rivojlantiriladi, ya'ni bo'lajak pedagoglarda grammatik va imloviy jihatidan o'rganish, uning uslubiy jihatidan rang barangligini farqlash mumkin. Biroq buning uchun vaqt talab etiladi.

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Title: The Right to Life: Ethical Considerations in Abortion and the Human Rights Regime.

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Abstract: This paper delves into the intricate ethical considerations surrounding the right to life within the context of abortion and the broader human rights regime. It examines the complex interplay between personal autonomy, reproductive rights, and the moral status of the fetus, offering a comprehensive analysis of various philosophical and legal perspectives. Additionally, this study explores the implications of international human rights instruments on the regulation of abortion, shedding light on the tensions between individual choice and societal interests. By navigating this multifaceted terrain, the paper seeks to contribute to a nuanced understanding of the ongoing debates and challenges in this crucial area of ethics and human rights.

Keywords: *Right to Life, Abortion, Ethical Considerations, Reproductive Rights, Moral Status, Fetal Rights, Human Rights Regime, International Law, Social Rights.*

P.S. “Although it is one of the most highly debated topics of our century, men cannot fully experience the physical and emotional sensations that women go through during an abortion. As a result, men in positions of authority may lack credibility when offering opinions on this topic. The physical and psychological pain that Abortion causes makes this a sensitive topic to discuss. Anyone wishing to comment or offer evidence-based views should approach the topic carefully and respectfully. We will approach the topic with empathy and respect for women’s experiences.”

INTRODUCTION

The Evolution of Abortion Attitudes: Shifting Perspectives Throughout History.

Abortion is not a new phenomenon in human history. It has been practised since prehistoric times, although documentation of the practice only appears in ancient manuscripts and artefacts from Rome, Egypt, and Greece¹. Different types of herbal remedies and physical manipulation were used, putting women's lives at risk². Till the Middle Ages, Abortion has been a common practice but with different attitudes in different cultures³.

In the Middle Ages, the religious authorities had a crucial role in shaping restrictive attitudes towards Abortion and women who committed it⁴. 'The Church has believed that every intentional abortion is a moral wrongdoing since the 1st century, and according to the Catechism, this stance has remained consistent and unalterable.'⁵ The last two centuries (19-20) have become more productive in the mitigative measures on Abortion. In the 19th century, due to medical advancement, Abortion became more accessible and safer than before, but its legal and moral status remained unchanged⁶. In 1920, the Soviet Union (Bolsheviks) legalized Abortion for up to 28 weeks, and it was a real breakthrough in the human rights movement in human history⁷. The subsequent attempts at the liberation of abortion issues on different continents were partially fuelled by a feminist movement which took place in the 1960s and 1970s⁸. The feminist movement was not the only reason behind this improvement in Abortion, as the European states were at the stage of liberalization of their policies in all spheres, including Abortion⁹. One of the first countries in Europe that legalized Abortion was the Netherlands. In the American continent decision of the Supreme Court on the case of *Roe v. Wade*, they played a crucial role in making Abortion legal in 1973 in the US¹⁰.

According to World Health Organisation (WHO), unsafe abortions are still a big problem to be taken into consideration. That accounts for nearly 10 per cent of maternal deaths

¹ Otieno, C.M.A., 'Examining the Historical Changes Influencing the Knowledge Attitudes, Beliefs and Practices on Sexuality, Childbearing and Abortion' [2020] 4(2), *Nairobi Journal of Humanities and Social Sciences*, pp.4-25.

² Ibid.

³ Della Penna, J.W., 'The History of Abortion: Technology, Morality, and Law' [1978] 40, *U. Pitt. L. Rev.*, pp.359.

⁴ Ibid.

⁵ The United States Conference of Catholic Bishops, 'Respect for Unborn Human Life: The Church's Constant Teaching', <<https://www.usccb.org/issues-and-action/human-life-and-dignity/abortion/respect-for-unborn-human-life>> accessed 9 May 2023.

⁶ Hovey, G., 'Abortion: a history. Planned parenthood review' [1985] 5(2), pp.18-21.

⁷ Rosenthal, B.G., 'The role and status of women in the Soviet Union: 1917 to the present' [1975], *Women cross-culturally: Change and challenge*, pp.429-455.

⁸ Sherwin, S., 'Abortion through a feminist ethics lens' [1991] (3)30, *Dialogue: Canadian Philosophical Review/Revue Canadienne De Philosophie*, pp.327-342.

⁹ David, H.P., 'Abortion in Europe, 1920-91: a public health perspective' [1992] 23(1), *Studies in family planning*, pp.1-22.

¹⁰ Linton, P.B., 'Roe v. Wade and the history of abortion regulation' [1989] 15(2-3), *American Journal of Law & Medicine*, pp.227-233.

worldwide. Fifty per cent of the whole Abortion in the world is unsafe, and 97 per cent are performed in underdeveloped countries¹¹.

The number of unintended pregnancies and induced abortions worldwide, as provided by the WHO, urges us to view the issue from a different perspective. According to WHO and the Sexual and reproductive health research centre - Guttmacher Institute, more than 73 million induced abortions take place every year¹². It accounts for 200 thousand abortions a day. One of the well-known philosophers of our era, Christopher Kaczor, states that Abortion is the 'intentional killing of the human foetuses'¹³. This statement does not show the wrongness of Abortion, yet killing a human is not a crime in the case of self-defence¹⁴. Self-defence in the case of Abortion might be interpreted as conditions that might put the health of the pregnant woman at risk or the case of incest, rape, sexual assault, and abnormality of the foetus. Other than these concerns, such as financial and personal considerations, relationship issues, and unplanned pregnancy that might lead to Abortion, might raise critical moral questions on the importance of life for the other side - the 'developing' foetus.

According to Christopher Kaczor's book, 'Termination of their existence', the so-called Abortion without any urgent (justifiably) reasons can be considered equivalent to 'intentionally killing of a human foetus'¹⁵. Based on research conducted in the United States, many women choose to have an abortion for personal rather than health or other social reasons¹⁶. In addition, well-respected scholars such as Lawrence Finer and Rachel Jones conducted several researches in the US in cooperation with the Guttmacher Institute in 2010¹⁷. According to their findings, the main reasons described as feeling economically marginalized; relationship problems in their family or life; not wanting to sacrifice their career for the sake of a child; fear of childrearing responsibilities. In light of these reasons, Kaczor's claim about the importance of justifiable reasons in making decisions about life and death may be valid¹⁸.

The Status of the Foetus.

¹¹ Official website of the World Health Organization, 'Fact sheets on abortion' <<https://www.who.int/news-room/fact-sheets/detail/abortion>> accessed 6 May 2023.

¹² Bearak J et al., 'Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990–2019' [2020] 8(9), *Lancet Global Health*, e1152–e1161.

¹³ Kaczor, C, *The Ethics of Abortion: Women's Rights, Human Life, and the Question of Justice*, (Routledge Press, New York 1969-2011)

¹⁴ Ibid

¹⁵ Ibid (n 13).

¹⁶ Finer et al, 'Reasons US women have abortions: quantitative and qualitative perspectives' [2005] *Perspectives on sexual and reproductive health*, 37(3), pp.110-118.

¹⁷ Jones, R.K., Finer, L.B. and Singh, S., 'Characteristics of US abortion patients, 2008' [2010], *New York: Guttmacher Institute*, pp.20101-8.

¹⁸ Ibid (n 13)

Any legal instrument has not recognized the moral status of unborn children¹⁹. However, if there are no scientific records on the exact time of the beginning of life, it would be difficult for policymakers to admit this status. However, in the preamble of the International Convention on the Rights of Child (ICRC), there is a statement that 'the child, because of his physical and mental immaturity, needs special safeguards and care, including appropriate legal protection, before as well as after birth'²⁰. Although many scholars interpreted the term 'child' as a physically delivered baby separated from their mother's body rather than the unborn foetus still attached to it²¹, no legally binding instrument definitively settles this issue.

Australian philosopher Peter Singer states that there are some conditions to be met in order to be called a person: the first is self-awareness; the second should maintain him or herself in different occasions and settings; the third is the capability to have specific desires and wants and the last, the fourth one is the ability to make goals and plans for the future²². If we accept this claim, we may have to exclude specific categories of people from being considered human, such as those who are mentally disabled²³. They cannot maintain independence and have no clear plans or goals; some people with Alzheimer's lose self-awareness permanently, but they are still human regardless of their characteristics. Is there any reason to deny them their right to life, which is firmly protected by several international legal instruments? Considering these matters, it seems Singer's definition may lack accuracy. The status of 'personhood' is a complex topic that may lead us out of the scope of current research.

The ICRC is one of the UN's most powerful instruments for protecting children's rights worldwide, ratified by 196 countries. It clearly states that 'the child, because of his physical and mental immaturity, needs special safeguards and care'²⁴. 'Because of physical and mental immaturity' could be interpreted that compared to adults, children are 'still growing and developing' and need special care before and after birth. This statement may seem valid for protecting the foetus's right to life because the foetus could be the subject of physical immaturity, which develops daily until birth.

Let us examine the following question.

What does the couple in a marriage waiting for their child to be born call the developing 'entity' inside the mother's womb?

¹⁹ Zampas, C. and Gher, J.M., 'Abortion as a human right—international and regional standards' [2008] 8(2), *Human Rights Law Review*, pp.249-294.

²⁰ United Nations, Convention on the Rights of the Child, (adopted 20 November).

²¹ Ibid (n 13).

²² Singer, Peter, *Writings on an Ethical Life* (Ecco Press, New York 2000).

²³ Park, D.C., Radford, J.P. and Vickers, M.H., 'Disability studies in human geography' [1998] 22(2) *Progress in human geography*, pp.208-233.

²⁴ The United Nations. Convention on the Rights of the Child (adopted November 1989) T.S., vol. 1577.

A) Foetus B) Baby C) Child

This question was examined to check the validity of the claims of whether that 'entity inside mother's womb' could be considered human.

If the possible answer is child or baby, these terms could be defined as a 'human being'.

The Universal Declaration of Human Rights (UDHR) recognizes people's right to life, liberty, and security. Furthermore, article 6 of the ICPR states, 'Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.'²⁵ How far is it realistic (practical) to limit the pre-born baby's rights in a timely matter? What differentiates between developing human offspring and a person?

Do the fundamental human rights protected by UDHR and other charters, such as the right to an adequate standard of living, equal treatment, education, and work, and the right to be free from torture and inhuman or degrading treatments,²⁶ apply only to specific age groups or social statuses or are they fundamental rights that apply universally to all human beings, regardless of their physical characteristics or circumstances?

The Dilemma Over Abortion is Highly Contingent Upon Time and Place.

Through a profound analysis of scientific research and debates, it has become increasingly clear that the dilemma over Abortion is highly contingent upon time and place²⁷. The number of daily abortions might not seem problematic because the world's population is estimated to reach ten billion by 2050²⁸. This is a massive number of people for our limited resources on Earth. However, other theories assume that the number of people worldwide may soon decline because of low fertility rates, called 'demographic transition.'²⁹ Several factors, such as environmental, economic, social, and cultural effects, may impact this³⁰. According to research in 2019, environmental issues such as air pollution and common chemicals used in consumer foods (BPA) significantly affect lower fertility rates³¹. Moreover, people in the period of globalization consider the effectiveness of having smaller families

²⁵ The United Nations, International Covenant on Civil and Political Rights, (adopted 16 December 1966) 999 U.N.T.S. 171.

²⁶ The General Assembly, Universal Declaration of Human Rights, (adopted December 8, 1948) G.A. Res. 217A (III)

²⁷ Ibid (n 13).

²⁸ Ranganathan et al, 'How to sustainably feed 10 billion people by 2050, in 21 charts' [2018] <https://www.wri.org/insights/how-sustainably-feed-10-billion-people-2050-21-charts?utm_campaign=socialmedia&utm_source=twitter.com&utm_medium=worldresources&utm_content=bloggraphic> accessed 9 May 2023.

²⁹ Mulder, M.B., 'The demographic transition: are we any closer to an evolutionary explanation?' [1998] 13(7), *Trends in ecology & evolution*, pp.266-270.

³⁰ Ibid

³¹ Stavridis et al, 'Bisphenol-A and Female Fertility: An Update of Existing Epidemiological Studies' [2022] 11(23), *Journal of Clinical Medicine*, pp.7227.

rather than bigger ones once necessary for the workforce until the 21st century³². So as the decrease process starts to show in the demography of people, attitude towards Abortion will be seen from a different perspective.

There is a practical example that can support this theory. According to CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora - effective since 1975), many animals and plants on Earth are considered endangered species³³. Several species of fish, including the Beluga sturgeon, are protected under the law, and their eggs are strictly safeguarded. Beluga sturgeon, which are mostly habitat in the Caspian Sea, and their caviar are traded under the established system of permits and limited quotas. Besides that, illegal trafficking of Beluga has already been observed domestically and globally with several documented cases³⁴. The Beluga sturgeon was not listed as endangered until its population declined. Once a decrease was shown in its habitat, Beluga and its roe were listed as endangered species³⁵.

A question arises: if the Beluga sturgeon was already on the endangered flora and fauna list, why was the roe of the Beluga also included in the list of protected species by the Convention separately? While the egg of the Beluga has not been physically separated from it yet, is it possible to confer special protected status on it? The answer is yes because the practice has been practically applied since 1975. ^[1] Again, it is not a discussion about 'some thought of school is right, and others are wrong'. Both women and children should enjoy their fundamental rights to life and become free from inhuman, degrading treatments and torture.

Progresses in Considering Abortion as a Human Right in Certain Circumstances are Sufficiently Positive.

Based on the research, it has become clear that no international human rights instrument explicitly states women's rights to safe and uninterrupted access to Abortion for specific reasons, except for the African Women's Protocol adopted in July 2003³⁶. However, human rights organizations such as the European Court of Human Rights (founded in 1950), the Inter-American Commission on Human Rights (founded in 1959), and the African Commission on Human and Peoples' Rights (founded in 1981) play a crucial role in protecting and promoting human rights as well as women's right on abortions. For example, the European Convention on Human Rights (ECHR) has a significant role in protecting the right

³² Nargund, G., 'Declining birth rate in Developed Countries: A radical policy re-think is required' [2009] 1(3) *Facts, views & vision in ObGyn*, pp.191.

³³ The United Nations, Convention on International Trade in Endangered Species of Wild Fauna and Flora, (adopted March 3 1973), 993 U.N.T.S. 243

³⁴ Zabyelina, Y.G., 'The "fishy" business: a qualitative analysis of the illicit market in black caviar' [2014] 17, *Trends in Organized Crime*, pp.181-198.

³⁵ Ibid (n 32).

³⁶ Ibid (n 19).

to private and family life, allowing women to make essential decisions independently regarding their health and body. Furthermore, article 12 of the International Covenant on Economic, Social, and Cultural Rights protects the right to “enjoy the highest attainable standard of physical and mental health,” meaning the mother’s health takes priority in the case of Abortion³⁷.

Progresses in considering Abortion as a human right in certain circumstances are sufficiently positive, but still, many international human rights instruments are being limited to general stances that do not firmly state that Abortion is a women’s fundamental human right on certain occasions and that there should be no restriction to safe Abortion where it is legal³⁸. Two conferences, the first in Cairo and the second in Beijing, which were held on Population and Development (ICPD) and the Fourth World UN Conference on Women in 1994 and 1995, played a significant role in promoting women’s reproductive rights. In addition, in 2008 Parliamentary Assembly of the Council of Europe adopted a report which was a natural progressive movement on protecting human rights, explicitly considering Abortion as an inseparable right of women.

In the United Nations Human Right Committee’s General Comment No. 36 on Article 6 of the International Covenant on Civil and Political Rights, it is stated that ‘States parties must provide safe, legal and effective access to abortion where the life and health of the pregnant woman or girl are at risk, or where carrying a pregnancy to term would cause the pregnant woman or girl substantial pain or suffering, most notably where the pregnancy is the result of rape or incest or is not viable’³⁹. General Comment No. 36 on Article 6 of ICCPR is considered only an authoritative interpretation which guides the implementation of one of ICCPR’s fundamental Human Rights norms⁴⁰. In the Comment, three categories of conditions were explicitly mentioned on three occasions it should not be restricted, and safe Abortion should be accessible for women worldwide. The first is if the life of pregnant women or girls is at risk; the second is if pregnancy causes pain or suffering and finally if the pregnancy results from rape or incest. Based on the social, economic, and religious factors, it would be irrational to question the topic of Abortion on these three occasions mentioned above.

Conclusion

Furthermore, many legal instruments, reports, and official comments on Abortion profoundly state that the topic of Abortion might be stabilized more effectively through

³⁷ The United Nations, General Assembly, International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966), T.S. vol. 993.

³⁸ The United Nations Human Rights Committee, General Comment No. 36 on Article 6 of the International Covenant on Civil and Political Rights, on the Right to Life (adopted by the Committee at its 124th session 8 October 2018).

³⁹ Ibid.

⁴⁰ Ibid (n 19).

supporting every member of our societies with effective reproductive health services and family planning programs (including sexuality education) to prevent unintended pregnancy. Propagandizing the moral and physical responsibilities abortion causes before deciding on reproductive matters is a profoundly personal matter. Every action has consequences (worse or better), and responsibilities lie to the person who takes this action.

Moreover, the interpretation of the legal instruments differently by political, social, and judicial institutions and not having a solid understanding as these instruments lack clear guidance on abortions play a vital role in the varied approaches and attitudes towards Abortion across different regions and countries. In some places, Abortion may be legal under certain circumstances, while in others, it may be illegal or heavily restricted. Even in places where it is legal, access to safe and affordable abortion services may still be a challenge due to societal stigma, limited healthcare resources, or other barriers.

The Table of Legislations and Instruments

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ХОРИЖИЙ МАМЛАКАТЛАРДА ЯШИЛ ИҚТИСОДИЁТГА ЎТИШНИНГ ТАКОМИЛЛАШТИРИШ ТАЖРИБАЛАРИ

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Аннотация: Мақолада хорижий мамлакатларда яшил иқтисодиётга ўтишнинг такомиллаштириш тажрибалари, мамлакат ўзига хос ёндашувга таҳлил қилинган.

Калит сўзлар: Яшил иқтисодиёт, яшил иқтисодиёт муаммолари, давлат харажатлари, соғлиқ муаммолари, йўл, транспорт инфраструктура, миграция муаммолари, ишсизлик муаммолари, инвестиция ва жамғармалар, атроф-муҳит ташкилотлари, банк ҳисоб рақамлари, иқлим ўзгаришларига қарши кураш, иқтисодий барқарорлик.

Аннотация: В статье анализируется опыт совершенствования перехода к зеленой экономике в зарубежных странах, особенности странового подхода.

Ключевые слова: Инвестиции и инвестиционная деятельность, инвестиционная среда, государственная инвестиционная политика, инвестиционная программа, централизованные и децентрализованные инвестиции, прямые иностранные инвестиции и кредиты, инвестиционная деятельность фармацевтической отрасли.

Annotation: The article analyzes the experiences of improving the transition to a green economy in foreign countries, the country's specific approach.

Key words: Green economy, green economy issues, public spending, health issues, road, transport infrastructure, migration issues, unemployment issues, investment and savings, environmental organizations, bank accounts, climate change fight, economic stability.

Кириш

Мамлакатимизда “яшил иқтисодиёт” асосида барқарор ривожланишни таъминлашда Ўзбекистон Республикаси Президенти томонидан 2019 йил 4 октябрда тасдиқланган “2019–2030 йилларда Ўзбекистон Республикасини “яшил” иқтисодиётга ўтиш стратегияси” муҳим дастурий амал ҳисобланади. “Яшил иқтисодиёт”га ўтишнинг муҳим вазифалари қаторига иқтисодиётнинг энергия самарадорлигини ошириш ва табиий ресурсларни оқилона истеъмол қилиш киради. Ушбу белгиланган мақсадли индикаторларга технологияларни модернизация қилиш ва молиявий механизмларни ривожлантириш орқали эришилади. 2030 йилгача бўлган даврда стратегияни амалга ошириш жараёнида ялпи ички маҳсулот бирлигига иссиқхона газларининг солиштирама чиқиндилари 2010 йил даражасидан ўн фоизга камайди, аҳоли ва иқтисодиёт тармоқларининг юз фоизга қадар замонавий, арзон ва ишончли электр таъминотидан фойдаланиш таъминланади. Экологик жиҳатдан яхшилانган моторли ёқилғи ва автомобиль ишлаб чиқариш ҳамда улардан фойдаланиш кенгайтирилади, электр транспорти ривожланади.¹

Мазкур мақола макроиқтисодиёт контекстида яшил иқтисодиётни такомиллаштириш сиёсатининг кўп қиррали жиҳатларини ўрганиш орқали ушбу муҳим саволларни ҳал қилишга интилади.

¹ ПҚ-4477-сон 04.10.2019. 2019-2030 йиллар даврида Ўзбекистон Республикасининг «яшил» иқтисодиётга ўтиш стратегиясини тасдиқлаш тўғрисида (lex.uz)

Мавзуга оид адабиётлар таҳлили

Миллий иқтисодиётга хорижий инвестицияларни жалб қилиш ва улардан самарали фойдаланиш йўллари шакллантириш доирасидаги қатор тадқиқот изланишлари хорижлик иқтисодчи олимлардан С.Лиесбетх, М.Миет, С.Жо илмий изланишларида алоҳида аҳамият касб этади. Тадқиқотчилар фикрича, ўтиш даври “Iqtisodiyot va innovatsion texnologiyalar” мамлакатларида иқтисодиётни либераллаштириш жараёни тўғридан-тўғри хорижий инвестицияларни жалб қилиш тизимини такомиллаш-тиришнинг муҳим омили ҳисобланади. Тўғридан-тўғри капитални тўплаш ва технологик ноу-хау орқали миллий корхоналарга технологиялар ва билимларни жалб қилиниши иқтисодий ўсишнинг барқарор суръатларини таъминлайди

“Яшил иқтисодиёт” тушунчасининг кенг тарқалган, нисбатан тўлиқ таърифи UNEP томонидан ишлаб чиқилган бўлиб, “яшил иқтисодиёт” – бу “инсонлар фаровонлиги ва ижтимоий тенглигининг яхшиланиши, экологик рисклар ва экологик тақчилликни сезиларли даражада камайтириш”га олиб келувчи иқтисодиётдир.²

Тадқиқот методологияси

Тадқиқот давомида Европа Тикланиш ва Тараққиёт Банки (Жаҳон банки) билан ҳамкорликда ўтказилган EBRD-EIB-WBG Enterprise Surveys Сўровлари орқали ўзгарувчиларнинг тасвирий статистикаси шунингдек, Пирсон жуфт корреляция матрицасидан фойдаланилди.

Таҳлил ва натижалар

Тадқиқот ишини эконометрик таҳлил жараёнида Жаҳон Банки расмий статистик маълумотларидан фойдаланилди. Европа Тикланиш ва Тараққиёт Банки (Жаҳон банки) билан ҳамкорликда ушундай сўров ўтказган: 2006, 2010 йилда ва 2016 йилда. Сўнгги сўровномада 34 мамлакатдаги 51 000 уй хўжалиги, асосан марказий ва шарқий Европадаги “ўтиш даври мамлакатлари” иштирок этди. Туркия каби, шунингдек, янада гуллаб-яшнаган ғарбий қўшнилари билан таққослаш учун, Германия ва Италиядан. Сўровда биринчи марта Кипр ва Греция ҳам қамраб олинди.

Ўтиш давридаги ҳаёт тадқиқоти собиқ коммунистик блокда ҳаётдан қониқиш даражаси ўсиб бораётганини кўрсатди. Умуман олганда, коррупция, меҳнат бозорлари ва бизнесдаги доимий гендер тафовутига оид хавотирлар камайгани аниқланган. Шу билан бирга 2018-2020 йилларда ўтказилган ЕТТБ Европа Иттифоқи, Шарқий Европа, Марказий Осиё ва Яқин Шарқ ва Шимолий Африканинг 41 та иқтисодиётидаги деярли 28 минг корхона қамраб олди: Албания, Арманистон, Озарбайжон, Беларус, Босния ва Герсеговина, Болгария, Хорватия, Кипр, Чехия, Миср, Эстония, Грузия, Греция, Венгрия, Италия, Иордания, Қозоғистон, Косово, Қирғизистон, Латвия, Ливан, Литва, Малта, Молдова, Мўғулистон, Черногория, Марокко, Шимолий Македония, Полша, Португалия, Руминия, Россия, Сербия, Словакия, Словения, Тожикистон, Тунис, Туркия, Украина, Ўзбекистон ва Ғарбий Соҳил ва Ғазо мамлакатлари ўз ичига олади.

EBRD-EIB-WBG Enterprise Surveys Сўровлари яшил менежмент амалиётлари ва яшил инвестицияларни қамраб олувчи Яшил иқтисодиёт модулини ўз ичига олган. Маълумотлар тўплами юқорида санаб ўтилган 41 та иқтисодиётга оид маълумотларни ўз ичига олади.

² Навстречу «зелёной» экономике: пути к устойчивому развитию и искоренению бедности / Штайнер А., Айрис Р., Бэсса С. И др: ЮНЕП/Грид Арендаль, 2011. С. 17

Жадвал-1. Ўзгарувчиларнинг тасвирий статситикаси

Variable		Obs	Mean	Std. Dev.	Min	Max
q413e	Яшил иқтисодиёт муаммолари	5120 5	.074	.262	0	1
q406a	Давлат харажатлари	5120 5	1.653	12.112	-97	8
q413a	Соғлиқ муаммолари	5120 5	.492	.5	0	1
q413g	Йўл, транспорт инфратузилма	5120 5	.082	.274	0	1
q413h	Миграция муаммолари	5120 5	.174	.379	0	1
q413j	Ишсизлик муаммолари	5120 5	.478	.5	0	1
q427e	Инвестиция ва жамғармалар	5120 5	-2.744	21.613	-98	6
q919e	Атроф-муҳит ташкилотлари	5120 5	2.957	.238	1	3
PRq313	Банк ҳисоб рақамлари	5120 5	1.778	.94	1	3
q407c	Иқлим ўзгаришларига қарши кураш	5120 5	-9.603	31.352	-97	2
q414d	Иқтисодий барқарорлик	5120 5	2.974	12.284	-99	5
q801h	Норасмий даромад	5120 5	-8.862	30.216	-99	5
country	Мамлакатлар	5120 6	17.504	9.817	1	34

Жадвалда келтирилган 51206 респондентнинг турли ўзгарувчилар ва уларнинг умумий статистикаси билан маълумотлар тўплами ўзаро изоҳланмоқда. Масалан, “Яшил иқтисодиёт муаммолари” ўртача қиймат 0,074, стандарт оғиш 0,262, минимал (мин): 0 ва максимал 1га тенг. Давлат харажатлари (Давлат харажатлари): кузатишлар 51,205, ўртача 1,653, стандарт оғиш 2.112, Минимал -97, Максимал 8га тенг. Ишсизлик муаммолари Кузатувлар сони 51,205 бўлиб, ўртача қиймат 0,478, стандартдан оғиш 0,5, минимал қиймат 0 ва максимал 1 га тенг. Шунингдек, инвестиция ва жамғармалар ўртача -2,744, стандарт оғиш 21.613, минимал -98 ва максимал 6 га тенглиги ҳисоблаб топилди. Тадқиқот ёки таҳлил мақсадларига қараб, маълумотлар тўпламидаги ҳар бир ўзгарувчининг тақсимланиши ва хусусиятлари ҳақида тушунчалар навбатдаги таҳлилларда фойдаланилди.

Тадқиқот жараёнидаги ўзгарувчиларнинг изоҳланишига кўра:

Яшил иқтисодиёт муаммолари- *у (боғлиқ ўзгарувчи (Dependent variable))*

Давлат харажатлари- x_1 (мустақил ўзгарувчилар (independent variables))

Соғлиқ муаммолари- x_2

Йўл, транспорт инфратузилма- x_3

Миграция муаммолари- x_4

Ишсизлик муаммолари- x_5

Инвестиция ва жамғармалар- x_6

Атроф-муҳит ташкилотлари- x_7

Банк ҳисоб рақамлари- x_8

Иқлим ўзгаришларига қарши кураш- x_9

Иқтисодий барқарорлик- x_{10}

Норасмий даромад- x_{11}

Мамлакатлар- x_{12} (interaction variable or factor variable)

Жадвал-2. Тадқиқот ўзгарувчиларининг Пирсон жуфт корреляция матрицаси

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) q413e	1.000								
(2) q406a	0.017* (0.000)	1.000							
(3) q413a	-0.032* (0.000)	0.048* (0.000)	1.000						
(4) q413g	0.004 (0.315)	0.031* (0.000)	-0.045* (0.000)	1.000					
(5) q413h	-0.010* (0.023)	0.037* (0.000)	-0.157* (0.000)	- (0.000)	1.000				
(6) q413j	-0.139* (0.000)	0.040* (0.000)	-0.128* (0.000)	- (0.000)	- (0.000)	1.00 0			
(7) q427e	0.019* (0.000)	0.040* (0.000)	0.001 (0.896)	0.010* (0.027)	- (0.007)	0.00 0	1.000		
(8) q919e	-0.048* (0.000)	- (0.001)	0.014* (0.001)	-0.004 (0.330)	-0.004 (0.338)	0.03 8*	- 0.015*	1.000	
(9) PRq313	-0.017* (0.000)	- (0.000)	0.047* (0.000)	-0.001 (0.743)	- (0.000)	0.01 3*	- 0.023*	0.012* (0.008)	1.000
(10) q407c	0.009* (0.034)	0.065* (0.000)	0.023* (0.000)	0.000 (0.999)	0.027* (0.000)	- 0.01 3*	0.060* (0.000)	-0.007 (0.115)	- 0.011*
(11) q414d	0.008 (0.067)	0.136* (0.000)	0.025* (0.000)	0.015* (0.001)	0.037* (0.000)	0.01 1*	0.097* (0.000)	0.000 (0.919)	- 0.057*
(12) q801h	0.030* (0.000)	0.081* (0.000)	0.028* (0.000)	- (0.001)	-0.006 (0.198)	- 0.01 8*	0.077* (0.000)	- 0.023*	- 0.078*

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Моделдаги жами 41 мамлакатда яшил иқтисодиёт муаммолари Оддий тўғри чизиqli регрессияси (OLS model) натижаларига кўра таҳлил қилинди ва коэффициентларнинг тақсимои ҳамда уларнинг талқини қуйидагилардан иборат. Таҳлил шартларига кўра, рўйхатда турган илк мамлакат яъни Албания базавий (Base country) ҳудуд сифатида нисбатан (related to other country) шаклида изоҳланиб боғлиқ ўзгарувчига сезиларли таъсири мавжуд ёки йўқлигини аниқлади.

– Арманистонда Албанияга қараганда яшил иқтисодиёт муаммолари 0,536 бирликка юқори ва бу статистик жиҳатдан аҳамиятсиз ижобий таъсир мавжуд;

– Озарбайжонда Албания билан солиштирганда яшил иқтисодиёт муаммолари 0,026 бирликка паст ва бу статистик жиҳатдан аҳамиятли;

– Беларусияда Албания билан солиштирганда яшил иқтисодиёт муаммолари 0,089 бирликка юқори ва бу статистик жиҳатдан аҳамиятли;

– Босния ва Герцеговинада Албанияга қараганда яшил иқтисодиёт муаммолари 0,034 бирликка паст ва бу статистик жиҳатдан аҳамиятли;

– Хорватияда Албанияга қараганда яшил иқтисодиёт муаммолари 0,027 бирликка паст ва бу статистик жиҳатдан аҳамиятли;

– Чехияда Албания билан солиштирганда яшил иқтисодиёт муаммолари 0,099 бирликка юқори ва бу статистик жиҳатдан аҳамиятли;

– Эстонияда Албания билан солиштирганда яшил иқтисодиёт муаммолари 0,030 бирликка юқори ва бу статистик жиҳатдан аҳамиятли;

– Македонияда Албанияга қараганда яшил иқтисодиёт муаммолари 0,007 бирликка паст ва бу жуда кичик ва статистик жиҳатдан аҳамиятсиз салбий таъсир кўрсатади;

– Грецияда Албанияга қараганда яшил иқтисодиёт муаммолари 0,005 бирликка паст ва бу жуда кичик ва статистик жиҳатдан аҳамиятсиз салбий таъсир кўрсатади;

– Венгрияда Албанияга қараганда яшил иқтисодиёт муаммолари 0,065 бирликка паст ва бу жуда кичик ва статистик жиҳатдан аҳамиятли салбий таъсир кўрсатади.

Хулоса

Яшил иқтисодиётга ўтиш ва Европа Иттифоқи стандартларига риоя қилиш орқали минтақавий иқтисодиётларнинг рақобатбардошлигини ошириш устида ишлашни давом эттирган. Албанияда атроф-муҳит ва иқлим бўйича масъул ташкилот сифатида Миллий вазирлиги бюджети сўнгги тўрт йил ичида (2019-2022) "Атроф-муҳитни муҳофаза қилиш" дастури кўпайтирилди. Шу билан бирга, "Ўрмон маъмурияти" дастурининг бюджети камайди. Сўнгги 4 йил ичида "Атроф-муҳитни муҳофаза қилиш" дастурининг бюджети ўсишини кўрсатади.

Хулоса сифатида хорижий мамлакатлар яшил иқтисодиётни такомиллаштириш сиёсатини тажрибаларини ўрганиш яшил иқтисодиёт кун тартибини мамлакатимиз учун қимматли ислохотларга йўл очиб беради. Ҳар бир мамлакат ўзига хос ёндашувга эга бўлса-да, умумий мавзулар қайта тикланадиган энергия, инфратузилмага инвестициялар ва иқлим ўзгаришига қарши курашиш ва барқарорликни ривожлантириш учун халқаро экологик ташкилотлар билан ҳамкорлик масалалари ўз долзарблигича қолмоқда.

Фойдаланилган адабиётлар рўйхати:

1. Ўзбекистон Республикаси Президентининг 2019 йил 4 октябрдаги "2019 — 2030 йиллар даврида Ўзбекистон Республикасининг "яшил" иқтисодиётга ўтиш стратегиясини тасдиқлаш тўғрисида"ги ПҚ-4477-сон Қарори <https://lex.uz/uz/docs/4539502>

2. Ўзбекистон Республикаси Президентининг 2019 йил 30 октябрдаги "2030 йилгача бўлган даврда Ўзбекистон Республикасининг Атроф муҳитни муҳофаза қилиш концепциясини тасдиқлаш тўғрисида"ги ПФ-5863-сонли <https://lex.uz/uz/docs/4574008>

3. Навстречу «зелёной» экономике: пути к устойчивому развитию и искоренению бедности / Штайнер А., Айрис Р., Бэсса С. И др: ЮНЕП/Грид Арендаль, 2011. С. 17

4. EBRD-World Bank Business Environment and Enterprise Performance Surveys <https://www.ebrd.com/what-we-do/economic-research-and-data/data.html>

5. Бирлашган Миллатлар ташкилоти Барқарор Ривожланиш мақсадлари (SDGs) <https://www.undp.org/sustainable-development-goals>

**О‘ЗБЕКISTON YALPI ICHKI MAHSULOTIDA BIZNES RIVOJLANISHINI STATISTIK
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ANNOTATSIYA. Ushbu maqolada O'zbekistonda hududlarni YaIM (YaHM)da biznes rivojlanishi ulushi asosida klassifikatsiyalash va baholashning statistik usuli va dasturiy ta'minoti hamda undan foydalanish bo'yicha ko'rsatma bayon qilingan. Biznes jarayonlarning shakllanishi, rivojlanish bosqichlari va ularga ta'sir qiluvchi omillarning o'ziga xos xususiyatlari, bularga oid ayrim statistik ko'rsatkichlar tizimi tadqiq etilgan. Ilmiy izlanishlar olib borish jarayonida respublikamiz YaIMda va viloyatlar YaHMda biznesning ulushi ko'rsatkichi ma'lumotlari bo'yicha klassifikatsiyalashni amalga oshirish uchun dasturlashning "Python" tilida "KLASSIFIKATOR BIZNES" deb nomlangan paket dasturi yaratilib, hududlar YaHMda biznes rivojlanishi ulushining yillar bo'yicha qiymatlari hisobini yuritish bo'yicha asosiy uslubiy jihatlari ochib berilgan. Biznes rivojlanish jarayonlarning mamlakat iqtisodiyotida alohida ahamiyat kasb etishidan kelib chiqib, ushbu ko'rsatkichni mamlakat makroiqtisodiy ko'rsatkichlariga ta'siri statistik usullarda baholangan va tahlil qilingan.

Kalit so'zlar: Klassifikatsiya, programma, hudud, to'plam, guruh, o'xshashlik, farq, miqdor, sifat, zamon, makon, hodisa, ko'rsatkich, moda.

АННОТАЦИЯ. В данной статье проанализированы статистический метод и программное обеспечение для классификации и оценки регионов Узбекистана по доле развития бизнеса в ВВП, а также инструкции по его использованию. Исследованы формирование бизнес-процессов, этапы развития и особенности факторов, влияющих на них, а также система некоторых статистических показателей, связанных с ними. В процессе проведения научных исследований была создана пакет программ «КЛАССИФИКАТОР БИЗНЕС» на языке программирования Python, предназначенная для выполнения классификации по данным доли бизнеса в ВВП нашей республики и ВРП регионов, а также значения доли развития предпринимательства в ВРП регионов по годам, раскрыты основные методические аспекты бухгалтерского учета. В связи с особой значимостью процессов развития бизнеса в экономике страны влияние данного показателя на макроэкономические показатели страны оценивалось и анализировалось с использованием статистических методов.

Ключевые слова: Классификация, программа, объект, множества, группа, сходства, разница, количества, качества, пространства, явления, показатель, мода.

ABSTRACT. This article describes a statistical method and software for classifying and assessing regions of Uzbekistan by the share of business development in GDP, as well as instructions for its use. The formation of business processes, stages of development and features of the factors influencing them, as well as a system of some statistical indicators associated with them, have been studied. In the process of conducting scientific research, the package program "BUSINESS CLASSIFIER" was created in the Python programming language, designed to perform classification based on the share of business in the GNP of our republic and the GNP of the regions, as well as the value of the share of entrepreneurship development in the GNP of the regions by year, the main methodological aspects were revealed accounting. Due to the special significance of business development processes in the country's economy, the impact of this

indicator on the country's macroeconomic indicators was assessed and analyzed using statistical methods.

Key words: *Classification, program, object, set, group, similarity, difference, quantity, quality, space, phenomenon, indicator, mode.*

KIRISH

Jahon iqtisodiyotida kichik biznesning mobillik darajasining yuqoriligi, innovatsion loyihalarni amaliyotga joriy qilish va bandlik muammosining hal etishdagi imkoniyatlarining kengligi kabilar ta'sirida uning ahamiyati tobora ortib bormoqda. Bugungi kunda kichik biznes korxonalari milliy iqtisodiyotlar yalpi ichki mahsuloti (YaIM)ning 40,0 foizigacha o'z hissasini qo'shmoqda. Biznes yana bir bor o'zining ishlab chiqarish va ijtimoiy-iqtisodiy jihatdan samarali subyekt ekanligini COVID-19 pandemiyasi ta'sirida vujudga kelgan global inqiroz sharoitida ham ko'rsatdi. Jahon banki ma'lumotlariga ko'ra, "2030 yilga qadar oshib borayotgan ishchi kuchi bandligini ta'minlash uchun 600 million ish o'rnini yaratish kerak" [1]. Jahonda biznesni rivojlantirishga alohida e'tibor qaratilayotgan sharoitda, biznes subyektlarini yanada rivojlantirish va ular faoliyatini prognozlashtirishning statistik axborotlar ta'minotini takomillashtirish bo'yicha ilmiy izlanishlar ustuvor darajada amalga oshirilmoqda. Bu borada amalga oshirilayotgan tadqiqotlar tarkibida biznes muhitini yanada yaxshilashga qaratilgan maqsadli strategiyalarni ishlab chiqishning statistik ishonch intervali darajasini oshirish, statistik tadqiqotlarda modellashtirishning zamonaviy usullarini qo'llagan holda xulosa va takliflarning asoslanganlik darajasini oshirish, faol biznes loyihalarini ishlab chiqish va o'zaro manfaatli loyihalarni amalga oshirishda nostandart iqtisodiy sharoitlar uchun ham biznes tendensiyalari o'zgarishini aniqlashga qaratilgan ilmiy-tadqiqotlar muhim ahamiyat kasb etmoqda.

O'zbekistonda innovatsion va raqamli iqtisodiyotni rivojlantirish, kambag'allik darajasini pasaytirishda kichik biznes va xususiy tadbirkorlik subyektlarining samarali rivoji uchun huquqiy, moliyaviy-iqtisodiy shart-sharoit yaratish, ularni davlat tomonidan qo'llab-quvvatlash bo'yicha keng qamrovli chora-tadbirlar amalga oshirilmoqda. Istiqbolda ham kichik biznesning iqtisodiy o'sishdagi va aholini ish bilan ta'minlashdagi ahamiyati yanada ortib borishini e'tiborga olgan holda, bugungi kunda biznesni ustuvor rivojlantirish, uning samarali faoliyati uchun zaruriy tashkiliy-iqtisodiy, huquqiy jihatdan shart-sharoitlar yaratishga alohida e'tibor qaratilmoqda. Shuningdek, iqtisodiy jihatdan barcha makroiqtisodiy ko'rsatkichlar bilan uzviy bog'langanligi sabab biznes rivojlantirish masalasiga hukumat darajasida katta e'tibor qaratilmoqda. Ushbu masalani hal qilishda mamlakatimiz Prezidenti Sh.M. Mirziyoyev tashabbusi bilan "2022-2026-yillarga mo'ljallangan Yangi O'zbekistonning taraqqiyot strategiyasida [2] belgilab berilgan "mahallalarda yangi institut sifatida joriy qilingan tadbirkorlikni rivojlantirish, aholi bandligini ta'minlash va kambag'allikni qisqartirish, mahalla hududida davlat-xususiy sheriklik asosida sport va madaniy inshootlar, ijodiy klublar, bandlikka ko'maklashish va o'qitish markazlari, tadbirkorlik obyektlari kabi infratuzilmani yaratish bo'yicha chora-tadbirlar amalga oshirish, yoshlarni ishga joylashtirish va ularning bandligi uchun shart-sharoitlar yaratish" kabi vazifalar belgilab berilgan.

Bugungi kunda mamlakatimizning ijtimoiy-iqtisodiy rivojlanishi yangi bosqichga ko'tarilmoqda. Ushbu bosqichda O'zbekiston Respublikasini yanada rivojlantirish bo'yicha harakatlar strategiyasining vazifalaridan kelib chiqqan holda, mamlakatimizda barqaror va jadal sur'atlar bilan iqtisodiy o'sishni ta'minlash milliy rivojlanish strategiyasining bosh masalasi hisoblanadi. Shunga ko'ra, respublikamiz ijtimoiy-iqtisodiy rivojlanishining joriy va istiqboldagi chora-tadbirlarini belgilashda biznes rivojlanish jarayonlarning ta'sirini har tomonlama hisobga olish, iqtisodiy rivojlanish dasturlarini ushbu jarayonlar ta'siri nuqtai-nazaridan shakllantirish va ularni izchil amalga oshirishni taqozo etmoqda.

O'zbekistonda iqtisodiyotni rivojlantirishning innovatsion yo'lidan borish, makroiqtisodiy barqarorlikni ta'minlash, kambag'allik darajasi pasayishi hisobiga aholining o'rtacha daromadli qatlamini ko'paytirish, aholi farovonligini oshirish va turmush tarzini yaxshilash, mahsulot ishlab chiqarish samaradorligi va raqobatbardoshligini oshirish, yangi ish o'rinlarini yaratishda biznesni yanada rivojlantirish eng dolzarb muammolardan biri hisoblanadi. Ushbu muammolarni hal etish borasida ilmiy tadqiqot ishlari ham olib borilmoqda [3,4]. Shu nuqtai nazardan, hududlarda yalpi hududiy mahsulot (YaHM) tarkibida biznes ulushi dinamikasini ilmiy asoslangan holda tadqiq qilish, tadqiqot natijalari asosida sohani boshqarish bo'yicha taklif va tavsiyalar ishlab chiqishdan iborat.

Albatta, bunday tadqiqot ishlarining natijadorligini ta'minlash uchun statistik kuzatuv ma'lumotlari va an'anaviy statistik usullarga asoslanib olib borilishi zarur[5]. Hududlarda (viloyat, tuman) YaHMda biznes ulushi dinamikasini o'rganishda Davlat statistika qo'mitasi ma'lumotlariga asoslanib, yillar bo'yicha hududlarda biznesning ulushi haqidagi ma'lumotlar statistik jadval ko'rinishida ifodalanadi. Jadvaldagi ma'lumotlardan foydalanib hududlarning YaHMLaridagi biznes ulushi bo'yicha respublikada tutgan o'rinlarini aniqlash uchun ular sifat ko'rsatkichlari bilan ifodalanuvchi uchta: yuqori(yaxshi), o'rta va past(yomon) darajadagi hududlar guruhlariga ajratilib, tabaqalab baho beriladi. Natijada hududlarni yillar bo'yicha qaysi tabaqadagi guruhga tushishiga qarab ularning o'zgarish holatiga baho berish imkoniyati yaratiladi.

Masalani yechishga bunday yondashuv yillar kesimida hududlarning YaHMda biznesning ulushi bo'yicha bir holatdan boshqa bir holatga: yuqori (yaxshi) darajadan o'rta yoki past (yomon) darajaga, aksincha past (yomon) darajadan o'rta yoki yuqori (yaxshi) darajaga o'tishini kuzatish imkonini beradi.

Bunday tadqiqotni amalga oshirish uchun statistikaning kuzatish, variatsion va oraliq qatorlarni tuzish, ularda o'rtacha qiymatlarni aniqlash kabi usullaridan foydalanish samarali natijalarni beradi. Tuzilgan variatsion qatorda o'rtacha qiymat qatorni faqat teng ikki guruhga ya'ni, hududlarni YaHMDagi biznes ulushi bo'yicha yuqori va past darajadagi hududlarga ajratib beradi xolos. Bunday holatda biz ijobiy xulosa chiqara olmaymiz.

Respublikada hududlarning YaHMda biznes ulushi bo'yicha holati to'g'risida aniq tasavvurga ega bo'lish uchun ma'lumotlarni oraliq qatorlariga ajratib, klassifikatsiyalab, o'rtacha qiymat tushgan oraliqni aniqlanib va shu oraliqqa tushgan hududlarni o'rtacha darajada deb hisoblab, o'rtacha oraliqqa nisbatan yuqori va past darajadagi hududlarni aniqlash ijobiy natija beradi. Bunda o'rtacha oraliqning joylashuviga qarab hududlarning holatiga to'g'ri baho berilishi mumkin.

MAVZUGA OID ADABIYOTLAR TAHLILI

Biznesning rivojlanish jarayonlarini tahlil qilish usullari va metodologik asoslarini o'rganish xorijiy hamda respublikamiz iqtisodchi olimlar tomonidan olib borilgan tadqiqotlar, ilmiy asarlar, risolalar va maqolalarda ham o'z aksini topgan. Xususan, biznes rivojlanishining nazariy jihatlarini xorijlik olimlardan R.Drogendijk, M.Oscar[6], N.Dutta, R.S.Sobel[7], Z.Greenberg, Y.Farjab, E.Gimmon[8] va boshqalarning ilmiy ishlarida yoritilgan.

Biznesni rivojlantirishda uning tashkiliy tomonlari bilan bir qatorda rivojlanishini tahlil qilish va prognozlash masalalarining nazariy-uslubiy jihatlarini ham o'ta muhim ahamiyatga ega va uni yanada takomillashtirish davr talabidir. Bu borada mamlakatimizning quyidagi iqtisodchi olimlarining ilmiy ishlarini keltirish mumkin. S.S.G'ulomov[9], T.Sh.Shodiev[10], N.M.Mahmudov[11], B.B.Berkinov[12], B.A.Begalov[13], B.K.G'oyibnazarov[14] va boshqalar tomonidan kichik biznesni rivojlantirishning ilmiy-amaliy asoslari va masalalari bilan bir qatorda kichik biznes rivojlanishini tahlil qilish hamda prognozlash masalalarining nazariy-uslubiy jihatlarini o'rganilgan. O'zbekistonlik iqtisodchi olimlardan S.K.Salayev[15] o'z ilmiy ishida Respublikamizda kichik biznes rivojlanish tendensiyalarini modellashtirish va bashoratlarning nazariy, uslubiy asoslarini taqqoslagan hamda ustuvor rivojlanishini ta'minlash yuzasidan tadqiqotlar o'tkazgan. Kichik biznes muhitining ichki resurs va imkoniyatlaridan foydalanishga ta'sirini katta sonlar qonuni va taqsimot ehtimollari funksiyalari orqali o'rgangan va biznesni rivojlantirishning ilmiy-amaliy asoslari va masalalarini keng yoritgan. Yana bir iqtisodchi olimlarimizdan biri X.A.Djalilov[16] iste'mol sarflari va YaIM o'rtasidagi bog'lanishni o'rganishda xorijda qo'llaniladigan zamonaviy ekonometrik usullar Yunit Rut testi va Yoxan Sen kointegratsion testi kabilarni O'zbekiston sharoitida qo'llash metodologiyasini ishlab chiqqan.

Biznesning rivojlanish jarayonlarini tahlil qilish usullari ustida ko'plab tadqiqotlar o'tkazgan iqtisodchi olimlardan biri B.Xodiyev[17] esa tadbirkorlikni va uning kichik va o'rta biznes shaklini rivojlantirishning tahliliy bashorat va rejalashtirish masalalarini yechish uchun iqtisodiy modellashtirishni va rekursiv dasturlashni nazariy-uslubiy asoslarini ishlab chiqilgan va ularni respublika iqtisodiyoti tarmoqlari va korxonalarida tadqiq etilgan. Yuqorida qayd etib o'tilgan iqtisodchi olimlarning ilmiy izlanishlarida respublikamizda biznesning rivojlanish jarayonlarini statistik tahlil qilish masalalari nazariy jihatdan yoritib berilgan bo'lsa-da, lekin biznes rivojlanish jarayoniga ta'sir etuvchi omillarni hisobga olgan holda statistik tahlili yetarlicha o'rganilmaganligi, shuningdek, biznes rivojining mamlakat iqtisodiyotiga ta'siri kompleks holda o'rganilmaganligi mazkur yo'nalishda tadqiqot olib borish uchun asos bo'ldi. Bu esa, o'z navbatida, istiqbolda mamlakatning ijtimoiy-iqtisodiy rivojlanishi yo'nalishlarida ham o'ziga xos

o'zgarishlarning amalga oshirilishini, aholini ish bilan ta'minlash, biznes loyihalari va dasturlarini ishlab chiqishni talab etadi. Mazkur tadbirlarning amalga oshirilishi biznes rivojlanish istiqbolini belgilashga bog'liq.

TADQIQOT METODOLOGIYASI

Biznes jarayoning yuzaga kelishi va uni rivojlanishi ko'plab omillarga bog'liq bo'lib, u murakkab tizim sifatida qaraladi. Ilmiy tadqiqotlarda bu kabi tizimlar tizimli yondashuv asosida tadqiq qilinadi.

Tadqiqot jarayonida ilmiy abstraksiyalash, statistik kuzatish, tasviriy statistika, statistik ma'lumotlarni tahlil qilish, klassifikatsiyalash, statistik baholash, algoritmlashtirish, dasturlash kabi usullardan foydalanildi.

TAHLIL VA NATIJALAR.

Turli obyektlarning holatlarini taqqoslash va baholashda ko'proq klassifikatsiyalash(guruhlash) usullaridan foydalaniladi. Klassifikatsiya iborasi obyektlar (predmetlar, hodisalar, jarayonlar va boshqalar) to'plamini ma'lum bir maqsadni ko'zlagan holda ularni muhim belgilari, ko'rsatkichlari (masalan, YaIM, YaHM da biznesning, sanoatning va boshqalarning ulushi) bo'yicha bo'laklarga, guruhlariga bo'lish, ajratishni anglatadi.

Klassifikatsiyaning maqsadi: o'rganilayotgan obyektlarni tizimlashtirish, obyektlarni o'xshashliklar va ular orasidagi farqlarni, hodisa va jarayonlarda yuzaga keladigan qonuniyatlarni aniqlash, dinamik jarayonlarni bir holatdan ikkinchi holatga o'tishini tadqiq qilish va boshqalardan iborat.

Bir jinsli obyektlar to'plamini klassifikatsiyalash obyektlarning ma'lum bir tomonini ifodalovchi miqdoriy va sifat ko'rsatkichlarni makon va zamonda o'zgarishi bo'yicha bajarilishi mumkin. Obyektlarni ma'lum bir ko'rsatkichini makonda o'zgarishini klassifikatsiyalashda ularning aniq bir vaqtdagi holatlari ifodalanadi. Zamonda o'zgarishini klassifikatsiyalash esa bir obyektning o'sha ko'rsatkichini vaqt bo'yicha o'zgarishini tavsiflaydi.

Obyektlarning holatini makonda o'zgarishini tadqiq qilish natijasida ko'rsatkichning qiymatlaridan iborat diskret stasionar variatsion qator hosil bo'lib, ushbu qator obyektlarni o'rganilayotgan ko'rsatkich bo'yicha o'zaro taqqoslash imkonini beradi. Obyektlar holatini zamonda tadqiq qilish natijasida esa ko'rsatkichning har bir vaqtga mos qiymatlaridan tashkil topgan vaqtli qator yuzaga keladi va bu qator aniq bir ob'ektning o'rganilayotgan ko'rsatkich bo'yicha turli vaqtdagi holatlarini taqqoslashda qo'llanishi mumkin. Makonda joylashgan obyektlar to'plamining o'rganilayotgan ko'rsatkichlarini turli zamondagi holatini tadqiq qilish natijasida "panel ma'lumotlari" deb nomlangan ma'lumotlar to'plami hosil bo'ladi[18,19]. Bu turdagi ma'lumotlar obyektlar holatini ham makon ham zamonda bir paytning o'zida tasavvur qilish va taqqoslash imkonini beradi.

Masalani mazmun-mohiyati, klassifikatsiyalashdan maqsadga qarab ko'rsatkichlar bo'yicha to'plangan ma'lumotlar asosida obyektlar to'plami turli usullarda klassifikatsiya qilinadi[20-23].

Klassifikatsiyalash (guruhlash) obyektini biror – bir tomonini ifodalovchi ko'rsatkichning qiymatlari asosida guruhlariga ajratish va ularga nom berishdan iborat. Bunday usulda miqdoriy ko'rsatkichlardan sifat ko'rsatkichlariga o'tiladi, ya'ni obyektini holati masalan, yomon, o'rtacha, yaxshi klasslarga ajratiladi.

Buning uchun obyektini ifodalovchi ko'rsatkichning qiymatlaridan tuzilgan variatsion qator diskret statsionar qator bo'ladimi yoki vaqtli qator bo'ladimi ma'lumotlar uch oraliq: obyektini yomon, o'rtacha, yaxshi holatlarini ifodalovchi oraliqlarga taqsimlanadi va ko'rsatkichning o'rtacha qiymati hisoblanadi.

So'ngra hisoblangan o'rtacha qiymat qaysi oraliqda ekanligi aniqlanib, o'rtacha qiymat tushgan oraliq o'rtacha oraliq deb olinadi. Ko'rsatkichning qiymati o'rtacha oraliq(iII guruh)ga tushgan obyektlarning holati "o'rtacha" (rangi sariq, shartli belgisi BB) deb olinadi. O'rtacha oraliqdan keyingi oraliq(iII guruh)ga tushgan obyektlarning holati "yaxshi" (rangi yashil, shartli belgisi AA), o'rtacha oraliqdan oldingi oraliq(i guruh)ga tushgan obyektlarning holati "yomon" (rangi pushti, belgisi CC) deb olinadi (ranglarga shartli belgilarni kiritilishining sababi, natija qog'ozga chiqarilganda ranglarni ajratib olish uchun).

Yana shunday holatlar ham bo'lishi mumkin, ko'rsatkichning o'rtacha qiymati I yoki III guruhga tushishi mumkin. Bunday holatlarda, ya'ni o'rtacha I guruhga tushganda ko'rsatkichining qiymati o'rtachadan kichik bo'lgan obyektlar holati "juda yomon"(rangi qizil, shartli belgisi DD), shu guruhning o'zida ko'rsatkichining qiymati o'rtachaga teng va undan katta

bo'lgan obyektlar holati "yomon", II guruhga tushgan obyektlar holati "o'rtacha" va III guruhga tushgan obyektlar holati "yaxshi" deb baholanadi. Ko'rsatkichning o'rtacha qiymati III guruhga tushganda ko'rsatkichining qiymati o'rtachadan katta bo'lgan obyektlar holati "juda yaxshi" (rangi ko'k, shartli belgisi EE) shu guruhning o'zida ko'rsatkichning qiymati o'rtachaga teng va undan kichik bo'lgan obyektlar holati "yaxshi", II guruhga tushgan obyektlar holati "o'rtacha" va I guruhga tushgan obyektlar holati "yomon" deb baholanadi.

Shu tariqa obyektlar o'rganilayotgan ko'rsatkichning sifat tomoni bo'yicha klassifikatsiya qilinadi. Klassifikatsiyalash natijalari birinchidan obyektning, o'rganilayotgan ko'rsatkich bo'yicha holatini vaqt bo'yicha o'zgarishini ko'rsatsa, ikkinchi tomondan boshqa obyektlar holati bilan taqqoslash imkonini beradi.

O'zbekiston respublikasi YaIMda va viloyatlar YaHMda biznesning ulushi ko'rsatkichi ma'lumotlari bo'yicha klassifikatsiyalashni amalga oshirish uchun dasturlashning "Python" tilida "KLASSIFIKATOR BIZNES" deb nomlangan paket dasturi yaratildi [24-27]. Paket dastur ikkita qismdan iborat: birinchisi KLASSIFIKATOR BIZNES dasturi, ikkinchisi EXCEL fayldagi ma'lumotlar – hududlar YaHMda biznesni ulushining yillar bo'yicha qiymatlari (foizlarda).

Dasturdan foydalanish uchun hududlar YaHMda biznesning ulushi ko'rsatkichini zamon (oy, chorak, yil) yoki makon (hududlar) bo'yicha qiymatlari EXCEL dasturida jadval ko'rinishida tayyorlanadi. EXCEL dasturida ma'lumotlar ikkita listga (Sheet1, Sheet2) yoziladi. "Sheet1" list (1-rasm)da obyektlar va uning ko'rsatkichlari haqidagi ma'lumotlar, "Sheet2" list (2-rasm)da yechilayotgan masalaning nomi yoziladi.

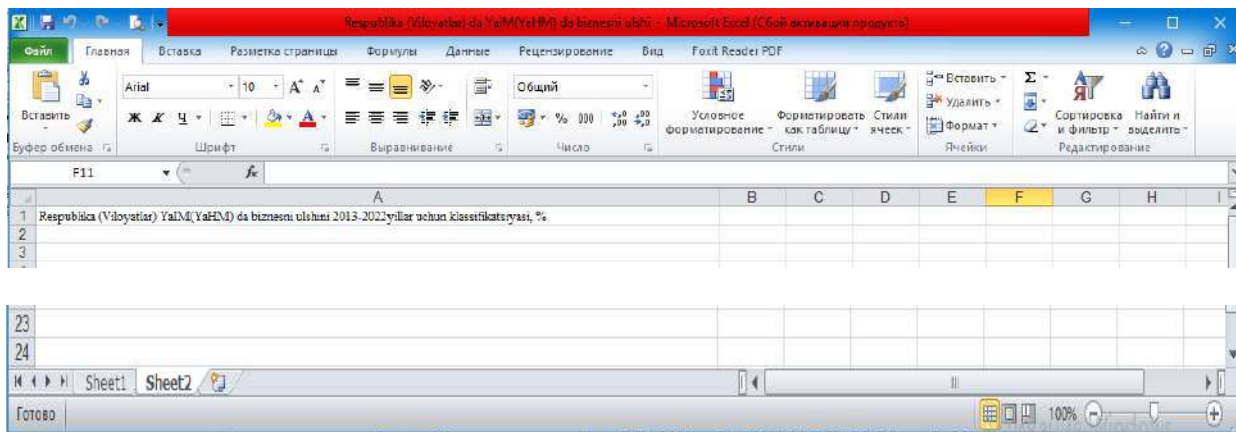
O'zbekiston Respublikasi YaIMda va viloyatlar YaHMda biznesning ulushi ko'rsatkichi bo'yicha 10 yillik (2013-2022 yillar) ma'lumotlari asosida klassifikatsiyalab ko'ramiz. O'zbekiston Respublikasi YaIMda va viloyatlar YaHMda biznesning ulushi ko'rsatkichi ma'lumotlari Sheet1 listda tayyorlanadi (1- rasm) va qo'yilayotgan masalani nomi Sheet2 listga yoziladi (2-rasm).

So'ngra "KLASSIFIKATOR BIZNES" papkasini yuklab (3-rasm) "Klassifikator Python" exe faylga – dasturga kiriladi(4-rasm) va "EXCEL FAYLNI YUKLASH" tugmachasi bosiladi, natijada obyektlarning ma'lumotlari joylashgan EXCEL faylning nomi chiqadi (5-rasm).

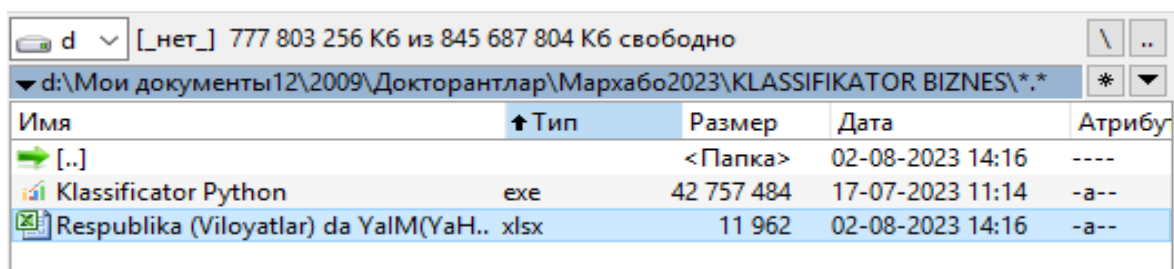
Ob'ektlar	2013yil	2014yil	2015yil	2016yil	2017yil	2018yil	2019yil	2020yil	2021yil	2022yil
O'zbekiston Respublikasi	55,8	56,1	62,9	64,9	63,4	60,4	55,3	54,8	54,1	51,8
Qoraqalpog'iston Respublikasi	64,0	64,5	66,6	61,1	55,7	55,2	56,6	58,3	56,3	56,6
Andijon	54,7	56,3	57,0	57,5	59,4	78,2	83,1	79,6	72,3	69,7
Buxoro	64,1	65,7	65,5	66,8	67,0	76,9	78,4	79,0	80,3	74,5
Jizzax	77,3	79,8	79,2	79,9	79,9	82,5	83,4	84,3	85,3	83,2
Qashqadaryo	55,0	56,2	51,4	51,4	51,5	61,3	64,9	64,9	63,7	70,9
Navoiy	34,4	35,9	35,7	36,1	36,9	49,0	48,8	47,8	41,0	31,0
Namangan	76,0	78,7	78,4	79,5	79,7	77,6	78,7	79,6	80,0	76,0
Samarqand	73,6	76,2	75,9	77,1	77,4	80,0	80,1	81,5	80,3	75,4
Surxondaryo	71,7	73,8	73,7	74,1	74,5	76,7	78,0	78,5	80,0	78,8
Sirdaryo	77,4	79,8	66,7	67,3	67,7	74,1	74,4	76,4	76,5	69,9
Toshkent viloyati	54,7	57,2	54,6	55,3	56,2	65,7	66,2	63,3	57,7	51,6
Farg'ona	59,5	61,2	60,3	61,1	62,1	70,8	72,6	70,3	70,7	69,4
Xorazm	71,8	74,1	73,5	73,8	73,9	76,3	78,2	78,0	77,8	76,6
Toshkent sh.	54,6	55,9	60,0	63,7	63,9	65,1	53,3	51,5	48,8	46,8

1-rasm. O'zbekiston Respublikasi YaIMda va viloyatlar YaHMda biznesning ulushi qiymatlari,%¹

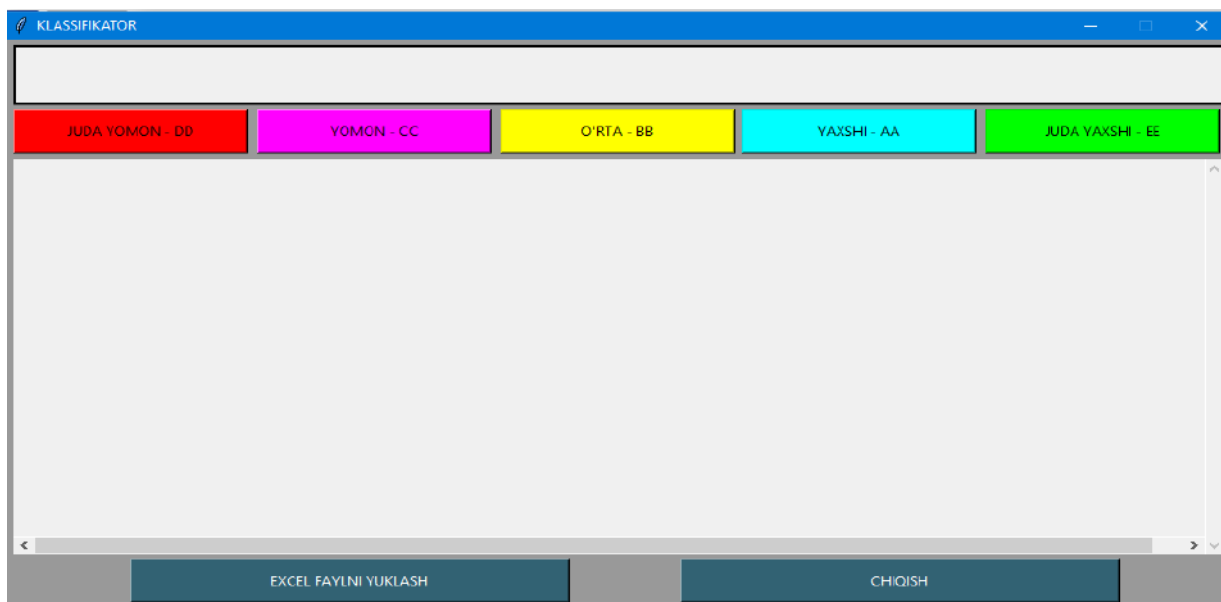
¹O'zbekiston Respublikasi Davlat Statistika Qo'mitasi ma'lumotlari asosida muallif hisob kitoblari



2-rasm. Masala nomi: Respublika (Viloyatlar) YaIM(YaHM) da biznesni ulushi bo'yicha 2013-2022yil ma'lumotlari asosida ularni klassifikatsiyalash, %

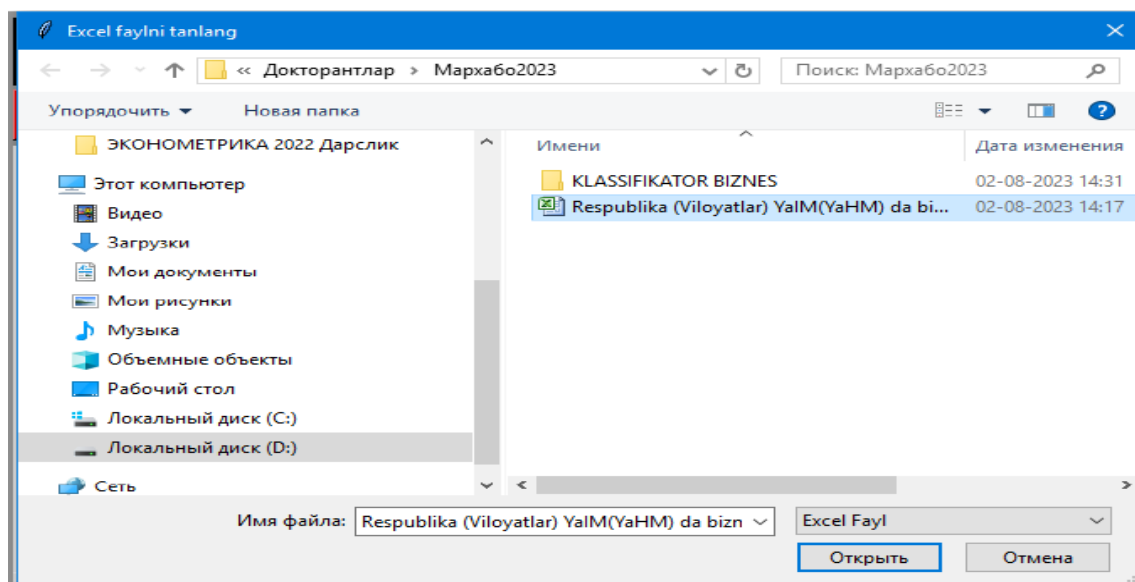


3-rasm. Klassifikator Python dasturiga murojaat qilish oynasi



4-rasm. Klassifikator Python dasturi oynasi

So'ngra tadqiq qilinayotgan obyektga mos fayl nomiga sichqonchani bosib fayl yuklanadi va "Открыть" tugmachasi bosiladi (5-rasm).



5-rasm. Obyektga mos faylni yuklash

Bu bilan "Klassifikator Python" dasturi ishga tushib, Respublika (Viloyatlar) YaIM(YaHM) da biznesni ulushi bo'yicha 2013-2022yil ma'lumotlari asosida Respublika va viloyatlarning 10 yil davomidagi holati klassifikatsiyalanadi va natijaviy jadval hosil bo'ladi (6-rasm). Natijaviy jadvalning yuqori qatorida qo'yilgan masalaning nomi, ikkinchi qatorida 5 ta klassning nomi, rangi va shartli belgisi chiqadi. Masalan, to'rtinchi klass: nomi "yaxshi", rangi "ko'k" va shartli belgisi "AA".

XULOSA VA TAKLIFLAR

Natijani tahlil qilinadigan bo'lsak, O'zbekiston respublikasi bo'yicha YaIMda biznesning ulushi (foiz hisobida) 2013 yildan 2018 yilgacha "o'rtacha" darajada bo'lib, 2019 - 2021 yillarda esa "yomon" holatga tushib qolgan, 2022 yilga kelib yana "o'rtacha" darajaga ko'tarilgan. Buxoro, Jizzax, Namangan, Samarqand, Surxondaryo, Sirdaryo va Xorazm viloyatlari o'rganilgan 2013-2022 yillar davomida "yaxshi" darajada, Navoiy viloyati esa aksincha shu yillar davomida "yomon" holatda bo'lgan, Toshkent viloyati doimo "o'rtacha" darajada, Toshkent shahri 2018 yilgacha "o'rtacha" darajada bo'lib, 2022 yilga kelib "yomon" holatga tushib qolgan va x.k.

Respublika (Viloyatlar) YaIM(YaHM) da biznesni ulshini 2013-2022yillar uchun klassifikatsiyasi, %										
	JUDA YOMON - DD	YOMON - CC	O'RTA - BB	YAXSHI - AA	JUDA YAXSHI - EE					
Ob'ektlar	2013yil	2014yil	2015yil	2016yil	2017yil	2018yil	2019yil	2020yil	2021yil	2022yil
O'zbekiston Respublikasi	55.8 - BB	56.1 - BB	62.9 - BB	64.9 - BB	63.4 - BB	60.4 - BB	55.3 - CC	54.8 - CC	54.1 - CC	51.8 - BB
Qashqadaryo Respublikasi	64.0 - AA	64.5 - BB	66.6 - AA	61.1 - BB	55.7 - BB	55.2 - CC	56.6 - CC	58.3 - CC	56.3 - BB	56.6 - BB
Andijon	54.7 - BB	56.3 - BB	57.0 - BB	57.5 - BB	59.4 - BB	78.2 - AA	83.1 - AA	79.6 - AA	72.3 - AA	69.7 - AA
Buxoro	64.1 - AA	65.7 - AA	65.5 - AA	66.8 - AA	67.0 - AA	76.9 - AA	78.4 - AA	79.0 - AA	80.3 - AA	74.5 - AA
Jizzax	77.3 - AA	79.8 - AA	79.2 - AA	79.9 - AA	79.9 - AA	82.5 - AA	83.4 - AA	84.3 - AA	85.3 - AA	83.2 - AA
Qashqadaryo	55.0 - BB	56.2 - BB	51.4 - BB	51.4 - BB	51.5 - BB	61.3 - BB	64.9 - BB	64.9 - BB	63.7 - BB	70.9 - AA
Navoiy	34.4 - CC	35.9 - CC	35.7 - CC	36.1 - CC	36.9 - CC	49.0 - CC	48.8 - CC	47.8 - CC	41.0 - CC	31.0 - CC
Namangan	76.0 - AA	78.7 - AA	78.4 - AA	79.5 - AA	79.7 - AA	77.6 - AA	79.6 - AA	79.6 - AA	80.0 - AA	76.0 - AA
Samarqand	73.6 - AA	76.2 - AA	75.9 - AA	77.1 - AA	77.4 - AA	80.0 - AA	80.1 - AA	81.5 - AA	80.3 - AA	75.4 - AA
Surxondaryo	71.7 - AA	73.8 - AA	73.7 - AA	74.1 - AA	74.5 - AA	76.7 - AA	78.0 - AA	78.5 - AA	80.0 - AA	78.8 - AA
Sirdaryo	77.4 - AA	79.8 - AA	66.7 - AA	67.3 - AA	67.7 - AA	74.1 - AA	74.4 - AA	76.4 - AA	76.5 - AA	69.9 - AA
Toshkent viloyati	54.7 - BB	57.2 - BB	54.6 - BB	55.3 - BB	56.2 - BB	65.7 - BB	66.2 - BB	63.3 - BB	57.7 - BB	51.6 - BB
Farg'ona	59.5 - BB	61.2 - BB	60.3 - BB	61.1 - BB	62.1 - BB	70.8 - BB	72.6 - AA	70.3 - BB	70.7 - AA	69.4 - AA
Xorazm	71.8 - AA	74.1 - AA	73.5 - AA	73.8 - AA	73.9 - AA	76.3 - AA	78.2 - AA	78.0 - AA	77.8 - AA	76.6 - AA
Toshkent sh.	54.6 - BB	55.9 - BB	60.0 - BB	63.7 - BB	63.9 - BB	65.1 - BB	53.3 - CC	51.5 - CC	48.8 - CC	46.8 - CC

6-rasm. Respublika (Viloyatlar) YaIM(YaHM) da biznesni ulushi bo'yicha 2013-2022yil ma'lumotlari asosida Respublika va viloyatlarning 10 yil davomidagi holatini klassifikatsiyalash natijalari

Olingan natijalar obyektlarni bunday holatlarda bo'lish sabablarini aniqlash, rivojlantirishning optimal variantlarini ishlab chiqishda asos bo'lib xizmat qiladi hamda iqtisodiy obyektlar holatining monitoringini olib borish imkonini yaratadi.

Viloyatlarda YaHMda biznesning ulushining bunday holatda bo'lishining sabablari va unga ta'sir etuvchi omillarning tahlili navbatdagi tadqiqotlarimiz natijalarini chop etish orqali yoritib beriladi.

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DEVELOPING LEARNERS' COMMUNICATIVE COMPETENCE THROUGH CONTENT AND LANGUAGE INTEGRATED LEARNING

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ABSTRACT

This article explores Content and Language Integrated Learning (CLIL) as a pedagogical method for enhancing learners' communicative competence. It discusses CLIL's theoretical underpinnings, practical applications, and empirical evidence supporting its effectiveness in fostering language proficiency and academic achievement, emphasizing its relevance in a globalized world.

АННОТАЦИЯ

В этой статье исследуется предметно-языковое интегрированное обучение (CLIL) как педагогический метод повышения коммуникативной компетентности учащихся. В нем обсуждаются теоретические основы CLIL, практические применения и эмпирические данные, подтверждающие его эффективность в повышении уровня владения языком и академических достижений, подчеркивая его актуальность в глобализированном мире.

ANNOTATSIYA

Ushbu maqola fan va tilni integratsiyalashgan usulda o'rganish (CLIL) metodologiyasi o'quvchilarning kommunikativ kompetensiyasini oshirishning pedagogik usuli sifatida o'rganiladi. Unda CLIL ning nazariy asoslari, amaliy qo'llanilishi va uning tilni bilish va akademik yutuqlarni oshirishdagi samaradorligini tasdiqlovchi empirik dalillar muhokama qilinadi va uning globallashtirgan dunyoda dolzarbligi ta'kidlanadi.

Key words: Content and Language Integrated Learning (CLIL), Coyle's 4C framework, subject content, cognition, communication, culture, scaffolding, bilingualism, integration, integrativity, cooperation, professional competence, authentic materials, cooperative learning, interaction.

Ключевые слова: интегрированное обучение по содержанию и языку (CLIL), система 4С Койла, предметное содержание, познание, общение, культура, языковая поддержка, билингвизм, интеграция, интегративность, сотрудничество, профессиональная компетентность, аутентичные материалы, совместное обучение, взаимодействие.

Kalit so'zlar: Content and Language Integrated Learning (CLIL), Koylning 4C sistemasi, fan mazmuni, idrok, muloqot, madaniyat, ikki tillilik, integratsiya, integratsiya, hamkorlik, kasbiy kompetensiya, haqiqiy materiallar, hamkorlikda o'rganish, o'zaro ta'sir.

INTRODUCTION

The modern professional community in the context of globalization and internationalization requires the development of professional foreign language communication skills necessary for establishing professional and business communication with other cultures. Consequently, the modern education system is faced with the task of developing an

interdisciplinary methodology for the educational process, including simultaneously teaching a foreign language and professional disciplines.

The development of information and communication technologies and the spread of international relations in various fields have provided some impetus for learning a foreign language. Today, English is not only a global language of communication, but also a tool for teaching subject content in many educational institutions around the world, from secondary schools to higher education institutions. Motivated by better job prospects, students try to learn a foreign language for professional communication.

Learning English in non-English-speaking countries, where little or no knowledge of the target language is known, poses a significant number of problems and barriers for students. Having only two or three English lessons a week does not allow students to develop their language skills and become fluent speakers. In such conditions, the Content and Language Integrated Learning (CLIL) methodology can be a solution to the existing problem, providing students with additional hours of English practice and at the same time creating an authentic language learning environment. Content-Language Integrated Learning (CLIL), in which subject content is taught in a foreign language, is becoming one of the most popular teaching methods worldwide, proving to be a promising field for both teachers and students in their professional and academic lives.

LITERATURE REVIEW

Despite the fact that Content and Language Integrated Learning began to be introduced into education just a few years ago, the origins of this approach to teaching come from the 1960-70s, when various types of integrated learning began to gain popularity, especially in European countries.

Integrated learning is an approach to learning that integrates different subject areas to create a more holistic and meaningful learning experience.

One of the major benefits of integrated learning is its ability to engage students in meaningful and relevant learning experiences. By connecting different subjects and topics, students can see how the concepts they learn in one area apply to others, making learning more meaningful and memorable. Research has shown that integrated learning can also improve students' critical thinking, problem-solving, and collaboration skills, which are essential for success in the 21st century workforce (National Research Council, 2012).

Despite these benefits, implementing integrated learning can be challenging for educators. One of the main challenges is to ensure that each subject or discipline is given equal importance in the curriculum (Hart Research Associates, 2018). Another challenge is the need for collaboration and communication among teachers who may have different perspectives, pedagogical approaches, and levels of knowledge in different areas (Jacobs, H. H., 1989).

Integrated learning has a long history and has evolved over time to take different forms.

Despite the abundance of bilingual programs, the technology of Content and Language Integrated Learning remains one of the most widespread not only in Europe, but also in Asia, the CIS and the Middle East.

Content and Language Integrated Learning is an innovative approach to bilingual education, involving the simultaneous study of a foreign language and the content of a professional discipline (Coyle et al, 2010, p. 184; Marsh, 2001, p. 233). This is an approach to teaching and learning a foreign language in which the foreign language is used both as the main language of instruction and as a language for conveying the content of subjects such as history, geography, biology and others. Coined by David Marsh (1994) during his work at the European Commission in the 1990s, the term CLIL is proposed to refer to "situations where subjects or parts of subjects are taught in a foreign language for the dual purpose of learning the content and learning the foreign language at the same time" (Marenzi et al., pp. 200-209). Marsh's work

has emphasized the need to emphasize both language and content, as well as the importance of teacher preparation and curriculum development (Marsh, 2002).

The development of communicative competence is a central goal in teaching a foreign language. Many researchers have studied the effects of different approaches on developing this key skill. Content and language integrated learning (CLIL), task-based language teaching (TBLT) and communicative language teaching (CLT) are among the most widely studied approaches in this regard. All these approaches play an important role in the development of communicative competence and are distinguished by the fact that Content and language integrated learning does not focus on the development of this competence, while the main focus of communicative language teaching is the development of students' communication skills through various exercises, and language teaching is based on tasks, in turn, aims to develop language skills through completing tasks.

CLIL programs have consistently had a positive impact on students' language proficiency and communication abilities (Lasagabaster & Sierra, 2010; Mehisto, Marsh, & Frigols, 2008). Several studies have reported improvements in students' oral and written language skills, as well as their overall language proficiency (Dalton-Puffer, 2007; Coyle, Hood, & Marsh, 2010). For example, Lasagabaster and Sierra (2010) found that CLIL students outperformed their peers in traditional language programs in terms of vocabulary, grammatical accuracy, and overall oral language proficiency. Similarly, Mehisto et al. (2008) conducted a meta-analysis of CLIL studies and concluded that CLIL has a positive effect on students' communicative competence, leading to higher language proficiency. These results highlight the effectiveness of CLIL in developing students' communicative competence and support its integration into language teaching programs.

One study on this topic was also conducted by Senoz and Gorter (2011), who examined the effects of CLIL on the communicative competence of Spanish-speaking Basque language students. The results showed that CLIL had a positive impact on both oral and written communication competence, as well as vocabulary acquisition.

Similarly, another research paper (Llinares and Whittaker, 2013) examined the effects of this approach on the communicative competence of English-speaking Spanish learners. The researchers found that using an integrated approach helped improve students' ability to use language in communicative contexts, as well as their motivation to learn the language.

A more recent study by Lasagabaster and Sierra (2019) examined the effects of CLIL on the communicative competence of Basque-speaking English learners. The results showed that this type of training had a positive impact on both receptive and productive skills, and that students who participated in CLIL programs performed better than those who did not.

However, not all research studies have found a positive relationship between CLIL and communicative competence. For example, a study conducted in Holland (De Graaff et al., 2014) focused on comparing the communicative competence of Dutch speakers and English language learners in a CLIL program with those in a traditional learning environment. The study found that there was no significant difference between the two groups in terms of communication competence.

A subsequent study (Mehisto et al., 2015) found that the effects of Content and Language Integrated Learning on communicative competence varied depending on the specific context in which it was applied. They argued that factors such as the quality of instruction, the level of student preparation, and of Content and Language Integrated Learning program may influence the relationship between the approach and communicative competence.

RESEARCH METHODOLOGY

The study used a number of methods to ensure adequate research of CLIL influence on developing students' communicative competence: theoretical (comparative, synthetic and

analytical comparison, analogy), diagnostic (surveys, testing and pedagogical observation), predictive (expert assessment, final assessment) and pedagogical experiment.

For pedagogical experiment we conducted several lessons that focused on the following methods and strategies of CLIL:

Cooperative learning

Cooperative learning methods encourage students to work together in small groups to achieve common goals. In CLIL, co-curricular activities improve communication skills by providing opportunities for negotiation, collaboration and interaction with fellow students. Group discussions, problem-solving tasks, and project-based learning activities promote the use of target language in meaningful contexts, encouraging students to practice and develop their communicative competence.

The practical implementation of cooperative learning in a CLIL class at universities can be organized in the following way:

Group formation. Students may be divided into small groups of 3-5 to ensure a mix of language proficiency and content knowledge levels. This diverse group composition allows for peer interaction and support while creating a collaborative learning environment (Johnson, Johnson, & Holubec, 2013). For example, in an engineering course, groups may consist of students from different engineering backgrounds, which encourages collaboration and knowledge sharing.

Clear roles and responsibilities. Specific roles must be assigned to each team member to ensure equal participation and accountability. Roles may include facilitator, recorder, time recorder, and speaker (Slavin, 2014). It is important to clearly define the responsibilities of each role and rotate them periodically to provide students with a variety of learning opportunities and experiences.

Structured tasks. Creating structured tasks that require collaboration, problem solving, and use of the target language is an effective way to develop students' communication skills. These tasks should be related to the content being taught and promote active interaction and communication within the group (Kagan, 1994). For example, in a sociology class, students can work together to analyze case studies, discuss social issues, and propose solutions or recommendations.

Positive interdependence. Positive interdependence among group members can be promoted by structuring tasks that require cooperation and shared responsibility (Slavin, 2014). In this case, the success of each member is related to the success of the entire group and students will try to help each other to achieve success. For example, in a biology course, students might work together to conduct a group experiment in which each participant contributes to data collection, analysis, and presentation of the results.

Teachers can also include activities such as *think-pair-share*, *jigsaw activities*, *peer tutoring*, *reciprocal teaching*, and various puzzles (Kagan, 1994) that teach students specific cooperative learning strategies to improve their interaction and communication skills. These methods encourage students to actively engage with content and support each other's learning.

Additionally, to provide additional opportunities to practice communication skills, it is important for teachers to provide time for group reflection and self-assessment. At the end of the cooperative learning activity, students can discuss their experiences, share ideas, and evaluate their group's work (Johnson, Johnson, & Holubec, 2013). This reflection helps students recognize their strengths, areas for improvement, and the value of cooperative learning to improve their communicative skills.

Using authentic materials and real-life tasks.

The use of authentic materials such as newspapers, articles, videos and real-life assignments plays an important role in developing communication skills in CLIL. Authentic materials introduce students to the use of natural language, cultural references, and real-world

contexts. Activities based on these materials encourage students to communicate meaningfully, express opinions, and discuss meaning, thereby increasing their communicative competence.

Incorporating authentic materials and real-world challenges into CLIL classes enriches the learning experience by making it more relevant, engaging and meaningful for students. These examples demonstrate how language and content can be easily integrated to develop communication skills while deepening content knowledge in practical and authentic ways.

Scaffolding

Providing scaffolding (language support strategies) is essential for developing communication skills in CLIL classrooms. Very often, students studying subject content in a non-native language have more theoretical knowledge and, finding it difficult to express their opinions, are unable to demonstrate their knowledge in class. In this case, teachers can support language learning by using visual aids, graphic organizers, sentence frames, and vocabulary exercises. These strategies help students understand subject matter and express ideas effectively, even when they encounter language problems. By providing language support, teachers contribute to the development of communicative competence in CLIL settings.

ANALYSIS AND RESULTS

In our research, we analyzed several universities for the availability of subjects taught in English, the specifics of teaching, the development of educational materials and their content, as well as the preparedness of teachers to teach subject content in English. We found that due to the lack of teaching staff who could teach their subject in English, as well as the inadequate level of English proficiency of students, a significant number of universities are not able to introduce teaching of subject content in English. However, this is only part of the reasons that hinder the implementation of CLIL in teaching. Based on the results of interviews, questionnaires and observations of lessons of teachers using CLIL technology, the following main problems can be identified that serve as a certain barrier to the successful integration of this approach in teaching in higher education institutions:

Insufficient foreign language proficiency of subject teachers. Implementing CLIL requires teachers who are proficient in both the target language and the content they teach. However, there is an acute shortage of qualified teachers with the necessary language skills in our country. The teachers we had the opportunity to interview admit that they feel hesitant to start teaching their subject in English, despite having a sufficient level of proficiency (level B2). They also note that, despite incentives from the state in the form of salary bonuses for teachers with knowledge of a foreign language, they do not have enough confidence to change the language of teaching, referring to the lack of confidence in their language literacy.

Choosing a teaching strategy. A key requirement of CLIL is that teachers integrate foreign language development strategies with subject-specific teaching methods. Inexperienced CLIL teachers may lack the necessary training and experience to effectively integrate language instruction into their subject lessons. In interviews, some CLIL teachers noted that they sometimes lack a ready-made strategy for planning their lessons, because teaching subject content in English is not just about translating into English what they previously taught in Uzbek or Russian. This requires the choice of a specific integration methodology, where it is necessary to take into account the explanation of terminology at the beginning of the lesson, simplification of the content of the taught material depending on the language level of the students, the creation of various exercises, etc.

Differentiated instruction. Even in regular classrooms, teachers have to work with students at different levels of knowledge. When it comes to teaching through CLIL, teachers are faced with the problem of differentiated instruction, where they have to adapt their lesson to the students' foreign language proficiency level. This requires adapting instructional materials, providing additional language support, and implementing strategies to effectively engage all students. Without the necessary language skills and strategies, teachers may find it difficult to

explain topics and meet the diverse needs of their students. During the conversation, CLIL teachers noted that due to the different levels of English language proficiency of students, they have to explain the prepared material several times, as well as divide students into groups and give different tasks, which, in turn, takes more time and requires more effort.

Limited resources. CLIL integration requires sufficient resources, including textbooks, multimedia materials and technology tools. In some cases, access to relevant resources in the target language may be limited. Lack of resources may hinder the implementation of CLIL and limit the variety of teaching materials available to teachers. CLIL teachers report that they face difficulties in developing teaching materials, finding suitable resources and planning lessons. Also, some teachers admit that they initially taught their subject in English without having a clear template for effectively planning their lesson, which made them doubt the correctness of their teaching.

Imperfections of the curriculum and syllabus. CLIL integration requires adapting the existing curriculum to include language learning objectives and content from other disciplines. Developing appropriate materials, textbooks and resources that are consistent with the CLIL approach can take a lot of time and resources. It can be difficult to create a curriculum that effectively combines language development and content learning. Analyzing the curricula developed at some universities, we can say that the integration of CLIL into curricula is quite limited. The introduction of CLIL into curriculum on a wider scale in Uzbekistan is still in its early stages. The lack of clear requirements and guidelines for the implementation of CLIL at the national level hinders its integration into existing subject curricula.

DISCUSSION

It is worth noting that the lack of a systematic and standardized approach to incorporating CLIL into the curriculum may lead to inconsistency and fragmentation across different educational institutions, which was mentioned in Coyle's research (1999).

One of the main disadvantages of CLIL is that it assumes that students already have a certain level of language proficiency. Students who are not proficient in the target language may have difficulty understanding the content being taught, which can lead to frustration and alienation. Research shows (Nikula and Dafouz, 2018) that CLIL students with lower language proficiency had difficulty keeping up with the pace of the lesson and were less motivated to participate, which was also found through observation in our research.

Another challenge revealed in several studies is the need for highly qualified teachers who are proficient in both the target language and the subject area (Lasagabaster & Sierra, 2010). The study by Cenoz & Gorter (2011) revealed that a major challenge is potential problems with teachers' language proficiency, where teachers may not be proficient enough in the language of instruction to teach the subject effectively. This can lead to inaccurate or incomplete explanations of content, which can lead to student misunderstandings (Hüttner & Smit, 2014). Teachers who lack the necessary language or content knowledge may find it difficult to teach effectively in a CLIL context, resulting in poor teaching quality and student dissatisfaction.

Another problem faced by teachers using CLIL is the lack of teaching materials, which sometimes forces teachers to spend a large amount of time creating exercises and assignments for students. Turaev's study, "Integration of Language and Content into the Curriculum in Uzbekistan: Teachers' Perceptions" (2018), examined teachers' attitudes towards the integration of English language and content in teaching disciplines. The results were similar to our research and showed that teachers have positive attitudes toward language and content integration, but face challenges in its implementation due to lack of resources and training. Fazilat Nurmukhamedova's study "Integration of language and culture in English textbooks in Uzbekistan: content analysis" (2019) revealed the problem of the degree of integration of language and culture in English textbooks used in Uzbekistan. The results showed that language and culture were not fully integrated and pointed to the need for more culturally authentic materials.

CONCLUSION

In conclusion, although CLIL can be an effective teaching approach and has many advantages for language learning and content teaching, there are also potential disadvantages that need to be considered. Addressing these issues may require careful planning and implementation, as well as ongoing evaluation and adjustment of teaching methods. Despite the above criticisms, CLIL remains a popular approach to language and content learning in many countries around the world, and current research is exploring how best to implement and evaluate this approach in various educational contexts.

A literature review and practical analysis of the current state of CLIL at universities as well as its influence on communicative skills suggests that CLIL is a powerful pedagogical approach for developing students' communicative competence. Its interdisciplinary nature, emphasis on authentic language use, and integration of content and language instruction contribute to more effective language learning outcomes. As CLIL continues to gain acceptance and implementation in educational settings, further research is needed to examine its long-term effects and identify best practices for its successful integration into various educational contexts.

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**TIBBIYOT XODIMLARI FAOLIYATIDA ILMIY MATERIALLAR BILAN ISHLASHNI
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Maqola annotatsiyasi. Yurtimiz shifokorlari orasida ilmiy materiallar bilan ishlash va ilmiy maqolalar yozish, rivojlangan davlatlar tibbiyot vakillari bilan solishtirganda, bir muncha orqada. Buni rivojlantirish uchun esa shifokorlarda talabalik davridan boshlab ilmiy materiallar bilan ishlash ko’nikmalarini shakllantirish, ilmiy tadqiqot o’tkazish uchun yetarli sharoit yaratib berish, shifokorlarga ilmiy faoliyat uchun vaqt va moliyaviy rag’bat berish, ilmiy assotsiatsiyalar faoliyatini tubdan isloh etish kabi usullardan foydalanish mumkin.

Kalit so’zlar: tibbiyot, ilmiy faoliyat, ilmiy tadqiqot, ilmiy assotsiatsiyalar

Kirish. Bugungi kunda yurtimiz tom ma’noda rivojlanish va reformalar o’chog’i bo’lib qoldi. Bu nafaqat mahalliy ekspertlar, balki xalqaro mutaxassislar tomonidan ham e’tirof etilmoqda. Reformalar asosini tashkil qilgan – “2017-2021-yillarda rivojlantirishning beshta ustuvor yo’nalishi bo’yicha harakatlar strategiyasi” doirasida o’tgan davr mobaynida davlat va jamiyat hayotining barcha sohalarini tubdan isloh etishga qaratilgan 300 ga yaqin qonun, 4 mingdan ziyod O’zbekiston Respublikasi Prezidenti qarorlari qabul qilindi. Bularning salmoqli qismi sog’liqni saqlash tizimini isloh qilish va rivojlantirishga qaratilgan bo’lib, soha o’tgan yillar davomida sezilarli taraqqiy etdi. Bugungi kunda ham, sog’liqni saqlash tizimini rivojlantirishga berilayotgan e’tibor susaygani yo’q. Buni isboti sifatida, 2022 — 2026-yillarga mo’ljallangan yangi O’zbekistonning taraqqiyot strategiyasidagi belgilab berilgan maqsadlarning 10 dan ortig’i aynan tibbiyotga tegishli ekanini ko’rsatish mumkin [1].

Tibbiyot izchil rivojlanadigan soha bo’lib, bemorlarni tashxislash va davolash usullari yildan yilga o’zgarib, optimallashtirib boradi. Tibbiyot xodimi esa aholiga malakali tibbiy yordam ko’rsata olishi uchun tibbiyot bilan bir qatorda doimo taraqqiy etishi zarur. Bu uchun ilmiy faoliyat bilan shug’ullanish, so’nggi maqola va tezislarni kuzatib borish, shu bilan birga tibbiyot xodimlarining o’zi ham ilmiy maqola va tezislarni yozish juda muhim.

Afsuski, yurtimiz tibbiyot vakillari orasida ilmiy materiallar bilan ishlash ko’nikmasi, rivojlangan davlatlar shifokorlari bilan solishtirganda sezilarli darajada sust. Misol uchun, mening Buyuk Britaniyadagi ta’limim davomida menga ilmiy rahbarlik qilgan, Londonning Royal Free klinikasi, Aorta bo’limi boshlig’i Dr Tara Mastracci, Google akademiyasidagi profiliga ko’ra, 191 ta maqola muallifi hisoblanadi va uning maqolalariga 6907 marta havola berilgan (h-indeks 39 ga teng), yoki men stajirovka o’tagan Londonning Great Ormond street hospital shifoxonasi, bolalar kardioxirurgiyasi bo’limi boshlig’i Dr Martin Kostolnyni olsak, unda shu paytgacha yozilgan maqolalar soni 118 ta bo’lib, ularga berilgan havolalar soni 1595 ta (h-indeks 25), solishtirish uchun, men faoliyat yuritayotgan ToshPTI klinikasi, kardioxirurgiya bo’limi mudiri, Dr Nodir Ibragimovda maqolalar soni 7 ta bo’lib, unga berilgan havolalar soni 9ta. Bu yurtimizdagi boshqa kardiojarrohlardan bir muncha yuqori ko’rsatkich bo’lib, boshqa ko’pchilik shifokorlar tomonidan umuman bitta ham maqola chop etilmagan.

Afsuski, kuzatishimizcha ilmiy maqolalar asosan tibbiyot oliygohlari professor-o'qituvchilari va ilmiy daraja (PhD, DSc) olish istagidagi izlanuvchilar tomonidan yoziladi va ko'p hollarda yurtimiz ilmiy adabiyotlarida chop etiladi. Asosan amaliyot bilan shug'ullanuvchi shifokorlarda esa yangi ilmiy maqolalar bilan tanishish, ilmiy tadqiqot o'tkazish, maqola yoki tezislar yozish uchun qiziqish ham, motivatsiya ham, xohish va vaqt ham yo'q. Bu esa ularni mutaxassis sifatida yuksalishlarini to'xtatib qo'yadi.

Tahlil. Shifokorlar orasida ilmiy materiallar bilan ishlashni rag'batlantirish uchun, avvalambor shuni bilishligimiz kerakki, ilmiy materiallar bilan ishlash bilim va ko'nikma talab qiladi. Hozirda shifokorlarimizning aksariyatida ilmiy materiallarni topish usullari, ulardan kerakligini ajratib olish ko'nikmasi, ularning qay darajada yozilganini baholash hissi yetarli emas. Ilmiy material yozish uchun esa, ilmiy tadqiqot usullari, ularni amalga oshirish yo'llari, ularda uchrashi mumkin bo'lgan bahslar va xatoliklarni oldini olish yo'llari, statistik tahlilni amalga oshirish va akademik yoza olish qobiliyati zarur. Shu sababdan, shifokorlarimizda materiallar bilan ishlay olish ko'nikmasini shakllantirishimiz kerak. Bu jarayonni talabalik davridan boshlagan ma'qul. Men tahsil olgan universitetimda, ilmiy ishlar metodologiyasi fani bakalavr va magistratura bosqichida o'qitilib, unda yuqoridagi bayon qilingan masalalar bilan bir qatorda, ilmiy ma'lumotlar omborlari (scopus, web of science) bilan ishlash, ilmiy adabiyotlar bilan ishlash va ularga havola berish uchun (EndNote, Zotero) va statistik tahlilni amalga oshirish (SPSS, Jamovi) uchun qo'llaniladigan kompyuter texnologiyalaridan amaliy foyladanish yo'llari o'rgatilgan. Shu kabi fanni tibbiyot oliygohlari talabalariga o'qitilsa foydadan holi bo'lmaydi. Shuningdek, yevropalik talabalar topshiradigan imtihon turlari ichida ilmiy maqolaning tanqidiy tahlili ko'rinishidagi imtihon olish usuli mavjud bo'lib, bunda talabaga bir qancha ilmiy maqola ichidan bittasini tanlab olishga imkon beriladi va uni tanqidiy tahlil qilish so'raladi. Talaba yetuk olimlar tomonidan yozilgan maqolalar bilan tanishib, ularda adabiyotlar to'g'ri tahlil qilinganmi, ilmiy tadqiqot maqsadi va gipotezasi aniq qo'yilganmi, ushbu maqsadni bajarish uchun tekshirish usullari to'g'ri tanlanganmi, maqola yozish davomida bays va xatoliklarga yo'l qo'yilmaganmi, statistik tahlil to'g'ri qilinganmi, tahlil natijalari to'g'ri berilganmi va ulardan to'g'ri xulosa chiqarilganmi kabi savollarga yozma javob berish orqali imtihon topshiradi. Bu orqali ilmiy materiallar bilan ishlash ko'nikmasi shakllanib boradi.

Ilmiy tadqiqot juda katta ikkita guruhga bo'linadi, ulardan biri klinik tadqiqotlar – ya'ni bemorlar yoki sog'lom insonlar bilan o'tkazilgan tadqiqotlar bo'lsa, ikkinchisi pre-klinik tadqiqotlardir. Pre-klinik tadqiqotlarda ilmiy tadqiqot obyekti bo'lib insonlardan ajratib olingan biror to'qima, hayvonlar yoki ularning to'qimalari xizmat qiladi. Bu guruh tadqiqotlarga e'tibor rivojlangan davlatlarda juda kuchli, chunki aynan shu guruh tadqiqotlarda yaqin-yaqinlargacha davosiz hisoblangan kasalliklarni davolash imkoniyatlari, yangi turdagi operatsiyalar kashf qilinadi va sekin astalik bilan amaliyotga tatbiq etiladi. Shuning uchun, har bir yirik tibbiyot muassasalari shunday laboratoriyalar va vivariylar bilan ta'minlangan. Yurtimizda esa bu kabi tadqiqotlarni amalga oshirish imkoniyatlari juda past. Su sababdan, bizning yirik tibbiyot muassasalarida ham yuqori texnologiyalar bilan ta'minlangan laboratoriyalar va vivariylarni tashkil etish masalasiga e'tibor berish vaqti keldi. Shuningdek, ilmiy adabiyotlar bilan ishlashni hozirda raqamli texnologiyalarsiz tasavvur qilib bo'lmaydi. Yetarli tezlikka ega internet bilan ta'minlangan kompyuterlarning barcha tibbiy muassasalarda mavjudligi masalasi birlamchi masalalardan biridir.

Amaliyot shifokorlari ilmiy maqolalar yozishini turli yo'llar bilan rag'batlantirish mumkin. Avstraliyalik olimlar o'tkazgan tadqiqotga ko'ra [2], shifokorlar uchun ilmiy maqolalar yozish asosan karyera masalasi bo'lib, bunda yangi lavozimga tayyorlash yoki ishga olish uchun tuzilgan komissiya qaroriga, o'sha nomzod tomonidan avval yozilgan maqolalar katta ta'sir o'tkazadi. Ya'ni shifokorlar karyerasi uchun ular maqola yozishi juda muhim. Demak, bizda ham ishga olish yoki mansab pog'onalaridan ko'tarilish uchun maqolalar mavjudligi va ularning darajasiga e'tibor qilishni boshlashimiz kerak.

Shifokorlar bilan suhbatda, ularda ilmiy tadqiqot uchun vaqt yetarli emasligi haqida gapirishadi. Darhaqiqat, shifokorlarga berilgan yuklama yuqori ekanligi va ish vaqti faqat bemorlarni davolash uchun ajratilgani hammamizga ma'lum. Shu sababdan, shifokorlar ish vaqtini tartibga solish, ish vaqti davomida bemorlar ko'rigi bilan bir qatorda qo'shimcha faoliyatga ham vaqt ajratib berish kerak. Misol uchun, Buyuk Britaniya milliy sog'liq xizmatlari (National Health Service - NHS) ishlab chiqqan, shifokorlar vaqtini to'g'ri tartibga solish bo'yicha gaydlaynga e'tibor bersak [3], Shifokorlar ish vaqtining $\frac{3}{4}$ qismi to'g'ri-to'g'ri amaliy tibbiy xizmatga, (ya'ni bemorlar ko'rigi, bemorlar tashxisoti bilan mashg'ul bo'lish, bemorlarni davolash, jarrohlik amaliyotlari, jarrohlikdan avvalgi bemorni tayyorlash va jarrohlikdan keyingi nazorat, bo'limdagi bemorlar xususida bo'lim xodimlari bilan yig'ilishlar o'tkazish, navbatchilikda va shoshilinch postda qolish va boshqalar) ajratilsa, ish vaqtining $\frac{1}{4}$ qismi qo'shimcha faoliyatga ajratiladi va bu faoliyat o'z ichiga konferensiya va o'quv treninglarida qatnashish, bo'limdagi yosh shifokorlarni o'qitish, ilmiy faoliyat bilan shug'ullanish, bo'lim statistikasini amalga oshirish va boshqalar uchun ajratiladi. Shu sababdan, shifokorlarga bemorlarni davolashdan tashqari ilmiy adabiyotlar o'qishi va ilmiy tadqiqot o'tkazishi uchun yetarli vaqt ajratib berilgan.

Shifokorlarni moliyaviy qo'llab quvvatlash ham yaxshi samara berishi mumkin. Misol uchun, tibbiy oliy ta'lim muassasasi kafedralariga aloqasi bo'lmagan amaliyot shifokori chop ettiradigan har bir ilmiy maqolasi uchun ma'lum miqdorda moliyaviy rag'bat ajratilsa, yil oxirida tibbiyot muassasasi rahbariyati tomonidan, yil davomida ilmiy maqolalar chop ettirgan xodimlar, kollektiv o'rtasida taqdirlansa, bu o'sha xodim uchun ham, boshqa xodimlar uchun ham katta motivatsiya bo'lgan bo'lar edi.

Ilmiy tadqiqotlarni e'lon qilishning yana bir ko'rinishi bu – konferensiyalardir. Rivojlangan davlatlarda ilmiy assotsiatsiyalar va ular o'tkazadigan ilmiy konferensiyalarga e'tibor yuqori darajada. Men o'zim Buyuk Britaniya va Irlandiya kardioxirurglari ilmiy assotsiatsiyasi a'zosi va ushbu assotsiatsiya tashkil qilgan yillik konferensiya qatnashchisi sifatida ayta olamanki, bu kabi assotsiatsiyalar faoliyatini yo'lga qo'yish, Respublikaning barcha tor mutaxassislarini bir assotsiatsiya tarkibida to'plash va ilmiy konferensiya o'tkazish nafaqat yangiliklar bilan barchani tanishtirish, balki Respublikaning turli mintaqalarida qo'llanilayotgan usullarni o'rganish, ularni nazorat qilish va Respublika bo'ylab eng optimal usulni tanlash va uni standartlashtirishda ham katta ahamiyatga ega. Shuning uchun taklif qilardimki, Sog'liqni saqlash vazirligi huzurida har bir tor mutaxassislik uchun alohida ilmiy assotsiatsiya tashkil etilsa va u o'sha sohani yetuk egallagan professorlar va istiqbolli yosh vakillardan iborat ilmiy kengash tomonidan boshqarilsa, butun Respublika bo'ylab tor mutaxassislarni shu assotsiatsiya tarkibida to'plansa, ushbu mutaxassislikka oid muhim qarorlar shu assotsiatsiya ilmiy kengashi qarori bilan hal etilsa, ushbu sohadagi shifokorlar faoliyatini o'rganish va nazorat qilish samaradorligi ortar edi. Assotsiatsiyalar tomonidan chop etiladigan davriy ilmiy jurnallar va bu jurnallarni Respublika bo'ylab tarqatish yo'lga qo'yilsa ushbu soha vakillarining yangiliklardan xabardor bo'lib borishi ortgan bo'lardi. Assotsiatsiyalar tomonidan yilda bir marotaba, butun Respublika bo'ylab a'zolari yig'ish va ilmiy konferensiya tashkil etish orqali chekka hududlardagi shifokorlar va markaz shifokorlari o'rtasida aloqalar o'rnatilar va sohani rivojiga ijobiy ta'sir ko'rsatgan bo'lar edi. Albatta bu kabi assotsiatsiyalarni moliyaviy harajatlari katta bo'lib, bu xarajatlar vazirlik tomonidan qoplansa, konferensiyalarda qatnashganlik uchun sarflangan xarajatlar esa tibbiy muassasalar tomonidan xodimning ish safari ko'rinishida qoplab berilsa, shifokorlarga hech qanday og'irlik tushmaydi, va ularning katta qiziqish bilan qatnashishiga imkon yaratadi.

Xulosa. Xulosa qilib aytganda, yurtimiz shifokorlari orasida ilmiy materiallar bilan ishlash va ilmiy maqolalar yozish, rivojlangan davlatlar tibbiyot vakillari bilan solishtirganda, bir muncha orqada. Bu masala tibbiyot xodimining kasbiy rivojlanishida juda muhim omil ekanini hisobga olsak, soha vakillari orasida ilmiy materiallar bilan ishlashni rag'batlantirish juda muhim masala ekani oydinlashadi. Buning uchun esa shifokorlarda talabalik davridan boshlab ilmiy materiallar bilan ishlash ko'nikmalarini shakllantirish, ilmiy tadqiqot o'tkazish uchun yetarli sharoit yaratib

berish, shifokorlarga ilmiy foyaliyat uchun vaqt va moliyaviy rag'bat berish, ilmiy assotsiatsiyalar faoliyatini tubdan isloh etish kabi usullardan foydalanish mumkin. Bir narsani esdan chiqarmaylikki, Sog'liqni Saqlash tizimining eng asosiy bo'g'ini, bemorlar salomatligini to'g'ridan-to'g'ri ta'minlovchi va sohamiz darajasini ko'rsatib beruvchi asosiy vakillar – bular shifokorlardir. Ularning insoniy va kasbiy rivojlanishi, yangi bilim va ko'nikmalarga ega bo'lishi, optimal dam olish va ishlash rejimini ta'minlash esa tizim oldidagi birlamchi vazifalardan biri bo'lishi kerak.

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**ПЕДАГОГИК ДАСТУРИЙ ВОСИТАЛАРДАН ФОЙДАЛАНГАН ҲОЛДА ТАЪЛИМ
СИФАТИНИ ОШИРИШ ИМКОНияТЛАРИ
(ВИРТУАЛ ЛАБОРАТОРИЯЛАР ТАҲЛИЛИ МИСОЛИДА)**

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Аннотация. Ушбу мақолада физика, кимё, биология, информатика ва электроника каби фанларни ўргатиш учун мўлжалланган виртуал лабораториялар кўриб чиқилган, шунингдек, турли виртуал платформаларнинг функциялари ва ўзига хос жиҳатлари, улардан фойдаланиш имкониятлари тадқиқ этилган. Мақоланинг хулоса қисмида фойдаланиш имкониятлари кенг ва қулай бўлган виртуал лаборатория бўйича таклифлар берилган.

Таянч сўзлар: таълим жараёни, педагогик дастурий воситалар, рақамли таълим ресурслари, ахборот технология, виртуал лаборатория, симуляция, интерфаол.

**ВОЗМОЖНОСТИ ПОВЫШЕНИЯ КАЧЕСТВА ОБРАЗОВАНИЯ С ИСПОЛЬЗОВАНИЕМ
ПЕДАГОГИЧЕСКИХ ПРОГРАММНЫХ СРЕДСТВ
(НА ПРИМЕРЕ АНАЛИЗА ВИРТУАЛЬНЫХ ЛАБОРАТОРИЙ)**

Аннотация. В данной статье рассматриваются виртуальные лаборатории, предназначенные для преподавания таких предметов, как физика, химия, биология, информатика и электроника, также исследуются функции, особенности и возможности использования различных виртуальных платформ. В заключительной части статьи представлены предложения по виртуальной лаборатории с широкими и удобными возможностями использования.

Ключевые слова: учебный процесс, педагогические программные средства, цифровые образовательные ресурсы, информационные технологии, виртуальная лаборатория, симуляция, интерактив.

**OPPORTUNITIES FOR IMPROVING THE QUALITY OF EDUCATION USING
PEDAGOGICAL SOFTWARE TOOLS
(BASED ON THE EXAMPLE OF ANALYSIS OF VIRTUAL LABORATORIES)**

Abstract. This article discusses virtual laboratories designed for teaching subjects such as physics, chemistry, biology, computer science and electronics, and also explores the

functions, features and possibilities of using various virtual platforms. The final part of the article presents proposals for a virtual laboratory with wide and convenient possibilities of use.

Key words: *educational process, pedagogical software, digital educational resources, information technology, virtual laboratory, simulation, interactive.*

Кириш

Таълим жараёнида ўқитиладиган материалнинг сифати ва тўлиқлигини ошириш доимий равишда долзарб масала ҳисобланади. Фан-техника тез суръатлар билан ривожланмоқда, янги йўналишлар пайдо бўлмоқда ва мавжуд йўналишлар такомиллашмоқда. Шу боис, ўқув режалари ва дастурларини ҳам доимий равишда янгилаб бориш зарур. Афсуски, кўп ҳолларда таълим замон талабларидан орқада қолиб кетмоқда. Ўқитишнинг эскирган шакл ва услублари билан халқаро стандартларга жавоб берувчи мутахассислар тайёрлаш имконияти чекланмоқда. Шу боис, таълим соҳасига янги педагогик дастурий воситаларни жорий этиш муҳим аҳамият касб этмоқда. Хусусан, мультимедиа ва рақамли ресурслардан фойдаланиш таълим сифатини тубдан яхшилашга хизмат қилади.

Таълимда виртуал муҳитни яратиш, халқаро тажрибаларда қўлланилаётган педагогик дастурий воситалар, жумладан, виртуал лабораториялар каби рақамли таълим ресурсларини жорий этиш таълим самарадорлигини оширишнинг энг самарали йўллари билан биридир. Виртуал лабораториялар талабаларга ҳақиқий лаборатория муҳитини компьютер орқали моделлаштириш ва тажрибалар ўтказиш имконини беради. Бу эса ўқув жараёнини янада қизиқарли, тезкор ва иқтисодий самарали ташкил этишга ёрдам беради.

Бугунги кунда кўплаб виртуал лабораториялар таълим ташкилотлар дастурларининг кўплаб фанларида қўлланилмоқда. Виртуал лабораториялар маълум бир мавзу бўйича тўлиқ кўламли экспериментал тадқиқотларни амалга ошириш жараёнларини тақлид қилувчи онлайн ва офлайн шаклдаги компьютер дастурлари тўпламини ифодалайди. Улар лаборатория ишларини виртуал тарзда бажаришга имкон беради, яъни. компьютер муҳитида - тегишли дастурнинг иш столида. Шу билан бирга, талабалар ҳақиқий тадқиқотда қўлланиладиган ҳақиқий ўлчов асбоблари, компонентлар ва бошқа атрибутлар билан эмас, балки уларнинг компьютер экранидаги «тасвирлари» билан шуғулланадилар. Бу лаборатория ишларини анча тез ва арзонроқ иқтисодий харажатлар билан якунлаш имконини беради, талабалар учун уни янада жозибадор қилади ва анъанавий ўқитиш шаклига нисбатан уларнинг мотивацион компонентини оширади.

Мавзуга оид адабиётларнинг таҳлили

Виртуал лабораториялардан фойдаланиш, одатда, барча амалий машғулотларни лаборатория хоналарида экспериментал фаолият орқали амалга ошириш мумкин эмаслиги сабабли юзага келади. Лаборатория хоналарида айрим асбоб-ускуналар ва жиҳозлар ёрдамида тушунтириш қийин бўлган жараёнлар, лекин уларни реал кузатишни талаб қиладиган мавҳум ва назариялар ёки тушунчалар тизим ёрдамида моделлаштирилади. Виртуал лаборатория - мунтазам амалий машғулотлар тизимини қўллаб-қувватлаш учун ишлатилиши мумкин бўлган тизим бўлиб, ушбу виртуал лабораториядан фойдаланиш таълим олувчиларга компьютер ёрдамида амалий машғулотлар ва тажрибаларни ўтказиш имконини беради. Виртуал лабораториядан фойдаланиш лаборатория жиҳозларининг етарли эмаслиги билан боғлиқ бир қатор муаммоларни бартараф этиши ва ўқув мақсадларига эришишга ижобий ҳисса қўшиши мумкин. [1].

Виртуал муҳитнинг яна бир афзаллиги И.И.Полевода томонидан берилган: виртуал симуляторлар ва симуляторлар ҳақиқий объектларда ўқитиш соғлиқ ва ҳаёт учун катта хавф билан боғлиқ бўлган соҳаларда мутахассисларни тайёрлаш имконини беради. Бир қатор ҳолларда, таълим берувчи объектив сабабларга кўра, соғлиқ ва хавфсизлик хавфи туфайли таълим олувчиларга технологик қурилмалардан фойдаланишни тўғри таъминлай олмайди, виртуал муҳит эса профессионал фаолиятда, жумладан, форс-мажор ҳолатларида юзага келадиган ҳолатларни кўришга имкон беради [2].

Маъруза машгулотларини модернизация қилиш ва самарадорлигини оширишнинг асосий йўли - мультимедиа технологияларидан фойдаланиш орқали визуал ахборот ҳажмини ошириш ҳисобланади. Янги ёки мавжуд лаборатория ва амалий ишларни янгилаш, кўп ҳолларда зарур материаллар ва ускуналарни сотиб олиш, шунингдек, синовларни ташкил этиш учун қўшимча харажатларни талаб қилади. Шу билан бирга, талабалар назарий тайёргарликдан сўнг биринчи марта лаборатория ишларини ҳар доим ҳам тўғри бажара олмайдилар. Кўпинча, муваффақиятли натижага эришиш учун бир неча маротаба тажриба ўтказиш керак, бу эса харажатларни сезиларли даражада ошириши мумкин [3].

Бир қатор мақолалар муаллифларининг хулосалари таҳлили натижасига кўра, ҳозирги вақтда билим соҳаларига йўналтириш мумкин бўлган масофавий таълим тизимига ихтисослашган махсус дастурларни яратиш муаммоси мавжуд [4,5]. Лекин айнан ушбу махсус дастурлар асосида виртуал лабораторияларни ишлаб чиқиш имконини беради. Бу орқали виртуал лабораторияларни таълим жараёнига қисқа муддат ичида жорий этиш мумкин.

Таҳлил ва натижалар

Сўнгги йилларда таълим олувчиларни интерфаол ўқитишда фойдаланилаётган замонавий ўқитиш методлари ва педагогик дастурий воситалар жумладан, виртуал реаллик (VR), тўлдирилган реаллик (AR), виртуал лаборатория, геймификация, муаллифлик воситалари (Authoring tools), сўнгий интеллект каби технологиялар каби технологиялар кириб келди.

Педагогик дастурий воситалар – АКТдан фойдаланишга асосланган, таълим жараёнини бошқариш билан бир қаторда ўқитишни самарали ташкил этишга мўлжалланган дидактик воситалар ҳисобланади.

Виртуал лаборатория – ўрганилаётган объектлар, жараёнлар ва ҳодисаларнинг турли хусусиятларини ўрганишни моделлаштиришга имкон берадиган амалий топшириқлар ва машқларни ўз ичига олган дастурий таъминот (платформа, илова ва бошқалар).

Виртуал лабораториялар ва онлайн платформалар таълимга киришни таъминлаш ва ўқув тажрибасини такомиллаштиришда муҳим роль ўйнайди. Шу билан бирга, соҳада ҳал қилиниши лозим бўлган бир қатор муаммолар мавжуд, жумладан:

таълим жараёнида фойдаланадиган виртуал лабораторияга қўйиладиган минимал талабларнинг мавжуд эмаслиги;

таълим берувчилар томонидан таълим жараёнида виртуал лаборатория платформаларидан фойдаланиш ҳамда уларни қўллаш усуллари бўйича етарли даражада кўникмага эга эмаслиги;

интерфаол виртуал лабораториялардан фойдаланиш имкониятларини тақдим этувчи маҳаллий рақамли таълим ресурсларининг камлиги ва бошқалар.

Шу муносабат билан, мавжуд виртуал лабораторияларнинг ўрганиш, улардан аниқ, табиий ва техника фанларини ўқитишда самарали фойдаланиш усуллари жорий этиш бугунги куннинг долзарб вазифаси ҳисобланади.

Виртуал лабораториялар таълим олувчилар компьютер, планшет, мобил телефон ёки бошқа қурилма орқали амалий билим ва кўникма олиш мақсадида бажарадиган интерактив фан симуляциясилар жамланмаси ҳисобланади. Виртуал лабораториялар таълим олувчиларга исталган жойда ва вақтда платформа ёки дастурдан фойдаланиш имконини беради, шунингдек, виртуал лабораториялар анъанавий лабораторияларга қараганда анча арзон. Виртуал лаборатория платформаси асбоб-ускуналар, сақлаш ва техник хизмат кўрсатиш учун катта миқдордаги ресурсларни сарфламасдан таълим ташкилотига ёрдам бериши мумкин.

Ушбу мақолада таълим ташкилотларида фойдаланиш учун мўлжалланган виртуал лабораториялар, уларнинг асосий функциялари ва фойдаланиш имкониятлари. Бундан ташқари, платформаларнинг тил имкониятлари, улардан фойдаланиш ҳуқуқлари ҳамда эътиборга молик бошқа жиҳатлари ёритилган.

1. PhET Interactive Simulations

Табиий фанлар йўналишида 2001 йилдаги Нобел мукофотининг лауреати К.Виман томонидан "Physics Education Technology" (PhET) платформаси (сайт) яратилган. PhET платформасида ҳар хил мавзуларга оид симуляциялар мавжуд бўлиб, улар HTML, Java ва Macromedia Flash дастурларида яратилган. PhET платформасида жами 168 та инглиз тилидаги намоиш тажрибаларини ўтказиш, виртуал лаборатория ишларини ташкиллаштириш ва моделлаштириш имкониятига эга симуляциялар мавжуд бўлиб, шундан, физика фанига 110 та, математика фанига 50 та, география фанига 26 та, кимё фанига 51 та ва биология фанига 19 та тўғри келади. PhET платформасида тақдим этилаётган симуляциялар 5-11 синф ўқувчилари учун мўлжалланган бўлиб, хоҳлаган фойдаланувчи бепул фойдаланиши мумкин.

Бундан ташқари, PhET дарслик муаллифлари билан боғланиш ва таълим муассасаларига интеграция қилиш каби қўшимча имкониятларга эга.

2. LabXchange

Гарвард университетига тегишли бўлган ушбу бепул платформа, инглиз, немис, француз ва бошқа тилларда интерфаол саҳифалар, виртуал лабораториялар, видеодарслар, экспериментал симуляциялар, электрон дарсликлар ва кейсларни ўз ичига олган. Платформа физика, кимё, биология ва география каби фанлардан симуляциялар мавжуд бўлиб, ўрта, профессионал ва олий таълим босқичи таълим олувчилари учун мўлжалланган.

3. Interactive Physics

Interactive Physics дастури Американинг MSC.Working Knowledge компанияси томонидан ишлаб чиқилган бўлиб, 6-11-синфлар учун мўлжалланган физика фани бўйича ўқув дастури ҳисобланади. Дастур орқали лаборатория машғулоти бўйича симуляцияларни яратиш мумкин. Платформа АҚШ таълим стандартларига ва рус мактабларидаги физика ўқитишнинг минимал талабларига мос келади. Дастур битта фойдаланувчи учун мақсад ва эҳтиёжларга қараб 229 АҚШ долларида бошланган турли хил лицензияларни тақдим қилади.

Interactive Physics дастурини ўрнатмасдан олдин, www.design-simulation.com/ip ҳавола орқали тажриба тариқасида бир нечта симуляциялардан фойдаланиб кўриш имконияти мавжуд.

Гравитацион, электростатик, магнит ёки бошқа соҳалардаги ҳаракатни, шунингдек, объектларнинг барча турдаги ўзаро таъсиридан келиб чиқадиган ҳаракатни ўрганишга қаратилган компьютер дизайни муҳити. Дастур осон ва тез экспериментал схемаларни, жисмоний объектларнинг моделларини ва куч майдонларини яратади. Натижаларни тақдим этиш усуллари (анимация, график, жадвал, диаграмма, вектор) фойдаланувчи томонидан қулай муҳит муҳарририда белгиланади.

4. The Physics Aviary

The Physics Aviary виртуал лаборатория платформаси АҚШлик Франк Маккаллей тадқиқотчи олим томонидан 2014 йилда ишлаб чиқилган бўлиб, платформада физика ва бошқа фанлар бўйича 183 та симуляция, 317 та кейс, 63 та ўйин/челленжлар ва 15 та инструмент/визуализациялар мавжуд.

Платформа контенти умумий ўрта ва олий таълим муассасалар таълим олувчилари учун мўлжалланган ва АҚШ таълим стандартларининг минимал талабларига мос келади. Ҳозирги кунда веб-платформадан фойдаланиш бепул ҳисобланиб, 75 дан ортиқ мамлакатларда 50 ёки ундан ортиқ фойдаланувчига ва яна 17 мамлакатда 1000 дан ортиқ фойдаланувчига эга.

Шунингдек, платформа контентининг асосий қисми инглиз, испан, португал, хорват, македон, турк, албан ва поляк тилларига таржима қилинган.

5. Chemcollective (IrYdium Chemistry Lab)

Ушбу дастур виртуал лабораториялар, ўқув қўлланмалари ва кимё бўйича тестларни ўз ичига олган, 11 синфгача ва профессионал таълим ўқувчиларига кимё фанини ўқитишга мўлжалланган. Платформа инглиз тилида бўлиб, фойдаланиш пуллик, лекин материаллардан онлайн ҳамда шахсий компьютерларда лицензиясиз бепул фойдаланиш имконини беради. Айрим материаллар рус тилида ҳам mavjud.

Ушбу дастур орқали дарслар тўлиқ компьютерда якунланиши ва лаборатория машғулотларига кириш ёки иштирок этиш имкони бўлмаган ўқувчилар томонидан фойдаланишлари мумкин. Chemcollective Миллий фан жамғармасининг лойиҳаси ҳисобланади.

6. LearningAPPS

LearningAPPS фанлар ва таълим босқичлари бўйича таснифланган тайёр машқлар базасини ва интерактив топшириқлар яратиш имкониятини тақдим этувчи платформа ҳисобланади. Ушбу платформа астрономия, биология, география, хорижий тиллар, ахборот технологиялари, математика, психология, физика, кимё ва бошқа фанлар бўйича 7-11 синфлар ва профессионал таълим ўқувчиларини рус, инглиз ва бошқа 21 та тилда ўқитишга йўналтирилган. Фойдаланувчилар таълим мақсадларида платформадан бепул фойдаланиш ҳуқуқига эга. Аммо, таълимдан бошқа мақсадларда фойдаланиш бўлса, ундан кейинчалик чеклаш ёки тақиқланиши мумкин.

7. Sciencekids

Sciencekids бошланғич таълим тури учун турли фанларни ва материалларни ўрганишга мўлжалланган кўплаб тажрибалар тақдим этади. Платформа кимё, математика, биология ва инглиз тили каби фанларни қамраб олади ва 11 синфгача бўлган ўқувчилар учун мўлжалланган. Платформа инглиз тилида бепул фойдаланишни таклиф қилади, лекин платформадан кенгроқ фойдаланиш ҳамда нарх ёки лицензиялаш ҳақидаги тижорий маълумотларни олиш учун платформа раҳбарияти билан боғланиш талаб қилинади.

8. Yenka (Crocodile Physics, Crocodile Technology, Crocodile Chemistry ва Crocodile ICT)

Crocodile Clips компанияси тегишли бўлган виртуал лаборатория дастурлари Yenka умумий номи остида юритилади. Yenka фан ва техниканинг турли соҳаларидаги ҳодиса ва жараёнларни моделлаштириш учун мўлжалланган Crocodile Physics, Crocodile Technology, Crocodile Chemistry ва Crocodile ICT каби дастурлардан ташкил топган.

Crocodile Physics Windows операцион тизимига мос келадиган виртуал лабораториядир. Платформа физика соҳасидаги виртуал тажрибалар ва ўқув топшириқларини моделлаштириш ва механика, электр занжирлар, оптика ва тўлқин ҳодисалари бўлинмаларига оид тажрибалар яратиш ва кузатиш имкониятини беради.

Дастурнинг ўзига хос хусусиятлари: Физик ҳодисаларни намоиш этувчи оптимал дастур, 50 дан ортиқ қадамма - қадам ўргатувчи дарслар, 150 дан ортиқ физиканинг бўлимларига оид тайёр моделлар, физик жараёнларни компьютерда моделлаштириш имконияти, мустақил моделлаштириш имкониятини берувчи содда интерфейс, Эр шароитида ўтказиш қийин бўлган тажрибаларни амалга ошириш ва кузатиш, дастурнинг кучли инструментарияси, тажрибада қатнашаётган физик катталикларнинг қийматини жуда яхши аниқлик билан ҳисоблаш имкониятини беради, физик ҳодисада қатнашаётган физик катталик билан бошқа физик катталиклар ўртасидаги графикли боғланишни ҳосил қилиш, яратилган моделларни сақлаш ва қўғозга чоп этиш мумкин.

Crocodile Technology дастуридан ўрта, профессионал ва олий таълим муассасаларида виртуал лаборатория ишларини бажаришда, шунингдек электр, электротехника, схемотехника, электр занжирлар йўналишларини ўқитишда фойдаланиш имконини беради. Дастур орқали электр схемаларини йиғиш жараёни кузатиш, электр катталикларни мультиметрда, амперметр ва вольтметрларда ўлчаш имкониятини беради.

Дастур инглиз тилида бўлиб, ундан таълим олиш мақсадида фойдаланиш бепул. Олдинги ҳолатлардаги каби, тижорий ёки бошқа мақсадларда фойдаланиш учун нархлар сайтда келтирилган.

Crocodile Chemistry дастури орқали Менделеев жадвалида мавжуд барча элементларнинг кимёвий ва физикавий хусусиятларини ўрганиш ҳамда кимёвий реакциялар, молекуляр динамикани моделлаштириш учун мўлжалланган.

Дастур орқали кимёвий реакция жараёнида реактивларнинг ранги, моддалар улушини, кимёвий реакция формулаларини кўриш имкониятини беради. Дастур интерфейси инглиз тилида бўлиб, ундан таълим олиш мақсадида фойдаланиш бепул. Олдинги ҳолатлардаги каби, тижорий ёки бошқа мақсадларда фойдаланиш алоҳида нархлар кўрсатилган.

Crocodile ICT информатика, алгоритмлаштириш ва дастурлашни ўргатишга мўлжалланган бўлиб, оддий интерфейс ва блок схемалари ёрдамида яратилаётган дастур орқали ҳар бир топшириқни анимация кўринишда тасвирлаш мумкин.

Дастур уй шароитида бепул фойдаланиш учун мўлжалланган. Дастур инглиз тилида тақдим этилган. Тижорий фойдаланиш учун нарх таклифи олиш мақсадида ишлаб чиқарувчилар билан боғланиш тавсия этилади.

Юқорида таҳлил этилган платформа ва дастурлар билан бирга физиканинг барча соҳаларини қамраб оладиган Чехиянинг Vascak.cz виртуал лабораторияси, тажрибалар ўтказиш ва видео дарсларни кўриш имкониятларини берувчи йирик виртуал лабораториялар тўплами The Virtual Lab, физика, кимё, биология, математика, технология ва муҳандислик бўйича 8900 дан ортиқ онлайн интерактив лаборатория ва намойишлар каталогини ўз ичига олган Wolfram Demonstrations Project дастури, Массачусетс технология институти (MIT) томонидан ишлаб чиқилган, биология, биокимё, генетика, гидрология фанларини ўқитиш ва тадқиқотчилик учун лабораториялар ишлаб чиқишга мўлжалланган STAR (Software Tools for Academics and Researchers) дастури, NWEA MAP, ACT ва SAT каби баҳолаш дастурларига тайёргарлик кўришга ҳамда математика, инглиз тили, ижтимоий ва табиий фанларни ўргатишга мўлжалланган 8000 дан ортиқ симуляциялар мавжуд IXL Learning таълим платформаси, механизмлар ва тизимларни чизиш ва моделлаш имконини берувчи бепул Algodoo дастури ўрганилди.

Шу билан бирга, кимё ва кимёвий йўналишларда таълим олувчиларни ўқитишда фойдаланса бўладиган инглиз тилидаги бепул Chemagic (молекула яратиш бўйича симуляция) платформаси, 3D графика ва батафсил моделларга эга бўлган Chemists виртуал лабораторияси, кимё бўйича виртуал лабораториялар ва амалий топшириқларни тақдим этадиган, рус ва ўзбек тилида бўлган mylab.uz платформаси, кимё фанини ўрганиш учун интерактив модуллар, жумладан реакциялар симуляцияси ва тестларни тақдим этадиган Дрофа "Chemistry", астрономияни ўрганиш, юлдузлар ҳамда галактикаларни кузатиш, уларнинг тарихи билан танишиш, номлари ва манзилни кўриш, смартфон ва планшетларда ишлатиш учун мўлжалланган Star Walk 2 мобил иловалари кўриб чиқилган.

Юқорида кўриб чиқилган платформа ва дастурлар 5-11-синфлар ва профессионал таълим таълим учун мўлжалланган бўлиб, улардан фойдаланиш мақсадларга қараб нархланади.

Хулоса ва таклифлар

Ушбу мақолада кўриб чиқилган виртуал лабораториялар турли функционал имкониятлар ва таълим фанларини қамраб олади. Улар турли синф ўқувчилари учун мўлжалланган бўлиб, таълимнинг турли босқичларида интерактив ўқитиш воситаси сифатида хизмат қилади. Бепул имкониятлар ва таълимий контентга киришнинг очиқлиги туфайли, бу платформалар турли хил таълим эҳтиёжларини қондиришга ёрдам беради. Бироқ, тижорий лицензиялаш ва фойдаланиш шартларида фойдаланиш платформа ёки яратувчилари билан боғланиш сўралади.

Виртуал лабораторияларни таҳлил қилган ҳолда, энг мақбул вариант Колорадо Боулдер университетининг Phet платформаси деб ҳисоблаймиз.

Ҳозирги кунда Phet платформасидаги симуляциялар 120 дан ортиқ турли тилдаги таржималарини топиш мумкин, хусусан ўзбек тилида 111 та, рус тилида 136 та, қозоқ тилида 137 та, тожик тилида 39 та ва туркман тилида 160 та симуляция таржима қилинган.

PhET дастури Ўзбекистон давлат таълим стандартларига ва ўқув муассасаларида қўлланилаётган адабиётларига деярли мос келади. PhET дастуридаги симуляциялардан физика, математика, география, кимё ва биология фанларидан дарс машғулотида намоиш тажрибалари сифатида, виртуал лаборатория машғулотларини ташкиллаштиришда кенг фойдаланиш мумкин.

Платформада келтирилган моделларни ўзбек тилига таржима қилиш учун дастурнинг расмий сайтида "Translated Sims" банди мавжуд бўлиб, у ерга кириб махсус қайдномани тўлдирган ҳолда тегишли моделни танлаб ўзбек тилига таржима қилиш мумкин.

PhET дастурининг расмий <http://phet.colorado.edu> сайтининг "Ўқитувчилар учун" бандида ҳар бир симуляция учун методик кўрсатмалар (виртуал лаборатория ишлари, намоиш тажрибалари ва бошқалар) келтирилган. Ўқитувчи қидирув фильтри орқали мавзуга оид дарс ишланмасини ёки методик кўрсатмаларни, таълим тури кесимида pdf ёки doc форматларида кўчириб олиш мумкин.

Мамлакатда ҳар бир соҳанинг ривожини таълим тизимининг қай даражада самарали йўлга қўйилганига ҳамда ривожланганлигига боғлиқ. Ҳозирги даврда ушбу соҳага, замонавий педагогик ва ахборот технологиялар, янгича ёндашувларни жорий этиш, илғор хорижий давлатлар тажрибалардан фойдаланиш муҳим аҳамият касб этади.

Ўзбекистон Республикаси Президенти қарорига асосан ташкил этилган Таълимни ривожлантириш республика илмий-методик марказига ҳам таълим жараёнига инновацион педагогик технологияларни, ўқитишнинг самарали шакл ва усуллари жорий қилиш, таълим соҳасидаги илғор амалиётни ўрганиш ва тизимли таҳлил қилиш ҳамда уни республикада жорий этиш бўйича комплекс чора-тадбирларни қабул қилиш, таълим соҳасини ривожлантиришга қаратилган таҳлилий ва амалий тадқиқотлар ўтказиш, таълим жараёнида жаҳон илм-фани ва технологиялари ютуқларидан кенг фойдаланиш бўйича илмий ишланмалар ва тавсиялар тайёрлаш бўйича устувор вазифалар белгилаб берилган [6].

Марказ томонидан таълим жараёнига замонавий педагогик дастурий воситаларни жорий этиш мақсадида ҳозирги кунда кўплаб хорижий ташкилотлар ва таълим платформалари вакиллари билан ҳамкорлик қилиш ва мавжуд платформаларни ўрганиш ва таҳлил қилиш, мақбулларини Ўзбекистонда таълим жараёнига жалб қилиш бўйича бир қатор ишларни амалга ошириш бўйча истиқболли лойиҳаларни амалга оширмоқда.

Шу билан бирга, ҳозирги кунда таълимга оид электрон ресурсларни 2017 йил 10 ноябрда тасдиқланган "Электрон таълим" миллий тизимига киритиладиган электрон методик комплекслар ва бошқа таълим ресурсларига ягона талаблар тўғрисидаги давлат стандартига мувофиқ ишлаб чиқиш кўзда тутилган.

Бироқ, ушбу 2017 йил тасдиқланган стандартда белгиланган бир қатор талабларнинг эскирганлиги, талаблар фақат электрон ресурс турлари билан чекланганлиги, шунингдек замонавий педагогик дастурий воситалар бўйича тарифлар ва талаблар йўқлиги, таълим ташкилотларда фойдаланилаётган электрон-рақамли ресурслар мазмунини ва сифатини бўйича аниқ талаблар мавжуд эмаслиги ушбу стандартни янги таҳрирда ишлаб чиқиш муҳим ва долзарб масалалардан бири бўлмоқда.

Ҳозирги кунда Марказ томонидан рақамли таълим ресурслари ва улардан фойдаланиладиган дастурий воситаларга қўйиладиган умумий талабларни лойиҳаси ишлаб чиқилиб, Ўзбекистон техник жиҳатдан тартибга солиш агентлиги билан биргаликда ўрнатилган тартибда рўйхатдан ўтказиш бўйича амалий ишлар оширилмоқда.

Мазкур стандартни янгилаш орқали таълим жараёнига янги ўқитиш методлари ва усуллари, рақамли таълим ресурсларни яратиш ва фойдаланиш бўйича умумий техник талабларни жорий қилиш, замонавий терминларга ягона илмий тариф бериш, шунингдек, инновацион таълим ресурсларидан фойдаланишни тартибга солиш, таълим сифати ва самарадорлигини ошириш, таълимда виртуал муҳитни яратиш, халқаро тажрибаларда қўлланилаётган педагогик технологиялардан самарали фойдаланишга эришилади.

Хулоса ўрнида замонавий педагогик дастурий воситалардан фойдаланиш таълим жараёнига янги ўқитиш методлари ва усуллари жорий этиш, таълим сифати ва самарадорлигини ошириш, таълимда виртуал муҳитни яратиш, халқаро тажрибаларда қўлланилаётган педагогик технологиялардан самарали фойдаланишга эришилади.

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Blockchain Technology: Paving the Way for a New Digital Economy**Yokubov Bakhtiyor Zoid ugli**

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Abstract: The modern economic landscape is swiftly transitioning to a primarily digital paradigm. This budding digital economy stands at the forefront of economic advancement, reshaping business relations built on information-driven B2B collaborations. Newly emerging digital strategies and information networking are becoming crucial in a progressively globalised economy. These changes mark the shift from a territorially-bound real economy to an interconnected, online one. This evolution is fostering the development and introduction of innovative business approaches. With the rise of blockchain technology, the digital economic arena is set for deeper integration worldwide. This paper explores the transformative role of blockchain in the digital economy and its potential to advance the sector further.

Keywords: Blockchain Technology, Digital Economy, Decentralisation, Financial Transactions, Cryptocurrency, Smart Contracts.

Introduction

The advent of the digital era has radically reshaped the worldwide economic terrain. As technological advances have progressed, they have paved the way for novel forms of both individual and business interactions. Now, the digital economy stands not merely because of these shifts but as a primary driver, empowering enterprises to tap into the vast expanse of the internet, access wider audiences, and cultivate thriving online platforms. Those enterprises that adeptly integrate online insights into their central tactics find themselves at the cutting edge of value generation and efficiency.

The digital economy represents many business operations rooted in online infrastructures, enriched by a diverse mix of information, uninterrupted connectivity, and adaptable applications. Data is the linchpin of this framework. Advanced countries, having leveraged this shift, now observe the digital economy rising as a central industrial segment, an observation echoed in several emerging economies. This upward trajectory can be ascribed to three primary catalysts: burgeoning user populations, advances in computational capacity, and widespread internet access [1].

Crucial foundations supporting the digital economy comprise:

- **Electronic Network:** Serving as the spine of the digital economy, these networks amalgamate global computing systems, applications, and software, eradicating geographical barriers. This intricate web connects varied entities, from multinational enterprises and governments to individual consumers.

- **Online Transactions:** Within the digital realm, businesses predominantly transact online. This sphere includes online retailers, manufacturers, and logistical centres. Pioneering platforms, such as Uber and Airbnb, underscore the profound changes in global trade, fulfilling a wide range of market demands.

- **Intermediaries:** The vastness of the internet has carved out direct routes between purchasers and vendors, simplifying operations and sidestepping traditional intermediaries.

Platforms like Facebook, Instagram, and Twitter exemplify this, facilitating unmediated business-consumer interactions [2].

However, the digital economy's progress is full of hurdles. The surge in data and the internet's rapid expansion have highlighted security gaps. Regulatory frameworks often must catch up to swift technological evolutions, resulting in policy inconsistencies across countries that hinder the digital economy's smooth operation. Establishing trust and clarity, especially within supply chains, becomes paramount [3].

Acknowledging these impediments, organisations are gravitating towards blockchain technology. This nascent solution aims to embed trust within the digital framework. Current trends reveal a growing appetite to integrate blockchain into the digital economy. As this amalgamation progresses, the Internet of Things (IoT) becomes an essential counterpart, broadening the boundaries of network interconnectivity.

Blockchain Technology

Unravelling the intricate mechanics of blockchain can be likened to peeling back the layers of a digital onion—each layer unearthing further complexities. While an exhaustive breakdown exceeds the scope of this discussion, it is crucial to grasp a basic understanding of its principal concepts and operations, particularly within the digital economy context [4].

At its core, blockchain functions as a digital ledger, distributed openly across multiple computers. It chronologically records transactions, each grouped into 'blocks'. Picture these blocks as chapters in a book, recording events in real-time. This decentralised system ensures that all participants can access the 'book', yet no single user or group can modify its earlier pages without a consensus.

Critical facets of blockchain in the digital context include [5]:

- **Decentralisation:** Like how the internet permits free-flowing information without a main broadcasting point, the digital economy functions without a central authority. Blockchain, inherently decentralised, reflects this design. It creates an arena where participants, wherever they might be, can access and confirm transactions without centralised oversight.

- **Robust Data Security:** Visualise each blockchain record as a journal entry, sealed with a distinct stamp, and safeguarded in a secure box (the block). Each box is secured with a cryptographic key, ensuring the access stays intact and protected. When a fresh entry is made, it is placed in a new box linked to the prior one, establishing an exceedingly difficult sequence to alter.

- **Transparency and Trust:** Envision if every online transaction were crystal clear, permitting all stakeholders to inspect and affirm its legitimacy. This is the level of transparency blockchain offers. Such openness fosters trust, which is paramount for enterprises and governments functioning digitally.

- **Smart Contracts:** View smart contracts as digital dispensers. Input the conditions (akin to inserting a coin), and the dispenser autonomously delivers the specified item, negating the need for a middleman. These self-executing agreements operate precisely as programmed, automating trust and ensuring involved parties adhere to their commitments [6].

- **Reflection:** As we traverse the digital economy landscape, tools like blockchain emerge as not merely components but as pivotal links. Their significance and influence, which we will delve deeper into, indicate a future digital environment that is more cohesive, transparent, and reliable.

How blockchain technology is transforming the digital economy

While the rise of blockchain is often linked with Bitcoin and its digital counterparts, its reach goes beyond just cryptocurrencies. Initially developed as a safeguard for Bitcoin, the capabilities of blockchain have vastly expanded, revolutionising multiple sectors due to the persistent endeavours of developers and researchers. Several global giants today exemplify blockchain's adaptability, incorporating it into various economic sectors [7].

Supply Chain Management:

Historically, supply chains followed a straightforward trajectory shaped by local trade. However, with the advent of globalisation and the growth of the digital economy, these chains have become increasingly complex. The ascendancy of manufacturing powerhouses like China

has further complicated matters. In this tangled environment, determining a product's provenance and worth becomes challenging for consumers and businesses [8].

Blockchain, employing its decentralised ledger, offers a sophisticated resolution. For example, SkyCell [9] has adeptly integrated blockchain with IoT sensors to craft advanced refrigerated containers designated for medicinal transportation. These sensors diligently monitor the medicine's global location, temperature, and humidity in real-time. Blockchain safeguards these parameters, and all corresponding logistical documents are meticulously archived in a digital ledger, ensuring the data remains immutable and resistant to tampering, serving as credible evidence. In a related vein, since 2018, Walmart has harnessed blockchain to oversee their leafy green suppliers. Their primary objective is to enhance product safety and expedite evidence provision during disputes [10]. These modern implementations highlight the evolving supply chain's emphasis on transparency, authenticity, and consumer-centricity.

Financial Transactions and Services:

The days when financial institutions viewed technology with suspicion and clung to archaic systems are long gone. In today's dynamic environment, they are not just adapting to technological advances but spearheading them, with blockchain emerging as a pivotal enabler [11].

Leading financial entities and government bodies are wholeheartedly adopting blockchain. For instance, the Bank of Canada and the Monetary Authority of Singapore have introduced blockchain-supported cross-border and cross-currency transfers. Similarly, JPMorgan Chase's 'JPM Coin' capitalises on blockchain to facilitate smooth institutional transactions.

Alternative Financing:

For many in developing countries, accessing capital can appear daunting, primarily attributed to the rigid collateral demands of traditional banks. While the digital economy has paved certain avenues, substantial barriers remain [11].

Blockchain, championing a decentralised approach, offers innovative solutions. Presently, startups, SMEs, and individuals find gateways to reliable funding sources, with cutting-edge platforms paving the way. For instance, Chainlink has gained attention for its decentralised Oracle network that bridges smart contracts with real-world data, enabling versatile financial tools. Similarly, Circle's USDC, a stablecoin pegged to the US dollar, offers a transparent, secure, and efficient medium of exchange and store of value, bypassing the complexities of traditional finance.

Emerging businesses, particularly in rapidly developing economies, are turning to these blockchain-fuelled avenues. Through their efforts, they are not only accessing vital capital but also contributing to a financial system that is more interconnected, defies geographical boundaries, and truly represents a globalised digital economy.

Challenges in Implementing Blockchain Technology

While the prospects of blockchain technology in revolutionising the digital economy are up and coming, it is also essential to acknowledge the challenges that may impede its full-scale implementation.

1. *Limited Expertise:* Blockchain is a relatively new frontier in the tech world. The demand for specialists adept in blockchain development and integration far outstrips supply. Educational institutions and training programmes are still catching up, leading to a skills gap in the market.

2. *Cultural Reluctance:* Change is often met with resistance. Transitioning to blockchain requires technological adjustments and a fundamental shift in business approaches and philosophies. Organisations ingrained in traditional methodologies might need help to embrace this decentralised model, stemming from unfamiliarity and a sense of losing control.

3. *Data Security Concerns:* Though blockchain is hailed for security benefits, no technology is impervious to threats. As the blockchain ecosystem grows, it becomes a target for cyber-attacks, requiring ever-evolving security measures to avoid potential breaches.

4. *Technological Adoption:* Integrating blockchain with IT infrastructure can be intricate. Compatibility issues, lack of standardisation, and the need for robust systems to handle blockchain's demands can pose significant challenges.

5. *Regulatory Hurdles*: Given blockchain's disruptive nature, many countries and industries have yet to establish a clear regulatory framework. The evolving nature of these regulations can pose uncertainties for businesses looking to invest heavily in blockchain solutions.

6. *Scalability Issues*: Blockchain networks, especially public ones, face transaction speed and volume challenges. As the adoption rate increases, ensuring these networks can handle larger volumes without compromising speed and efficiency becomes paramount. Addressing these challenges requires a collaborative effort from industry leaders, policymakers, educational institutions, and innovators. Only through a united approach can the true potential of blockchain be realised in transforming the digital economy.

Conclusion and Recommendations

The dawn of the digital economy has unequivocally reshaped how countries and businesses function, signifying a marked shift from traditional economic paradigms. However, as this digital metamorphosis approaches its pinnacle, there emerges an imperative for avant-garde technologies to amplify its momentum. Blockchain is a lighthouse, allowing nations to mould a seamlessly interconnected digital economy that links governments, enterprises, and individuals globally. With blockchain steering the ship, the digital economy is set to navigate beyond established horizons.

A forward-thinking approach is essential to unlocking blockchain's potential, which promises enhanced cross-border dealings, unparalleled transparency, and fortified trust amongst parties. Corporations and governmental entities need to rally behind blockchain's promise. They must lead endeavours that envision and implement cutting-edge, user-focused blockchain strategies, fuelling the enduring advancement and transformation of the digital economy.

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Тижорат банклари фаолиятини рейтинг тизими асосида баҳолаш механизми**Карабев Нодир Абдуҳамидович**Тошкент давлат иқтисодий университет
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Аннотация: Ушбу мақолада тижорат банклари фаолиятини рейтинг тизими асосида баҳолашнинг турли механизмлари ва уларни энг муҳим хусусиятларини очиб беришга қаратилган. Бунда тижорат банкларини рейтинг тизими асосида баҳолаш механизмларида фойдаланиладиган барча кўрсаткичлар ҳамда баҳолаш мезонлари кенг таҳлил қилинган.

Аннотация: Целью данной статьи является раскрытие различных механизмов и их важнейших особенностей оценки деятельности коммерческих банков на основе рейтинговой системы. Все показатели и критерии оценки, используемые в механизмах оценки коммерческих банков на основе рейтинговой системы, были подвергнуты тщательному анализу.

Abstract: This article aims to reveal various mechanisms and their most important features of evaluating the activity of commercial banks based on the rating system. All indicators and evaluation criteria used in the evaluation mechanisms of commercial banks based on the rating system were extensively analyzed.

Таянч сўзлар: Баҳолаш механизмлари, JCR ER рейтинги, CRISIL Ratings ёндашуви, G-CAMELS рейтинг тизими, DBRS Morningstar ёндашуви, "Ahbor-Reyting" рейтинг агентлиги.

Ключевые слова: Рейтинговые механизмы, рейтинг JCR ER, подход CRISIL Ratings, рейтинговая система G-CAMELS, подход DBRS Morningstar, рейтинговое агентство «Ахбор-Рейтинг».

Key words: Rating mechanisms, JCR ER rating, CRISIL Ratings approach, G-CAMELS rating system, DBRS Morningstar approach, "Ahbor-Reyting" rating agency.

Кириш: Тижорат банкларини рейтинг тизими асосида баҳолаш механизмлари ривожланган давлатлар каби ривожланаётган давлатларда ҳам доимий равишда назорат қилиб борилади. Бунинг учун банк тизимида олиб борилаётган ишлар барчаси халқаро талаблар асосида амалга оширилиши лозим бўлади.

Республикамизда молиявий секторни изчил ислоҳ қилиш давомида қатор чора-тадбирлар амалга оширилди ва натижада илғор банк бизнесини юритиш ҳамда ушбу секторда рақобат муҳитини кучайтириш учун зарур ҳуқуқий шарт-шароитлар яратилди.

Хусусан, халқаро стандартларга мувофиқ келадиган ва молиявий соҳага хорижий инвестициялар киритиш учун жозибador ҳуқуқий муҳитни яратадиган Ўзбекистон Республикасининг «Ўзбекистон Республикасининг Марказий банки тўғрисида»ги, «Банклар ва банк фаолияти тўғрисида»ги, «Валютани тартибга солиш тўғрисида»ги ҳамда «Тўловлар ва тўлов тизимлари тўғрисида»ги янгиланган қонунлари қабул қилинди.

Шу билан бирга, банк соҳасидаги ҳозирги ҳолат таҳлили банк секторида давлатнинг юқори даражадаги аралашуви, давлат иштирокидаги банкларда менежмент ва таваккалчиликларни бошқариш сифатининг етарли эмаслиги, иқтисодийда молиявий воситачиликнинг паст даражаси каби банк секторини иқтисодий янгиланишлар ва

жамият эҳтиёжларига мос равишда ривожлантиришга тўсқинлик қилаётган қатор тизимли муаммолар мавжудлигини кўрсатмоқда.

Молиявий хизматларнинг оммабоплигини ошириш, банкларнинг ҳудудларга кириб боришини кенгайтириш ва барча аҳоли пунктларида бир хил турдаги хизматлар кўрсатилишини таъминлаш бўйича қўшимча чоралар кўрилиши лозим.

Банк тизимига замонавий сервис ечимлари асосида ахборот технологияларини, молиявий технологияларни кенг жорий этиш, ахборот хавфсизлигини лозим даражада таъминлаш, шунингдек, молиявий хизматлар кўрсатишда инсон омили таъсирини камайтириш бўйича тезкор чора-тадбирлар кўриш талаб этилмоқда.

Охирги беш йил давомида, Жаҳон банки таъкидлаганидек, "Ўзбекистон иқтисодийни либераллаштиришга эришиш ва макроиқтисодий бошқарувни такомиллаштириш мақсадида "ўтиш даври сиёсати"ни олиб бормоқда. Ушбу сиёсат доирасида мамлакат ҳукумати 2025 йилга қадар олтига банкни хусусийлаштиришни режалаштирмоқда (шундай қилиб, давлат банкларининг сектор активларидаги улуши икки бараварга қисқариши керак) ва банклар ўз бизнес моделларини сезиларли даражада қайта қуришлари керак. Рентабелликни ошириш ва инвестиция жозибадорлигини ҳамда корпоратив бошқарув амалиётини яхшилаш мақсадида халқаро молия ташкилотларининг ёрдами зарур бўлади. Шу билан бирга, бирорта ҳам мамлакат банки халқаро рейтинг агентликлари томонидан инвестиция даражасида баҳоланмаган — барча рейтинглар спекулятив тоифага киради"¹.

Ўзбекистон Республикаси Президентининг 2020 йил 12 майдаги ПФ-5992-сон "2020 — 2025 йилларга мўлжалланган Ўзбекистон Республикасининг банк тизимини ислоҳ қилиш стратегияси тўғрисида"ги Фармонида "молия бозорида тенг рақобат шароитларини яратиш, фақатгина бозор талаблари асосида кредитлаш, банкларнинг давлат ресурсларига бўлган қарамлигини камайтириш, банк хизматларини модернизация қилиш, самарали инфратузилма яратиш ва банклар фаолиятини автоматлаштириш, шунингдек, банкларнинг асосий фаолият тури билан боғлиқ бўлмаган функцияларини босқичма-босқич бекор қилиш орқали банк тизимининг самарадорлигини ошириш" вазифаси юклатилган². Молия бозорида тенг рақобат шароитларини яратишда банкларнинг рейтингини шаффоф ва адолатли ташкил этиш механизмни яратиш ва шу орқали банкларнинг фаолиятига ҳолисона баҳо бериш асосий масалалардан бири сифатида қараш мумкин.

Мавзуга оид адабиётлар таҳлили (literature review): Тижорат банклари фаолиятини рейтинг тизими асосида баҳолаш бўйича олиб борилган тадқиқотларда асосий эътибор банкларнинг умумий иқтисодий кўрсаткичлари асосида банклар бозоридаги ҳолатига баҳо берилади. Ушбу ҳолатда баҳолашни кўплаб тадқиқотларда ички баҳолаш рейтинги деб юритганлар. Банкларни ички рейтинг бу фақат уларни ички муҳитдаги ҳолатига баҳо бериш орқали мижозларини ишончини оширишга қаратилган механизм ҳисобланади. Айрим тадқиқотчилар фикрича "Рейтинглар банклар фаолиятини ҳар томонлама баҳолаш учун жаҳон миқёсида тан олинган воситадир. Банклар фаолиятини қиёсий баҳолаш усули сифатида рейтинглар уларнинг бозордаги мавқеини ва ишончлилигини баҳолаш имконини беради"³.

Ушбу тадқиқотда банклар фаолиятини баҳолашнинг назарий ва услубий асослари очиб берилган, шунингдек, Беларус банклари мисолида асосий рейтинг усулларида фойдаланиш амалиёти таҳлил қилинган. Рейтинг усуллари ишлаб чиқишда эътиборга олиниши керак бўлган асосий муаммолар ва талаблар муҳокама қилинган. Рейтинг усуллари банк тизимидаги вазият, бозор конъюнктурасининг ўзгариши ва банк фаолияти самарадорлигини ҳисобга олувчи интеграл индексни ҳисоблаш асосида таклиф этилган.

Рейтинглар банклар фаолиятини ҳар томонлама баҳолаш учун жаҳон миқёсида тан олинган воситадир. Банклар фаолиятини қиёсий баҳолаш усули сифатида рейтинглар уларнинг бозордаги мавқеини ва ишончлилигини баҳолаш имконини беради.

Ички рейтинглар банк назорати ва тартибга солишда ҳам қўлланилиши мумкин. Банк назоратчиси сифатида Федерал резерв банкларда кучли рискларни бошқариш амалиётининг муҳимлигини узоқ вақтдан бери таъкидлаб келади ва ўз фаолиятини

¹ <https://www.forbes.ru/finansy/477479-10-nadezhnyh-bankov-uzbekistana-rejting-forbes>

² <https://lex.uz/docs/4811025>

³ Татьяна Родионова (Автор), Максим Гогонов (Автор). Рейтинг банков: состояние и развитие методологий. Our Knowledge (21 июня 2021 г.) Язык : Английский. 116 с.

рисklarни бошқариш ва назорат қилиш жараёнларини синаб кўришга кўпроқ йўналтириш истагини билдирди ва индивидуал операцияларни синовдан ўтказишдан биров узоқроқ бўлишини таъкидлайди. Ушбу афзаллик банк фаолиятига камроқ аралаштириш имконини беради ва назоратнинг банк инновацияларига чекловчи таъсирини минималлаштиради.

Ҳар қандай ички рейтинг тизими барча банклар учун ижобий ҳолат эмас. Банклар тизимлари бизнес таркибидаги фарқлар ва рейтинглар қўлланиладиган мақсадларда жуда катта фарқ қилади. Бизнес таркибидаги ўзгаришлар орасида банк портфелидаги йирик корпоратив кредитларнинг улуши унинг ички рейтинг тизимига энг катта таъсир кўрсатади.

Олиб борилган тадқиқотда "Катта корпоратив бозорга эга бўлган банклар нисбатан паст рискли кредитлар орасида яхши фарқларга эришадиган рейтинг тизимидан фойда кўришлари мумкин, бошқа банклар эса бундай фарқларда сезиларли даражада камроқ қиймат топишлари мумкин"⁴ деб хулосага келганлар.

Бундан ташқари, мустақил кредит ходимлари кўпинча йирик кредитларни баҳолаш учун жавобгардир. Бундай келишув потенциал рағбатлантирувчи можароларни сезиларли даражада камайтириши мумкин, лекин кўпинча муносабатлар менежерлари томонидан баҳоланадиган кичикроқ кредитлар учун иқтисодий бўлиш учун жуда катта бўлган ҳар бир кредит харажатларини ўз ичига олиши мумкин. Кичикроқ кредитлар, шунингдек, банк даромадлари ва капитали учун камроқ хавф туғдиради ва шунинг учун баҳолаш хатолари ва нотўғри қарашларга тоқат қилиш мумкин.

"Рейтинг агентликлари капитал бозорларида муҳим рол ўйнайди, бу эса институционал инвесторларнинг активларини тақсимлашда раҳбарлик қилади, чунки хусусий капитал бутун дунё бўйлаб эркин ҳаракатланади, хавф ва даромад ўртасидаги энг яхши келишувни излайди"⁵.

Almaskati, N. ўзининг олиб борган тадқиқотларида банкларни рейтинг тизими орқали баҳолаш механизмлари сифатида учта муҳим хусусиятларга таяниш зарур деб ҳисоблайди. Олимнинг фикрича, буларга "тижорат банкларига таъсир қилувчи рисklarни бошқариш механизми, рақамли бошқарув ҳамда банклар ўртасидаги рақобат"⁶.

Туркиялик олимлар фикрича, "банклар фаолиятини баҳолаш рейтинги механизмлари яратишда уларнинг 5 та муҳим кўрсаткичларини олиш зарур деб ҳисоблайди. Банкларнинг иқтисодий кўрсаткичлари, рақобат бозоридаги ўрни, қимматли қоғозлар бозоридаги фаолияти, халқаро бозордаги ўрни ҳамда халқаро рейтинглар томонидан берилган баҳо"⁷.

Иқтисодчи олим J. Koley Ҳиндистон банклари таҳлилини ўтказиш жараёнида "рейтинг тизими асосида банкларни баҳолаш механизмлари фақат таққослама таҳлил асосида амалга ошириш" мақсадга мувофиқлигини келтириб ўтади⁸. Бундан ташқари кўплаб тадқиқотчилар фикрича "тижорат банкларини рейтинг тизими асосида баҳолаш механизмлари сифатида белгиланган халқаро стандартлар асосида амалга ошириш" таклиф этилган⁹.

Patra, B., Padhan, P. C., & Padhi, P. лар ўз тадқиқотларида "тижорат банкларини рейтинг тизими асосида баҳолаш механизмлари фақат банклар бозорида иштирок

⁴ <https://www.federalreserve.gov/pubs/bulletin/1998/1198leadw.pdf>

⁵ Langor, Herwig M.; Langor, Patricia T. *Rating Agencies and Their Credit Ratings: What They Are, How They Work, and Why They Are Relevant*. Chichester, West Sussex, England; Hoboken, NJ: John Wiley. Date of creation. 2008. Internet resource (526 pages) ISBN identifier: 1-119-20878-5.

⁶ Almaskati, N. (2022). The determinants of bank profitability and risk: A random forest approach. *Cogent Economics & Finance*, 10(1), 2021479. DOI: 10.1080/23322039.2021.2021479.

⁷ Büyükkşalvarcı, A., & Abdioğlu, H. (2011). Determinants of capital adequacy ratio in Turkish Banks: A panel data analysis. <https://doi.org/10.5897/ajbm11.1957>.

⁸ J. Koley (2019). Analysis of financial position and performance of public and private sector banks in India: A comparative study on SBI and HDFC Bank. *A Multidisciplinary Online Journal of Netaji Subhas Open University, India*, 2(1), 1-14.

⁹ Dadhich, M., Pahwa, M. S., Goswami, S., & Rao, S. S. (2021, May). Analytical study of financial wellbeing of selected public and private sector banks: a CAMEL approach. In *2021 Emerging Trends in Industry 4.0 (ETI 4.0)* (pp. 1-6). IEEE. DOI: 10.1109/ETI4.051663.2021.9619424.

этайётган барча молиявий институтларни ҳам биргаликда рейтингини эълон қилиш зарурлигини келтириб ўтишган. Олимларнинг фикрича бозор иштирокчиларининг барчасига бериладиган рейтинг бу бозордаги ҳолатни мижозлар учун тўғри акс эттириш имкониятини яратади” деб ҳисоблайдилар¹⁰. Shaddady, A., & Moore, T. лар фикрича “банклар рейтингини баҳолашнинг энг яхши механизми сифатида CAMELS-DEA тизими” деб ҳисоблайдилар¹¹.

Юқорида кўриб чиқилган тижорат банкларини рейтинг тизими асосида баҳолаш механизмлар турлича талқин этилганини кўриш мумкин. Аммо олиб борилган тадқиқотларнинг барчасида тижорат банкларини рейтинг тизими асосида баҳолаш зарурлигини ҳамда бу баҳо мижозларнинг банкларга ишончини янада мустаҳкамлашини кўрсатиб берган.

Тадқиқот методологияси: Банклар бозорида тенг рақобат шароитларни яратиш орқали банкларнинг рейтингини шаффоф ва адолатли ташкил этиш механизминини яратиш ва шу орқали банкларнинг фаолиятига ҳолисона баҳо бериш имкониятини бериши мумкин.

Таҳлил ва натижалар: Кейинги йилларда олиб борилаётган банк тизимидаги ислохотлар “Ўзбекистонда банк тизими ҳали ҳам фаол ривожланиш босқичида ва давлат банкларини хусусийлаштиришга тайёрланмоқда. Банк секторидаги давлат улушини 2025 йилда жорий 82 фоиздан 40 фоизгача камайтириш режалаштирилган. Банк тизимидаги ўзгаришлар ва рақобат муҳитининг ўсиши хусусий банкларни, хусусан, инновацион молиявий маҳсулотлар ва хизматларни излаш орқали янада ривожлантириш зарурлигини кўрсатади”¹².

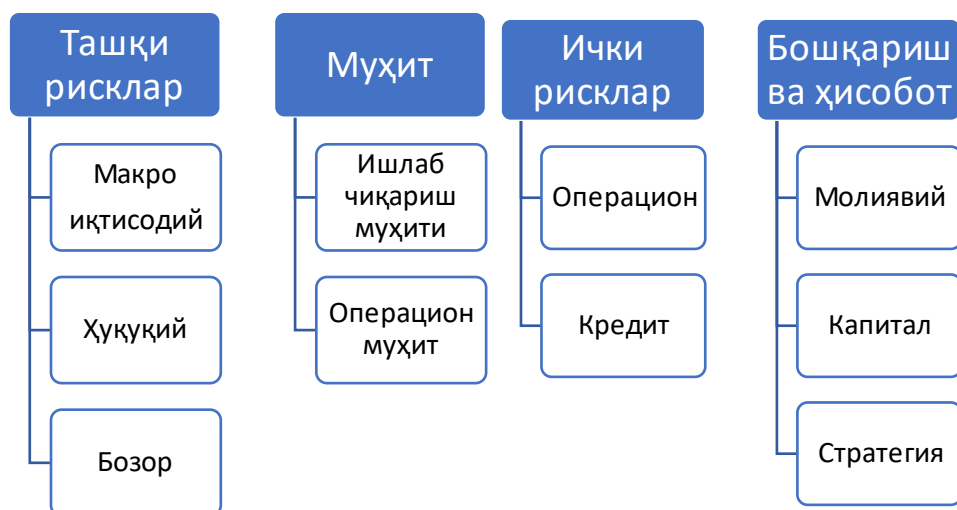
Жаҳон амалиётида банкларни рейтинг тизими асосида баҳолашда турли механизмлардан фойдаланилади. Ушбу механизмларни амалга ошириш тамойиллари ҳар хил кўринишда бўлиб, асосий мақсад банк тўғрисидаги маълумотлар инвесторлар ҳамда мижозлари учун ишончли бўлиши зарур ҳисобланади. Жумладан, JCR ER томонидан қўлланиладиган банк рейтинг тизимлари етарлича кўп қиррали бўлиб, улар рейтинг натижалари ва процедураларини аниқ механизмлар асосида кўрсатиб беради. Рейтинг методологиясининг муҳим жиҳати банклар фаолият соҳаларини, ушбу йўналишлар билан боғлиқ рискларни, банк раҳбарияти ва ҳамкорларининг умидлари ва мақсадларини, мумкин бўлган ўзгаришлар ва умумий ижтимоий-иқтисодий муҳитдаги барча ҳодисаларни тушунишга уринишдир.

Шунингдек, макродаражада ва банкнинг жорий ҳолатида халқаро миқёсда тўғри келадиган нуқтаи назарга келиш ва ноёб, тармоқ, минтақавий ва миллий вазиятларни ҳеч қандай зарар етказмасдан ҳолисона баҳолаш. JCR ER банкларни турли сифат ва миқдорий мезонлар асосида баҳолайди. Улардан энг муҳимлари:

¹⁰ Patra, B., Padhan, P. C., & Padhi, P. (2023). Efficiency of Indian Banks—private versus public sector banks: A two-stage analysis. *Cogent Economics & Finance*, 11(1), 2163081. DOI: 10.1080/23322039.2022.2163081.

¹¹ Shaddady, A., & Moore, T. (2019). Investigation of the effects of financial regulation and supervision on bank stability: The application of CAMELS-DEA to quantile regressions. *Journal of International Financial Markets, Institutions and Money*, 58, 96-116.

¹² https://uza.uz/uz/posts/ozbekistondagi-eng-faol-banklar-reytingi-yangilandi_411538



1-расм. JCR ER агентлиги томонидан банкларни рейтинг асосида баҳолаш механизми¹³.

Ушбу механизмда асосий эътибор ички ва ташқи рискларнинг кўрсаткичларига қаратилишини кўриш мумкин. Бу ерда яна эътибор берадиган жиҳат муҳитни ҳам ҳисобга олиниши келтириб ўтиш мумкин. Банк мижозлари бўлган корхона ва ташкилотлар фаолияти билан боғлиқ бўлган ишлаб чиқариш ҳамда операцион муҳитларни ҳам рейтинг баҳолаш механизмига киритилиши ҳозирги кунда жуда муҳим деб қраш мумкин. Кейинги ҳолат бу банкларнинг бошқариш (менежмент) фаолиятини ҳам ҳисобга олиниши бўлса, кейингиси бу уларнинг стратегияси яъни кейинги йиллар учун ишлаб чиқилган стратегиядаги ривожланиш концепцияси эканлигидир.

Айрим давлатларда умумий жаҳон рейтинг тизимидан фарқли ўлароқ ўзларини миллий рейтинг баҳолаш механизмини таклиф этадилар. Жумладан, Ҳиндистондаги банклар юқори даражада тартибга солинади ва Ҳиндистон захира банки (RBI) ваколатига киради. Кредитнинг ўсиши ва сиёсат ставкаларининг ўтказилиши банк тизимининг фаолиятига жуда боғлиқ. CRISIL Ratings банклар ва молия институтларини (FI) таҳлил қилиш учун CAMEL асосига амал қилади, бу эса капиталнинг етарлилиги, ресурс профили, активлар сифати, бошқарув, даромад ва ликвидликни баҳолашни назарда тутди. Бундан ташқари, бозордаги мавқеи ҳам омил ҳисобланади. Ушбу мезон ҳужжатида тушунтирилган тушунчалар FI га ҳам кенг тааллуқлидир. Қўллаш доирасига эътибор қартадиган бўлсак, ушбу мезон ҳужжати банкларнинг (шу жумладан кичик молия банклари) ва бутун Ҳиндистон молия институтларининг (AIFI) кредит сифатини баҳолаш учун CRISIL Ratings ёндашувини таъкидлайди. CRISIL Ratings банклар ва FI ларни, шунингдек, бошқа молиявий компанияларни баҳолаш учун CAMEL тизимидан фойдаланади¹⁴.

Кейинги механизм бу IIRA нинг тижорат банклари учун рейтинг тизими таҳлилнинг учта кенг йўналишини ўз ичига олади. Баҳолаш тижорат банкларининг таваккалчилик профилига таъсир кўрсатиши мумкин бўлган тизим миқёсидаги ташқи омиллардан бошланади, сўнгра тижорат банкларининг мустақил операцион профили, шунингдек, муассаса учун мавжуд бўлиши мумкин бўлган ташқи ёрдамни баҳолашдан бошланади¹⁵.

Жаҳон амалиётида янги кириб келган рейтинг баҳолаш механизми бу CAMEL рейтинг тизимига асосланган, бўлиб, уни баҳолаш механизмига яшил кўрсаткични қўшди ва G-CAMELS рейтинг тизимини шакллантирди. Молия институтларининг бизнес фаолиятини тўлиқроқ баҳолаш учун CAMELS рейтинг тизимига асосланган такомиллаштирилган рейтинг тизими таклиф этилган. Аниқланишича, G-CAMELS тизимида энтропия вазни усулидан фойдаланганда яшил индекснинг оғирлиги анча

¹³<https://www.jcrer.com.tr/en/methodology/bank-and-financial-institutions-credit-rating-methodology/bank-credit-rating-methodology> сайти маълумотлари асосида муаллиф томонидан тузилди.

¹⁴https://www.crisil.com/content/dam/crisil/criteria_methodology/financials/Rating-criteria-for-banks-and-financial-institution.pdf

¹⁵ <https://docs.iirating.com/Docs/Meth-CommercialBank.pdf>

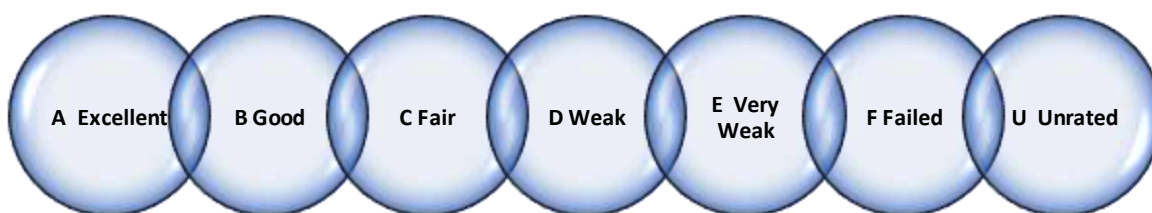
катта, шунинг учун у молия саноатининг атроф-муҳитга таъсирини оширади. Банкларнинг атроф-муҳитга мумкин бўлган таъсирини ҳисобга олган ҳолда, G-CAMELS баҳолаш тизими молия институтлари ҳолатини ҳар томонлама баҳолаши мумкин. Шундай қилиб, G-CAMELS нинг назарий асосларига асосланиб, атроф-муҳит омилларини тизимнинг алоҳида қисми сифатида ажратиб кўрсатиш молия саноатининг атроф-муҳитга таъсирини кучайтиради ва шу орқали банкларни ижтимоий масъулиятни ўз зиммасига олишга ва барқарор ривожланишга эришишга рағбатлантиради.

Хитойда яшил кредитлаш сиёсати аллақачон таклиф қилинган бўлса-да, тижорат банклари барқарор ривожланишга эришиш учун тегишли сиёсатларнинг аҳамиятини чуқур англамайдилар. Рағбатлантириш механизмининг номукамаллиги банкларнинг экологик сиёсатни амалга оширишдаги фаоллигини сусайтирди¹⁶.

Хорижий тажрибаларда қўлланилиб келаётган DBRS Morningstar ёндашуви механизми. Ушбу методология глобал миқёсда рейтинг банклари ва банк ташкилотлари учун жорий DBRS Morningstar ёндашувини ифодалайди. У тарихий ва кутилаётган бизнес ҳамда молиявий риск омилларини, шунингдек, соҳага оид муаммоларни, минтақавий истиқболларни ва бошқа субъектив омилларни ҳисобга олишни ўз ичига олган кредит таҳлилига DBRS Morningstar ёндашувини тавсифлайди. Ушбу механизм миқдорий ва сифат омилларининг комбинациясини ўз ичига олади. Ушбу методология банклар ва банк ташкилотларининг рейтингини белгилайди. Услуг, шунингдек, банк фаолиятининг катта қисмига эга бўлган, лекин расмий равишда банк сифатида тартибга солинмаган молия институтларига, шунингдек, банк сифатида ташкил этилган, аммо банкдан ташқари фаолиятнинг сезиларли улушига эга бўлган юридик шахсларга нисбатан ҳам қўлланилиши мумкин. Методология қуйидаги соҳаларни қамраб олади¹⁷:

- банклар ва банк ташкилотларининг рейтингига ёндашув;
- банкларда ички баҳолашни аниқлаш;
- банкларни қўллаб-қувватлаш баҳолари;
- банк мажбуриятлари ва банк холдинг компаниялари рейтингини.

Айрим банклар фаолиятига қўлланиладиган баҳолаш механизми Weiss Bank ва Credit Union рейтинглари ҳисобланади. Ушбу механизм бешта индексда синтез қилинган юзлаб омилларни ҳар томонлама таҳлил қилишга асосланган хавфсизлик рейтинглари: капиталлашув, активлар сифати, рентабеллик, ликвидлик ва барқарорликни ўз ичига олади. Ҳар қандай индекс бўйича заиф балл паст рейтингга олиб келиши мумкин, чунки молиявий муаммолар капиталнинг етарли эмаслиги, ишламайдиган кредитлар ва сифатсиз активлар, операцион йўқотишлар, ёмон ликвидлик ёки шўъба корхона банкротлиги каби бир қатор омилларнинг ҳар қандай ҳолатдан келиб чиқиши мумкин. Банклар ва кредит уюшмалари рейтингларининг таърифлари қуйидаги расмда ифодаланган¹⁸.



3-расм. Банкларни рейтингини аниқлаш механизми¹⁹.

Кейинги баҳолаш механизмини амалга ошираётган Wunder Digital агентлиги ҳисобланади. Wunder Digital мутахассислари томонидан рейтинг баҳолаш механизмини асосан банкларни асосий кўрсаткичлари асосида баҳолашга қаратилган.

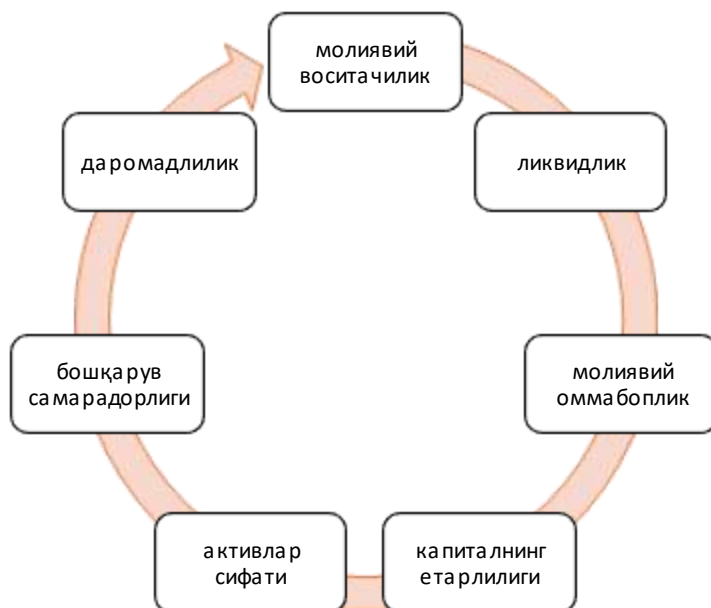
¹⁶ Гуан, Ф.; Лю, К.; Се, Ф.; Чен, Х. Оценка конкурентоспособности коммерческих банков Китая на основе системы оценки G-CAMELS. Устойчивое развитие 2019 , 11 , 1791. <https://doi.org/10.3390/su11061791>. <https://www.mdpi.com/2071-1050/11/6/1791>

¹⁷ <https://www.dbrsmorningstar.com/>

¹⁸ <https://weissratings.com/en/products/credit-union-ratings>

¹⁹ <https://weissratings.com/en/products/credit-union-ratings> сайти маълумотлари асосида муаллиф томонидан тайёрланган.

Индексни ҳисоблашда банк кўрсаткичлари молиявий воситачилик, молиявий оммабоплик, капиталнинг етарлилиги, активлар сифати, бошқарув самарадорлиги, даромадлилик ҳамда ликвидлик йўналишларда қўлланилган.



1-расм. Wunder Digital компанияси томонидан банкларни баҳолаш механизми²⁰.

Агентлик мамлакат банклари веб-сайтларининг янгиланган тадқиқоти билан ўртоқлашади. Wunder Digital мутахассислари анъанавий равишда Google ва Yandex-да қидирув сўровларини ўрганишди, шунингдек, иккала тизимда ҳам умумий кўриниш рейтингини тузадилар.

"Wunder Digital SEO жамоаси Ўзбекистондаги ҳар бир сўров бўйича энг яхши қидирув натижаларидан 29 та сайтни таҳлил қилди. Google ва Yandex-да сайтнинг кўринишини ҳисоблаш учун қидирув тизимининг "оғирлиги" ни ҳисобга олган ҳолда умумий кўриниш формуласи ишлатилган. Бунинг натижасида умумий қидирувчилар улуши Yandex - 11,9%, Google - 88,1% ташкил этган".

Иқтисодий тадқиқотлар ва ислохотлар маркази томонидан Ўзбекистон банк тизимидаги ислохотлар ва трансформация жараёнлари самарадорлиги, рақобат муҳити ўзгариши ҳамда барқарорлик даражасини баҳолаб бориш мақсадида "Банклар фаоллик индекси" ишлаб чиқилган. Марказ мазкур индексга асосан ҳар чоракда 31 тижорат банклари рейтингини янгиллаб бормоқда. 2020-2025 йилларга мўлжалланган Ўзбекистон Республикаси банк тизимини ислоҳ қилиш Стратегиясига асосан, "Ипотека банк", "Ўзсаноатқурилишбанк", "Асака банк", "Алоқа банк", "Қишлоқ қурилиш банк" ва "Турон банк"даги давлат улушини босқичма-босқич хусусийлаштириш режалаштирилган. Биринчи босқичда, банклар фаолиятини трансформация қилиш, иккинчи босқичда давлат акциялар пакетини сотиш кўзда тутилган.

Йирик давлат банклари хусусийлаштирилгандан сўнг, молиявий хизматлар бозорида жиддий ўзгаришлар юз бериши, натижада янги хизматлар ва рақобатнинг янада кучайиши кутилмоқда²¹.

Иқтисодий тадқиқотлар ва ислохотлар маркази (СЕРР) 2023-йилнинг биринчи чораги учун "Банк фаолияти индекси"ни ҳисоблаб чиқди, унинг асосида банклар рейтингини янгиланди. Индекс республикадаги 29 та тижорат банклари учун уларнинг икки гуруҳга: йирик (17) ва кичик (12) банкларга бўлинишини ҳисобга олган ҳолда ҳисоблаб чиқилган. Индексни ҳисоблашда 7 та йўналиш бўйича 21 та кўрсаткич баҳоланади.

²⁰ Wunder Digital компанияси маълумотлари асосида муаллиф томонидан ишлаб чиқилди.

²¹ <https://aniq.uz/yangiliklar/2021-yil-4-chorak-uchun-uzbekistonning-eng-faol-banklari-aniqlandi>



1-расм. Рейтингни ҳисоблаш йўналишлари²²

Ўрганиш ҳар чоракда банк активларида хусусий сектор улушининг ўзгаришини мониторинг қилиш, шунингдек, мамлакат банк секторидаги ислохотлар ва трансформация жараёнлари самарадорлигини баҳолаш мақсадида ўтказилади²³.

Ушбу марказ маълумотларидан фойдаланган ҳолда тижорат банкларини молиявий воситачилик бўйича беш йиллик маълумотларидан уларнинг рейтингини таҳлил қиламиз. Тижорат банкларини молиявий воситачилик тушунчаси кенг маънода талқин этилишини ҳисобга оладиган бўлсак, унинг энг муҳим хусусияти тижорат банклари иқтисодиётнинг "қон томир тизими" бўлиб, аҳоли ва бизнеснинг тўпланиб қолган жамғармаларини тақсимлаш орқали иқтисодиётни зарур молиявий ресурслар билан таъминлайди.

Бу воситачилик "иқтисодиётни янада ривожлантириш учун зарур бўлган "ёқилғи" билан таъминлайдиган омилидир. Воситачи сифатида тижорат банклари пул маблағларидан фойдаланганлиги учун фоиз тўлаш шarti билан омонатларни жалб қиладилар ва уларни аҳоли ва тадбиркорларга кредитлар ва инвестициялар шаклида фоиз эвазига тақдим этадилар²⁴.

Банклар тўлов тизими деб аталадиган муҳим воситачилар бўлиб, бу иқтисодиётга товар ва хизматларни пул ёки бошқа молиявий активларга алмаштиришда ёрдам беради. Бундан ташқари, қўшимча пулга эга бўлган одамлар жамғармоқчи бўлган пулларини улардан қарз олишга тайёр бўлган одамни қидириб, кейинроқ тўлашдан кўра, банкда сақлашлари мумкин. Қарз олоқчи бўлганлар нақд пул бериш учун одам топишга уринмасдан, тўғридан-тўғри банкка мурожаат қилишлари мумкин. Шундай қилиб, банклар молиявий воситачи сифатида ишлайди - улар омонатчилар ва қарз олувчиларни бирлаштиради²⁵.

1-жадвал

"Банклар фаоллик индекси"да молиявий воситачилик кўрсаткичи бўйича банкларнинг рейтинги²⁶

№	Банклар	2020 йил 3-чорак*	2021 йил 4- чорак	2022 йил 3- чорак	2022 йил 4- чорак	2023 йил 1- чорак
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²² <https://yuz.uz/ru/news/opredelen-naibolee-aktivne-banki-uzbekistana-za-i-kvartal-2023-goda-chto-izmenilos>

²³ <https://yuz.uz/ru/news/opredelen-naibolee-aktivne-banki-uzbekistana-za-i-kvartal-2023-goda-chto-izmenilos>

²⁴ <https://finlit.uz/oz/articles/financial-market/commercial-banks/>

²⁵ <https://courses.lumenlearning.com/wm-introductiontobusiness/chapter/banks-as-financial-intermediaries/>

²⁶ Иқтисодий тадқиқотлар ва ислохотлар маркази маълумотлари асосида муаллиф томонидан тузилди.

1.	Капитал	3	1	1	1	1
2.	Азия Альянс банк	10	9	7	10	3
3.	Ҳамкор банк	18	5	6	2	9
4.	Ипак йўли банк	28	7	2	6	14
5.	Траст банк	15	3	3	14	8
6.	Ориент Финанс банк	13	2	15	3	7
7.	Ипотека банк	21	15	8	7	15
8.	Алоқа банк	11	4	14	4	4
9.	Инвест Финанс банк	8	12	5	15	2
10.	Микрокредит банк	22	8	11	8	6
11.	Халқ банки	17	11	10	13	5
12.	Ўзмилий банк	29	14	4	5	17
13.	Қишлоқ қурилиш банк	23	16	13	12	10
14.	Агробанк	20	10	17	17	13
15.	Ўзсаноатқурилиш банк	27	6	16	16	16
16.	Асака банк	24	17	12	11	11
17.	Турон банк	19	13	9	9	12

*31 та банк орасида берилган баҳо, кейинги йилларда давлат улуши мавжуд бўлган банклар олинган.

Юқоридаги жадвал асосида банкларнинг молиявий воситачилик бўйича ўрнига баҳо берадиган бўлсак, таҳлил қилинаётган давр оралиғида энг яхши кўрсаткич Капитал банкда сақланиб қолганини кўриш мумкин. Бундан кейинги ўринда албатта икки йил давомида 4 ўринда келаётган Алоқа банкни айтиб ўтиш мумкин. Инвест Финанс банк эса 2022 йилга нисбатан 2023 йил биринчи чорагида 13 поғанига кўтарилганини таҳлил қилиш мумкин.

Молиявий воситачилик деярли уч йилдан бери ўзгармай келаётган Ўзсаноатқурилиш банки банклар орасида 16 ўринни эгаллаб келмоқда. 2023 йил биринчи чорагида энг ёмон натижа кўрсатган банклар қаторига Ўзмилийбанкни келтириб ўтиш мумкин. Банк 2022 йил 4-чорагида 5 ўринни эгаллаган бўлса, 2023 йил биринчи чорагида 17 ўринни эгаллаган. Ушбу банк 2023 йил биринчи чорагида молиявий воситачиликнинг пасайишини кўрсатмоқда, бу эса муддатли депозитларнинг кредитларга нисбатини янада ошириш, бошқа банклар ва молия институтларидан олинган маблағлардан фойдаланиш самарадорлигини ошириш зарурлигини кўрсатмоқда.

2-жадвал

“Банклар фаоллик индекси”да даромад олиш кўрсаткичи бўйича банкларнинг рейтинги²⁷

№	Банклар	2020 йил 3-чорак*	2021 йил 4-чорак	2022 йил 3-чорак	2022 йил 4-чорак	2023 йил 1-чорак
1.	Капитал	5	12	12	13	9
2.	Азия Альянс банк	9	4	2	2	7
3.	Ҳамкор банк	1	3	1	8	1
4.	Ипак йўли банк	10	1	5	1	2
5.	Траст банк	7	8	11	3	3
6.	Ориент Финанс банк	13	5	3	10	4
7.	Ипотека банк	17	2	4	4	6
8.	Алоқа банк	8	11	6	14	13
9.	Инвест Финанс банк	19	6	13	5	11

²⁷ Иқтисодий тадқиқотлар ва ислохотлар маркази маълумотлари асосида муаллиф томонидан тузилди.

10.	Микрокредит банк	16	15	15	9	12
11.	Халқ банки	12	16	9	16	8
12.	Ўзмилий банк	23	10	10	12	5
13.	Қишлоққурилиш банк	27	7	16	15	14
14.	Агробанк	18	14	7	6	16
15.	Ўзсаноатқурилиш банк	21	13	8	7	10
16.	Асака банк	25	9	14	11	17
17.	Турон банк	26	17	17	17	15

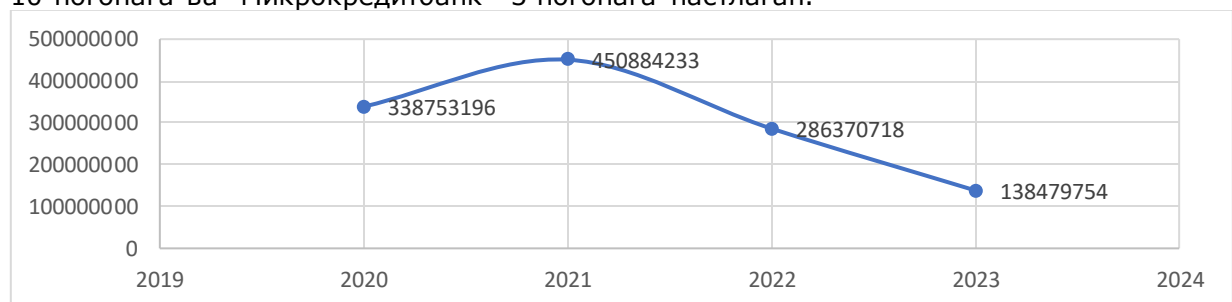
*31 та банк орасида берилган баҳо, кейинги йилларда давлат улуши мавжуд бўлган банклар олинган.

“Банклар фаоллик индекси”да даромад олиш кўрсаткичи бўйича таҳлил қилинганда, 2023 йил 1-чорак якуни бўйича Ҳамкор банк биринчи ўринни эгаллаган бўлса, 2022 йилда биринчи ўринни эгаллаган Ипак йўли банки 2023 йил 1-чорагида бир пағонага пастлаб 2 ўринни эгаллаган.

Йирик банклар рейтингда “Ҳамкорбанк” етакчиликти сақлаб қолган бўлса, “Ипак йўли банк” банк 1 пағонага пастлаган, рейтингнинг 3-пағонасига кетма-кет икки йил “Трастбанк” эгаллаган.

“Ипотека банк” ўтган йилга нисбатан 2 пағона пастлаб рейтингда ўз мавқеини йўқотмоқда. Ушбу банк 6-ўринни эгаллаб, “Ориент Финанс банк”ка ўз ўрнини бўшатиб берди.

Шу билан бирга, “Миллий банк” 7 пағонага, “Халқ банк” 8 пағонага ва “Капитал Банк” 4 пағонага кўтарилган бўлса, “Азия Альянс банк” 5 пағонага, “Агробанк” бир йўла 10 пағонага ва “Микрокредитбанк” 3 пағонага пастлаган.



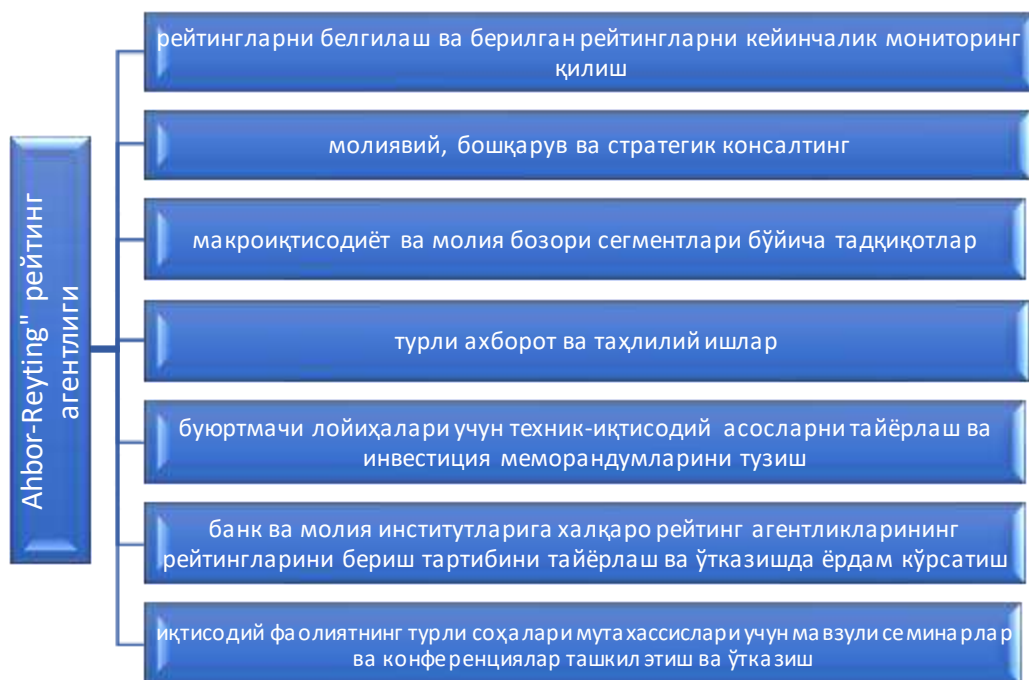
2-расм. Ҳамкор банк соф фойдаси (2022 йил 4-чорак, 2023 йил 1-чорак маълумотлари асосида тайёрланган)²⁸

Ҳамкор банкни йиллар бўйича олган соф фойда кўрсаткичини таҳлил қилганимизда, банкнинг даромад олиш салоҳияти кўрсаткичи 2022 йил 4-чорагида сезиларли пасайганини, 2023 йил 1-чорагида ҳам пасайганини кўриш мумкин. Шунинг учун банкнинг даромад олиш рейтинги 2022 йил 4-чорагида 8-ўринни эгаллаган.

Кейинги таҳлил қилаётган ташкилотимиз “Ahbor-Reyting” МЧЖ рейтинг агентлиги бўлиб, уларнинг ҳисоблаш методикаси бошқа рейтинг агентликларидан фарқли равишда кўплаб омилларни қамраб олади. Ушбу механизм Агентлик томонидан махсус ишлаб чиқилган методологияга асосланади ва банк активлари ҳажмига кўра гуруҳларга бўлинган ҳолда Ўзбекистон Республикасининг банк секторларининг умумий ва бевосита банклар томонидан ҳар томонлама таҳлилини ўз ичига олади.

Бундан ташқари “Ahbor-Reyting” рейтинг агентлиги ўз миждозларига кенг қўламли хизматларни тақдим этади, жумладан:

²⁸ <https://www.hamkorbank.uz/upload/iblock/87c/87c340760e962f70e3b1496bcf00349b.pdf> (сайт маълумотлари асосида муаллиф томонидан тайёрланди)



1-расм. "Ahbor-Reyting" рейтинг агентлигининг хизматлари²⁹.

Келгуси ёки икки йил ичида рейтинг қайси йўналишда силжиши мумкинлигини кўрсатиш учун "Ahbor-Reyting" РА агентлиги мутахассислари рейтингнинг ривожланиш динамикасини прогноз қилади; у "ижобий", "барқарор" ёки "салбий" бўлиши мумкин. Рейтингнинг ижобий ёки салбий прогнозга эга бўлиши рейтингнинг ўзгариши кутилатганлигини англатмайди.

Шунга ўхшаб, агар шароит талаб қилса, барқарор прогнозга эга рейтинг прогноз ижобий ёки салбий бўлишидан олдин ҳам юқорига ёки пастга қараб қайта кўриб чиқиши мумкин. Баъзи истисно ҳолларда, "Ahbor-Reyting" агентлиги мутахассислари рейтинг ривожланиш динамикасининг асосий йўналишини аниқлай olmayдилар. Ушбу рейтингга "ривожланаётган" прогноз берилган.

Белгиланган рейтинглар рейтингни кузатиш рўйхатига жойлаштирилади, бу эса инвесторларни рейтингнинг ўзгариши эҳтимоли жуда юқори эканлиги ҳақида огоҳлантиради. Бундай ўзгаришларнинг эҳтимолий йўналиши ҳам кўрсатилган. Ижобий (юқорига қараб қайта кўриб чиқиш мумкин), Салбий (пастга қараб қайта кўриб чиқиш мумкин) ёки Ривожланаётган (рейтинг кўтарилиши, пасайтирилиши ёки ўзгаришсиз қолдирилиши мумкин). Қоида тариқасида, рейтингнинг ўзгариши жуда тез содир бўлади, шундан сўнг рейтинг Рейтингни кузатиш рўйхатидан чиқарилади³⁰.

Хулоса ва таклифлар:

Юқорида келтирилган тадқиқотлар асосида тижорат банкларини рейтинг тизими асосида баҳолаш механизмлари бўйича қуйидаги хулосалар шакллантирилди:

- тижорат банкларини рейтинг тизими асосида баҳолаш механизмларини амалга ошириш тамойиллари ҳар хил кўринишда бўлиб, асосий мақсад банк тўғрисидаги маълумотлар инвесторлар ҳамда миқозлари учун ишончли бўлиши зарурлиги асослани;
- тижорат банкларини рейтинг тизими асосида баҳолаш механизмларида деярли барча кўрсаткичлари сифатида молиявий воситачилик, молиявий оммабонлик, капиталнинг етарлилиги, активлар сифати, бошқарув самарадорлиги, даромадлилик ҳамда ликвидлик йўналишлари асосида тузилиши таҳлил қилинди;
- банкларнинг атроф-муҳитга мумкин бўлган таъсирини ҳисобга олган ҳолда, G-CAMELS баҳолаш тизими молия институтлари ҳолатини ҳар томонлама баҳолаш имконияти юқори бўлган механизмдан фойдаланиш мақсадга мувофиқлиги таклиф этилди;

²⁹ <https://uba.uz/ru/about/organizations/rejtingovoe-agentstvo-ahbor-reyting/>

³⁰ <https://ahbor-reyting.uz/ru/%d0%bf%d1%80%d0%be%d0%b3%d0%bd%d0%be%d0%b7-%d0%bf%d0%be-%d1%80%d0%b5%d0%b9%d1%82%d0%b8%d0%bd%d0%b3%d1%83/>

- Weiss Bank va Credit Union рейтинглари бешта индекса синтез қилинган юзлаб омилларни ҳар томонлама таҳлил қилишга асосланган хавфсизлик рейтингларини ўзида қамраб олиши асосланди. Ушбу рейтинг механизмларини ҳисоблашдаги молиявий муаммолар капиталнинг етарли эмаслиги, ишламайдиган кредитлар ва сифатсиз активлар, операцион йўқотишлар, ёмон ликвидлик ёки шўъба корхона банкротлиги каби бир қатор омилларнинг ҳар қандай ҳолатидан келиб чиқиши мумкинлиги асосланди.

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Тижорат банклари фаолиятини рейтинг тизими асосида баҳолашнинг хориж тажрибаси**Карабев Нодир Абдуҳамидович**Тошкент давлат иқтисодиёт университети
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Аннотация: Иқтисодий инқироз банкларнинг молиявий барқарорлигига салбий таъсир кўрсатмоқда. Банк муаммоларини ўз вақтида аниқлаш ва зарур бошқарув чораларини кўриш учун унинг ишончилигини баҳолашнинг рейтинг усуллари жуда муҳимдир. Мақолада банкларнинг молиявий барқарорлигини баҳолашнинг маҳаллий ва хорижий усуллари кўриб чиқилади, уларнинг камчиликлари ва афзалликлари аниқланади ҳамда янада такомиллаштириш бўйича тавсиялар берилади.

Аннотация: Экономический кризис негативно влияет на финансовую устойчивость банков. Рейтинговые методы оценки надежности банка очень важны для того, чтобы вовремя выявить проблемы банка и принять необходимые управленческие меры. В статье рассматриваются отечественные и зарубежные методы оценки финансовой устойчивости банков, выявляются их недостатки и преимущества, а также даются рекомендации по дальнейшему совершенствованию.

Abstract: The economic crisis has a negative impact on the financial stability of banks. Rating methods for assessing the bank's reliability are very important in order to identify bank problems in time and take necessary management measures. The article examines domestic and foreign methods of assessing the financial stability of banks, identifies their shortcomings and advantages, and gives recommendations for further improvement.

Таянч сўзлар: рейтинг, банк рейтинги, CLSA-stress тест, CAMELS рейтинг тизими, комплекс рейтинг, банкометр усули, Крамонов усули, мезон.

Ключевые слова: рейтинг, рейтинг банка, CLSA-стресс-тест, рейтинговая система CAMELS, комплексный рейтинг, метод банкометра, метод Крамонова, критерий.

key words: rating, bank rating, CLSA-stress test, CAMELS rating system, complex rating, bankometer method, Kramonov method, criterion.

Кириш: 2024 йилда глобал иқтисодиётнинг секинлашуви ва турли хил иқтисодий ўзгаришлар банк фаолиятини қийинлаштиришини кўплаб иқтисодчилар томонидан башорат қилинмоқда. Натижада бу банкларнинг даромад олиш ва харажатларни бошқариш қобилияти янги усулларда синовдан ўтказилишига олиб келади. Жаҳондаги турли хил ўзгаришлар банк ва капитал бозорларининг асосий архитектурасини ўзгартирмоқда. Юқори фоиз ставкалари, пул таклифининг қисқариши, қаттиқроқ тартибга солиш, иқлим ўзгариши ва геосиёсий кескинликлар бу ўзгаришларнинг асосий омиллари ҳисобланади.

Барча соҳаларга кириб келаётган янги технологияларнинг юқори суръати ва кўплаб тенденцияларнинг уйғунлиги банкларнинг қандай ишлаши ва мижозлар эҳтиёжларини қондиришига кескин таъсир кўрсатади. Бунда, саноат конвергенцияси, тизимли молия, очиқ маълумотлар, пулни рақамлаштириш, декарбонизация, рақамли идентификация ва фирибгарликнинг таъсири 2024 йилда янада кучайиши барча прогнозларни амалга ошириш имкониятини чеклаб қўяди. Бизга маълумки бундай кескин ўзгаришлар таъсирида банклар одатда янги даромад моделларини синовдан ўтказиши. Инвестицион банк ва савдо корхоналари янги рақобат динамикасига мослашиши зарур

бўлади. Хусусий капиталнинг ўсиши корпоратив мижозларга ҳам, харидорларга ҳам кўпроқ қиймат таклиф қилиб, ушбу секторга қарши чиқади.

2023 йил бошида глобал банк фаолияти бошдан кечирган нотинчлик саноатни ўз стратегияларини қайта кўриб чиқишга ундади. Банк раҳбарлари АҚШ банклари учун капитал, ликвидлик ва рискларни бошқариш қоидаларига таклиф қилинаётган ўзгаришларга эътибор қаратган бўлсада, бизнес моделларини ривожлантириш учун ҳали кўп ишлар қилиниши зарурлигини белгилаб бермоқда.

“2024 йилда глобал иқтисодийнинг секинлашиши ва турли хил иқтисодий ўзгаришлар банк фаолияти учун янги муаммоларни келтириб чиқаради. Давом этаётган геосиёсий кескинликлар бутун дунё бўйлаб иқтисодий ўсишни мураккаблаштиради. Сув тошқинлари, иссиқлик тўлқинлари ва бўронлар каби экстремал об-ҳаво ҳодисалари ҳам жиддий иқтисодий таназзулга олиб келиши мумкин. Шу фонда Халқаро валюта жамғармаси (ХВЖ) 2024 йилда жаҳон иқтисодиёти 3,0 фоиздан кўп бўлмаган ўсишни кутмоқда. 2024 йилда мўътадил ўсиш 1,4% даражасида прогноз қилинмоқда”¹.

Нафақат рақобат динамикаси, балки рақобатчиларнинг банкларни қийинлаштираётган мисли кўрилмаган суръати ва интенсивлиги ҳам ўзгариб бормоқда. Ҳозирги вақтда банклар анъанавий ва янги рақобатчиларга кескинроқ тўқнаш келишмоқда, чунки кўпроқ мижозлар ўз эҳтиёжларини молиявий бўлмаган институтлар томонидан хизмат кўрсатишига талаби ортиб бормоқда.

Мижозларнинг банклар ҳолатини таҳлил қила олмаслиги ва уларни баҳолаш ва таққослашнинг аниқ моделининг йўқлиги, шунингдек, мустақил аккредитация институтларининг йўқлиги банк тизимининг бузилишига ва таваккалчиликка олиб келди ва белгиланган чегарадан ташқарига чиқди.

Амалдаги рейтинг тизимига эга бўлиш мижозларга тўғри қарор қабул қилиш учун қимматли маълумотларни тақдим этади. Тегишли ва жамоатчилик учун очиқ бўлган рейтинг тизимининг йўқлиги банклар ўртасидаги тафовутлар эътиборга олинмаслигини англатади, бу жуда кўп зарарли оқибатларга олиб келиши мумкин. Шу боис, бугунги кунда миллий ва халқаро рейтинг тизимларини баҳолаш банклар учун зарурат ҳисобланади. Мамлакат иқтисодиётининг мавжуд шароитлари ва молия институтлари томонидан мамлакат иқтисодиётига олиб келган кўплаб муаммолар туфайли банк рейтингларининг аҳамияти сезиларли даражада ошди. Бошқа томондан, хорижий инвесторларни мамлакатга жалб қилиш банк хавфсизлигини таъминлаш учун зарур шаффофлик ва қонунчилик базасини талаб қилади. Бу сабаблар мамлакат шароитларини ҳар томонлама ва оқилона баҳолаш имконини берадиган, шунингдек, банкларнинг миллий ва халқаро талабларига жавоб берадиган мақбул аккредитация тизими зарурлигини тақозо этди. Бироқ, республикамиздаги банкларнинг ҳақиқий ва расмий рейтинг маълумотлари ҳали ошкор этилмаган ва фақат Марказий банк томонидан даврий мониторинг таҳлил этилмоқда. Бу ҳам рейтинг маълумотларига эга эмас ва фойдаланувчиларнинг талабларини қондира олмайди. Бундан ташқари, таклиф этилаётган рейтинг тизимининг самарадорлиги ва барқарорлигини ҳамда унинг асослилигини баҳолаш учун аниқ рейтинг модели ўртасидаги боғлиқлик етишмайди.

Ўзбекистон Республикаси Президентининг 2023 йил 11 сентябридаги ПҚ-300-сон “«Ўзбекистон – 2030» стратегиясини 2023 йилда сифатли ва ўз вақтида амалга ошириш чора-тадбирлари тўғрисида”ги қарорида “Банкларга халқаро тан олинган минимал стандарт ва талабларни жорий қилиш орқали меъёрлар ва назорат базаларини такомиллаштириш” вазифаси белгиланган².

Демак, ушбу қарор ижросини таъминлашда халқаро тан олинган меъёрлар ва назорат базаларини киритиш орқали банкларимиз фаолиятига аниқ баҳо бериш муҳим масала сифатида киритилган.

Мавзуга оид адабиётлар таҳлили (literature review):

Ушбу йўналиш бўйича олиб борилган кўплаб тадқиқотларда рейтингни талқин этиш методикаси турлича ёндашувлар асосида амалга оширилганини кўришимиз мумкин. Жумладан, “рейтинг - бу корхоналарнинг кредитга лаёқатлилигини баҳолаш. Қоида тариқасида, корхона даражасига таъсир қилувчи омиллар сифат ва миқдорга бўлинади.

¹ <https://www2.deloitte.com/us/en/insights/industry/financial-services/financial-services-industry-outlooks/banking-industry-outlook.html>

² Ўзбекистон Республикаси Президентининг 2023 йил 11 сентябрдаги ПҚ-300-сон “«Ўзбекистон – 2030» стратегиясини 2023 йилда сифатли ва ўз вақтида амалга ошириш чора-тадбирлари тўғрисида”ги қарори.Lex.uz

Самарали омилларни аниқлаш тегишли банк рейтинг моделини аниқлаш учун муҳимдир”³.

Бошқа бир ёндашувларда, банкларни фаолиятини текшириб уларга балл белгиланиб, шу балларни йиғиндисини умумий рейтинг баҳоси деб юритилади. Алифбо кетма-кетлигида белгиланувчи усулда кўп давлатларнинг ички рейтинг марказларида фойдаланилади. Жумладан, Россия федерацияси «Коммерсант» рейтинг экспертлари банкларни уч гуруҳга бўлган - А, В, С. Бу рейтингдаги банклар барқарорлиги энг юқори бўлган банклар ҳисобланган. АС - барқарор банклар рейтинг рамзи сифатида ифодаланган. Шу билан бирга «Рейтинг» ахборот маркази банкларнинг рейтинг кўрсаткичларини қўйидагича ифодалаган:

А - энг юқори барқарорлик категорияси	В — ўрта барқарорлик категорияси	С — ноаниқ барқарорлик категорияси
•А1 — баланд барқарорлик категорияси •А2 - анча баланд барқарор категорияси •А3 - энг юқори барқарорлик категорияси	•В1 - етарли бўлмаган баланд барқарорлик категорияси •В2 - ўрта •В3 - етарли баланд барқарорлик категорияси	•С1 — жуда ноаниқ •С2 - ноаниқ •С3 - қисман ноаниқ

Расм. «Рейтинг» ахборот маркази банкларнинг рейтинг кўрсаткичлари категориялари⁴.

Бундай рейтингни аниқлашда тижорат банкларининг манбаи бўлиб банк активлари, активларнинг берилган кредитдаги қисми, устав фонди ва даромад кўрсаткичлари ҳисобланади. Албатта, халқаро миқёсда ҳам рейтингни аниқлаш учун банк капитали, активлар, даромад кўрсаткичлари асос қилиб олинади.

Айрим олимларнинг фикрича, “комплекс иқтисодий таҳлил тизимида бир неча мезонларни ҳисобга олувчи комплекс иқтисодий кўрсаткичлар сифатида рейтинг асосида иқтисодий фаолиятни баҳолаш муҳим аҳамият касб этади” деб ҳисоблайдилар⁵.

Рейтингни аниқлаш орқали бу молиявий институтлар фаолиятига баҳо бериш эмас, балки у орқали бошқарув қарорларини ҳам амалга ошириш имкони яратилишини асослайдилар. Жумладан, “рейтингни қўллаш тез ва самарали танлаш, мос бошқарув қарорларини қабул қилиш имконини беради, бунинг оқибатида жаҳон амалиётида корхона, банк, инвестиция жамғармалари, суғурта компаниялари рейтинглари амалиётда кенг тарқалган” деб баҳо берадилар⁶.

Рейтингнинг дастлабки компонентини ишлаб чиқишда зарур мезонларни танлаш таҳлил мақсадлари асосида амалга оширилиши лозим, улардан белгиланган қиёслаш мезони асосида босқичларга ажратишда фойдаланиш мумкин (ишончлилик, ишбилармонлик фаоллиги, матбуотдаги обрўси, фойдалилик, молиявий ҳолати). Зарур мезонларни танлашнинг навбатдаги босқичида бирор-бир умумлаштирилган мезонлар таҳлилида юзага келувчи фарқни ўхшаш баҳоловчи ахборотли кўрсаткичларни танлаш зарур. Навбатдаги босқичда шкалаларни ишлаб чиқиш зарур, улар асосида бирор-бир мезон баҳоланади. Бунда шкала (устун) мослик хусусиятига эга бўлиши, яъни ўлчаш шкаласига нисбатан фикрларнинг инвариантлигини таъминлаши лозим.

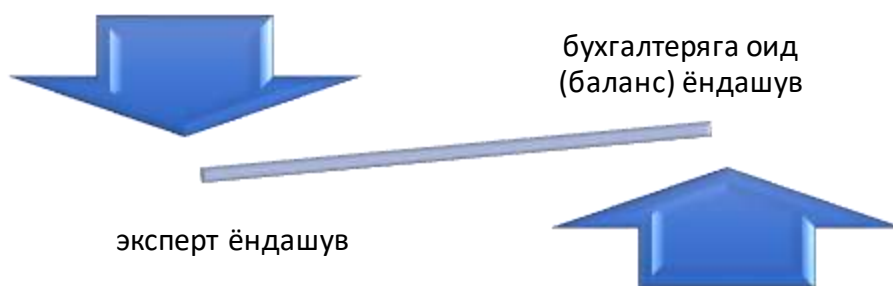
Кейинги ўринларда танлаш тамойилини ишлаб чиқиш зарур, унинг асосида якуний рейтинг шакллантирилади. Услубий кўринишда фойдаланилган ҳисоб-китоб технологиясига боғлиқ ҳолда комплекс рейтинг баҳоларини тузишга иккита асосий ёндашувни ажратиш лозим деб ҳисоблайдилар:

³ https://www.ijfifsa.ir/article_139649.html

⁴ Коммерсант. 1993 №4 13-бет, №10, №12 10-6; Финансовой ведомост. //Россия Федерацияси журналлари. - М.:. 1993 12 апрел 5-12 б.

⁵ Antoun, R., Coskun, A., & Georgievski, B. (2018). Determinants of financial performance of banks in Central and Eastern Europe. Business and Economic Horizons, 14(3), 513-529. DOI: 10.15208/beh.2018.

⁶ Ezike, J. E., & Oke, M. O. (2013). Capital adequacy standards, Basle Accord and bank performance: The Nigerian Experience (A case study of selected banks in Nigeria). Asian Economic and Financial Review, 3(2), 146-159.



Расм. Комплекс рейтинг баҳоларини тузиш алгоритми⁷.

Бухгалтерияга оид баҳолаш фақат миқдорий кўрсаткичлар таҳлилидан фойдаланиб, банкнинг расмий молиявий ҳисоботи асосида амалга оширилади. Бу каби баҳолашни тузишда оммавий молиявий ҳисобот асосида ҳисоблаб чиқилган миқдорий шкалалар, кўрсаткичлар ҳамда маълумотларни таҳлил қилиш ва қайта ишлашнинг оралиқ-статистик усуллари кенг фойдаланилади; кредит ташкилот фаолият юртишининг тузилган математик ва математик-статистик моделлари асосида баҳолаш ҳам мумкин⁸.

Эксперт баҳолаш мутахассислар томонидан уларнинг ҳар қандай фойдаланилган ахборот бўйича тажриба ва малакалари асосида ҳамда ахборотларни миқдорий ва сифатли таҳлили асосида берилади. Табиийки, рейтингларни тузишга эксперт ёндашувдан фойдаланиш маълум шароитларда барча сезиларсиз фарқларни аниқлаш ва номиқдорий ахборотларни ҳисобга олиш имконини беради, бу эса пировардида юзага келган вазиятга ўхшаш баҳони яратишга кўмаклашади, бироқ мазкур усулдан фойдаланиш ахборотлар етишмаслиги, экспертларнинг омилкорлиги ва келишолмаслик муаммоси, мутахассиснинг баҳосига субъектив омилларнинг таъсири, экспертлар гуруҳлари ишларини ташкил этиш мураккаблиги, баъзан ўхшаш баҳолаш тизимларини камчиликлари, экспертиза ўтказиш технологияси ҳамда ахборотни қайта ишлаш усуллари такомиллашмаганлиги, шунингдек бу каби тадқиқотлар нисбатан қимматлиги каби қатор қийинчиликлар билан боғлиқ.

Бизнинг фикримизча, баҳолаш тизимини яратишда иккала усулдан фойдаланиш мақсадга мувофиқ. Зеро банкларни табақаларга ажратиш амалиётида икки ёндашувни биргаликда олиб боришга оид етарлича мисоллар мавжуд, бунда баҳолаш тизимининг дастлабки яратилиши экспертлар томонидан намунавий гуруҳларни таҳлил қилиш асосида олиб борилган ҳамда шу тарзда олинган тизим қатъий миқдорий кўрсаткичлардан фойдаланади, узоқ вақт давомида бир марта фақат якуний формулани яратган экспертларнинг иштирокисиз якуний босқичларга ажратиш амалга оширилди.

Таҳлил ва натижалар:

Жаҳон банк амалиётида уларнинг рейтинг тизими асосида баҳолаш концепцияси турлича кўринишда амалга оширилади. Жумладан, рейтинглар тузишнинг икки асосий усули мавжуд:

- комплекс қиёслаш кўрсаткичи бўйича барча объектларни босқичларга ажратувчи ягона рейтингни тузиш (хусусий мезон, умумий балл ёки яширин кўрсаткичларга);
- бир ёки бир неча белгилар бўйича босқичларга фойдаланилиши мумкин бўлган тоифаларни тузиш (синфлар, гуруҳлар, сегментлар).

Биринчи ёндашув, баҳолаш тизими бир неча миқдорий кўрсаткичлар асосида шаклланган миқдорий таҳлилда устувор равишда фойдаланилади, бунинг натижасида берилган ўлчам воситасида объектлар бир хилда рейтинг сони ортиб бориши тартибда босқичларга ажратилади. Ушбу усулдан фойдаланишда қиёсланаётган объектларнинг энг муҳимини кўрсатиш мумкин. Ўлчов сифатида хусусий кўрсаткичлардан бири, ёки бир нечта хусусий мезонлардан ташкил топган функция сифатида шаклланивчи бирлаштирилган комплекс кўрсаткичлардан фойдаланилади.

Иккинчи ёндашув бошқа тамойилга асосланган. Дастлаб бирор-бир сабаб билан транзитивлик хусусиятини сақлаб қолган ҳолда барчасига нисбатан ҳар бир объектга

⁷ Муаллиф томонидан тузилган

⁸ https://www.cfin.ru/finanalysis/banks/bank_ratings.shtml#1_1

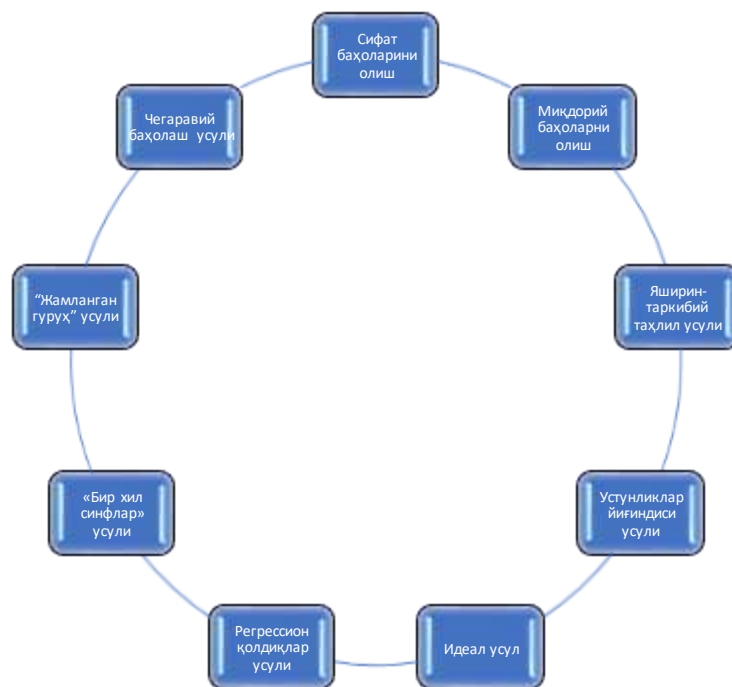
нисбатан афзалликларни аниқлашнинг имкони йўқлиги кўзда тутилади. Бунда тадқиқ этилган йиғиндини гуруҳларга эксперт гуруҳи ишлари асосида ҳамда таснифлаш тартиботининг миқдорий маълумотларига татбиқ этиш воситаси билан тақсимлаш амалга оширилади. Бу ҳолатда ушбу ёндашув нисбатан қайишқоқ, чунки турли объектларни таҳлил қилиш имконини беради. Шундай қилиб, ҳажмига кўра сезиларли фарқланувчи банклар таҳлилини ушбу усулга мос равишда олиб бориш мақсадга мувофиқ, чунки йирик ва кичик банклар кўрсаткичларининг тузилиши бир гуруҳдан бошқасига ўтишда кучли ўзгаририлади. Якуний баҳолаш мезонини аниқлаш ва асосий қиёслаш кўрсаткичларини танлаш муҳим услубий масала ҳисобланади. Бунда нафақат рейтингни шакллантириш бўйича оралиқ иш, бевосита босқичларга ажратишнинг якуний натижаси ҳам ушбу масалага боғлиқлиги шубҳасиз.

Ҳолбуки, банкларни таснифлашнинг белгиси банк фаолиятининг алоҳида томонларини сингари (фойдалилик, ликвидлик, тўловга лаёқатлилик) бутун банк фаолиятини ҳам акс эттириши мумкин. Бунда, моҳиятига кўра, шакллантирилган баҳолаш моделининг параметрларини танлаш натижаларига унинг якуний натижаси боғлиқ бўлиб, янада ахборотли кўрсаткичларни тўғри танланиши келгусида тузатиш ва ўзгариришлар киритилмайдиган тарзда аниқ ишлайдиган моделни яратиш имконини беради. Комплекс рейтинг баҳолашни тузиш учун баҳолаш тизимига банк фаолиятининг барча томонларини тавсифловчи кўрсаткичлар киритилиши лозим. Фақат мазкур ҳолатдагина якуний рейтингни ҳақиқатда комплекс баҳолаш сифатида кўриб чиқиш мумкин.

Эксперт баҳолаш ҳозирги кунда амалиётда кредит муассасалари фаолият юритишига нисбатан сифатли ахборотни олиш ва таҳлил қилишнинг нисбатан кенг тарқалган усули ҳисобланади. Бироқ мазкур усулнинг муваффақиятли татбиқ этилиши кўп томонлама кўплаб омилларга, шу жумладан эксперт ахборотларини таҳлил ва қайта ишланишини амалга оширилувчи математик аппаратнинг такомиллашувига боғлиқ. Шунга мувофиқ, рейтингни шакллантиришнинг дастлабки босқичида фойдаланилаётган технологияга мос равишда зарур ахборотни олиш имконини берувчи шкала киритилувчи баҳолаш тизимини ишлаб чиқиш зарур. Агар таҳлилда мезонларнинг афзалликларини устувор равишда сифатли баҳолаш усули ўзини оқламаса, ёки таҳлилнинг мақсади йиғиндини бирор бир белгилари бўйича синфларга тақсимлаш ҳисобланса, у ҳолда жуфт ва кўплик қиёслаш, табақаларга ажратиш ёки таснифлаш усулидан фойдаланиш мақсадга мувофиқ. Агар таҳлил қилинаётган ахборотнинг характери мезонларнинг қиёсий афзаллигини миқдорий баҳолаш мақсадга мувофиқ бўлса, объектлар баҳоланувчи шкалани аниқлаш зарур.

Қиёслаш кўрсаткичлари аниқлангандан сўнг ва уларнинг ҳар бири учун ўзгарувчини баҳолашга фойдаланилган тур шартланган, тадқиқот олиб борилувчи ва экспертиза ўтказиш усули белгиланувчи шкалани аниқлаб олиш зарур. Олиб борилган кўплаб тадқиқотларда мутахассислар фойдаланилган ўзгарувчилар турига мос равишда усулларни бир қанча турларга бўлганлар⁹.

⁹ <https://migcredit.ru/manual/rejtingova-ya-otsenka-bankov>



1-расм. Тижорат банклари рейтингини баҳолаш усуллари¹⁰

Сифат баҳолашни олиш усуллари.

Эксперт ахборотини олишнинг кенг тарқалган усулларида бири жуфт қиёслаш усули ҳисобланади, у муқобиллар жуфтларини изчил қиёслашдан иборат, уларнинг ҳар бири учун экспертга муқобиллардан қайси бири нисбатан афзалроқ ёки муқобилларнинг ушбу жуфти бир синфга тааллуқли бўлиши мумкин.

Миқдорий баҳолашни олиш усуллари.

Миқдорий баҳоли олишнинг асосий усулларида бири муқобилларни баллик баҳолаш усули ҳисобланади. Мазкур усул доирасида объектни ёки экспертнинг афзалликларига мос равишда n -баллик тизим бўйича қиёслаш мезонларидан ҳар бирини баҳолаш кўзда тутилади.

Яширин-таркибий таҳлил усули.

П. Лазорсфег таклиф этган ушбу усул, тартибли ўзгарувчиларни қайта ишлаш учун ҳам татбиқ этилади (яъни эксперт афзалликлари матричасини қайта ишлаш). Механизм экспертларнинг нотранзитив баҳолаш имкониятини ва эксперт гуруҳларининг баъзи келишмовчиликларини назарда тутаяди, чиқиш ҳолатида тартибли ўзгарувчилардан миқдорий ўзгарувчиларга ўтиш имконини беради.

Устунликлар йиғиндиси усули.

Мазкур усул ординал ўзгарувчиларни чегаравийга ўтказган, моҳиятан якуний рейтингни шакллантирган ҳолда қайта ишлаш имконини беради. Усул механизми жуда оддий. Ҳар бир экспертнинг шахсий афзалликлари матричаси асосида $A_k = \{a_{ij}\}_k$ якуний матрица $A = A_k$ шаклланади, ҳар бир қаторда A_i чегаралар йиғиндиси ҳисоблаб чиқилади, унинг асосида якуний тартиблаштириш амалга оширилади. Янада аниқроқ баҳолашни олиш учун усулни модификациялаш мумкин.

Чегаравий баҳолаш бўйича афзалликларни танлаш.

Чегаравий ўзгарувчилардан фойдаланишда эксперт таҳлили маълумотларини қайта ишлашнинг бир неча усуллари кўзда тутилади. Дастлабки босқичда матрицани шакллантириш кўзда тутилади $\{R_{ij}\}$, бунда R_{ij} - j - тартиблаштирилган i -объект чегараси. Якуний рейтингни аниқлашга бир неча ёндашувлар мавжуд. Биринчидан, объектнинг якуний рейтингни қатордаги барча элементларнинг якуний қиймати бўйича қўйиб чиқилганда аддитив усулни татбиқ этиш имконияти тўғилади. Бунда ушбу белги бўйича табақалаштириш мавжудлигини тавсифловчи ёки экспертнинг малакасини ҳисобга олувчи ҳар бир устун учун салмоқли коэффициентларни татбиқ этиш мумкин.

Идеал усул.

¹⁰ <https://migcredit.ru/manual/rejtingovaya-otsenka-bankov>

Мазкур усул молиявий коэффицентлардан фойдаланишга асосланган. Тадқиқотнинг бошланғич босқичида банкнинг ишончилигини белгилаб берувчи молиявий коэффицентлар тўплами танланади. Ҳар бир коэффицент учун идеал банкка мос келувчи нормативлар тайинланади.

Регрессион қолдиқлар усули.

Мазкур усул асосий регрессион таҳлилнинг асосий таҳлил воситаси сифатида фойдаланилади. Барча банклар бир хил хўжалик юритишнинг шароитига қўйилиши, банк фаолиятининг натижаси бир нечта таниқли ўлчамларга ҳамда банк фаолиятининг самарадорлигига боғлиқ, яъни бозор шароитлари барча банкларга унинг параметрларига боғлиқ ҳолда маълум натижага эришиш имконини бериши кўзда тутилмоқда (активлар ва ўз капитали ҳажми, активлар сифати, узоқ ва қисқа муддатли пасивлар нисбати ва ҳ.к.). Бироқ баъзи банклар самарали бошқарувга эга бўлганликлари сабабли меъёрдан юқорироқ натижага эришадилар, бошқалари, яъни бироз самарасизроқ фаолият юритувчи банкларнинг фаолиятлари ҳам камроқ натижа беради.

«Бир хил синфлар» усули.

Ушбу усул ялпи шаклда кўриб чиқиладиган объект ва ҳодисаларни маълум маънода бир гуруҳларни тақсимлашни кўзда тутди. Ҳар бир гуруҳ маълум таснифлаш тартиботига мувофиқ ўхшашлик асосида танлаб олинади. Синфларнинг ҳар бирига мазкур синф вакилларида устувор равишда намоён бўлувчи хусусият тақдим этилади. Бунда ҳар бир ўхшаш йиғинди ичида бир ёки бир неча хусусиятига кўра келгуси табақалаштириш амалга оширилиши мумкин.

“Жамланган гуруҳ” усули.

Ушбу усулни амалга ошириш баланс ва эксперт усуллари симбиозини намоён этади. Табақалаштириш услубини тузиш дастлаб эксперт маълумотлари асосида амалга оширилади. Банкларнинг жамланган гуруҳи бўйича экспертиза амалга оширилади, унинг асосида миқдорий ва рейтинг ўзгарувчилари асосида якуний рейтинг аниқланади.

Тижорат банклари қайси муассасалар томонидан назорат қилинишидан қатъий назар уларнинг асосини давлат ташкил қилиб ҳар бир давлатнинг ўз сиёсий қарашидан келиб чиқиб, ўз мавқеини белгилайди. Уларнинг миллий барқарорлигини сақлаш мақсадига хизмат қилади. Назорат ҳар бир давлатнинг ўз ижтимоий-сиёсий бозор йўналишларига қараб таҳлил этилади. Банк амалиётида тижорат банклар фаолиятини баҳолашда икки ёндашиш бор: банк фаолияти кўрсаткичларини иккинчи синф банкларини, биринчи синф тоифасидаги банкларга нисбатан таҳлил этиш асосида; назорат ташкилотлари томонидан белгиланган рейтинг кўрсаткичлари асосида. Агар бу мазмунни таҳлил этсак дунёда кўп давлатларда бу икки ёндашув бир-бирини тўлдирувчи ҳамдир. АҚШда, Японияда назорат ташкилотлари тижорат банкларнинг рейтингини белгилаш билан бирга уларни 1-синф тоифасидаги банкларга солиштиради. Албатта, бу икки давлат ҳам тижорат банкларини CAMELS рейтинг тизими асосида назорат қилади. Уларнинг амалиётида олдин тижорат банклар рейтингини белгилаб, кейин уларнинг энг йирик ўрта ва кичик банкларга ажратиб, улар ўртасида нисбатларни ҳам тўлиқ таҳлил этади.

Демак тижорат банкларнинг фаолиятини баҳолашда бу икки ёндашув бир-бирини тўлдирар экан, баҳолардан кутилган якуний натижа рейтинг ҳисобланади. Рейтингни ифодалашда икки хил усул қўлланилади: рақам кўринишдаги усул; алифбо кетма-кетлигида белгиланувчи усул.

Динамик кўрсаткичларни қўллаш орқали ташқи фойдаланувчилар томонидан тижорат банки фаолияти самарадорлигини баҳолаш бўйича кўплаб тадқиқотлар ўтказилган. Кўриб чиқилган методологиялар кўрсаткичларини таққослаш 1-жадвалда келтирилган.

1-жадвал

Кредит ташкилотининг молиявий барқарорлигини аниқлаш методологияси сифатида баҳоланадиган кўрсаткичларнинг қиёсий таҳлили¹¹

Кўрсаткичлар	CAMELS	Кромонов методологияси
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¹¹ <https://www.revistaespacios.com/a18v39n12/a18v39n12p19.pdf>

Ўз капиталининг этарлилиги	- асосий капиталнинг етарлилик коэффициенти - умумий капиталнинг етарлилик коэффициенти	K1 - ишончилиликнинг умумий коэффициенти K5 - капитални ҳимоя қилиш коэффициенти
Активлар сифатини баҳолаш	- активларнинг умумий таваккал- чилигининг банк капиталига нисбати	
Банк фаолиятини баҳолаш	- рентабеллик коэффициенти	K6 - акцияларни капиталлаштириш коэффициенти
Рентабеллик		даромад
Ликвидликни баҳолаш	- фоиз ставкасининг ўзгаришига сезгир бўлган маблағларнинг ишончилилик даражаси - активларни нақд пулга алмаштириш имконияти - пул бозорларидан фойдаланиш имконияти - активлар ва пасивларни бошқариш стратегиясининг самарадорлиги; ушбу соҳада бошқарув - эришилган кўрсаткичларнинг ликвидликни кузатиш бўйича ички сиёсатга мувофиқлиги - келгуси сана учун йирик шартномаларнинг мазмуни, ҳажми ва кутилаётган фойдаланиш	K2 - жорий ликвидлик коэффициенти K4 - ликвидликнинг умумий коэффициенти
Бошқарув сифатини баҳолаш	- банк ишончилигининг барча бошқа таркибий қисмларининг ўртача баҳоси	
Рискларга нисбатан сезгирликни баҳолаш	- бозор рисклари даражасини баҳолаш - рискларни бошқариш тизимини баҳолаш	K3 - ўзаро коэффициент, жами мажбуриятларнинг ишлаётган активларга нисбатига тенг
Интеграл коэффициент	Олтига позиция бўйича жамланган рейтинг	$H=45K1+20K2+10K3+15K4+5K5+5K6$

Банклар фаолияти самарадорлигини яхлит баҳолаш методологиясини ўрганиш натижасида бир қатор камчиликлар аниқланди. Биринчидан, самарадорликни баҳолаш нуқтаи назаридан, банкнинг рискларни бошқариш тизими даражасини ва риск даражасини баҳолашни тавсифловчи нисбий кўрсаткичлар мавжуд эмас.

Иккинчидан, CAMELS ва Марказий банк методологияларида бошқарув сифати кўрсаткичларини баҳолаш эксперт бўлиб, катта тажриба ва холисликни талаб қилади, шунинг учун ташқи фойдаланувчи учун бу қийин.

Учинчидан, Кромонов методологиясида фаолиятнинг рентабеллигига етарлича эътибор берилмаяпти, аммо бу банк фаолияти самарадорлигини аниқлаш учун жуда муҳимдир.

Тўртинчидан, активлар сифатини таҳлил қилишнинг мураккаблиги. Бу зарур, аммо ўрганилаётган методологияларда бу ҳисоб-китоб катта таҳлилий ишлар билан боғлиқ

бўлиб, унинг жараёнида банкнинг асосий инвестициялари уларнинг реал таваккалчилигини баҳолаш нуқтаи назаридан алоҳида кўриб чиқилади.

Ўрганилаётган методологиянинг катта камчиликлари динамик кўрсаткичларнинг йўқлиги бўлиб, бу банкнинг ривожланиш тенденцияларини баҳолашга имкон бермайди.

Банк фаолияти самарадорлигини ташқи фойдаланувчилар томонидан баҳолаш кўрсаткичлари тизimini ишлаб чиқиш. Юқоридаги камчиликларни ҳисобга олган ҳолда, Марказий банк фаолиятини баҳолаш методологиялари асос ҳисобланади; “капиталнинг етарлилиги”, “активлар сифати”, «рентабеллик» ва «ликвидлилик»ни қуйидаги гуруҳлар билан тавсифловчи мавжуд смета кўрсаткичлари: “кредит риси даражаси” ва «динамика». 18 та иқтисодий кўрсаткичдан иборат олти гуруҳни ўз ичига олган банк фаолияти самарадорлигини таклиф этувчи кўрсаткичларнинг ҳар бир гуруҳини кўриб чиқамиз.

«Динамикалар» гуруҳи учун жамланган кўрсаткични ҳисоблаш тўғридан-тўғри ўртача оғирлик формуласи билан амалга оширилади.

Оғирликларнинг тақсимланиши 2-жадвалда келтирилган. Динамик кўрсаткичларнинг вазни ҳар бир кўрсаткичлар гуруҳининг умумий бўлган аҳамиятига қараб ҳисобланади, шунинг учун капиталнинг етарлилигини ва рискларни тавсифловчи кўрсаткичларга энг юқори оғирликлар берилди.

2-жадвал

«Динамикалар» гуруҳи учун жамланган кўрсаткични ҳисоблаш учун кўрсаткичлар гуруҳлари бўйича оғирликларни тақсимлаш¹²

Кўрсаткичлар	Белгиси	Оғирлиги (вазни)
Капиталнинг етарлилик динамикаси	Д1	0,23
Активлар сифатининг динамикаси	Д2	0,18
Даромадлилик динамикаси	Д3	0,18
Ликвидлик динамикаси	Д4	0,18
Кредит хавфи даражасини динамикаси	Д5	0,23

Кўрсаткичларни гуруҳлаш ва уларни ҳисоблаш тартиби 3-жадвалда келтирилган.

3-жадвал

Банк фаолияти самарадорлигини баҳолашнинг таклиф этилаётган методологияси кўрсаткичлари тизими

Кўрсаткичлар гуруҳи учун гуруҳ ва мультипликатор (вазн)	Кўрсаткич	Кўрсаткични ҳисоблаш
Капиталнинг етарлилиги (С) (оғирлиги = 0,2)	C1	Капитал/активлар хавф даражасига қараб тортилади
	C2	Капитал/ Жами активлар
	C3	Капитал/мажбуриятлар
Активларнинг сифати (А) (оғирлиги = 0,15)	A1	Кредит операциялари учун захиралар/Кредит портфелининг умумий ҳажми
	A2	(Активлар – салбий таснифланган активлар)/ активлар
Рентабеллик (Р) (вазн=0,15)	ROA	Фойда/Активлар
	ROS	Фойда/харажатлар
	ROE	Фойда/Капитал
Ликвидлик (L) (вазн=0,15)	L1	Мавжуд активлар/Жорий мажбуриятлар
	L2	Мавжуд активлар / Жами активлар
Кредит риси даражаси (R) (вазн=0,2)	R1	Кредитлар бўйича зарарлар / Кредитлар бўйича қарзнинг ўртача ҳажми

¹² <https://www.revistaespacios.com/a18v39n12/a18v39n12p19.pdf>

	R2	(Кредит бўйича қарз - Кредитлар бўйича мумкин бўлган йўқотишлар учун тахминий захира) / Кредит қарзи
	R3	Муддати ўтган ва узайтирилган кредитлар / Банкнинг ўз активлари (капитали)
Динамик (D) (ўсиш суръати) (вазн = 0,15)	D1	Ccur/Cpr-1
	D2	Acur/1-aprel
	D3	Pcur/Ppr-1
	D4	Lcur/Lpr-1
	D5	(1-Rcur)/(1-Rpr)-1

Кўрсаткичларнинг ҳар бир гуруҳига мос келадиган оғирлик (кўпайтирувчи) берилади. 0,2 га тенг бўлган энг катта вазн капиталнинг етарлилиги ва кредит rischi даражаси кўрсаткичлари гуруҳларига берилади;

бошқа гуруҳлар 0,15 оғирлик билан белгиланади. Банкнинг молиявий ҳолатининг интеграл коэффиценти гуруҳлар ва вазнлар бўйича жамланган кўрсаткичлар қийматининг маҳсулоти йиғиндиси сифатида ҳисобланади:

$$W = C \cdot 0.2 + A \cdot 0.15 + P \cdot 0.15 + L \cdot 0.15 + (1 - R) \cdot 0.15 + D \cdot 0.2$$

Бу ерда,

W – банк молиявий ҳолатининг интеграл коэффиценти;

C – «капиталнинг етарлилиги» гуруҳининг жамланган кўрсаткичи қиймати;

A – «рентабеллик» гуруҳининг жамланган кўрсаткичининг қиймати;

P – «рентабеллик» гуруҳининг жамланган кўрсаткичининг қиймати;

L – «ликвидлик» гуруҳининг жамланган кўрсаткичи қиймати;

R – «кредит rischi даражаси» гуруҳининг жамланган кўрсаткичи қиймати;

D – «динамик (ўсиш суръати)» гуруҳининг жамланган кўрсаткичининг қиймати

Қоида тариқасида, интеграл коэффицент нолдан юқори. Баъзи ҳолларда, катта йўқотишлар ва кўрсаткичларнинг сезиларли даражада ёмонлашиши билан у салбий қийматга эга бўлиши мумкин. Интеграл коэффицент қанчалик катта бўлса, банк фаолиятининг самарадорлиги шунчалик юқори бўлади. Интеграл коэффицентнинг қийматига қараб, банк самарадорлигининг тегишли таснифлаш гуруҳига ўтади. Уларнинг тавсифи 4-жадвалда келтирилган.

4-жадвал

Интеграл коэффицент қийматига қараб фаолият самарадорлиги гуруҳлари бўйича банкларнинг хусусиятлари¹³

Интеграл коэффицентнинг қиймати	Фаолият самарадорлиги учун банклар гуруҳининг хусусиятлари
0,7 дан юқори	Юқори: активлар ва пассивлар таркиби оптималга яқин, юқори рентабеллик (банк тизимининг ўртача даражасидан юқори), молиявий ҳисоб кўрсаткичлари динамикаси ижобий, кредит riskининг мақбул даражаси
0,4-0,7	Ўрта: кўрсаткичларнинг ижобий динамикаси, ликвидли баланс (активлар ва пассивлар таркиби оптималга яқин), рентабеллик ҳажми банк тизимининг ўртача рентабеллик даражасидан ошмайди (ёки аҳамиятсиз даражада), ликвидлик кўрсаткичларининг етарли даражаси ва кредит хавфи даражаси учун мақбул бўлган капиталлашув
0-0,4	Паст: ривожланишнинг салбий динамикаси: ликвид бўлмаган баланс (активлар ва пассивларнинг қониқарсиз тузилиши:

¹³ Yulia R. RUDNEVA 1; Lyubov I. VANCHUKHINA 2; Nelly N. GALEEVA 3; Zemfira A. GAREEVA 4; Anastasia M. ROGACHEVA 5. Evaluation of effectiveness of Commercial Bank's Activities by External Users with Application of Dynamic Indicators. Received: 23/12/2017 Approved: 22/01/2018 (<https://www.revistaespacios.com/a18v39n12/a18v39n12p19.pdf>).

	салбий таснифланган активларнинг катта улуши), салбий молиявий натижа, ликвидлик ва капиталлашувнинг паст кўрсаткичлари, кредит рискиннинг юқори даражаси
0 дан паст	Банкнинг самарасиз фаолияти: юқори рентабеллик ва фаолият кўрсаткичларининг салбий динамикаси

Таклиф этилаётган методология банк фаолияти самарадорлигини тушуниш ва баҳолаш, унинг фаолиятига таъсир этувчи муҳим омилларни таҳлил қилиш имконини беради. Бундан ташқари, методологиянинг афзаллиги шундаки, баҳолаш тизимига киритилган барча кўрсаткичлар эълон қилинган бухгалтерия ҳисоби маълумотлари асосида баҳоланиши мумкин, бу эса уни ташқи фойдаланувчилар учун очиқ бўлади.

Тижорат банкларининг иқтисодий фаолиятини CAMELS рейтинг тизими асосида баҳолаш методикаси Карабаев N.A. томонидан ўрганилган бўлиб, у таҳлил қилинаётган банк фаолиятининг таркибий қисмларини биринчи ҳарфдан иборат бўлган омиллар асосида баҳолашни назарда тутди¹⁴.

Банкнинг барқарорлигини таҳлил қилиш учун кўплаб моделлар мавжуд, улар орасида Банкометр яқинда ишлаб чиқилган ва банк барқарорлигини синтез қилиш учун CAMELS тизими ва CLSA-stress тест параметрларидан олинган молиявий коэффицентларни фоизларда озгина ўзгартирилган ҳолда ишлатадиган оддий ёндашув. Ушбу моделда банкнинг мустаҳкамлиги тўлов қобилияти балли (S-Score) деб аталадиган балл билан ўлчанади. Тўловга лаёқатсизлик билан боғлиқ муаммоларни аниқлаш ва Банкометр ёндашувида кўрсатилган камчиликларни бартараф этишда ушбу ҳолат банкнинг ички бошқаруви учун фойдали бўлиши мумкин. Ундан нафақат жисмоний шахслар, балки назорат қилувчи органлар ҳам исталган банкнинг барқарорлиги ёки тўлов қобилияти ҳолатини бир зумда кўриб чиқиш учун фойдаланишлари мумкин. ХВФ тавсияларидан сўнг тадқиқотчи ташаббусни ўз зиммасига олди ва минимал параметрлар сони билан максимал аниқ натижаларни таъминлаш сифатига эга Банкометр деб номланган кенг қамровли усулдан фойдаланди. Унинг умумий кўриниши, «Банкометр» моделининг ифодаси қуйидагича¹⁵:

$$S = 1,5X_1 + 1,2X_2 + 3,5X_3 + 0,6X_4 + 0,3X_5 + 0,4X_6$$

Бу ерда, «S» тўлов қобилиятини англатади, бу қарам ўзгарувчидир. Ушбу модель остидаги мустақил ўзгарувчилар:

X₁= капиталнинг активларга нисбати (CA): $\geq 04\%$

X₂= соф капиталнинг активларга нисбати (EA): $\geq 02\%$

X₃= капитал етарлилик даражаси (CAR): $40\% \leq CAR \leq 08\%$

X₄= ишламайдиган кредитларни умумий кредитларга нисбати (NPL): $\leq 15\%$

X₅= харажатнинг даромадга нисбати (CI) : $\leq 40\%$

X₆= кредитларнинг активларга нисбати (LA) : $\leq 65\%$

Бироқ юқорида кўрсатилган фоизлар мавжуд бўлган банкни тушунтиради

- CAR нисбати 8% дан 40% гача;
- CA нисбати 4% дан юқори;
- EA нисбати 2% дан ортиқ;
- назорат остидаги NPL даражаси 15% дан паст;
- CI коэффиценти 40% дан кам сақланиб қолган;
- 65% дан паст бўлган LA нисбатини назорат қилиш орқали ликвидликни сақлаб қолиш.

Банкометр таснифи бўйича "Super Sound Bank" деб таснифланиши мумкин. Банкнинг молиявий инқирозга қарши заифлигини башорат қилиш банклар, кредиторлар ва инвесторлар учун жуда муҳим масаладир. Банк тўловга лаёқатсиз бўлганида, кредиторлар асосий қарз ва фоиз тўловларининг бир қисмини йўқотиш туфайли маҳрум бўлишади, акциядорлар эса барча инвестицияларини йўқотиши мумкин. Агар банк молиявий тангликдан кейин фаолиятини тикласа ҳам, банкнинг омон қолиш учун катта

¹⁴ Karabaev NA Evaluate the activities of commercial banks based on the rating system of camels operations and improve it. Scientific electronic journal "International Finance and Accounting". № October 5, 2017. www.interfinance.uz

¹⁵ <https://www.scooperatings.com/ScopeRatingsApi/api/downloadmethodology?id=8656bc65-34d6-4f18-8f31-6ad929cbccdf>

харажатлари туфайли банкнинг келажакдаги ўсиши сезиларли даражада тўсқинлик қилади.

Мезон: «S» қиймати 70 дан юқори бўлган банклар тўловга лаёқатли бўлиб, " Super Sound Bank " (қулай молиявий аҳволга эга), «S» қиймати 50 дан кам бўлган банклар эса "Тўловга лаёқатсиз" (юқори хавф остида бўлган) деб номланади. молиявий танглик 50 дан 70 гача бўлган «S» қийматига эга бўлган банклар ўртача ҳолатда ва хатолар таснифига мойиллиги сабабли "Кулранг зона" га ($50 < S < 70$ оралиғидаги майдон) таснифланиши мумкин.

Ушбу рейтинг методологияси глобал миқёсдаги молия институтларига, шу жумладан банкларга ва банкдан ташқари молия институтларининг кенг доирасига кредит рейтингларини белгилашга ёндашувимизни тушунтиради.

Хулоса ва таклифлар:

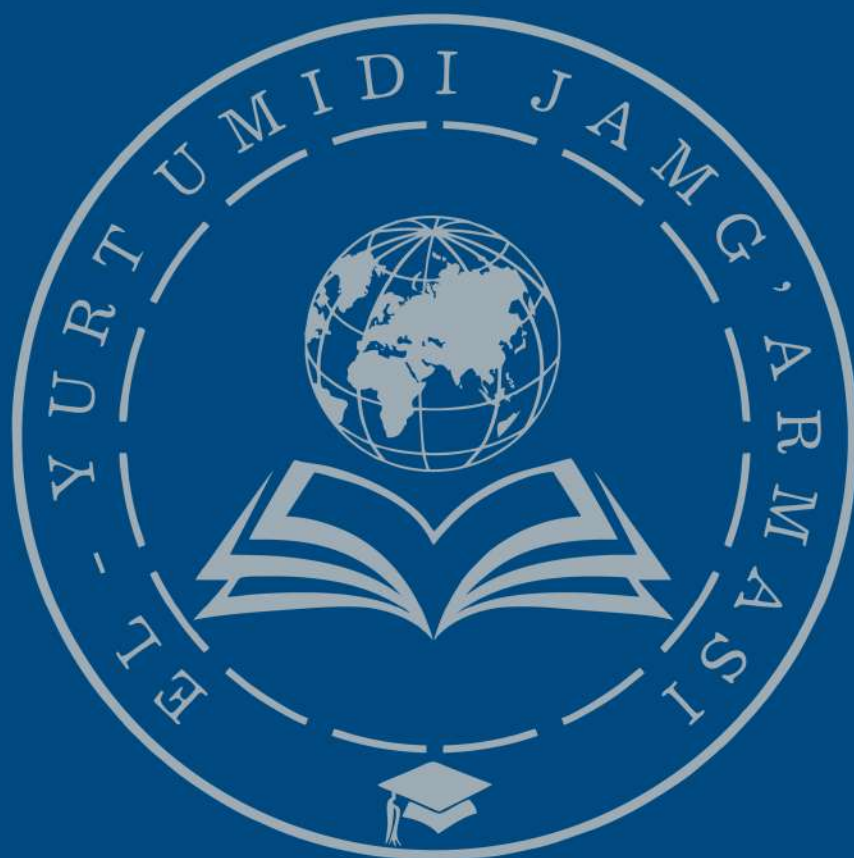
Юқорида олинган таҳлиллар асосида қуйидаги хулосаларга келинди:

- тижорат банкларини рейтинг асосида тузишнинг икки асосий усули мавжудлиги асосланди: а)комплекс қиёслаш кўрсаткичи бўйича барча объектларни босқичларга ажратувчи ягона рейтингни тузиш (хусусий мезон, умумий балл ёки яширин кўрсаткичлар асосида); б)бир ёки бир неча белгилар бўйича босқичларга фойдаланилиши мумкин бўлган тоифаларни тузиш (синфлар, гуруҳлар, сегментлар);
- банклар фаолияти самарадорлигини яхлит баҳолаш методологиясини ўрганиш натижасида бир қатор камчиликлар аниқланди. Биринчидан, самарадорликни баҳолаш нуқтаи назаридан, банкнинг рискларни бошқариш тизими даражасини ва риск даражасини баҳолашни тавсифловчи нисбий кўрсаткичлар мавжуд эмаслиги. Иккинчидан, баҳоланадиган кўрсаткичлар ўртасида доимий мутаносибликни йўқлиги;
- банкнинг барқарорлигини таҳлил қилишни Банкометр CAMELS тизими ва CLSA-stress тест параметрларидан олинган молиявий коэффицентларни фоизларда озгина ўзгартирилган ҳолда ишлатадиган моделдан фойдаланиш тавсия этилди. Ушбу моделда банкнинг мустаҳкамлиги тўлов қобилияти балли (S-Score) деб аталадиган балл билан ўлчаниб, банкларнинг фаолиятини рейтингини аниқ баҳолаш имкониятини бериши асосланди;
- банкометр модели асосида баҳолаш мезонлари сифатида «S» қиймати 70 дан юқори бўлган банклар тўловга лаёқатли бўлиб, " Super Sound Bank " (қулай молиявий аҳволга эга), «S» қиймати 50 дан кам бўлган банклар эса "Тўловга лаёқатсиз" (юқори хавф остида бўлган), молиявий танглик 50 дан 70 гача бўлган «S» қийматига эга бўлган банклар ўртача ҳолатда ва хатолар таснифига мойиллиги сабабли "Кулранг зона" га ($50 < S < 70$ оралиғидаги майдон) таснифланиши тавсия этилди.

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