

Analysing College Students' Understanding Towards Technology Acceptance: Investigating Role of Industry 4.0 in Education Sector

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Abstract

Purpose:

Industry 4.0 is represented by advanced technology like automation, IOT, cloud computing, and big data permeating every field nowadays, exacerbating the change that varies from generation to generation. As high technology emerges the working criteria are also expected to adopt. Updating technical skills among the students of every field is a very important part of technical development to enhance the existing work system. The purpose of this paper is to identify the understanding of Industry 4.0 in the education sector. Further, how students can contribute towards learning a new phase of technology.

Design:

The study will be conducted through a survey on a sample of 200 students in the college and university. Empirical results will be provided through SPSS/AMOS to test the items relating to study among students on understanding of Industry 4.0 in the education sector.

Findings:

The study captures the role of Industry 4.0 in the education sector and how it will assist the students to cope up with the technology and perform the task digitally which also saves time. Industry 4.0 emerges as a hybrid model which assists to work smartly and systematically.

Originality:

The empirical study provides evidence towards understanding the role of Industry 4.0 in the education sector. Exploring innovative ideas to combat the working style which has been followed for a long time. Further it will help to analyse the usage of technology and provides insight towards changing networks in this emerging technological world.

Implication:

This study provides the analysis of technology usage among students and is useful for management to make smart decisions considering Industry 4.0 in the education sector.

Research limitation:

Technology has become a part of every sector; it acts like a central figure for various organisations or industries. It may be IT, Manufacturing, Automobile, Hospitality etc. Further, this research is limited to the Education sector to understand students' adaptability towards technology.

Keywords: Employee Creativity, Employee Wellbeing, Sustainability, Digitalisation

Introduction

In human history Industry 4.0 is a fourth industrial revolution. As Fourth Industrial Revolution is stepping in all sectors including education sector also which is termed as Education 4.0, it was launched in May 2020 to bring various academicians, edtech, educators together. Therefore, the new era in education is Education 4.0.[2] Technological changes like IOT, automation, AI etc. have already created an impact in the current education system. Nowadays, digital platforms and virtual communication systems have become big reliable and dependent factors in the education system. Awareness of technology among students is still a challenge. Such shortcomings may lead to slow progress in Education system. Although Social platforms have made online work more easy as it can reach remote areas. Here, students need to respond individually where they need to know how to use digital technology. During COVID-19 it has become necessary to be aware of online platforms(akmaliah 2020)[a]. Recent trend in the education sector has brought variation in working criteria. Online access and e- content has changed the working style of students as well as teachers. Trends driven changes like innovation in technology, education condition, students demographic factors etc.(concanon, Flynn, Campbell,2005) [1] have brought various changes in every sector. Students' interest among the new things also changes; some are keenly interested in learning new things but some are not. The necessary use of technology for education purposes is hard to escape. (mailizar, kerres, wang 2020) [b]. In recent years knowledge has influenced the learning system. The technology institution focuses on enhancing and designing the students' preferences. E-learning is totally internet based which involves individual students in the learning process where outcome among students also varies. Online tutorial sites like byju's, toppers, unacademy have approached towards influencing the students performance and enhancing their knowledge to learn more productively. Education in the fourth revolution has become more advanced as the root - based system has shifted to the digital system. It focuses on individual and discovery based learning. Learning things in a traditional way does not bring enthusiasm and zeal among students. So, it's necessary to bring some new activities to attract and to make them learn smoothly in the Fourth Industrial Revolution.

Through the use of cutting-edge technology, Industrial Revolution 4.0 will have a huge impact on the Indian educational system. The Fourth Industrial Revolution, driven by artificial intelligence, would enhance the educational experience and present innovative opportunities for higher learning, which may have a positive impact on Indian society. Higher education will deliver excellent instruction, educate students through exploratory research, and support societal progress as it enters the Fourth Industrial Revolution, playing an increasingly significant role in the global education sector.[2]

Emerging transformation in education sector:

The Fourth Industrial Revolution has led to the emergence of new and cutting-edge educational institutions that provide instruction, research, and services in unique ways. Examples include massive open online courses (MOOC), virtual classrooms, libraries, laboratories, and educators. Education 4.0 is also pushing colleges, universities, and institutions to modernise. Artificial intelligence, robots, and smart technology are just a few examples of how the industrial revolution has changed our world today. Because of this, educational institutions are preparing students for a world where cyber-physical systems are present in almost every business in order to remain competitive. Usage of smart technology for students creates an interest among them to learn things in a new way. It can be through online courses, project based work, videos etc. it will develop students from various perspectives and make them learn the things well-ordered and make them job ready from technology perspective. [3]

Education is an essential part as it acts as a foundation stone for a better future. Courses are structured on the basis of students' capability to face the challenges in the technological world. Indian educational institutions were built by politicians and business groups, this step taken by them was to promote the education system in India. But in this burgeoning world the education system also needs to match the fourth industrial revolution.[3] Education in Industry 4.0 has become more advanced as the root-based system has shifted to the digital system. It focuses on individual and discovery based learning. Learning things in a normal way does not bring enthusiasm and zeal among students. So, it's necessary to bring some new activities to attract and to make them learn smoothly in the fourth industrial revolution. It saves time which can be utilised in other productive work. Personality development, interdisciplinary, personalised learning, flexibility etc can be attained very well. [5]

2. Literature Review

2.1 Impact of Industry 4.0 on education sector

The most significant changes in the educational landscape are brought about by the development of information and communication technology, which is the focus of the fourth industrial revolution.[6] In the fierce battle between robots and humans, various skill competences in vocational secondary school must start to consider new tactics, such as human-machine cooperation, which will be heavily utilised by smart factories[7,8]. The literature contains a number of works that advocate for the reformation of the higher education system in line with Industry 4.0. These pieces have in fact highlighted how important it is to develop the university level's future talent pool. It's because employees and the labour pool required by the businesses must possess fundamental technical competence in Industry 4.0, including IT expertise and the ability to engage with modern interfaces, among other things.[9] Although the fourth industrial revolution has many advantages, businesses have trouble implementing it since newly hired employees and current employees lack the necessary industry 4.0 application and technology skills. Thus, the universities (higher education institutions and career-focused programmes) can be essential in fostering the social and cultural shifts necessary for Industry 4.0.[10] But the three previous industrial revolutions, from which today's universities were founded, do not provide the necessary capabilities to support the Industry 4.0 transformation. It emphasises the necessity of higher education institutions adapting in order to train and prepare students for emerging businesses.[11] "Education 4.0" has just emerged as a result of Industry 4.0's growing popularity in the education sector. It promotes and enables the methods, lectures, and workshops that can inform motivated engineers about the newest Industry 4.0 technology.[12] They also made claims about the effective convergence of high-tech corporations, government, and industry in technology transfer. In order to advance sustainable education, all stakeholders must address the dangers presented by Industry 4.0 in educational institutions in an efficient and appropriate manner.[13]. In the fourth industrial revolution, job prospects will be inversely correlated to skill level. It implies that if pupils are knowledgeable about various Industry 4.0 concepts, the employment market will naturally improve.[14] In order to prepare the workforce for the rapid evolution of production tools and to effectively compete in the job market in the face of Industry 4.0, it will be crucial to rethink educational techniques [15]. While Industry 4.0 continues to change the workplace, new challenges are arising. For instance, lacking e-skills, lacking vision or encouragement from management, higher investment requirements, unknown financial returns, having to establish new teams or acquire them, and stakeholders' general resistance to change are some of the core difficulties at the global level [16,17]. The impacts of Industry 4.0 can be seen in our day-to-day lives and are reflected in all fields [18,19]. The adoption of

technology-enhanced instruction and learning is rising quickly.[20, 21,22,23,24]. The digital age and the technical developments it has brought forth have made daily social life and lifestyles easier than they were previously. Technology has a great effect on education as well as lifestyles [25,26,27,28]. Education, and other sectors all see unprecedented and quick changes as a result of the fourth industrial revolution (Industry 4.0) [29]. Young talents should be developed and exposed to as many facets of smart technology as possible as soon as possible to ensure that they are prepared for the coming industrial revolution [30, 31].

