International Journal of Career Development

Volume 5, July 2022

ISSN-2616-6070

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International Journal of Career Development

ISSN- 2616-6070

Volume 5, July 2022

International Journal of Career Development

ISSN- 2616-6070

Volume 5, July 2022

Price: BDT. 200 USD 5

Published By

Xurtials Consultancy Service
House 47, Shah Makdum Avenue, Sector 12
Uttara, Dhaka, Bangladesh
Email: xurtialsinfo@gmail.com

International Journal of Career Development

ISSN- 2616-6070

Yearly Journal
Volume 5, July 2022

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International Journal of Career Development

ISSN- 2616-6070

Volume 5, July 2022

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Investigating Level of 21st Century digital skills acquisitions among technical education teachers/lecturers in Universities in Nigeria

YEKINNI SUNKANMI AFEEZ; KELECHI VIANNEY CHUKWUEMEKA;
TONGSHUWAL JOHN MUSA; OGBUANYA, THERESA CHINYERE

Department of Industrial Technical Education, University of Nigeria, Nsukka

ABSTRACT

The purpose of the study was to examine the levels of 21st-century digital skills Acquisitions among Technical education lecturers in Universities in Nigeria. The study was conducted in two government universities in Enugu state in Nigeria. The study was guided by three research questions and three hypotheses were formulated and tested at 0.05 level of significance. The study adopted descriptive survey research design. The population for this study was 75 technical education lecturers in the two government universities in Enugu State, Nigeria. The entire population was used in the study because the population was of manageable size. The instrument used for data collection was a structured questionnaire with three adapted scales Critical Thinking Digital skill scale (12 items), Creative Digital Skills scale (6 items) and Problem-Solving Digital Skill scale (8 items). The Scale were adapted and subjected to face validation by three experts. The reliability coefficient for Critical Thinking Digital skill scale (12 items), Creative Digital Skills scale (6 items) and Problem-Solving Digital Skill scale using Cronbach alpha were 0.88, 0.76 and 0.80 respectively. Seventy-five copies of the questionnaires were distributed to research participants and retrieved. The data collected were analyzed using mean and standard deviation. Meanwhile, hypotheses were tested using t-test. The study found that technical education lecturers in the Universities in Nigeria possessed high level of critical thinking digital skills. Conversely, the study found that technical education lecturers in the Universities in Nigeria possessed low level of creative digital skills and low level of problem-solving digital skill. It was recommended that government and university administrators should encourage university lecturers to attend workshops conferences and seminars that can improve their digital usage during teaching and learning situation. Experts/resource persons should occasionally be invited by university administrators to train lecturers on usage of digital technology for teaching and learning during theory and practical lessons.

Key Word: Technical Education Lecturers; Critical Thinking Digital skill; Creative Digital Skills; Problem Solving Digital Skill; Gender

INTRODUCTION

Success of technical education teachers/lecturers hanged on their ability to acquire strong foundation of initial teacher education and always see themselves as learners and prepare to learn and adapt their practice throughout their careers, supported and challenged by a range of different teacher education opportunities (Livingston, 2016). Technical education teachers facilitate teaching and learning activities and processes in the classrooms and laboratories/workshop and guide technology students to acquire knowledge, skills, value and attitude that can transform them into a useful member of a society (De Laat, & Lally, 2004; Goodyear et al., 2001; Mazzolini, & Maddison, 2003; McConnell, 2002; Ogbuanya & Oziegbunam, 2012; Ogbuanya & Usoro, 2009; Yekinni, 2015). Technical education teachers are those who possess not only the knowledge to be inculcated in students but also qualified to impact and structure classroom/laboratories and convey goal-related messages or knowledge (Lisa, Gholam, Seyyedeh, Barbara & Marko, 2018; Nnadozie, 2004; Uba-Mbibi, 2016).

The rapid development of digital technologies which was recently compounded by global outbreak of the COVID-19 pandemic have significantly impacted education in recent years and prompted a transition of classroom/workshop activities in schools, colleges and universities from traditional practices to online teaching and learning where government and private school teacher were compelled to use digital technology to deliver lessons (Azubuike, 2021; Bhaumik, 2020; Bogart, 2020; De Miguel, 2006; Pablos, 2007; Ivus, Quan & Snider, 2021; Shodipe. & Ohanu, 2020). This is applicable for all teachers including technical education teachers/lecturers in the universities.

The development of digital skills among teachers is becoming a key element on the agenda of scholars, practitioners and policymakers worldwide for the purpose of developing teacher ability to fully participate in today's increasingly digitized society (Iordachescu, Mariën & Baelden, 2017; Van Deursen & Van Dijk, 2014). This is because no educational system of any country can rise above the standard of her teachers (Federal Republic of Nigeria, 2004; Olakulehin, 2007; Olowookere, 2020). It will be beneficial to educational sector and country at large if teachers can learn how to use digital tools (digital hardware and content software, digital assessments and grading tools) and select appropriate teaching method and pedagogy and applying digital tools to provide even better learning support for their students (Gothart, 2020; Loveless, 2021).

Digital skill is a set of basic instrumental skills and abilities related to the access and management of ICT at the user's basic level which demonstrate knowledge and technical application of them (Conde-Jiménez, 2018). Digital skill is the ability to adequately use technologies, including both computers, different telematics programs and tools that will enable the users to search, access, organize and use information during classroom interaction and in academic work, to adequately respond to different demands of the environment and build knowledge (Gutiérrez, Prendes, Castañeda & Aprendices, 2015; Jiménez-Hernández, González-Calatayud, Torres-Soto, Asunción & Javier Morale. 2020). Digital skill is one of the key tools for lifelong learning that is included in any international educational system and is considered a transversal skill since it allows the acquisition of others skills (European Commission, 2006; European Commission, 2018).

Indisputably, digital skills are pivotal for human development due to the emergence of digital technology, whereas it is widely acknowledged also that 21st century skills are essential for one to be successful in the world of work (Lewin & McNicol, 2015; Van Laar, Van Deursen, Van Dijk & De Haan, 2017). Similarly, scholars upheld that skills needed by 21st century workers including technical education teachers are often labeled as 21st-century skills (Griffin, McGaw, & Care, 2012; Van Laar, Van Deursen, Van Dijk & de Haan, 2020). Partnership for 21st Century, P21, (2008); Binkley et al., (2012) explained that 21st century skills are skills needed in world of work which include learning skills, literacy skills, life skills, ways of thinking, ways of working, tools for working among other thing. These 21st century skills according to experts include creative, critical thinking, problem-solving, communication and collaboration and information skills (Van Laar, Van Deursen, Van Dijk & De Haan, 2017). Correspondingly, National Educational Technology Plan in America agitated that irrespective of field of specialization, 21st century skills such as critical thinking, problem solving, collaboration, and multimedia communication should be woven into their curriculum (American Association of Colleges of Teacher Education and the Partnership for 21st Century Skills, 2010; US Department of Education 2010).

Having known the importance of digital skills and 21st century skills in human development, Van Laar, Van Deursena, Van Dijka and de Haan, (2018); Van Laar, Van Deursen, Van Dijk and De Haan, (2017); Van Laar, Van Deursen, Van Dijk and de Haan (2020) synthesized 21st-century and digital skills together which led to the establishment of comprehensive 21st-century digital skill framework: information digital skills, communication digital skills, collaboration digital skills, creative digital skills, critical thinking digital skills, and problem-solving digital skills. Thus, 21st century digital skills are skill that support the mastery of ICT applications to solve cognitive tasks during teacher and student interaction, skills that support higher-order thinking processes and skills that related to cognitive processes favoring teachers' continuous learning (Van Laar, Van Deursen, Van Dijk & De Haan, 2017). 21st-century teaching professions require teachers who can search for appropriate information, provide reasons for their choices, generate innovative and worthwhile ideas for their fields, and

provide solutions to the problem in a digitalized school environment (Şendağ & Odabaşı, 2009; Yang, 2015; Van Laar, Van Deursen, Van Dijk & de Haan, 2020). Similarly, contemporary economy requires workers such as teachers who have the skills required in the 21st centuries to efficiently use the digital environment to support information searching, critical thinking, creativity, and problem solving (Van Laar, Van Deursen, Van Dijk, & De Haan, 2020).

These skills are considered highly important in educational sector, as teaching job is increasingly knowledge-based and performed in digital environments where teaching and learning is shifting from paper to paperless (Ananiadou & Claro, 2009; Gothart, 2020; Silva, 2009; Voogt & Roblin, 2012; Van Laar, Van Deursen, Van Dijk & de Haan, 2020). However, due to the complexity of the 21st century digital skill, the present study would focus on the assessment of three 21st century digital skills such as creative digital skills, critical thinking digital skills and problem-solving digital skills among technical education University teachers in Nigeria.

Conceptually, thinking critically is a process which enables an individual to make an informed decision about conflicting claims (Ennis, 1991) and present his point of view supported by substantiated arguments (Mulnix, 2012). Critical thinking is essential among university lecturers to access, retrieve and evaluate online data and information needed for teaching and research because internet usually accommodate larger amount of valid and invalid data, disinformation and fake news (Van Laara, Van Deursena, Van Dijka & de Haanb, 2020). Critical thinking digital skills are skills needed to use ICT to make an informed judgements and choices about obtained information and communication using reflective reasoning and sufficient evidence to support the claims (Van Laar, Van Deursen, Van Dijk & de Haan, 2019). Scholars also claimed that critical thinking digital skills includes self-disciplined thinking during which an individual assesses, synthesizes and interprets releVant information that is associated with a situation (Hyytinen, Toom & Postareff, 2018; Van Laara, Van Deursena, Van Dijka & de Haan, 2020). It is crucial that teacher understand source of information, quality of messages presented in the information (Van Laara, Van Deursena, Van Dijka & de Haanb, 2020), rapidly filter incoming online information and communication and extract valuable information (Dede, 2010). One needs to be carefully and deliberately determined, through informative evidences, whether to accept, reject, or suspend judgment about a claim (Moore & Parker, 2007).

The growth and diversification of online participatory platforms has led to significant proliferation of creative activity in the digital context (Literat & Glaveanu, 2018). Digital environments allow workers such as professional teachers to assess various concepts, experiences, ideas to produce and share content such as weblogging and photo and video sharing in new ways using Web 2.0 technology (Brake, 2014; Van Laara, Van Deursena, Van Dijka & de Haanb, 2020). But, creative digital skill is defined as the use of information technology to encourage the creative process by looking at tasks from a new perspective or by forming new combinations of existing ideas (Chung, Lee, & Choi, 2015; Loveless, 2007). Creative digital skill is a skill needed by teachers to use ICT to generate new or previously unknown ideas, or treat familiar ideas in a new way and transform such ideas into a product, service or process that is recognized as novel within a particular domain (Greene, 2002; Van Laar, Van Deursen, Van Dijk & de Haan, 2020). Moreover, technological change is driven by individual creativity and in turn provides new contexts and tools for creative output (Henriksen et al., 2016). Problem solving digital skill is another important 21st century digital skills needed by technical education teacher.

Internet is an information repository, the effective use of online information is crucial to generate valid solutions for the problem (Laxman, 2010). Problem solving digital skills are skills needed to use ICT to cognitively identify, process and understand a problem situation in combination with the active use of knowledge to find a solution to a problem (Kauffman, Ge, Xie & Chen, 2008; Van Laar, Van Deursen, Van Dijk & de Haan, 2019). Problem-solving digital skills are defined as the ability of technical education lecturers to recognize digital needs and resources, make viable decisions on most appropriate digital tools according to the purpose or need, solve teaching and learning conceptual problems through digital means and innovatively use technologies to solve teaching and learning technical problems, update own and other's competence for the purpose of educational development (Ferrari, 2013; Iordache, Mariën & Baelden, 2017). Teachers need online problem-solving skills to

formulate and symbolize the problem, find multiple solutions, solve unfamiliar problems faced by students in educational sectors, and transfer knowledge to new situations (Barak, 2018; Çevik, 2015; Van Laar, Van Deursen, Van Dijk & de Haan, 2020). Problem-solving skills help individuals and teams in educational sectors to acquire and apply knowledge that is needed to solve complex problems in education (Mainert, Niepel, Murphy & Greiff, 2018). Successfully solving complex problems involves actively engaging in a process of making sense of the knowledge domain in question by considering multiple perspectives of the problem (Slof, Erkens, Kirschner, Jaspers & Janssen, 2010).

Numerous studies claimed that teacher lack confidence and lack adequate competences to successfully work with ICTs from both technological and pedagogical perspective (Banlankast & Blamire, 2007; Hew & Brush, 2007; Mueller, Wood, Willoughby, Ross & Specht, 2008; Ramboll Management, 2006). Similarly, studies shown that despite the increasing number of computers, internets and other releVant ICT tools in Nigerian schools and universities, some technical and vocational education lecturers in Nigerian tertiary institutions are reluctant in adopting new instructional digital technology during teaching and learning due to poor ICT orientation, training and poor ICT skills (Ololube 2011; Yoloye 2015; Olelewe & Agomuo 2016; Olelewe & Okwor, 2017; Olelewe, Orji, Osinem & Rose-Keziah, 2019).

Meanwhile, evidences hold that demographic factors have been historically contributing to the varying level of digital skills possessed by human being including the technical education teachers which include gender, age, and branch of knowledge among others (Jiménez-Hernández, González-Calatayud, Torres-Soto, Asunción & Morale, 2020). Specifically, Torres-Coronas and Vidal-Blasco (2015) found differences in ICT skills related to gender in three of the seven variables studied, with higher scores for women. Two studies conducted in Chilean universities with teachers indicated that there are differences in digital competence among teachers, with men scoring higher than women (Riquelme, 2019; Solís & Jara, 2019). Meanwhile, the studies by Falcó (2017); García, Rebollo and García, (2016) did not find differences in gender relating to the digital competence of teachers. In another study with teachers, López, Pozo, Fuentes and Romero (2019) found differences between genders in the communication and collaboration variables (with women scoring higher than men), and content creation and security (with men scoring the highest). Lack of unification in the findings of scholars regarding gender differences on digital skill ability level of teachers call for further empirical investigation which this study aimed to solve.

Evidence holds that digital skills possessed by teachers will determine the levels of implementation of digital technologies in educational contexts (Conde-Jiménez, 2018). Meanwhile, teaching staff is the key player in strengthening and fostering the new digital environment in classroom/workshops and by extension in schools, hence, teachers require an ever broader and more sophisticated set of 21st century digital skills than before (Demeshkant, 2020). As a result, various legislative measures have been implemented establishing the need to include ICT competencies in the curriculum of teacher training as an essential learning tool (Fernández-Cruz & Fernández-Díaz, 2016). UNESCO ICT Competency Standards for Teachers project provided a guide for teachers aiming at adVancing their teaching practices in all areas of their career work, combining ICT competencies with innovations in teaching, the curriculum and application of appropriate pedagogy to ensure that teachers use ICT skill and resources to improve their teaching, cooperate with colleagues and ultimately to become innovative leaders within their institutions (Fernández-Cruz & Fernández-Díaz, 2016; UNESCO, 2008; UNESCO, 2011). Specifically, in Nigeria, Alozie **(**2021**)** reported that eight hundred and forty public school teachers from the three senatorial zones of Imo state have been trained and engaged in the digital teaching programme. Similarly, Olowookere (2020) stated that all teachers of grade level 08-13 in public secondary schools in Lagos State were given free online digital literacy training addressing the digital inadequacies of public-school teachers through a collaborative effort of the Lagos State government, Microsoft and ATB Techsoft Solutions Limited.

Although ICTs are pervasive at work, not all employees have the skills to take adVantage in terms of the richness of activities and the variety of learning opportunities ICTs offer (Van Laar, Van Deursena, Van Dijka & de Haanb, 2019). Evidence claimed that even when people have equal access to computers and the internet, they

may not have similar level of skills to engage in a wide variety of uses (Van Deursen & Van Dijk, 2008). Explanation of different usage of the internet and the level of digital skills possessed appears to be one of the most important factors affecting educational institutions which has a strong independent weight according to contemporary digital divide research (Mossberger, Tolbert & Stansbury 2003; Van Dijk, 2005; Van Deursen & Van Dijk, 2008). Meanwhile, the assessment of skills needed for the 21st century through scientific enquiry is limited in Nigeria and Africa as a whole (Van Laar, Van Deursen, Van Dijk, & De Haan, 2020; Voogt & Roblin, 2012). However, measuring the level of employees' 21st-century digital skills would benefit educational organizations characterized by rapid technological changes and complex knowledge (Kamprath & Mietzner, 2015; Van Laara, Van Deursena, Van Dijka and de Haan, 2018). The purpose of the study was to examine the levels of 21st-century digital skills Acquisitions among Technical education lecturers in Universities in Nigeria. Specifically, this study investigated level of 21st century creative digital skills, critical thinking digital skills and problem-solving digital skills among university lecturers in Nigeria. Specifically, the study would answer and test the following research questions and hypotheses at 0.05 level of significance.

Research Questions

The study would answer the following research questions

1. What is the level of critical-thinking digital skills among university lecturers in Nigeria?
2. What is the level of creative digital skills among university lecturers and instructors in Nigeria?
3. What is the level of problem-solving digital skills among university lecturers in Nigeria?

Hypotheses

The study would test the following hypotheses at 0.05 level of significance.

1. Gender has no significant influence on critical-thinking digital skills among university lecturers
2. Gender has no significant influence on creative digital skills among university lecturers
3. Gender has no significant influence on problem solving digital skills among university lecturers

METHODOLOGY

The study adopted descriptive survey research design. Descriptive surveys research design is a design use to collect detailed and factual information that describes an existing phenomenon- their form, actions, changes over time and similarities with other phenomena- from all or a chosen number of the population of the concerned universe (Nganzi, 2014; Gall, Gall & Borg, 2003). Descriptive survey research design was adopted in this study because information regarding level of 21st century digital skills of technical education lecturers was collected using questionnaire. The study was conducted in two government universities – one university of science and technology and one conventional university- in Enugu state Nigeria. The population for this study was 75 technical education lecturers in the two universities. The entire population was used in the study because the population was of manageable size. The structured questionnaire which contains demographic profile (gender) and three (3) adapted 21st century digital skill scales: Critical Thinking Digital skill scale (12 items), Creative Digital Skills scale (6 items) and Problem-Solving Digital Skill scale (8 items) were used to collect data from research respondents. The scales were adapted from 21st century digital scales that was developed by Van Laar, Van Deursena, Van Dijka and de Haan, in 2018. Thus, each scale items were reworded to suit the purpose of the current study. The pool of 26 items were subjected to expert judgment. The items were subjected to face validation by three experts in the department of computer and robotic education, University of Nigeria. The comments made were used to improve the instrument used for data collection in this study. The internal consistency of the three scales were trial tested among eleven technical education university lecturers in a neighbouring state using Cronbach alpha statistical tools yielded 0.88 for Critical Thinking Digital skill scale, 0.76 for Creative Digital Skills scale and 0.80 for Problem Solving Digital Skill scale. All the three scales were scored using 5-point response options: Very Highly Capable = 5, Highly Capable = 4, Moderately Capable =3, Slightly Capable = 2 and Not Capable = 1. The 75 copies of questionnaire where distributed and retrieved

through personal delivery by researchers only. The data obtained were analyzed using mean and standard deviation via SPSS version 23. Meanwhile, three hypotheses formulated were tested using t-test at 0.05 level of significance to guide the study. The mean decision for all scales was 3.00. Thus, items on critical thinking digital skill scales, creative digital skills scale and problem-solving digital skill scales were considered low when the mean value of each of the item and cluster mean of the scales were rated below 3.0 ($\bar{X}$<3.0). and high when the mean value of each the item and cluster mean of the scales were rated 3.0 or above ($\bar{X}$≥3.0).

RESULT

Research Question One: What is the level of Critical Thinking Digital Skill among Technical Education Lecturers in Universities in Nigeria?

Table 1: Descriptive Statistics of the level of Critical Thinking Digital Skills among Technical Education Lecturers

S/N	Critical Thinking Digital Skill (N=75)	x̄	S.D.
1	I have capability via internet to give substantiated arguments or reasoning	2.90	.74
2	I have capability via internet to give proof or examples of arguments my give	2.93	.70
3	I have capability via internet to give a justification for my point of view	3.32	.77
4	I have capability via internet to be able to put the discussion into a new perspective	2.68	1.00
5	I have capability via internet to ask questions to understand other people's viewpoint	3.43	.79
6	I have capability via internet to consider various arguments to formulate my own point of view	2.79	.76
7	I have capability via internet to connect viewpoints to give a new turn to the discussion	3.01	.99
8	I have capability via internet to suggest new related points	2.83	.79
9	I have capability via internet to filter the most important points from discussions	2.83	1.18
10	I have capability via internet to generate new input from a discussion	3.09	.96
11	I have capability via internet to open for ideas that challenge some of my held belief	3.37	1.17
12	I have capability to use the internet to justify my choices	3.13	.70
	Total Mean / Average Mean	3.03	.88

Note: x̄= Mean; SD=Standard Deviation

Data in Table 1 showed the overall mean score of 3.03±.88 indicated that technical education lecturers in the Universities in Nigeria possessed high level of critical thinking digital skill. This is because the overall mean score of the technical education lecturers stood above the average mean decision (3.0). Indication in Table 1 showed that item 3, item 5, item 7, item 10, item 11 and item 12 had high mean scores ranged between 3.01±.99, and 3.43±.79 which inferred that technical education lecturers in the Universities in Nigeria possessed high level of critical thinking digital skill to engage in any academic activities related to this area of digital skills. This is because the mean response range of these items stood above average mean decision (3.0). Meanwhile, item 1, item 2, item 4, item 6, item 8 and item 9 had low mean scores ranged between 2.68±1.00 and 2.93±.70 which implied that technical education lecturers in the Universities in Nigeria possessed little level of critical thinking digital skill to engage in any academic activities related to collaborative digital skill. This is because the mean response range of these items fell below average mean decision (3.0).

Hypothesis One: Gender has no significant influence on critical-thinking digital skills among university lecturers

Table 2: **t-test summary of the level of Critical Thinking Digital Skills between male and female Technical Education Lecturers in Nigerian**

T	df	Sig. (2-tailed)	Mean Difference	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
-2.789	70	.007	-6.12500	-6.12500	-10.50544	-1.74456
-4.209	59.599	.000	-6.12500	-6.12500	-9.03606	-3.21394

The independent samples t-test on Table 2 was conducted to compare the level of critical thinking digital skill between male and female technical education lecturers in universities in Nigeria. There was a significant difference in the mean scores of levels of Critical Thinking Digital Skills between male and female lecturers in universities in Nigeria t (59.599) = -4.209, p=0.00 (two tailed). The magnitude of the mean difference in the mean= -6.125 which is high.

Research Question Two: What is the level of Creative Digital Skills among Technical Education Lecturers in Universities in Nigeria?

Table 3: Descriptive Statistics of the level of Creative Digital Skills Possessed by Technical Education Lecturers

S/N	Creative Digital Skills (N=75)	$\bar{x}$	S.D
1	I have capability to give a creative turn to existing processes using the internet	2.56	.89
2	I have capability to use the internet to generate innovative ideas for my field	3.16	1.23
3	I have capability to show originality in my work using the internet	2.41	1.01
4	I have capability to use the internet to execute my academic tasks creatively	2.80	1.09
5	I have capability to follow trends on the internet to generate original ideas	2.60	1.09
6	I have capability to use the internet to evaluate the usability of my ideas	2.68	1.04
	Total Mean / Average Mean	2.70	1.06

Note: $\bar{x}$= Mean; SD=Standard Deviation

Data in Table 3 showed the overall mean score of 2.70±1.06 indicated that technical education lecturers in the Universities in Nigeria possessed low level of Creative Digital Skills. This is because the overall mean response of the technical education lecturers fell below average mean decision (3.0). Indication in Table 3 showed that apart from item 3 and with high mean score of 3.16±1.23, item 1 to item 6 had low mean scores ranging between 2.41±1.01 and 2.80±1.09. This is because the overall mean response of the technical education lecturers fell below 3.0 average mean decision. This implied that technical education lecturers in the Universities in Nigeria have little ability to engage in any academic activities related to creative digital skills.

Hypothesis Two: Gender has no significant influence on creative digital skills among university lecturers

Table 4: t-test summary of the level of Creative Digital Skills between male and female Technical Education Lecturers in Nigerian

T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
-3.143	70	.002	-4.77679	1.51991	-7.80814	-1.74543
-4.189	42.977	.000	-4.77679	1.14040	-7.07665	-2.47692

The independent samples t-test analysis on Table 4 was conducted to compare the level of Creative digital skill between male and female technical education lecturers in universities in Nigeria. There was a significant difference in the mean scores of levels of Creative digital skill between male and female lecturers in universities in Nigeria t (42.977) = -4.189, p=0.00 (two tailed). The magnitude of the mean difference in the mean= -4.77679 which is high.

Research Question Three: What is the level of Problem-Solving Digital Skill among Technical Education Lecturers in Universities in Nigeria?

Table 5: Descriptive Statistics of the level of Problem-Solving Skills Possessed by Technical Education Lecturers

S/N	Problem Solving Digital Skill (N=75)	$\bar{x}$	S.D
1	I have capability via internet to find the best way to solve the problem	3.32	.87
2	I have capability to solve the problem using the internet	2.96	1.44
3	I have capability to come up with solutions to the problem via the internet	2.68	1.08
4	I have capability via internet to find ways to solve problems	3.21	1.12
5	I have capability to confront a problem that I am sure I can solve using the internet	2.57	1.10
6	I have capability to make a decision using the internet that makes me feel happy afterwards	3.20	1.00
7	I have capability to find the solution via the internet even though initially no solution is immediately apparent	2.99	1.43
8	I have capability, via the internet, to match the actual outcome I achieved with what I expected	2.64	1.22
	Total Mean / Average Mean	2.95	1.16

Note: $\bar{x}$= Mean; SD=Standard Deviation

Data in Table 5 showed the overall mean score of 2.95±1.16 indicated that technical education lecturers in the Universities in Nigeria possessed low level of Problem-Solving Digital Skills. This is because the overall mean response of the technical education lecturers fell below average mean decision (3.0). Indication in Table 5 showed that apart from item 1, item 4 and item 6 with high mean score of 3.32±.87, 3.21±1.12 and 3.20±1.00 respectively, item 2, item 3, item 5, item 7 and item 8 had low mean scores ranging between 2.57±1.10 and 2.99±1.43. This is because the item mean responses of the technical education lecturers fell below average mean decision (3.0). This implied that technical education lecturers in the Universities in Nigeria have low ability to engage in any academic activities related to Problem Solving digital skills.

Hypothesis Three: Gender has no significant influence on problem solving digital skills among university lecturers

Table 6: t-**test summary of the level of Problem-Solving Digital Skills between male and female Technical Education Lecturers in Nigeria**

t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
-3.056	70	.003	-6.71429	2.19719	-11.09645	-2.33212
-3.325	27.698	.002	-6.71429	2.01937	-10.85281	-2.57577

The independent samples t-test analysis on Table 6 was conducted to compare the level of Problem-Solving digital skill between male and female technical education lecturers in universities in Nigeria. There was a significant difference in the mean scores of levels of problem-solving digital skill between male and female lecturers in universities in Nigeria t (27.698) = -3.325, p=0.002 (two tailed). The magnitude of the mean difference in the mean= -6.71429 which is high.

DISCUSSION OF FINDINGS

This study established that technical education lecturers in the Universities in Nigeria possessed low level of creative digital skills. Some scholar agreed with our findings specifically, results of a study on the place of creativity in the national curricula of 27 European Union states and the United Kingdom revealed that there is a need for much greater coherence between general aims for education and the representation of creativity in curriculum texts (Wyse & Ferrari, 2015; Yalcinalp, & Avci, 2019). In support of our finding, scholars claimed that despite the growing awareness of the releVance of creativity and of its benefits for individuals, the development of creativity is not a priority in education, and the challenges associated with enhancing students' creativity in higher education have been widely acknowledged (Alt & Raichel, 2020; Egan, Maguire, Christophers, & Rooney, 2017).

The finding of this study upheld that technical education lecturers in the Universities in Nigeria possessed high level of critical thinking digital skill. This is in line with the finding of some previous scholars. Specifically, Van Laar, Van Deursen, Van Dijk & De Haan (2020) discovered that participants often provided arguments for multiple perspectives supported with proof or examples and most participants were able to draw a conclusion though were not able to combine and translate the arguments into support for a final conclusion.

The finding of this study affirmed that technical education lecturers in the Universities in Nigeria possessed low level of problem-solving digital skills. Studies reviewed shared similar result with the finding of present study. Specifically, the study which was carried out by Van Laar, Van Deursen, Van Dijk & De Haan (2020) claimed relatively small percentage of the participants were able to provide more than one solution accompanied by an explanation. Similarly, in the study conducted in Spain by González, Román and Prendes, (2018) reported a lower level of problem-solving digital skills among teacher.

Finding of this study established that there were no significant differences in the mean scores of male and female technical education lecturers on level of problem-solving digital skills, critical thinking digital skill and creative digital skills. These findings were validated by finding of some past experts. Specifically, findings of Cabanillas, Luengo and Torres (2020); Almerich, Suárez, Orellana, Belloch, Bo and Gastaldo, (2005) showed that male teachers had a greater capacity to gather information by technological means than female teachers. Similarly, findings of two studies conducted in Chilean universities with teachers, show that there are differences in digital competence between male and female teachers, with men scoring higher than women (Riquelme, 2019; Solís & Jara, 2019).

CONCLUSION

This study investigated level of 21st century digital skills among Technical education university lecturers in Nigeria. However, the study established that technical education lecturers in the Universities in Nigeria are characterized with low level of creative digital skills, high level of critical thinking digital skills and low level of problem-solving. The implication of low level of 21st century digital skills in university lecturers to education is there will be low quality of lesson delivery both in the classroom and laboratory which by extension may lead to production of graduates that cannot compete with their colleagues from other nations of the world.

RECOMMENDATION

Base on the findings of this study, the following recommendation is presumed

1. Government and university administrators should be encouraging, through sponsorship, university lecturers to attend workshops, conferences and seminars that can improve their digital usage during teaching and learning situation.
2. Experts/resource persons should occasionally be invited by university administrators to schools to train lecturers on usage of digital technology for teaching and learning of theory and practical lessons
3. Teacher education curriculum should be improved by curriculum planners and developers to be able to produce teachers who can efficiently use digital technology to deliver lessons both in classroom and workshop.

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The Idea of Business Incubators and Youth Entrepreneurship: A Study on Online Business Enterprises in Dhaka City

Albina Amin

Ph.D. Research Fellow, Centre of Higher Studies and Research, Faculty of Business Studies; Bangladesh University of Professionals, Mirpur Cantonment, Dhaka; Bangladesh

ABSTRACT

Business incubators guide starting enterprises through their growth process and as such constitute a strong instrument to promote innovation in the case of youth entrepreneurship. This article focus on the sketch of a youth entrepreneur's business incubator landscape in Dhaka city. Youth entrepreneurship is an inevitable part of the economic development of any country in this world. It is observed that youth entrepreneurs are in a less favorable position in Bangladesh. Youth entrepreneurship is the process where a young person runs a small or medium business with different factors of production, undertakes risks, and provides employment to others. It plays a major role in the economic growth in Dhaka city of Bangladesh. This paper aims to focus on the online business of youth entrepreneurs by using a purposeful sampling method where interviews were carried out one month time period. It utilizes a qualitative methodology by conducting interviewing forty-four men and women youth entrepreneurs of the online business enterprise located in Dhaka city. This paper is evaluating the idea of business incubators for youth entrepreneurs of online business enterprises in Dhaka city. Moreover, the empirical results offer interesting insights into the self-understanding of the management of Bangladeshi business incubators.

Key Words
Business Incubators, Young Entrepreneurs, Youth Entrepreneurship, Online Business Enterprises, Dhaka, Bangladesh

1. INTRODUCTION

Unemployment of educated youth has, for quite some time, become a growing concern all over the world. Youth empowerment depends on taking part in various development activities. The problem is particularly acute in developing countries (Awogbenle and Chijioke, 2010; World Bank, 2005). According to ILO (2004), ILO (2005), and ILO publication (2007), reducing youth unemployment could contribute to the addition of GDP, societies may gain direct economic benefits, violence, and crime, as well as vulnerability and exclusion, might be reduced. In the Asian context, this difficulty has been studied from different standpoints by different entities and groups. Therefore, the involvement of young people in various entrepreneurial activities has empowered them in social, economic, and cultural arenas (Amin, 2019; Amin 2020; Amin 2021). Youth growth and empowerment are vital stages in life for building the human capital that allows young people to avoid poverty and lead better, and possibly have a more satisfying life. Human capital formed in youth is thus an important determinant of long-term growth that a nation can spend. Hence, making sure that youths are well organized for their future is enormously significant to the course of poverty alleviation and progress (World Bank, 2005; Awogbenle and Chijioke, 2010; Uddin et al., 2015; Amin, 2021). According to Chigunta (2002), self-employment, taking youth into the economic mainstream, addressing socio-psychological problems and crime coming out of joblessness, developing new expertise, encouraging creativity and flexibility, rejuvenating the local community by supplying valuable goods and services, and making young entrepreneurs receptive to new economic openings. Government and private sector interventions in Bangladesh have generally accelerated earnings generating activities of young people both in the urban and rural areas with entrepreneurship development (Amin, 2019). However, the present study also serves as a directory of initiatives, programs, and instruments to benefit the practitioners and policymakers in the field of youth employment, youth entrepreneurship, and the development

of business enterprises via business incubators. This paper aims to investigate, evaluate and analyze the present scenario of business incubators and youth entrepreneurship of online business enterprises in Dhaka city. Business incubators are now being considered or set up in many areas of Bangladesh. There is, however, concern about the performance of these business incubators in creating and developing new business ideas. This paper examines the idea for business incubators of youth entrepreneurs in Dhaka city of Bangladesh.

The business incubator is an organization that helps startup companies and individual entrepreneurs to develop their businesses by providing a full-scale range of services starting with management training and office space and ending with venture capital financing. The National Business Incubation Association (NBIA) defines business incubators as a catalyst tool for either regional or national economic development. NBIA categorizes its members' incubators by the following five incubator types: academic institutions; non-profit development corporations; for-profit property development ventures; venture capital firms, and a combination of the above (Merrifield, 1987). Business incubators differ from research and technology parks in their dedication to startup and early-stage companies. Business incubation programs are often sponsored by private companies or municipal entities and public institutions, such as colleges and universities. Their goal is to help create and grow young businesses by providing them with the necessary support and financial and technical services. There are approximately 900 business incubators nationwide, according to the National Business Incubation Association. Business incubators assist emerging ventures by providing support services and assistance in developing their business (Al-Mubarak et al., 2010). It is investigated that business incubators are into four categories: Business Innovation Centres (BICs), University Business Incubators (UBIs), Independent Private Incubators (IPIs), and Corporate Private Incubators (CPIs) (Grimaldi and Grandia, 2005). Incubators provide numerous benefits to owners of startup businesses. Their office and manufacturing space are offered at below-market rates, and their staff supplies advice and much-needed expertise in developing business and marketing plans as well as helping to fund fledgling businesses. Companies typically spend an average of two years in a business incubator, during which time they often share telephone, secretarial office, and production equipment expenses with other startup companies, to reduce everyone's overhead and operational costs (Grimaldi and Grandia, 2005).

Youth entrepreneurs are creating job for themselves and other young people. Reducing youth unemployment could contribute to the addition of GDP, societies may gain direct economic benefits, violence, and crime, as well as vulnerability and exclusion, might be reduced (ILO publication, 2004; ILO publication, 2007; Amin, 2017; Amin 2019). Bangladesh is a densely populated country with a youth population of 55 percent. Every year nearly two million individuals are entering into the labor force while only 1 million get employed in domestic and overseas job markets (BBS, 2014 and BBS, 2017). There is a big knowledge gap between youth entrepreneurship and the idea of business incubators in Bangladesh. Business incubators are designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services that could include physical space, capital, coaching, common services, and networking connections. Many organizations are working as business incubators. Many youth entrepreneurs do not have proper knowledge about business incubators. This research paper attempted to identify business incubators in Dhaka city by interviewing 44 youth entrepreneurs of online business enterprises in Dhaka city.

2. RESEARCH QUESTION

2.1. Research Questions

What are business incubators? Which business incubators are playing an important role for online business enterprises of youth entrepreneurs in Dhaka city?

3. RESEARCH OBJECTIVES

The objective of this research is to provide knowledge about the current scenario of business incubators of youth entrepreneurs of online enterprises in Dhaka city of Bangladesh.

General Objective

To highlight the idea of business incubators and youth entrepreneurship of online business enterprises in Dhaka city Specific Objective To analyze the knowledge about business incubators of online business entrepreneurs in Dhaka city

4. LITERATURE REVIEW

Entrepreneurship is widely considered an essential ingredient in the modern global economic improvement recipe (Kirschoff and Phillips, 1989; Keeble et al., 1990; Audretsch and Fritsch, 1992; Amin, 2017). Historically, it is proven that with each economic downturn in both developed, and developing countries, it is the entrepreneurial drive and persistence that brings us blessing (Kuratko, 2006; Amin, 2017). Youth entrepreneurship also promotes innovation and resilience as it encourages young people to find new solutions, ideas, and ways of doing things through experience-based learning (OECD, 2001; White and Kenyon, 2000). This is especially important given the ongoing globalization practice. It is increasingly accepted that youth entrepreneurs can present alternatives to the organization of work, the transfer of technology, and a new perspective on the market (White and Kenyon, 2000). Accurate impact assessment and evaluation of introduced programs and initiatives are also important to improve entrepreneurial conditions for young people (Greene and Storey, 2005). Positive attitudes can be promoted by raising awareness and familiarizing young people with entrepreneurship as a valuable career path (Uddin et al. 2015; Amin 2017).

Youth can be defined as the transition period of an individual from childhood to adulthood. Countries vary considerably in their definition of youth and childhood. The UN considers individuals under the age group of 15 – 24 as youths. In Uganda, for example, youth is from 12 to 30 years, while in Nigeria, it is between 18 and 35 years (ILO publication, 2005; ILO publication, 2007). There are also differences in age limits among some Asian countries, which are as Bangladesh (18-35); India (15-34); Pakistan (18-30); Srilanka (15-29); Malaysia (15-29); Nepal (15-40); Singapore (15-30); Hongkong (10-24) etc. (Sutradhar, 2005). One-third of the total population of Bangladesh is between the ages of 18 and 35 years old (Ali, Roy, and Bhattacharjee, 2006). Youth unemployment is an enormous waste of human resources that could rather contribute to the socio-economic progress of the country. Boosting youth entrepreneurship may bring several effects on the economy of a country increasing consumer demand and national revenue (Momen, 2005). In a study on the SME sector of Bangladesh, Miah (2006) found that the major constraints for entrepreneurs are lack of adequate investment and lack of modern technology. Haque and Quader (2014) investigated the use of technology as an empowerment tool by entrepreneurs operating online bakery stores on Facebook in Dhaka city. Young people's attitude toward starting their own business is also influenced by the image, reputation, and credibility of entrepreneurs in civil society (Uddin et al., 2015; Street et al., 2003; Morris et al., 1996).

Haque (2013) identified some obstacles to maintaining online clothing stores and strategies adopted by entrepreneurs to attract consumers. Youth entrepreneurship has attracted growing attention in recent years in sunlit of concrete evidence of its significance for financial progress and social improvement in Dhaka city via online business (Amin, 2019; Amin, 2020). The internet users of Bangladesh spend a staggering amount of time on Facebook (Amin, 2018a; Amin, 2018b; Amin, 2019). According to the Q2 report of 2017, Dhaka is ranked second in the world in terms of having the most active Facebook users (Global Digital Statshot, 2017). Facebook is very popular in Dhaka. Many people of Dhaka city do not know about using the internet, but they are using Facebook (Amin, 2018b). According to the findings of Amin (2019), it is also observed that Facebook is very popular for internet users in Dhaka city (table-1).

Table 1: Internet Usage Behavior Analysis of Youth Entrepreneurs in Dhaka city

Technology (Internet)	Frequency	Percentages
Facebook	34	77
Instagram	5	11
Websites	3	7
Others (Mobile Apps)	2	5
Total	44	100

Source: Amin (2019)

5. RESEARCH GAP

There are countless published books, academic journals, and thesis papers for youth entrepreneurs in both Bangladesh and international perspectives. Regarding this Amin (2020) and Saleh (2020) have published articles on the outbreak of the COVID-19 situation in Bangladesh. This research paper edifies the fact that the researcher emphasized the narrow section about the new idea of business incubators and youth entrepreneurship in business enterprises in Dhaka city. Previous research works (Sutradhar, 2005; Sarasvathy 2008; Amin, 2018a; Amin 2018b; Amin, 2019; Amin, 2020) illustrated how youth entrepreneurship is playing a significant role in increasing national income. As the significant economic contribution of youth entrepreneurs is identified (Cowling and William, 2003; Liguori and Winkler, 2020), this study will help to ensure the continuous development of youth entrepreneurs via the new idea of business incubators in their business achievement.

6. METHODOLOGY

This study is based on a qualitative and empirical research approach. According to Suddaby et al. (2015), Ramadani et al. (2015), Amin (2018b), and Amin (2020), qualitative research is better for an in-depth research perspective into understanding the complex psycho-social issues in case of the idea of business incubators of youth entrepreneurship. In the qualitative research part of this study, the sample size is 44 based on the previous work of Schoof (2006), Uddin et al. (2015), Amin (2019), and Amin (2020). The purposeful sampling method is used by interviewing forty-four men and women youth entrepreneurs of the online business enterprise located in Dhaka city. The interviews were carried out one month (10th May 2022 to 8th June 2022) period. The interview questions will be made by using some concepts from the previous work of Amin (2019) and Dzisi (2008).

7. EMPIRICAL EVIDENCE FROM CASES OF BANGLADESHI INCUBATORS

(Findings through conducting face-to-face interviews)

According to Grimaldi and Grandia, 2005, there are four types of business Incubators. According to the respondents of this study, information is presented below table-2:-

Table 2: Categorized Bangladeshi Incubators

Business Incubators (Grimaldi and Grandia, 2005)	According to Findings from Respondents (Total sample size 44)
Business Innovation Centres (BICs)	Social Business Design Lab
	Bangladesh Youth Leadership Center
University Business Incubators (UBIs)	Business Incubation Centre (BIC) of BRAC University
	Daffodil Business Incubator (DBI)
Independent Private Incubators (IPIs)	Xurtials Career Development Center (Business Consulting and Services)
	Online Tech Academy (OTA)
Corporate Private Incubators (CPIs)	Banglalink IT Incubator

Source: Own survey (10th May 2022- 8th June 2022)

There are seven of the best business incubators are identified by 44 respondents in this study (table-4). Among them, the Business Incubation Centre (BIC) of BRAC University, and Bangladesh Youth Leadership Center are very popular for undergraduate, graduate students, and youth entrepreneurs in Dhaka city. It is observed that many youth entrepreneurs and undergraduate, graduate students of Dhaka city do not have proper knowledge about business incubators, but they are well acknowledged by the Business Incubation Centre (BIC) of BRAC University and Bangladesh Youth Leadership Center. This view is also supported by 44 respondents of this research paper presented in table-3.

Table 3: Awareness about business incubators of youth entrepreneurs in Dhaka city

		Respondents (Total sample size 44)			
S.no	Business Incubators	Aware		Not aware	
		No.	(%)	No.	(%)
1	Banglalink IT Incubator	22	50%	22	50%
2	Social Business Design Lab	22	50%	22	50%
3	Bangladesh Youth Leadership Center	44	100%	0	0%
4	Private Owned Business Incubators	11	10%	33	90%
5	Business Incubation Centre (BIC) of BRAC University	44	100%	0	0%
6	Daffodil Business Incubator (DBI)	11	10%	33	90%

Source: Own survey (10th May 2022- 8th June 2022)

The Business Incubation Centre (BIC) of BRAC University provides many professional business incubation services for fresh graduate students, new business ventures and startups, and to operate successfully promoting nationwide entrepreneurship development. SkillHub, AATOSH, Parashona Online, and many more are an example of a successful projects of this center. Bangladesh Youth Leadership Center is working great as the government of Bangladesh founding startup Bangladesh that catapults its young generation of entrepreneurs to the next level who can accelerate the pace of innovation and lead the economy to a self-sustained path to progression. Truck Lagbe, Moner Bondhu, cWork, and many more are an example of a successful projects of this center.

Table 4: The Best Business Incubators in Dhaka city of Bangladesh

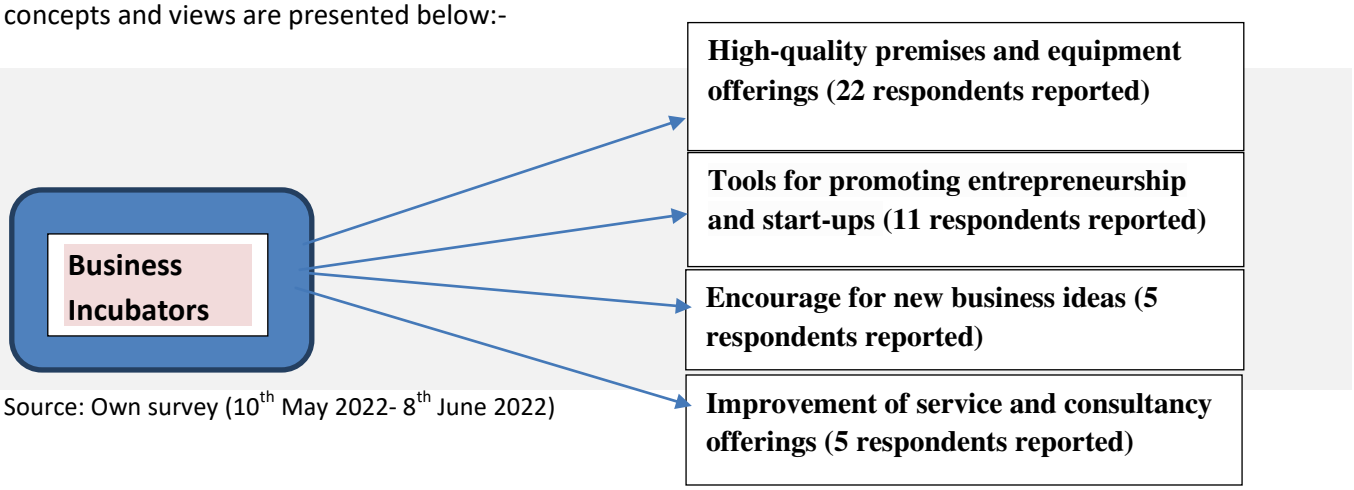
Business Incubators	Respondents	Percentage (%)	Work Process or Examples of Good Business Project
Banglalink IT Incubator	9	20%	-Joint initiative of ICT Ministry, BHTPA, and Banglalink
Social Business Design Lab	9	20%	-Offers daylong program for the people who are interested in social business, try to develop new ideas
Bangladesh Youth Leadership Center	11	25%	-Try to develop leadership skills, For example, Truck Lagbe, Moner Bondhu, cWork and many more
Private Owned Business Incubators	2	5%	- Improvement of service and consultancy offerings For example, Xurtials Career Development Center, Online Tech Academy and many more. -Preparing entrepreneurs for business platform in Bangladesh. Also offer some paid and free courses in academy's business websites
Business Incubation Centre (BIC) of BRAC University	11	25%	-Most successful business incubator of Bangladesh For example, matured startups are SkillHub, AATOSH, Parashona Online and many more
Daffodil Business Incubator (DBI)	2	5%	- Ensuring business support services, and proving every scope for clustering and networking - Offers new companies the opportunity to growth
Total	44	100%	

Source: Own survey (10th May 2022- 8th June 2022)

Almost 20% of respondents of this study reported that Banglalink IT Incubator and Social Business Design Lab are working as the best business incubators in Dhaka city. It is also reported that Banglalink IT Incubator is a joint initiative of ICT (Information and Communication Technology) Ministry, BHTPA, and Banglalink. This incubator supports youth entrepreneurs by providing them with mentorship, a free workplace, and partnerships with larger companies, and networking opportunities. On the other hand, it is reported that Social Business Design Lab is offered a daylong program for people who are interested in social business. This lab is structured in a way to train, brainstorm and involve its participants in social business and as well as try to develop new ideas. In the private sector, many individuals also work as business incubators for youth entrepreneurs for example Xurtials Career Development Center, Online Tech Academy (OTA), and many more. This type of private academy tries to train entrepreneurs for the business platform in Dhaka, Bangladesh. They also offer some paid and free courses on their business websites and service centers. Approximately 5% of respondents reported and supported private business incubators in Dhaka city.

7.1. The idea of the business Incubators for youth entrepreneurs in Dhaka city

According to Amin (2019), today's youths are better educated, tech-savvy, dynamic, visionary, ambitious, sensible, and smarter than the previous generations. The youth has the potential to create a superior Bangladesh in economic and social aspects alongside building a knowledge-based society (Amin, 2019; Amin, 2020). There 44 respondents were sharing their ideas about business incubators in Dhaka city of Bangladesh. All concepts and views are presented below:-



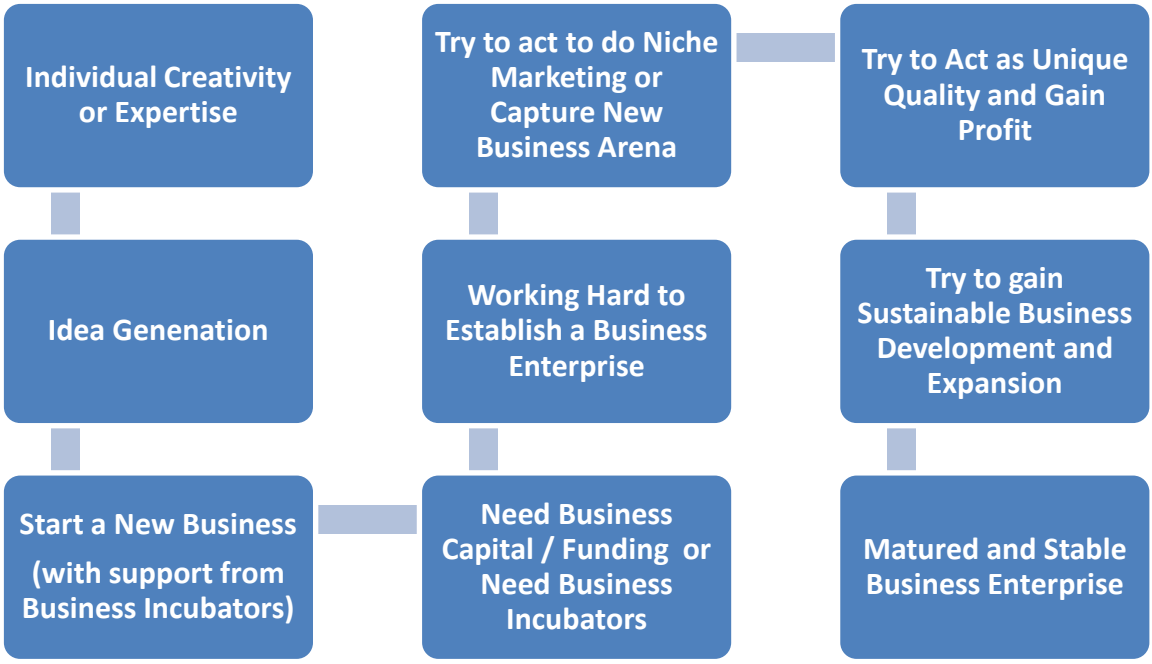
Source: Own survey (10th May 2022- 8th June 2022)

Figure 1: The Ideas of the business incubators of youth entrepreneurs in Dhaka city of Bangladesh

Almost 50% of the respondents reported that for them the main idea about business incubators is "high-quality premises, and equipment offerings". Nearly 11 respondents reported that "tools for promoting entrepreneurship and start-ups" are the main idea about business incubators for them. The leftover 10 respondents reported that "encourage for new business ideas" and "improvement of service and consultancy offerings" respectively are the main idea of business incubators for them.

7.2. The workflow of business incubators of youth entrepreneurs of online business enterprises in Dhaka city of Bangladesh

Not all business incubators are alike, however, so if an entrepreneur has a specialized idea for a business, try to find the incubator that best suits his or her requirements. If someone is interested in finding an incubator in Bangladesh, visit the website of many business incubators in Bangladesh. For example, Bangladesh Youth Leadership Center, Daffodil Business Incubator (DBI), Banglalink IT Incubator, and many more. If an incubation program seems interesting to someone then he or she must try to be prepared to submit a fleshed-out business plan. The plan will be reviewed by a screening committee to determine whether or not meet the criteria for admission. Incubators carefully screen potential businesses because their space, equipment, and finances are limited, and they want to be sure they're choosing to nurture businesses with the best possible chance for success. Business incubators guide starting enterprises through their growth process and as such constitute a strong instrument to promote innovation and entrepreneurship (Aerts et al., 2007). Almost 50% of respondents reported that Bangladesh is an agrarian country with a tropical climate perfectly suitable for the production of a variety of crops, fruits and vegetables, livestock and fisheries, and a promising agro and food processing industry. Youth agripreneurship development became an essential part of human resource development. It makes the young people financially independent and enhances their self-esteem of them.



Source: Own survey (10th May 2022- 8th June 2022)

Figure 2: The workflow of business incubators in Dhaka city of Bangladesh

The workflow of business incubators is very important for many start-up organizations in Dhaka city of Bangladesh. The success of youth entrepreneurship is closely related to the effectiveness of this workflow. Without funding or capital, many creative ideas for business are not working in a good shape.

7.3. Summary of all findings

There are seven of the best business incubators identified by 44 respondents in this study Business Incubation Centre (BIC) of BRAC University and Bangladesh Youth Leadership Center are very popular for undergraduate, graduate students, and youth entrepreneurs of online business enterprises in Dhaka city. Almost 20% of respondents of this study reported that Banglalink IT Incubator and Social Business Design Lab are working as the best business incubators in Dhaka city. There are four ideas about the business incubators presented in figure-1. The workflow of business incubators is presented in figure-2.

8. CONCLUSION

Since the 21st century, the growth of youth entrepreneurs are developing day by day all over the world (Amin, 2017). This study contributed to the idea of the social, economic, and regulatory situation as a precondition for the growth of youth entrepreneurs in Dhaka city. Business incubators are an important element that youth entrepreneurs can concentrate on to increase their business growth in Dhaka city. Dhaka is a growing hub for youth entrepreneurs. With the increase in tech and creative talent and a great source of customers, more promising startups are being founded and developed in Dhaka. A huge factor in the growth and success of Dhaka's startup community is the host of incubators, accelerators, and other founder-focused programs that support youth entrepreneurs. There are some top startup accelerators in Dhaka for youth entrepreneurs to explore. This research paper tries to explore all ideas about business incubators in Dhaka city of Bangladesh. Based on the findings of the research, it has the potential to create some locally relevant commendations and reveals unknown information. The information will recognize that a variety of participants play a critical role in facilitating the creation of many networks – including policymakers, private sectors, and new potential youth entrepreneurs. To sum up, this study has tried to some extent to fill-up the research gap by using qualitative and empirical research approaches.

9. SUGGESTIONS FOR FURTHER STUDY

It is proved that business incubators are an important element that youth entrepreneurs can concentrate on to increase their business development. It is observed that there are many profits and non-profit business incubators in Bangladesh. Further investigations are needed to identify the business strategy of business incubators in the case of youth entrepreneurship in Bangladesh.

10. ACKNOWLEDGEMENT

The author acknowledges the support and encouragement received by the Bangladesh University of Professionals, Dhaka for using its facilities in the preparation of this manuscript.

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"An Empirical Study on the Profitability Determinants of listed Private Commercial Banks in Bangladesh".

Farhana Yasmin Liza

Assistant Professor (Finance) Department of Business Administration,
Shanto-Mariam University of Creative Technology, Dhaka, Bangladesh

ABSTRACT:

This paper is an attempt to study the financial stability of commercial banks in Bangladesh. The analysis covers a balanced panel data of commercial banks, for the period of 2010-to 2019. Banks play a crucial role in bringing stability and economic development through their expected contribution to proper financial resource mobilization across the economy. Despite the importance, there is little focus in recent literature that provided empirical evidence on how the global financial crisis affects the bank stability and efficiency in Bangladesh. Thus, this paper aims to examine the effect of the global financial crisis and other factors on the efficiency of Bangladesh commercial banks. This paper focuses on firm-specific factors, size, and operational efficiency, which significantly contribute to stability, compared to industry-specific and macroeconomic determinants of stability. The study finds that crisis along with bank size, capital adequacy ratio, asset quality, return on asset, return on equity and real interest rate have a significant effect on bank stability in Bangladesh. In order to keep the sound financial development of Bangladesh, banks operating in the Bangladesh banking sector have to consider all the potential technologies which could improve their profit efficiency levels, since the main motive of banks is to maximize shareholders' value or wealth through profit maximization.

Keywords

Bank Efficiency; Commercial Banks; Financial Crisis; bank size; capital adequacy ratio; asset quality; Bangladesh

INTRODUCTION:

A bank is taken into consideration as one of the most influential monetary institutions within the economic system. Banks have been the major supply of credit scores for numerous styles of missions starting from tens of millions of people and governmental work to small household works. The bank-provided test has been widely in use for creating a price to the payer from the client in any business. Banking changed added to society from a completely long time ago when banks had been the merchants of the arena who gave grain loans to farmers and buyers. With the passing of time, the thought and the work process of banks have been changed and nonetheless converted consistently to get the most benefit for the bankers and clients. Banks represent one of the most essential businesses of monetary intermediaries. As financial intermediaries, banks play an important role in the functioning of most economies; they channel price range from savers to spenders. Studies have tried to perceive the foremost determinants of financial institution profitability. Today's Banks are taking into consideration to be in pressure to carry out to fulfill the objectives of their inventory holders, worker, depositors, and borrowing customers while retaining government regulators glad that the bank's guidelines, loans, and investments are sound. For evaluating a bank's overall performance there is some step that needs to be followed. The first step in studying a bank's monetary statement is to decide what goal the bank is or has to be searching for. Banks' overall performance needs to be directed closer to the goal the financial institution is in search of. For evaluating a bank's overall performance there is some step that needs to be followed. The first step in studying a bank's monetary statement is to decide what goal the bank is or has to be searching for. Banks' overall performance needs to be directed closer to the goal the financial institution is in search of.

LITERATURE REVIEW:

Bangladesh has been diagnosed as the first united states of America in Southeast Asia wherein Islamic banking has been brought with the status quo of the Islamic financial institution Bangladesh Limited on March 30, 1983 (Kabir et al,2012). Bangladesh is taken into consideration as one of the numerous least affected countries by the latest international financial disaster. In Bangladesh, the Islamic banking gadget may be one of the reasons in the back of it (Kheriri et al,2015). Bank profitability determinants consist of Macro-Economic Control as variables.

Macro-economic control variables are the final organization of financial institution profitability determinants. Macroeconomic elements are actual GDP increase price, Inflation charge, Long time period interest price, and Business Cycle. Athanasoglou et al. (2008) located that inflation and commercial enterprise cycle have a nice impact on profitability. However, Heffernan & Fu (2008), and Masood and Ashraf (2012) study that inflation isn't considerable to bank earnings. Moreover, Francis (2013) reviews the GDP. An increase in price and inflation rate have an effect on financial institutions' profit negatively. Nevertheless, Masood & Muhammed (2012) find that a GDP boom impacts bank income if ROE is considered as an income proxy. Recently, Perera et al. (2013) has made an attempt to pick out the impact of management of corruption and rule of law on the profitability of South Asian Countries. As regulation and order now not best affects foreign funding of those nations but additionally home corporations suffer as properly if the authorities fail to put in force the contracts due to corruption. They determined that slack criminal systems in those international locations positively have an effect on profitability as banks in all likelihood require high-chance rates on their loan contracts.

In research on determinants of financial institution profitability, structured variables typically go back to belongings (ROA) and/or go back to equity (ROE). Independent variables have blanketed capital, operational performance, hazard, length, ownership, and marketplace electricity (e.G. Staikouras and Wood, 2004; Athanasoglou et al., 2008; Garcia–Herrero et al., 2009); the impact of the latest worldwide monetary disaster has now also been analyzed (Dietrich and Wanzenried, 2011). Interestingly, as the following discussion indicates, with appreciation to some of these determinants, findings continue to be inconclusive, having crucial implications for policy improvement and motion across international locations and areas of the world. Take size, as an instance, added inside the framework to account for present economies or diseconomies of scale in the marketplace. Smirlock (1985) and Pasiouras and Kosmidou (2007) show that size may also undoubtedly and considerably impact profitability, explained possibly through the probably better diploma of product and mortgage diversification of larger banks as compared to smaller, together with blessings emanating from economies of scale. Berger et al. (1987), then again, show that length may also most effectively barely reduce costs and that very large banks may additionally truly suffer from scale inefficiencies and Micco et al. (2007) find a nice but insignificant courting among length and profitability. Athanasoglou et al., 2008 find that length isn't always essential for the sales era.

During durations of accelerated uncertainty, portfolio diversification and/or liquid holdings are normally more advantageous. Abreu and Mendes (2002) locate that credit risk, measured with the aid of the loan to property ratio, definitely prompted the profitability of banks in Portugal, Spain, France, and Germany. On the alternative hand, Bourke (1989) and Molyneux and Thornton (1992), among others, find a negative and extensive courting between the 2. Possibly, banks exposed to riskier loans have also collected higher volumes of unpaid loans, which might adversely have an effect on earnings (Dietrich and Wanzenried, 2011). Similarly, conserving better tiers of liquid assets might also reduce profitability (Bourke, 1989; Molyneux and Thornton, 1992) Fadzlan, 2009 at the same time as investigating Chinese banking sector profitability from 2000 to 2007 using a linear regression version concluded that bank length, credit score chance, and capital adequacy have a fantastic impact on Chinese bank's profitability, while overhead fees, and liquidity, and have a terrible impact.

Objective of the study:

- To evaluate the contribution of bank specific factors on listed private commercial bank's (operating in Bangladesh) profitability
- To understand the contribution of industry structure specific factor on listed private commercial bank's (operating in Bangladesh) profitability
- To highlight the contribution of macro-economy specific factors on listed private commercial bank's (operating in Bangladesh) profitability

METHODOLOGY:

Model specification

The researcher is going to use panel data based regression in order to capture the time variance and cross-sectional variance among the research variables. It will be a short panel even though, it will be a balanced panel as well. It is expected that the researcher will be able to collect all the necessary data (Bryman and Bell, 2011). Hausman testwill be conducted to ascertain whether the researcher will go for a fixed effects model or a random effects model. The generalized panel regression will look like the following equation.

$$ROA_{it} = \propto + \beta_j X^j_{i,t} + \beta_m X^m_t + \beta_n X^n_t + v_{i,t}$$

So, it is established through the panel regression that accounting profitability of commercial banks is dependent on three factors – bank specific factors, macro-economic factors and industry structure. Bank specific factors are as follows: business size, capital adequacy, asset quality, cost management and activity mix. Term structure, GDP growth rate and inflation rate refer to the macro-economic determinants and finally Hirschman-Herfindahl index refers to the industry structure based determinant of commercial bank's profitability. In the above mentioned regression, notation ROA_{it} refers to the return on asset of a particular commercial bank relevant for a particular year. $X^j_{ict}, X^m_{,t}$, X^n_t refers to the vectors of commercial bank specific, macro-economy specific and industry specific determinants. $V_{i,t}$ refers to the error part of the regression that covers for the effect due to the unobserved factors and the idiosyncratic errors as well (Bryman and Bell, 2011). The dynamic version of the model is as follows:

$$ROA_{it} = \propto + \beta_j X^j_{i,t} + \beta_m X^m_t + \beta_n X^n_t + v_{i,t} + \beta ROA_{i,t-1}$$

In the above mentioned model $ROA_{i,t-1}$refers to the one-period lagged dependent variable and βrefers to the speed of mean reversion whereby the adjustment co-efficient can move in between 0 to 1. Since, accounting profit often does not fit well with economic profit angle, the researcher will also explore the economic profit dynamics of commercial banking in Bangladesh. The generalized panel regression for understanding economic profit dynamics will look like the following equation.

$$RE_{it} = \propto + \beta_j X^j_{it} + \beta_m X^m_{,t} + \beta_n X^n_t + v_{i,t}$$

So, it is established through the panel regression that economic profitability of a commercial bank is dependent on three factors – bank specific factors, macro-economic factors and industry factors. In the above-mentioned regression, notation RE_{it} refers to the residual income of a particular commercial bank and relevant for a particular year. $X^j_{ic,t}, X^m_{,t}$, X^n_t refers to the vectors of commercial bank specific, macro-economy specific and industry specific determinants. $v_{i,t}$ refers to the error part of the regression that covers for the effect due to the unobserved factors and the idiosyncratic errors as well.The dynamic version of the model is as follows:

$$RE_{it} = \propto + \beta_j X^j_{it} + \beta_m X^m_t + \beta_n X^n_t + v_{i,t} + \beta RE_{i,t-1}$$

In the above mentioned model $RE_{i,t-1}$refers to the one-period lagged dependent variable and γ refers to the speed of mean reversion whereby the adjustment co-efficient can move in between 0 to 1.The researcher will

also try to understand the market perception of commercial bank's profitability through CAPE (cyclicality adjusted price-earning ratio). The generalized panel regression for understanding CAPE dynamics will look like the following equation.

$$CAPE_{it} = \propto + \beta_j X^j_{it} + \beta_m X^m_{,t} + \beta_n X^n_{t} + v_{i,t}$$

Variables

In this study, a total of 13 variables have been sued. Amongst these, 3 are dependent variables and 10 are independent variables. In the following section, the definition of the dependent variables and the independent variables are given:

Dependent Variables

1. **Return on Assets:** Return on Asset shows the return earned by a company on every Dollar of Asset owned by the company. It is a profitability measure of a Company. It has been used in many of the previous studies of profitability determinants of Banks in overseas. Alper and Anber(2011) used this variable as a dependent variable in the context of Turkey and Masud and Haq (2016) used this varable as a dependent variable in the context of Bangladesh.

2. **Economic Profit:** Economic profit or Residual income is the amount of profit after deducting the opportunity cost from the net income of the company. It is basically calculating the amount of profit a company earns after deducting the required rate of return of the equity holders.

3. **Cyclicality adjusted Price earnings Ratio:** This is basically a Price Earning ratio in which the EPS that has been used is the 3-year moving average of the EPS of a Bank. This is done to neutralize the effects of the cyclicality in earnings.

Independent Variables

1. Business size:

Dependent Variable		Return on Asset	Net income/ Total Assets	ROA
		Economic Profit	Net $income_n$-($Equity_{(n-1)}$-Cost of $Equity_{(n-1)}$)	EP
		Cyclicality Adjusted Price Earnings Ratio	Price of the nth year/(average EPS of nth,(n-1)st and (n-2)nd year).	CAPE
Independent Variable	Bank Specific Variable	Business Size	LN (Total asset of the respective bank)	BS
		Capital Adequacy	(Tier 1 Capital+Tier 2 Capital)/Total Risk weighted Assets	CA
		Activity Mix	Total Non- operating income/Total Income	AM
		Asset Quality	Substandard, Doubtful and Bad loan/Total Loan	AQ
		Market Structure	HH Index based on 5 big firms	MS

So, it is established through the panel regression that market-determined price-earning multiple of a commercial bank is dependent on three factors – bank specific factors, macro-economic factors and industry

factors. In the above-mentioned regression, notation RE_{it} refers to the residual income of a particular commercial bank and relevant for a particular year. $X^{j}_{ic,t}$,$X^{m}_{,t}$, X^{n}_{t} refers to the vectors of commercial bank specific, macro-economy specific and industry specific determinants. $v_{i,t}$ refers to the error part of the regression that covers for the effect due to the unobserved factors and the idiosyncratic errors as well.The dynamic version of the model is as follows:

$$CAPE_{it} = \propto + \beta_j X^{j}_{it} + \beta_m X^{m}_{t} + \beta_n X^{n}_{t} + v_{i,t} + \beta CAPE_{i,t-1}$$

In the above mentioned model $CAPE_{i,t-1}$refers to the one-period lagged dependent variable and γ refers to the speed of mean reversion whereby the adjustment co-efficient can move in between 0 to 1. Now the researcher will delineate the operational definition of the independent and dependent variable.

Descriptive Statistics of the Dependent and Independent Variables

Descriptive Statistics of the Dependent Variables

Variable	Observations	Mean	Standard Deviation	Minimum Value	Maximum Value
Return on Assets	135	.0117059	.0344096	-.2294165	.3400099
Economic Profit	135	0.000473	0.000111	-0.000010	0.000424
CAPE	135	1.252416	1.144956	-2.987218	3.606282

Table 10: Descriptive Statistics of Dependent Variables

Trends of Profitability ratio by types of banks

Return on equity (ROE) (Percent)

Banks types	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
SCB	26.2	18.4	19.7	-11.87	10.93	-13.46	-1.47	-6.02	3.45	-29.61
DFIs	-171.7	-3.2	-0.9	-1.06	-5.81	-5.97	-5.79	-13.88	-3.07	-13.47
PCBs	21	20.9	15.7	10.17	9.76	10.26	10.75	11.09	12.01	10.98
FCBs	22.4	17	16.6	17.29	16.93	17.67	14.59	13.08	11.31	12.42
Total	21.7	21	17	8.2	11.10	8.09	10.51	9.42	10.60	3.86

The trends of profitability ratio of different banks have been shown in above chart. Here Return on equity (ROE) represent bank's profitability and performance.

Descriptive Statistics of the Independent Variables

Variable	Observations	Mean	Standard Deviation	Minimum Value	Maximum Value
Business Size	135	25.15929	.9300186	20.71192	26.67105
Capital Adequacy	135	.1231977	.3025325	-1.156695	3.335079
Activity Mix	135	.6162228	.2067649	.0998878	1.263676
Asset Quality	135	.2562157	3.089884	0	53.43211
Market Structure	135	.0226711	.0024928	.0197929	.0275932
Cost Management	135	21.40212	.9642702	18.98191	25.83761
Net Interest Margin	135	.026873	.0422514	-.0564523	.4663736
Term structure of Interest rate	135	.0097522	.0028966	.0036	.0135
Inflation rate	135	-.0106529	.1734175	-.4549431	.3290698
Macro-	135	.0944228	.0218582	.0227273	.1207207

- As we can see from the regression results, The model is significant. This means, Independent variables have a significant impact on the Dependent variable Return on Asset. If we want to take into account the impact of individual variables on Return on Assets, Capital Adequacy, Activity mix and Net Interest Margin have a significant impact on return on Asset. If There is an Increase of 1 unit of the Capital Adequacy ratio, their will be a -.0242358 unit change in return on Asset. If There is an Increase of 1 unit of the Activity Mix ratio, their will be a .0222767 unit change in return on Asset. If There is an Increase of 1 unit of the Net Interest Margin ratio, their will be a .6510495 unit change in return on Asset

Fixed Effect Regression for ROA

Independent Variables	Estimated coefficients	Std. error	t Statistics	P>|t|
Intercept	.0370351	.054934	0.67	0.501
Business Size	-.0060239	.0029074	-2.07	0.039*
Capital Adequacy	-.0268462	.0035949	-7.47	0.000*
Activity Mix	.014543	.0071628	2.03	0.043*
Asset Quality	-.0001751	.0003127	-0.56	0.576
Market Structure	.1786062	.4438106	0.40	0.688
Cost Management	.0043649	.0023109	1.89	0.060*
Net Interest Margin	.6109462	.031805	19.21	0.000 *
Term Structure of Interest Rate	-.1820961	.4281671	-0.43	0.671
Macro-economic growth rate	.0892601	.0686289	1.30	0.195
Inflation rate	-.007701	.0069215	-1.11	0.267
	R^2=0.5704 Prob > F = 0.0000 F Statistic=78.25			

- As we can see from the regression results, The model is significant. This means, The Independent variables have an impact on the Dependent variable Return on Asset. If we want to take into account the impact of individual variables on Return on Assets, Business Size, Capital Adequacy, Activity mix, Cost Management and Net Interest Margin have a significant impact on Return on Asset. If There is an Increase of 1 unit of the Business size, their will be a -.0060239 unit change in return on Asset. If There is an increase of 1 unit of the Capital Adequacy ratio, their will be a -.0268462 unit change in Return on Asset. If There is an increase of 1 unit of the Activity mix, their will be a .014543 unit change in return on Asset. If There is an increase of 1 unit of the Cost Management, their will be a .0043649 unit change in return on Asset. If There is an increase of 1 unit of the Net Interest Margin, their will be a .6109462 unit change in return on Asset.

Correlation Table

	BS	CA	AM	AQ	NIM	MS	CM	TSOIR	Inflation	Growth Rate
BS	1.0000									
CA	0.0994	1.0000								
AM	-0.4182	0.0805	1.0000							
AQ	-0.0703	0.0024	0.0323	1.0000						
NIM	-0.3006	0.2030	-0.1457	-0.0049	1.0000					
MS	-0.4178	-0.0049	0.2873	0.1123	0.0268	1.0000				
CM	0.4222	0.1394	-0.3664	-0.1021	0.0015	-0.3603	1.0000			
TSOIR	-0.0956	0.0122	0.1315	0.0123	0.0252	0.2331	-0.0739	1.0000		
Inflation	-0.1231	0.0128	0.0837	0.0034	0.0685	0.0405	-0.0879	0.3199	1.0000	
Growth Rate	0.0342	-0.0019	0.1045	0.0052	-0.0217	0.1145	0.0450	0.3411	0.3945	1.0000

CONCLUSIONS:

Banks bear costs for their liabilities and earn income from their assets. Thus, profitability of them is directly affected with the management of their assets and liabilities. In addition, there are other macroeconomic and market concentrated factors that affect the profit making capacity of the financial institutions. The main purpose of this study is to bring out the impacts of Banks' profitability based on secondary data. Results indicated the profitability of sampled banks has a significant positive relationship with asset quality, capital adequacy in the study period. However, findings do not support other alternative hypotheses, as the relationships are found insignificant. In this paper we confirm some findings in earlier research, for instance a positive relationship between capitalization and profitability, and a negative relationship between reserves and profitability. Other important determinants of bank margins and profitability, such as ownership, corporate taxation, financial structure and the legal and institutional setting have not been considered in the literature We assume that further research option is available here to focus the validity of the hypothesis considering more time series data. The findings of the study have implications for bank management, bank regulators and policy makers in Bangladesh.

There should be optimum asset and liability portfolio mix to overcome the problems of mismanagement in the banking sector of Bangladesh.

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Impact of Communications on Business Management

Juhaina Zareen

Digital Marketing Manager, REACH

ABSTRACT:

Communication, as a management function is a process of creating, communicating, and interpreting ideas, facts, opinions, and feelings about work performance, organizational effectiveness, and efficiency as well as goals attainment in the organization. A manager must be an effective communicator and no organization can succeed or progress, building up a reputation without effective communication skills. The poor communication system may result in mismanagement and bad business results. This paper aims to show that the success of any business lies in effective communication and that effective communication is essential for the survival and progress of a business concern. It also points out that communication skills need to be developed on an ongoing basis and especially in a turbulent business environment.

Key Words: Communication, manager, organization, business environment, communication system model

INTRODUCTION:

Communication is the act of sending a message through different media; it can be verbal or nonverbal, formal or non-formal so long as it transmits a thought provoking an idea, gesture, action, etc. Good communication is considered a learned skill. Most people are born with physical ability to talk, but we must learn to speak well and communicate effectively. Speaking, listening and our ability to understand verbal and nonverbal meanings are skills we develop in various ways. We learn basic communication skills by observing other people and modelling our behaviors based on what we see. It is however important here to point out that information is of little use until it is communicated to the person who is to receive it or who has the need for it. Communication therefore is the process of transmitting, disseminating or passing information from one person to the other or from one place to the other. In other words, communication is the process of creating, transmitting and interpreting ideas, facts, opinions and feelings. It is a process that is essentially a sharing one, a mutual interchange between two or more persons. In addition, communication is the exchange of information between managers.

THEORETICAL BACKGROUND:

Early studies focused on opinion or attitude change in the context of such variables as the credibility of the information source, fear, organization of arguments, the role of group membership in resisting or accepting communication, and personality differences. Since the 1960s, however, research has emphasized cognitive processing of information leading to persuasion. On the other side, recent investigations have shown that business and management communication becomes a crucial and strategic partner in order for corporations to achieve their goals (Markaki, Damianios Chadjipantelis, 2013).

Communication researchers have increasingly sought to connect and to integrate effects across levels of analysis, from the "micro" to the macro. The social cognitive theory of Albert Bandura (1986) and the trans theoretical model of Jams Prochaska et al. (1994), for example, recognize that an individuals' behavior is formed

in the context of the larger community and social environment. Therefore planned interventions must include efforts to change the larger environment as well. Similarly, persuasion studies have focused on the chain of individual-level communication processes leading to behavior change. Some researchers tried to explain the shifting nature of organizations as they are formed and transformed through the relational interactions among mem- bers, external audiences, and cultural meaning systems (Cooren, Taylor, Van Every, 2006).

THE IMPORTANCE OF QUALITY COMMUNICATION WITHIN ORGANISATION CHANNELS

Communication is an essential part of any company. Moreover, good communication skills are incredibly important in the business world. In some researches we can find many ways to manage and deal with difficult communication. The point of communication is having a conversation with another person, and this conversation must be two-way in order for communication to successfully occur. This central idea is to remember what is communicated especially during times of conflict.

Some scientists believe that in order for successful communication to occur, two things must be kept in mind; the first is that everyone has his/her own ideas and perceptions and these must be respected. The second is the idea of closure; that every conversation needs closure. Tucker states that you need to keep in mind that each person comes to the conversation table with his or her own perception of what happened, what exists, or how to do something.

It does not help the situation to negate a person‘s viewpoint without facts and concrete examples of behavior or acts that were considered inappropriate, unprofessional or unacceptable. However, it is important to communicate until you get ―closure‖ on the conversation. Closure means you and the other person have discussed all of the issues and, while the person may not agree, he or she has listened to you in a non-threatening, non-defensive environment and clearly heard what you had to say

This concept is incredibly important to remember in the corporate environment. Companies are made up of various types of employees and managers, each with their own personalities and viewpoints. Therefore, it is important to remember to respect everyone‘s opinions no matter how different they may be. Also, the notion of closure in a conversation is essential because leaving a conversation up in the air or even with hostility can often result in damaging or breaking business relationships. Good communication is necessary in order for businesses to run successfully and smoothly.

While an organization is separated from its environment, it has to have some ways of communicating with the environment. Anything which is external to a system belong to the environment and not to the system itself. This is true of all types of organizations. The environment exerts considerable influence on the behavior of an organization at the same time, the organization can do little or nothing to control the behavior of the environment.

An organization need to be kept well informed of all these, and this is possible through the process of communication. Internally, all participants in an organization have to interact, strategies have to be maintained, policies have to be formulated, strategies have to be developed, and programs have to be planned, executed and evaluated. Also employees have to be remunerated and motivated, decisions have to be made, etc. In fact without an effective and efficient means of communications, there will be no management function. Everything will just have to be incrementally disjoined in disorderly and disarray manner.

This implies that information is a very vital part of management. Management decisions and policies need be communicated to those that will use them in order to achieve the policy objectives. This is to be done through effective means of communication within and outside the organization. Decision, irrespective of its purpose, is useless unless it is communicated. If the Sales Director instance, of some industries for decides to lower the price of product X and institute an interactive campaign, nothing will happen unless the advertising departments is informed and even the other department concerned with preparation of new packaging to lower the price.

At the heart of all communications cycle outside the organization are the messages which should include:

Developing and positioning experts
Targeting and connecting with traditional media
Distributing messages
Monitoring and measuring the effectiveness of efforts

METHODS OF IMPLEMENTING COMMUNICATION

There are many methods or techniques of communication depending on the nature, scope and level of technology and those of application of information in the organization. For instance, in small scale business organizations like a sole proprietorship (Sole trader or one-man business), small scale dry-cleaning firms, etc., most communications whether between the business owner and the workers or between him and his clients are done on face-to-face personal contacts.

An organization can choose from variety of channels available for effective communication of business or management information across the lines within the system on the basis of its own peculiarities. Also, the nature of linkages between organizational systems will vary, depending on the requirements of each subsystem. Consequently, typical means or channels of communication from among which an organization may choose may be categorized as in the following subsections.

Electronic Communication.

Instant messaging, email and social media can streamline teamwork and improve communication in the workplace. An advantage of using electronic media at work is that it allows employees to share files and collaborate in real time without being physically present in the office.

Skype, Asana and other digital communication platforms allow for remote work and can reduce travel expenses. These technologies have contributed to the popularity of virtual teams, internet-based projects and online training. When used right, they can lead to increased performance and productivity.

Electronic Communication Drives Productivity

American employees spend at least three hours per day checking their work email, according to the 2019 Adobe Email Usage Study.. This communication channel makes it easier to share information online and collaborate with a team. Skype, Zoom, Google Hangouts and other videoconferencing tools allow employees to brainstorm ideas in real time. Instant messaging tools, on the other hand, enable quick feedback.

Electronic communication, whether it's in the form of an email or video call, can improve work patterns and drive productivity. Employees no longer need to spend long hours in meetings or travel miles to share ideas, fill out paperwork or make decisions. Thanks to digital technology, most tasks can be performed quickly and more efficiently.

In a 2018-2019 survey by Workfront, 63 percent of “baby boomers” and 78 percent of “millennials” (internet slang for individuals born in the timeframes of 1946-64 and 1981-96) said that instant messaging is an effective means of communication between teams and business units. About 44 percent of respondents expressed the need for more tools to manage work. Collaboration platforms, video conferencing software and other digital tools facilitate communication, leading to greater productivity.

If a manager wants their team to achieve peak performance, they must provide them with these tools. As Forbes points out, young people prefer instant messaging, social media and other communication channels rather than email. Slack, for example, allows teams to collaborate remotely and set up individual channels for each project or client. It also integrates instant messaging, voice and video calls, file sharing and other features.

Ensure Business Continuity

About 85 percent of American companies allow or require remote work, states a 2018 study by Owl Labs Globally, approximately 16 percent of employees work for fully remote organizations that allow them to perform their duties from home or wherever they choose. Furthermore, telecommuting increased by over 20 percent between 2017 and 2018, according to FlexJobs. The same source reports that telecommuting improves work-life balance, productivity and employee morale.

The COVID-19 outbreak has increased the need for remote communication in the workplace and beyond. In February 2020, over 60 percent of employers with a bachelor's degree or higher had jobs that could be performed remotely, according to Pew Research Center. These professionals are less likely to become unemployed than those holding jobs where remote work isn't possible.

Brookings reports that up to half of American employees are now working from home – that's more than double compared to 2017-2018. Similar trends were observed following the September 11 attacks and the earthquakes that have affected Christchurch, New Zealand between 2010 and 2012. Experts believe that telecommuting will remain a popular practice after the pandemic.

Cut Business Costs

Small business owners may lack the resources needed to employ a big team and rent an office building. Digital communication technology can significantly reduce their expenses. For example, they may outsource work or create virtual teams and communicate with their staff via email, instant messaging, live chat or online platforms.

With this approach, business owners can cut costs and expand their services. Employees, on the other hand, have the chance to work with culturally diverse teams and develop a global mindset. Plus, they will get more done in less time. Digital communication platforms often have built-in analytics, automation and data management tools, allowing for greater productivity and efficiency across the team.

This new way of doing things wouldn't be possible without digital communication tools. Electronic communication allows businesses to work with experts from all over the world. This may result in lower overhead costs, increased job satisfaction and improved collaboration. Teams across the globe can connect in real time, solve problems and complete projects without being stuck in the office.

However, there are also disadvantages of electronic communications in business that must be considered. Some of them may contribute to demotivation among workforce, which can add to decreased productivity that may be triggered by the technicalities of these issues.

Increasing Information Overwhelm

One of the biggest disadvantages of technology in communication is that it can lead to information overwhelm. When employees receive an abundance of information through multiple mediums, they may not have time to digest it all. The Interaction Design Foundation notes that when creating and sharing information is incredibly simple, such as with business communication technology tools, it can lead to an overload of content.

When there are too many sources of communication, employees may resist going through them. For example, employees with dozens of emails in their inboxes and several voice messages in one day may feel too stressed to review them all. As a result, they may miss important details about a project or critical feedback from a customer, which can cause problems for the business.

Blurring Lines Between Personal and Professional Time

Business communication tools such as mobile phones, instant message applications and video call platforms make it easy to reach colleagues anywhere, anytime. While this is a good way to increase productivity, it can also cause problems with work-life balance. If businesses are able to reach their staff at all hours of the day, they may be cutting into the employees' personal time, which can lead to stress and frustration.

CPA Canada notes that many employees feel hyperconnected to the workplace and are working additional hours when they are home. One of the issues is that many employers expect an instant response from their employees. As a result, when employees receive an message, text or email while at home, they feel compelled to answer it right away.

Selecting the Wrong Medium for the Conversation

One of the demerits of communication technology is that not everyone knows which medium is right for which kind of communication. For example, instant message applications are ideal for time-sensitive topics that don't require a lot of back and forth. Emails are great for sharing important memos or updates, while video call meetings are best suited for presentations or client conversations.

However, an employee who isn't sure which business communication medium to choose may select the wrong one, which wastes time and hampers productivity. For example, scheduling a video call for a conversation that

could have been an email can frustrate colleagues. Similarly, using instant messages for a conversation that is not time-sensitive can disrupt the staff.

Avoiding the Negative Effects of Technology on Communication

It's essential to set clear guidelines for employees to follow to avoid the negative effects of technology on communication in the workplace. Develop a set of communication best practices that outline how communication technology should be used. For example, a manager who sends an email or message after business hours shouldn't expect the recipient to respond until work begins the next day. Be sure to include details on curating information to the right people, so employees aren't overwhelmed with information that is not relevant to their roles.

Similarly, clarify how each kind of business communication technology should be used. Provide best practices for each medium, such as stating that employees use project management software only to provide short updates to the scope of the project. This way, employees have a solid understanding of how and when to use each communication tool. Real Business suggests training employees on business communication etiquette so that they understand when not to disturb employees and when not to expect an instant reply.

Oral Communication

Oral communication implies communication through mouth. It includes individuals conversing with each other, be it direct conversation or telephonic conversation. Speeches, presentations, discussions are all forms of oral communication.

Oral communication is generally recommended when the communication matter is of temporary kind or where a direct interaction is required. Face to face communication (meetings, lectures, conferences, interviews, etc.) is significant so as to build a rapport and trust.

Research studies have shown that 80% of communication by executives of a company is in the oral form. The modes of oral communication include:

- Telephone/Cellular phone
- Messages
- Intercom
- Face-to-face discussion
- Meetings/Conferences
- Presentation
- Dictaphone/Dictation
- Conversation
- Radio
- Teleconferencing
- Speeches
- Brainstorming sessions

• Grapevine
• Interview

Oral communication is generally easier and more efficient than written communication. It allows for immediate feedback. Managers tend to rely more heavily on oral than on written communication for sharing information on a day- to-day basis, although they generally put important messages in writing.

From this analysis, it can be observed that oral communciation may occur in a face-to-face personal situation or by telephone. Information regarding business can be communicated using the telephone.

For instance, an oral contact can be made through the telephone by the sales ledger subsystem to find out when payment of an overdue debt is expected, the request and responses are both provided verbally. A major limitation of oral communication, however, is that, even though it provides a personal and dynamic form of expression, its transitory nature makes it subject to misinterpretation and mis-remembering. .

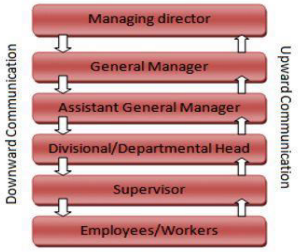
Knowing the simple ways of saying —"I am sorry", "Please", "Let us do it together", "Kindly help me" or even constructive criticism by word of mouth can do a lot to dictate the success or otherwise of an administrator or manager at work, at home, within a society, etc. Consequently, a good administrator should be mindful of what he says all the time with a high degree of consciousness. Once you have altered a word or statement, you cannot deny it; else you become a liar. Hence, a manager can use his word of mouth to damage his or her own chancess of success at work not to talk of those of his subordinates or evern colleagues. Likewise, the employees can make or mare the corporate objectives of their organization if care is not taken.

STRUCTURE OF COMMUNICATION CHANNELS WITHIN A BUSINESS

In an organization, members contact each other and the pattern of contacts or flow of information is the communication network. Contacts are created with different pattern and this helps the management to contact the employees. Through the network, the resources can share their data and applications. The network is divided based on the number of people involved in the communication, organizational size and nature of the communication network. The common network patterns are Vertical Network, Circuit network, Chain network, Wheel network, and Star network. Transmission and reception of information is the basis of communication.

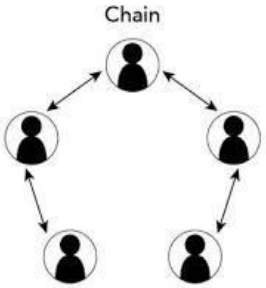
1. Vertical Network

The communication which passes from one person or process to another person or process in a vertical pattern is called Vertical Network. It can happen either in the top to bottom or bottom to top format. This communication provides an immediate response as the receiver receives the information faster than any other network. We can call this network as a formal network. The best example is the communication between top level and bottom level employees. Miscommunication does not happen in this network as this is a type of direct communication.



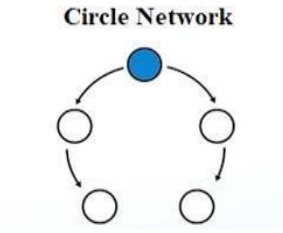
2. Chain Network

This network is in a hierarchical level and follows a series of commands. Here bottom to top communication does not happen. Superiors ordering the subordinates is the best example of this type of network. