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RESEARCH ARTICLE

STOU-ODL TO SERVE THE DEMANDING SDG'S CROSS CUTTING ISSUES IN THAILAND UNDER THE DIGITAL TECHNOLOGY & COVID-19 PANDEMIC DISRUPTION

*Kamolrat Intaratat

Chair of Communication Arts for ASEAN International Program (Master Degree Program)

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ABSTRACT

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ODL, SDG, Digital Technology, COVID-19 Pandemic, STOU, Thailand.

*Corresponding author: Kamolrat Intaratat

This research aims to study under the context of digital technology & COVID-19 pandemic disruption1) the demanding of SDG'scross cutting issues in Thailand that ODL can facilitate; 2) how STOU use ODL to serve the SDG' s cross cutting issues; and 3) to recommend how to scale up ODL to serve the SDG'scross cutting issues. Qualitative research via STOU-ODL case study approach was used to analyze how ODL of STOU serve the demanding SDG's cross cutting issues. Results found 1) the demanding of SDG's cross cutting issues in Thailand respectively are 1) Goal 4: Quality education; Goal 3: Good health and well-being ; Goal 5: Gender equality; Goal 1: No poverty; Goal 2: Zero hunger; Goal 9: Industry, innovation and infrastructure; Goal 10: Reduced inequality ;Goal 11: Sustainable cities and communities; Goal 16: Peace, justice and strong institutions; and Goal 17: Partnership; 2)STOU use ODL to serve the SDG's cross cutting issues by embedded with ICT to offer all types of educational programs : (1) Formal, (2) Non-formal &Informal educations to cover all groups of people in Thailand including all the marginalized can be easily accessed to all kinds of SDG's cross cutting issues for their new required knowledges and skills, more opportunities, and better quality of life. 3) ODL must be appropriate designed with partnership model to fit well with all contexts of the SDG's cross cutting issue i.e. in-time & demanded base issue, friendly & appropriate pedagogy, agile administrative & management, and all kinds of participatory contribution. Some examples of STOU-ODL's academies to serve all the SDG's cross cutting issues are Smart MOOC, Smart Ageing, Smart Farmer, Smart Youths & Young Women Entrepreneur, and others.

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INTRODUCTION

As being the Global Goals as its designed as a "*Blueprint to Achieve a Better and More Sustainable Future for All*" since 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030 with 17 interlinked global goals .To achieve sustainable development, three sectors need to be balanced : 1) the economic, 2) the sociopolitical, and 3) the environmental sectors with its critically important and interdependent. Besides SDG goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go together with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection. But due to the pandemic of COVID-19 since 2020 till currently of 2021, all the SDG's goal must be adjusted to under the "New Normal" demands embedded with all kinds of digital technology disruption all over the world including in Thailand. The partnership model among all stakeholders are demanding to tackle all SDG's cross cutting issues such as education, gender equality, climate action, peace, culture and health, and others. New educational pedagogy such as ODL could be one among the innovative tool to serve all those challenges. Besides, in September 2020, the UN Broadband Commission for Sustainable Development called for digital connectivity to be established as a "foundational pillar" for achieving all the SDGs. In a document titled "Global Goal of Universal Connectivity Manifesto", the Broadband Commission said: "As we define the 'new normal' for our post-COVID world, leaving no one behind means leaving no one offline."

AS being the ODL university of Thailand : STOU has adopted and engaged the SDG's Goal 4: Quality education with ODL pedagogy aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" for sustainable development and global citizenship. So, this research would be very important to serve the real demands of people's education under this "New Normal" by studying the demanding of SDG Cross Cutting issues in Thailand that ODL can facilitate. How STOU uses ODL to serve the SDG's cross cutting issues; and recommend how to scale up ODL to serve the SDG's cross cutting issues under the digital technology & COVID-19 pandemic disruption.

Literature Review

ODL: Distance Open and Learning Stands for innovative, flexible, and in-time learning opportunities. The learning here is remote learner and is free from time and space constraints. ODL can be used to provide learning to outreached or the marginalized. No doubt this trend is quite visible throughout world. Under this technology disruption, ODL has its significant role in all education fields: formal, in-formal and non-formal educations embedded by ICT (Information Communication Technology). More and more groups of people including the marginalized can be easily accessed to all kinds of new horizons knowledges and opportunities under the SDG's mission of "Inclusive Education". Besides ODL can serve the real needs and new life style of people in this "New Normal" disrupted by digital technology and all kinds of pandemic and disasters under the real demanding of the SDG's cross cutting issues.

Best Practices of ODL: Under this digital technology disruption, most of the education pedagogies keep enhancing ICT apparently in ODL aims to be more optimized its effectiveness and make significantly access to all new demanding under the new demands of "New Normal" environment. Scott McLean, et al.2006 has pointed out that ODL has a great potential for helping a wide range of learners to achieve more desirable and rewarding circumstances for themselves and their communities. ODL has proved its numerous possibilities and potentiality to fulfill all the demanding in the new world as shown in Box 1.

Box 1. Best Practices in ODL

Establish a purpose and engage the stakeholders

- ODL initiative can be a significant tool to tackle all demanding issues;
- Stakeholders are identified and mutual clear in all processes;
- Objectives are defined as well as its pedagogies strategies.
- Analyze instructional possibilities and define learning objectives
- The tangible target learners are well studied as well as their context;
 The content (subject matter) is well-understood with its clear learning outcomes;
- Concrete learning objectives are defined.
- Identify resource requirements and marketing strategies
- Fixed and variable costs are assessed and budgeted;
- Adequate resources with well management;

• Marketing, communication strategies to ensure all effective accessibility and learning achievement.

Design instructional content and process

• Course development team with all relevant expertise, pedagogies, communication and media;

• Modules designing under the well designed teaching and learning process e.g. presentation, discussion, tutorials, drill and practice, simulations, problem solving, self-directed learning, collaborative learning, coordinative learning.

Design delivery strategies, materials, ICT as well as any innovation

• Potential delivery strategies are identified (print, audio and videotapes, radio and television, teleconferencing, computer-based instruction: MOODLE,MOOC and computer conferencing)

• Mix of media based upon nature of the learners, learning objectives and instructional methods;

• Educational materials, resources, and processes must be designed for each delivery strategy.

Administer teaching and learning at a distance / online base

• Systems to enable communication among all stakeholders from teacher to learner and public;

Orientation, training and supporting staffs along all the process;

• Learners-centric design embedded with all learner support systems. Assess learning

• Learner outcomes (satisfaction, learning, behavior change, impact) are evaluated;

• Accredited system design e.g. examinations, essays, projects, practical experience, interaction, contribution, peer assessment, etc.) Evaluate the initiative

• Pre-testing, formative, and monitoring evaluation processes;

• Summative evaluation.

ODL University in Thailand: Sukhothai Thammathirat Open University (STOU): STOU's mission is to offer Open Distant Learning: ODL as a continuing education opportunity for the masses as a part of "to learn and to live" under the adult education program. Its main mandate is to provide educational services to society through open and distance learning since 1978 as the first university in Southeast Asia to use Open and Distance Learning with its mandate to serve life-long education, to improve the quality of life of the population, to upgrade the educational and professional qualifications of working people and to expand educational opportunities at all levels. STOU services are provided all over the country, to ensure all kinds of accessibility to quality education to all Thai people.

The Sustainable Development Goals (SDGs): With 17 interlinked global goals designed to be a "Blueprint to Achieve a Better and More Sustainable Future for All" set up in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030to succeed the Millennium Development Goals (MDG) which ended in 2015. The new goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go together with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection as shown in Picture 1.



Picture 1. Sustainable Development Goals (SDGs) with 17 interlinked global goals (https://en.wikipedia.org/ wiki/ Sustainable_Development_Goals)

STOU-ODL to serve the SDG Cross-cutting issues: Since 2020 till currently of 2021, there have been a serious pandemic of COVID-19 affected to all 17 SDGs embedded with all kinds of digital technology disruption all over the world

including in Thailand. To achieve sustainable development, three sectors need to come together: The economic, sociopolitical, and environmental sectors are all critically important that require multidisciplinary and trans-disciplinary research across all three sectors. AS being the ODL university of Thailand: STOU has keep its developing ODL academies to serve the Thai people under all kinds of disruptions. Some of the tangible application and development are fit with some of the SDG as below;

Goal 4: Quality education: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". To increased number of people with relevant skills for financial success; elimination of all discrimination in education; universal literacy and numeracy; and education for sustainable development and global citizenship.

Goal 5: Gender equality:"Achieve gender equality and empower all women and girls"Aims to grant women and girls equal rights, opportunities to live free without discrimination including workplace discrimination or any violence. This is to achieve gender equality and empower all women and girls.

inequality: "Reduce income Goal 10: Reduced inequality within and among countries" And also promote the universal social, economic and political inclusion; ensure equal opportunities and end discrimination; adopt fiscal and social policies that promotes equality; improved regulation of global financial markets and institutions; enhanced for developing representation countries in financial institutions; responsible and well-managed migration policies.

Goal 11: Sustainable cities and communities: "Make cities and human settlements inclusive, safe, resilient, and sustainable "By providing safe and affordable housing, affordable and sustainable transport systems; inclusive and sustainable urbanization; protect the world's cultural and natural heritage; reduce the adverse effects of natural disasters; reduce the environmental impacts of cities; provide access to safe and inclusive green and public spaces.

Goal 16: Peace, justice and strong institutions: "Promote peaceful and inclusive societies" By providing access to justice for all and build effective, accountable and inclusive institutions at all levels. Reduce violence; protect children from abuse, exploitation, trafficking and violence; promote the rule of law and ensure equal access to justice; combat organized crime and illicit financial and arms flows, substantially reduce corruption, develop effective, accountable and transparent institutions; ensure responsive, inclusive and representative decision-making; strengthen the participation in global governance; provide universal legal identity; ensure public access to information and protect fundamental freedoms.

Goal 17: Partnership for the goals: "Strengthen the means of implementation and revitalize the global partnership for sustainable development". Increasing international cooperation is seen as vital to achieving each of the 16 previous goals. Developing multi-stakeholder partnerships to share knowledge, expertise, technology, and financial support is seen as critical to overall success of the SDGs.

Research Objectives: The "STOU-ODLto Serve the Demanding SDG'scross cutting issues in Thailand under the

digital technology & COVID-19 pandemic disruption" has its objectives as follow;

- To study the demanding of SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption;
- To study how STOU use ODL to serve the SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption;
- To recommend how to scale up ODL to serve the SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption.

RESEARCH METHODS

Qualitative research with its case study approach was used to analyze STOU-ODL cases in how STOU-ODL can serve the demanding SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption.

FINDINGS AND DISCUSSION

The result has presented as of its objectives respectively

The demanding of "STOU-ODL to serve the demanding SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption";

AS being the ODL university of Thailand: STOU has keep its developing ODL academies to serve the Thai people under all kinds of disruptions. Some of the tangible application and development are fit with some of the SDG as below;

Goal 4: Quality education: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". To increased number of people with relevant skills for financial success; elimination of all discrimination in education; universal literacy and numeracy; and education for sustainable development and global citizenship as shown in Picture 2.



Picture 2: Goal 4: Quality education

Goal 3: Good health and well-being:"Ensure healthy lives and promote well-being for all at all ages".

The reduction of maternal mortality; ending all preventable deaths under 5 years of age; fight communicable diseases; ensure reduction of mortality from noncommunicable diseases and promote mental health; prevent and treat substance abuse; reduce road injuries and deaths; grant universal access to sexual and reproductive care, family planning and education; achieve universal health coverage; and reduce illnesses and deaths from hazardous chemicals and pollutionas shown in Picture 3.

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Picture 3. Good health and well-being

Goal 5: Gender equality: "Achieve gender equality and empower all women and girls"Aims to grant women and girls equal rights, opportunities to live free without discrimination including workplace discrimination or any violence. This is to achieve gender equality and empower all women and girls shown in Picture 4.



Picture 4. Goal 5: Gender equality

Goal 1: No poverty: "End poverty in all its forms everywhere" To eradication of extreme poverty; reduction of all poverty by half; implementation of social protection systems; ensuring equal rights to ownership, basic services, technology and economic resources; and the building of resilience to environmental, economic and social disasters as shown in Picture 5.



Picture 5. Goal 1: No poverty

Goal 2: Zero hunger (No hunger) Sufficient and healthy foods should be made available to everyone: "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Ending hunger and improving access to food; ending all forms of malnutrition; agricultural productivity; sustainable food production systems and resilient agricultural practices; and genetic diversity of seeds, cultivated plants and farmed and domesticated animals; investments, research and technology. The three "means of achieving" targets include: addressing trade restrictions and distortions in world agricultural markets and food commodity markets and their derivatives as shown in Picture 6.



Picture 6. Goal 2: Zero hunger

Goal 9: Industry, Innovation and Infrastructure: "Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation "inclusive infrastructures; promote inclusive and sustainable industrialization; increase access to financial services and markets; upgrade all industries and infrastructures for sustainability as shown in Picture 7.



Picture 7. Goal 9: Industry, Innovation and Infrastructure

Goal 10: Reduced inequality: "Reduce income inequality within and among countries "Reduce income inequalities; promote universal social, economic and political inclusion; ensure equal opportunities and end discrimination; adopt fiscal and social policies that promotes equality; of regulation global financial improved markets and institutions; enhanced representation for developing countries in financial institutions; responsible and wellmanaged migration policies as shown in Picture 8.



Picture 8. Goal 10: Reduced inequality

Goal 11: Sustainable cities and communities: "Make cities and human settlements inclusive, safe, resilient, and sustainable". Safe and affordable housing, affordable and sustainable transport systems; inclusive and sustainable urbanization; protect the world's cultural and natural heritage; reduce the adverse effects of natural disasters; reduce the environmental impacts of cities; provide access to safe and inclusive green and public spaces as shown in Picture 9.



Picture 9. Goal 11: Sustainable cities and communities

Goal 16: Peace, justice and strong institutions: "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels". Reduce violence; protect children from abuse, exploitation, trafficking and violence; promote the rule of law and ensure equal access to justice; combat organized crime and illicit financial and arms flows, substantially reduce corruption and bribery; develop effective, accountable and transparent institutions; ensure responsive, inclusive and representative decision-making; strengthen the participation

Table 1. STOU-ODL's Projects cover the SDG' scross cutting issues

No	ODL Academy	High Light Brief	SDG Goal	Evidences (Direct/ In-direct)
1	Smart Ageing e- Class	The Development of Smart Ageing Academy under the New Normal (partnered with Thai Health Promotion Fund)	4,5,3,16	https://thaismartageing.org/
1.1	PALI-e Class	The Smart Platform for PALI Studies partnered with the Information Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn The Development of Online Academy for Women Entrepreneurs in Thailand : The Women ICT Frontier Initiate (WIFI) 2021 (partnered with UNESCAP: APCICT)	4,5,3,16	https://pali- online.in.th/?fbclid=IwAR0Ql3D67H1i HnsriaoHa3_t- QyMhf3 Unk GJhr HWR89zzjkhk6x5jDuijM
1.2	Smart Care Giver e- Class	The Innovative Academy Development under the New Normal : Smart Care Giver (partnered with TPQI, Ministry of University, TCU)	4,5,3,16	https://www.facebook.com/Smartcaregi ver1
1.3	e-Class for Marginalized	ThaiMOOC for Community Digital Literacy and Life-long Learning (partnered with Thai Cyber University, Ministry of University, Ministry of DES)	4,5,3,16	http://smartmooc.org/ https://thaimooc.org/
1.4	E- Class for COVID-19 Rescue	English for Thai Taxi Driver under COVID-19	4,5,3,16	https://thaiyoong.com/courses/test/
2	FAO pilot project of Smart Farm in Thailand	Since 2016, more than 50,000 youths including girls and young women, more than 50 success cases of smart farms all over the country because of the innovative and continuous training, partnering, sharing, marketing via ICT as a tool for all. The youths become to be the real leaders in their own farm and their own communities due to their own "digital native". Besides, all the farm local wisdom, farm heritages also have been preserved and protected. Some success cases are; <i>Case 1: Young Smart Farm & Start Up The Smart Farm of Karen Tribe, North of Thailand; Case 2 : The Smart Organic Island Farm, Phetchaburi, Central of Thailand</i> ;	1,2,3,5,6,7,8,12,1 3,14,15,16,17	www.ccdkm.org https://www.facebook.com/SDGSmartF arm/?modal=admin_todo_tour https://www.facebook.com/WSFThailan d
3	ICT for Marginal Youths Start UP	"Smart School Outlet": The Young Smart Entrepreneur in the Marginal Schools by the R&D Participatory Action Project under the Patronage of Her Royal Highness Princess Maha Chakri Sirindhorn" partnered with theInformation Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn, ETDA, Ministry of DES	5,8,9,12,16	https://www.facebook.com/SmartHattha /
3.1	ICT for the Marginalized Women & Young Girls	Digital ICT for the Provision of Online Marketing Channels to the Underprivileged Women in Thailand via National R&D Participatory Action Project for Development : The Evaluate and Disseminate knowledge- based Learning Activities on the Use of Digital Communication Technologies for the Provision of Online Marketing Channels to the Underprivileged Women in Thailand: (Lampang, Chiang Rai, Si Sa Ket provinces). (partnered with NBTC)	5,8,9,12,16	https://www.ccdkm.org/microsoft- youthspark/
3.2	ICT for Women Entrepreneur, and Sturt Ups : From Global to Local	 Women Entrepreneurs Project "Human-centered design workshop for Women Entrepreneurs Access to ICT skills (partnered with theUNESCO, Thailand) ICT to Empower Girls : Girls in ICT Day : from 2017 till currently (partnered with UN agencies : ITU, and all UN Agencies such as UNICEF, UNIESCO, APT, UNESCAP, FAO) The Digital Skills & Digital Literacy Studies for National Workforce of Thailand Under & Post COVID- 19 Pandemic (partnered with the Regional Microsoft Company, and ASEAN, ASIA networks) 	17, 5,8, 3	https://www.facebook.com/Girlsinictasi apacificTH
4	Communication to Reduce Violence in Thailand	 1)The Strategic Communication with Creative Media to Reduce Domestic Violence in Thai Family (partnered with the National Research Council) (Phase1) 2)The Creative Media to Reduce Violence in Thailand (partnered with the National Research Council : Phase 2) 	5,16	https://www.facebook.com/smartfamily club.sfc/
5	ICT for Smart Thai Women Database	The Promoting Democracy and Freedom of Expression: Women Database for Thai Journalists. the Regional and National R&D Participatory Action Project for Development : "The Promoting Democracy and Freedom of Expression: Women Database for Thai Journalists" (partnered withUNESCO, Thailand)	5,17	https://wmnthailand.org/?lang=th

Table 2: STOU-ODL's Academies to serve all the SDG'scross cutting issues STOU-ODL has been developing and applying ODL to serve all groups of people in Thailand to access to education under the mission of "Inclusive Education"

FORM	FORMAL ODL& INFORMAL ODL FOR LIFE LONG LEARNING & UP -SKILL -RE-SKILLS							
No	ODL PROGRAM	DESCRITION	E-PLATFORM	LEARNING PEDAGOGIES	TARGET LEARNERS	PARTNERS	ACHIEVEMENT	
1	Graduated Program:	International Graduated Program :	http://asean-	MOODLE,MOOC	1)The media /	1)SEAMEO	1)Since 2015 before	
	Communication for	Master Degree with 100% Online	commarts.stou.ac.th/main/		Journalist/Reporters/Communic	2)AAOU	the opening up of	
	ASEAN	Program to serve for the local, regional,			ators2) The ASEAN relevant	UN Agencies	ASEAN Community	
		and international knowledge sharing &			workforces< 3)The ASEAN	4)Local Institutes	2)Currently 3 Batches	
		mutual understanding			Private & International		of students	
					Agencies			
2	Smart Ageing e- Class	They MODULLA Academy to serve the	https://thaismartageing.org/	MOOC (Massive Open	1)The Ageing;	1) Thai Health	2020 : pilot 100	
	:	New Normal and the THAI Ageing		Online Course)	2)The Care Giver:	Promotion Fund	2021 : minimum	
	MODULLA Program	Society National Flagship.			3) The General public	2) The Ministry of	3,000+ learners	
	(Since 2020)	Could be accumulated into the CREDIT				Social Development		
		BANK SYSTEM of STOU and				and Human Security		
		Partner's Institutes				3)Red-Cross Nursing		
						Collage		
3	Smart Care Giver e-		https://www.facebook.com/Smart	MOOC (Massive Open		1)Thai Professional	2020 : pilot 300	
	Class	New Normal and the THAI Ageing	caregiver1	Online Course)		Qualification Institute	learners	
	MODULLA Program	Society National Flagship.				(TPQI), 2)Ministry of	2021 : 5,000 learners	
	(Since 2017)	Could be accumulated into the CREDIT				University, TCU(
		BANK SYSTEM of STOU and				3)Health Institutes		
		Partner's Institutes						

I. FORMAL ODL with Partners Institutes (Local & International ODL)							
1	PALI-e Class	The Smart Platform for PALI Studies (Language of the Buddhism)	https://pali- online.in.th/?fbclid=IwAR0Ql3D 67H1iHnsriaoHa3_t- OQyMhf3UnkGJhrHWR89zzjkh k6x5jDuijM	MOOC (Massive Open Online Course)	1)Monks 2)Students in the Buddhism Studies 3)the general public	 TheInformation Technology Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn the National Buddhism of Thailand The PALI National Institute Universities that offer Buddhism Studies 	2020 : Pilot 300 learners 2020 : 5,000 learners Ultimate goal in 3 years : 500,000 learners
2	E- Class for Youths & Grass-root Communities	ICT for Marginal Youths& Community Start UP "Smart School Outlet" : The Young Smart Entrepreneur in the Marginal Schools by the R&D Participatory Action Project under the Patronage of Her Royal Highness Princess Maha Chakri Sirindhorn"	https://www.facebook.com/Smart Hattha/	MOOC	 Marginalized students in schools all over Thailand the community in Service Areas of the schools the general public 	1)TheIT Foundation under the Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn, 2)ETDA, 3)Ministry of DES	1)Students can pass the Certified & Accredited Test of TPQI 2)Students can transfer to College & University Education
3	WIF1 : E- Class Girls & Young Women (Since 2017-till currently)	The Development of Online Academy for Girls & Young Women Entrepreneurs in Thailand : The Women ICT Frontier Initiate (WIFI)	https://www.facebook.com/Girlsi nictasiapacificTH	МООС	1)Girls & Young Women 2)Young entrepreneurs	1)UNESCAP : APCICT 2)Ministry of DES 3)Vocational College	1)APCICT 2UNESCAP 3)Vocational College & University

II. NON FORMAL & INFORMAL ODL FOR LIFE LONG LEARNING & UP -SKILL -RE-SKILLS								
1	e-Class for Marginalized : Thai MOOC for Community Digital Literacy and Life- long Learning	1)e-class for Smart Farmer : Since 2016, more than 50,000 youths including girls and young women, more than 50 success cases of smart farms all over the country via ICT	http://smartmooc.org/ https://thaimooc.org/ https://www.facebook.com/S DGSmartFarm/?modal=admi n_todo_tour https://www.facebook.com/W SFThailand	1)Training Course : Blended Training & Learning 2)MOOC	All marginalized groups : Farmers, Ethnics, Urban poor, Migrant workers, Handicap, Ageing, etc.	1)Thai Cyber University, 2)Ministry of University, 3)Ministry of DES)	More than 10,000 people can access	
2	ICT for Women Entrepreneur, and Sturt Ups : From Global to Local	1)Women Entrepreneurs Project "Human-centered design workshop for Women Entrepreneurs Access to ICT skills (partnered with theUNESCO, Thailand) 2) ICT to Empower Girls: Girls in ICT Day: from 2017 till currently (partnered with UN agencies : ITU, and all UN Agencies such as UNICEF, UNIESCO, APT, UNESCAP,FAO)	http://smartmooc.org/courses/ course- v1:CCDKM+CCDKM001+C CDKM001-1/about	1)Training Course : Blended Training & Learning 2)MOOC	1)Girls 2)Young women 3)the public	Local and UN partners	Both in Thailand and other ASEAN countries	
3	e- Class for Violence Reduction	Communication to Reduce Violence in Thailand	https://www.facebook.com/s martfamilyclub.sfc/	MOOC	1)Family 2)Media Group 3)Ageing 4)Youths 5)the public	 1)National Research Council 2)Media agencies, 3)Ministry of Human Security 	1)more than 10,000 public can access 2)Each target group can contribute good/ creative media to reduce violence	
4	e-Class for Digital media literacy	e-Class to educate the digital media disruption to transit Thai people to the new era of digital age	http://smartmooc.org/courses/ course- v1:CCDKM+DIL+DIL2019/ about	MOOC	1)Youths both in Formal and Non- Formal Education schools	1)Creative Media Fund, 2) Ministry of Education	1)1,000+youths in High schools 2)the general public	
5	E- Class for COVID-19 Rescue	1)English for Thai Taxi Driver under COVID-19; 2)English Online	https://thaiyoong.com/courses /test/	MOOC	1)the taxi drivers 2)the public	 The Assoc. of Thai Taxi Drivers the Media organization 	More than 100 of taxi drivers can access and benefit for their safety under COVID-19	

in global governance; provide universal legal identity; ensure public access to information and protect fundamental freedoms as shown in Picture 10.



Picture 10. Goal 16: Peace, justice and strong institutions

Goal 17: Partnership for the goals to: "Strengthen the means of implementation and revitalize the global partnership for sustainable development". Increasing international cooperation is seen as vital to achieving each of the 16 previous goals. Developing multi-stakeholder partnerships to share knowledge, expertise, technology, and financial support is seen as critical to overall success of the SDGs as shown in Picture 11.



Picture 11. Goal 17: Partnership for the goals

How STOU-ODL serve the demanding SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption: STOU has been using ODL embedded with ICT to offer all types of educational programs to serve the SDG Cross Cutting Issues via 1) Formal, 2) Nonformal& Informal educations to cover all groups of people in Thailand including all the marginalized can be easily accessed to all kinds of new horizons knowledges and opportunities. Embedded with ICT, ODL can serve the real needs and new life style of people under all kinds of technology disruption and all kinds of pandemic and disasters. Results are classified 1) STOU-ODL's Project cover the SDG's cross cutting issues, and 2) STOU-ODL's Academies to serve all the SDG'scross cutting issues as shown in Table1, and Table 2.

Conclusion and Recommendation

The "STOU-ODL to Serve the Demanding SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption" aims to study 1) the demanding of SDG's cross cutting issues in Thailand; 2) how STOU use ODL to serve the SDG's cross cutting issues in Thailand; and 3) recommend how to scale up ODL to serve the SDG's cross cutting issues in Thailand. Qualitative research with STOU-ODL case study approach was used to analyze STOU-ODL cases about how ODL of STOU serve the demanding SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption. Results found 1) the demanding of SDG's cross cutting issues in Thailand under the digital technology & COVID-19 pandemic disruption respectively 1) Goal 4: Quality education; Goal 3: Good health and well-being ; Goal 5: Gender equality; Goal 1: No Poverty ; Goal 2: Zero hunger (No hunger); Goal 9: Industry, innovation and infrastructure; Goal 10: Reduced

inequality; Goal 11: Sustainable cities and communities; Goal 16: Peace, justice and strong institutions; and Goal 17: Partnership for the goals; 2)STOU use ODL to serve the SDG's cross cutting issues under the digital technology & COVID-19 pandemic disruption by embedded with ICT to offer all types of educational programs via (1) Formal, (2) Non-formal & Informal educations to cover all groups of people in Thailand including all the marginalized can be easily accessed to all kinds of new horizons knowledges and opportunities. Some examples of STOU-ODL's academies to serve all the SDG's cross cutting issues are Smart MOOC, Smart Ageing, Smart Farmer, Smart Youths & Young Women Entrepreneur, and others; and 3) as STOU-ODL has proved its success in applying its ODL to serve all the SDG's cross cutting issues leaded by goal 4: quality education to ensure the inclusive, equitable, and quality education to promote lifelong learning opportunities for all under the "new normal" disrupted by the digital technology & covid-19 pandemic. ODL must be designed as followed;

- ODL must be embedded with ICT aims to be best serve to all SDG's cross cutting issues;
- ODL must be leaded by the partnership model to be covered all the real demands of the SDG's cross cutting issues;
- ODL must be appropriate designed to fit well with all contexts of the SDG's cross cutting issue i.e.in-time & demanded base issue, friendly & appropriate pedagogy, agile administrative& management, and all kinds of participatory contribution.

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