2.2 College students understanding towards Industry 4.0

Students need to be trained rather than taught in today's digital world of rapidly evolving technology and information overload; in other words, students need to be technically competent to work in today's industrial settings. Instead of the teacher giving the students information in a fixed structure, information needs to be made available and students need to learn how to discover it. It is now recognised that no two students are the same, that they do not begin from the same place, that they may learn and assimilate various areas of attention differently, and that they require guidance to build their talents rather than being taught a predetermined set of points [32].

Education must keep up with Industry 4.0 and prepare students for the coming fourth industrial revolution, which will take place within their lifetimes. Students will engage in "Learning by Doing" while experiencing. They will get numerous chances to practise using their talents in various contexts. They will receive sufficient project-based education, which aids in their acquisition of time management, teamwork, and organisational skills. Education 4.0 encourages students to embrace practical skills that are indicative of their future careers.

This implies that the curriculum will be structured to give students greater opportunities to complete internships, monitor projects, and engage in project-based learning. Students will have the chance to develop rational thinking. The intriguing element is that they will use statistical analysis to analyse data, forecast future patterns, and do so by putting their conceptual understanding of numbers and logic to use. Exam taking procedures are changing as a result of education 4.0. The ability to memorise is not tested in students. When students work on field projects, they are evaluated in the moment based on how they do. As a result, these elements help pupils develop their technical skills as well but also to the Industry 4.0 workers of the future.

Implementing Industry 4.0 presents a number of difficulties, including the need for workers with the necessary qualifications and skill sets to advance the fourth industrial revolution quickly are issues that need to be addressed.[33, 34].

It involves using automation to prepare children for difficulties they might encounter at work. As a result, Education 4.0 is required, which emphasises the need of encouraging pupils to face obstacles head-on. In addition, some of the IoT and ICT-based ideas of Education 4.0 are similar to those of Industry 4.0[35]. There is undoubtedly a growing divide between the required and existent skills (cognitive and system intelligence), and if mandatory actions are not taken on schedule, this gap will only widen. The higher education system or the universities must change in the quest to build critical abilities, knowledge, and expertise and to get the workforce ready for Industry 4.0 [36]. If they train the staff on-the-job, the students may fall behind in the Industry 4.0 process. The use of Industry 4.0 at the industrial level would be greatly aided by university students becoming familiar with its various principles both academically and practically. It advises that educational institutions such as colleges conduct programmes and training to

address the many demands of Industry 4.0's emerging trends [37]. We live in the era of education 4.0, when students are the active agents of their learning process and teachers are tutors in this process. Historically, the educational system has always responded to the demands and ideals of the industries of its time economy.[38] Students study in accordance with their rhythm, timetable, and needs in this fashion. Additionally, more time is given for problem-solving, whether alone or in groups.[39] This connection between Education 4.0 and Industry 4.0 is made by those who contend that the educational sector is already influenced by cognitive and cloud technologies, computing, the Internet of Things (IoT), cyber physical systems (CPS), and other Industry 4.0-imposed parameters.[40]

Industry 4.0 technologies are used by Education 4.0, and active methodologies demonstrate that these techniques include project- or problem-based learning, the flipped classroom, and hybrid learning, which combines online and offline activities with distance learning, discussion groups, etc. These include STEM, which stands for the multidisciplinary use of science, technologies, engineering, and mathematics, and Culture Maker, which stands for creative and innovative learning as well as learning by doing. Students in these learn the material at home and discuss their questions and learning at school [41]. Although the use of robots in education, particularly in the teaching of science, technology, engineering, and mathematics (STEM) disciplines, has been around since the 1980s [42], the education sector has been reluctant to accept technology to facilitate teaching and learning. Furthermore, the use of technology has mostly been restricted to a didactic approach to teaching and learning, wherein the usage of a personal computer and the availability of electronic teaching resources aid teaching. However, in order for the learner-centred approach to be effective in enriching students' learning experiences, the use of digital technology supporting 4IR goes beyond the use of computers and e-materials.

The key priorities of the Indian government are accountability, access, affordability, and equity. This policy is prepared to completely redesign India's educational system. The promotion of human and societal well-being is greatly aided by the higher. Additionally, it helps the economy grow sustainably as a whole. The development of character, ethics, values, curiosity, creativity, capability, and a spirit of service are the main goals of higher education. It consists of success, knowledge, and useful contributions to society. The NPE is reviving the educational system to provide high-quality higher education that is inclusive and equitable. The Indian government has introduced a number of rules to create an environment where learning can take place in freedom.[43]

Due to the introduction of machinery in the form of computers, industrialization entered the global economy and led to the development of new and quicker ways to channel information and communication in the workplace, including teaching and learning[44,45]. We can only presume that the much-anticipated 4IR will have significant effects on our personal and social lives, including how we connect and communicate, given the exponential rate at which it is fast spreading.[46] The I4.0 acceptance research has been discussed in various settings, including governments [47], small and medium-sized businesses [48], manufacturing firms [49], managers [50], and others. To the best of our knowledge, it hasn't been discussed from the viewpoint of the pupils. This is a severe dilemma because investing in new technology is expensive and takes a lot of work [51], and the success of these projects could be impacted by future professionals.

Therefore, the purpose of this study was to assess the adoption of Industry 4.0 technology in vocational-technical courses as well as to respond to the need for the original TAM to be expanded in order to increase its applicability and validity [52,53,54]. As potential explanations for technology acceptance, we have offered subjective standards, favourable circumstances, and technical optimism. Further, the paper is

organised as follows. It presents the theoretical foundation and hypotheses. The technique and findings are then presented. At last discussion of the study's findings and conclusions is then offered.

Theoretical background and Hypothesis

Davis [55] presented the technology acceptance model (TAM) in 1985. As an adaption of the theory of reasoned action (TRA), which was first put forth by [56] to particularly address computer-usage behaviour. Through attitudes toward use and subjective standards, the TRA illustrates the intention to use. The TAM, however, contends that attitudes regarding usage are not directly influenced by the subjective criteria. Perceived utility and simplicity of use are two factors that can be used to explain attitudes toward utilising and using. There have also been two more model extensions put forth: TAM2 [57] and TAM3 [58], both of which incorporate extraneous elements such as subjective norms that improve the explanation of the intention of use [59].

To explain technological adoption, Parasuraman [60] established the concept of technology ready (TR). There are four components to this: comfort and uncertainty act as inhibitors, as well as innovativeness and optimism, which are the drivers of technological preparedness. However, prior research suggests that the individual aspects of optimism and inventiveness employed to quantify TR are stable [61].

However, a lot of research on the adoption of new technology uses Davis' TAM model [62]. This model discusses the variables that may influence a user's adoption of a particular technology [63], and it takes into account how these variables may affect the user's attitude toward usage and, ultimately, their intention to use [64]. This model includes a number of factors that either directly or indirectly explain behavioural intentions and technology use (e.g., perceived usefulness, perceived ease of use, attitudes towards technology), and it can be supplemented with external factors like self-efficacy, subjective norms, and the enabling circumstances for technology use [51,65].

The factors included in the model are defined as follows:

Subjective norms

The term "subjective norm" relates to how important a person perceives other people to be in relation to a particular conduct [66]. The value of other people's opinions to a person can affect how they use technology [67].

Technology optimism:

A positive view of technology and the conviction that it gives people more control, flexibility, and efficiency over their lives are also examples of technological optimism [68]. It is linked to a favourable opinion of technology and the conviction that it may improve life control, flexibility, and efficiency [69]. People are therefore assumed to have good intentions to adopt new technology if they are hopeful about doing so. When compared to adults, certain young people's technological optimism is a powerful predictor of their technology preferences [71]. (for example, in new learning methods [70], the adoption of mobile banking [72], or cryptocurrencies [73]). This perspective demonstrates their propensity to be innovators in the use of technology as a motivating activity [74], as well as a favourable correlation between technological optimism and perceived usefulness and simplicity of use.

Facilitating condition

The degree to which a person believes that a technical and organisational infrastructure is in place to facilitate the application of a technology is known as an enabling condition [75]. People who are unfamiliar with new technology may find it challenging to use them. However, individuals can readily adopt the technology if they receive enough contextual assistance [76]. Then, the facilitating conditions involve altering objective variables that facilitate the technology's simple use [77]

Technology Acceptance Model

The function of perceived usefulness (PU), defined as "the degree to which a person believes that utilising a certain system will increase performance," is sufficiently supported [54, 55,78,79,80]. The term "degree to which a person believes that utilising a given system would be straightforward" refers to perceived ease of use (PEOU), which is an important predictor of changes in attitudes toward technology use. Perceived ease of use (PEOU) has been defined as "the degree to which an individual believes that he or she will continue to use the system" by Davis [42]. Attitudes towards new system use (ATU) is defined as "an individual's general effective reaction to the use of the system."

Hypothesis:

- H1 Facilitating conditions will be significantly associated with technological optimism.
- H2 Subjective norms will be significantly associated with perceived ease of use.
- H3 Technological Optimism will be significantly associated with attitude towards using.
- H4 Perceived usefulness will be significantly associated with Behavioural intention to use.
- H5 Perceived ease of use is significantly associated with Behavioural intention to use
- H6 Attitude towards use i.s significantly associated with Technology optimism
- H7 Behavioral intention to use is significantly associated with Technology optimism.

3. Research Design:

The research revolves around students' understanding towards technology and how there is a shift in technology towards knowledge gaining systems from normal work to technology advancement using strategy. Factors undertaken to find out the perspective of students towards technology. The sample size, statements are very important to analyse the data in a good manner. The data was evaluated through quantitative technique. Quantitative research methods will be utilised to study the samples and get more clear results. The structured questionnaire was used to collect the data. The information gathered was then analysed through SPSS and AMOS software.

3.1 Target population, sampling and sample size

It's very typical to gather information from various sectors. Due to the time consuming process, a particular area was focused. The questionnaire was distributed among the students to gather information and was kept highly confidential. The sample size was targeted 200 after collecting 200 samples the data was analysed to get the outcome. Due to a structured questionnaire the reliability and validity of the questionnaire was already proved.

3.2 Instrumentation:

The particular set of questions were built on the basis of factors selected, which already has statements with it. It includes which highlights the importance of technology. The questions were listed on the basis of standard format based on items. Likert type scale was used to collect the data. It has four pointers which are strongly disagree, disagree, agree, strongly agree which is also convenient for the respondents to answer.

3.3 Data Collection:

The Quantitative research technique was used. Google form was created to collect the data. It is also a mode to collect the information quickly by sharing the link among the respondents. Due to COVID-19 the inclination towards technology has increased to understand it more deeply this research was conducted. Some responses were not appropriate out of 200, 30 responses were not up to the mark which affects the result. Just 140 samples were carried to evaluate through SPSS.

4. Analysis & Results:

4.1 Descriptive statistics:

The data collected was examined initially. The study was conducted on students from different universities through google from different universities through google form. The study was conducted on male and females both. A particular age group study was conducted. The survey includes the students of 18-23 years of age. Students belong to science and engineering backgrounds. During the survey very few were aware about industry 4.0 when asked . but it's found that students have a positive mindset toward industry 4.0 and would like to learn about it. Through descriptive statistics it is evident from the study that respondents possess to be suitable for research study.

4.2 Inferential Statistics

Normality of Data:

Before doing inferential analysis the condition was to check the normality, validity and reliability of data. The mean and standard deviation of construct measures was done to find the central tendency and dispersion.

Table 1: Descriptive Statistics Descriptive Statistics

STATEMENT	N	Mean statistic	Standard Deviation Statistic	skewness		Kurtosis	
				Statistic	Std.error	Statistic	Std. error
SN 1	217	3.94	.290	-5.279	165	29.047	.329
SN 2	217	3.63	.587	-2.046	165	7.215	.329
TO 1	217	3.85	.426	-3.370	165	13.335	.329
TO 2	217	3.83	.465	-3.349	165	13.618	.329

TO 3	217	3.83	.462	-3.425	165	14.191	.329
FC 1	217	3.83	.441	-3.054	165	10.999	.329
FC 2	217	3.81	.451	-2.601	165	8.311	.329
FC 3	217	3.53	.707	-1.634	165	3.204	.329
PEU 1	217	3.64	.594	-1.543	165	1.990	.329
PEU 2	217	3.68	.567	-1.732	165	2.818	.329
PEU 3	217	3.80	.477	-2.603	165	7.708	.329
PU 1	217	3.66	.610	-2.252	165	7.123	.329
PU 2	217	3.88	.406	-4.272	165	23.033	.329
PU 3	217	3.84	.465	-3.593	165	14.962	.329
AU 1	217	3.82	.444	-2.722	165	9.107	.329
AU 2	217	3.87	.392	-3.517	165	15.826	.329
AU 3	217	3.87	.392	-3.517	165	15.826	.329
BIU 1	217	3.84	.448	-3.487	165	15.246	.329
BIU 2	217	3.83	.430	-2.992	165	11.003	.329
BIU 3	217	3.75	.521	-2.414	165	7.112	.329
BIU 4	217	3.75	.484	-2.018	165	4.924	.329

Table 2: Reliability Statistics

Cronbach's Alpha	No. of Items
.941	21

The reliability of constructs was also determined:

Table 3

CONSTRUCT	NO.OF ITEMS	RELIABILITY	SCALE
Subjective norms	2	.564	Good
Technology optimism	3	.773	Good
Facilitating conditions	3	.730	Good
Perceived ease of use	3	.769	Good
Perceived usefulness	3	.726	Good
Attitude towards using	3	.795	Good
Behavioural intention to use	4	.821	Good

Source: developed for this research

Correlation Matrix

	S N 1	S N 2	T O 1	T O 2	T O 3	F C 1	F C 2	F C 3	P E U 1	P E U 2	P E U 3	P U 1	P U 2	P U 3	A T 1	A T 2	A T 3	BI U 1	BI U 2	BI U 3	B I U 4	
S N 1	1																					
S N 2	.4 94 **	1																				
T O 1	.5 26 **	.3 73 **	1																			
T O 2	.5 75 **	.3 11 **	.6 43 **	1																		
T O 3	.3 05 **	.3 20 **	.4 87 **	.4 72 **	1																	

F C 1	.5 00 **	.3 53 **	.6 57 **	.6 52 **	.5 92 **	1														
F C 2	.2 65 **	.3 59 **	.3 57 **	.4 38 **	.2 46 **	.4 90 **	1													
F C 3	.2 21 **	.3 68 **	.3 81 **	.3 86 **	.4 24 **	.5 33 **	.5 09 **	1												
P E U 1	.1 68 *	.2 90 **	.2 80 **	.3 27 **	.3 86 **	.3 87 **	.4 45 **	.6 33 **	1											
P E U 2	.2 48 **	.2 39 **	.2 81 **	.3 52 **	.4 14 **	.3 96 **	.4 43 **	.5 51 **	.4 61 **	1										
P E U 3	.2 46 **	.1 95 **	.3 99 **	.4 07 **	.3 51 **	.4 78 **	.5 06 **	.5 64 **	.4 90 **	.6 65 **	1									
P U 1	.2 51 **	.3 24 **	.3 96 **	.3 19 **	.4 25 **	.3 76 **	.3 18 **	.5 83 **	.3 88 **	.4 88 **	.4 97 **	1								
P U 2	.3 29 **	.2 53 **	.4 82 **	.4 51 **	.4 82 **	.5 56 **	.5 00 **	.5 02 **	.4 25 **	.4 48 **	.5 39 **	.4 65 **	1							
P U 3	.3 42 **	.3 81 **	.3 97 **	.2 83 **	.4 82 **	.3 92 **	.2 97 **	.4 49 **	.3 46 **	.3 69 **	.3 57 **	.5 48 **	.4 36 **	1						
A T 1	.3 45 **	.3 59 **	.4 91 **	.4 08 **	.4 82 **	.5 05 **	.4 22 **	.5 45 **	.4 29 **	.4 25 **	.3 69 **	.5 39 **	.5 14 **	.6 44 **	1					

A T 2	.4 58 **	.4 29 **	.4 36 **	.4 34 **	.3 38 **	.5 14 **	.5 09 **	.4 22 **	.3 67 **	.4 10 **	.4 74 **	.4 50 **	.5 06 **	.4 44 **	.5 76 **	1					
A T 3	.4 18 **	.4 09 **	.4 36 **	.4 34 **	.4 15 **	.5 41 **	.3 77 **	.4 05 **	.3 47 **	.3 68 **	.4 25 **	.4 70 **	.4 77 **	.4 69 **	.4 96 **	.6 38 **	1				
B I U 1	.4 24 **	.3 71 **	.6 02 **	.6 01 **	.5 19 **	.6 14 **	.4 41 **	.4 15 **	.3 00 **	.3 96 **	.4 75 **	.4 95 **	.5 00 **	.5 01 **	.5 94 **	.6 15 **	.6 68 **	1			
B I U 2	.3 64 **	.3 80 **	.4 21 **	.3 67 **	.3 50 **	.4 64 **	.4 54 **	.3 94 **	.4 33 **	.4 82 **	.5 12 **	.4 21 **	.3 58 **	.3 55 **	.4 20 **	.6 37 **	.5 00 **	.5 09 **	1		
B I U 3	.2 68 **	.3 65 **	.4 18 **	.3 59 **	.4 44 **	.4 24 **	.3 86 **	.3 94 **	.2 89 **	.4 48 **	.4 30 **	.4 93 **	.4 00 **	.3 74 **	.4 01 **	.4 04 **	.5 17 **	.6 41 **	.4 76 **	1	
B I U 4	.2 89 **	.4 09 **	.3 82 **	.3 25 **	.4 57 **	.3 91 **	.4 15 **	.4 24 **	.2 95 **	.4 15 **	.4 63 **	.5 15 **	.4 31 **	.5 26 **	.4 53 **	.3 61 **	.4 35 **	.5 40 **	.4 45 **	.5 98 **	1

Measure:

The scale was developed through construct measure from the literature review. Statements associated with construct measures are as follows:

CONSTRUCT	STATEMENT
Subjective norms	<ul style="list-style-type: none"> • People whose opinions I value encourage me to use new Industry 4.0 technologies. • People who are important to me help me use the new Industry 4.0 technologies.
Technology optimism	<ul style="list-style-type: none"> • The products and services that use the newest technologies are much more convenient. • I prefer to use the most advanced technology available. • Technology makes my work more efficient.

Facilitating conditions	<ul style="list-style-type: none"> I can easily access information on how to use Industry 4.0 technology. Industry 4.0 technology is compatible with other technologies I use (tablet, notebook, smartphone). I can easily get guidance and instruction if I have difficulties in using Industry 4.0 technologies
Perceived ease of use	<ul style="list-style-type: none"> The use of Industry 4.0 technologies is easy for me. The use of Industry 4.0 technologies is understandable and clear to me. It will not be difficult for me to be proficient in the use of Industry 4.0 technologies
Perceived usefulness	<ul style="list-style-type: none"> Industry 4.0 technology can help me to be more efficient. Industry 4.0 technology is useful. The use of Industry 4.0 technologies benefits me
Attitude towards using	<ul style="list-style-type: none"> The use of Industry 4.0 technologies is a good idea. The use of Industry 4.0 technologies is a wise idea. I like to develop my activities using Industry 4.0 technologies
Behavioural intention to use	<ul style="list-style-type: none"> I intend to use Industry 4.0 technologies in the coming months. I will continuously use Industry 4.0 technologies in my activities. In general, I am willing to use Industry 4.0 technologies for the development of my activities. I would recommend others to incorporate Industry 4.0 technologies in their activities.

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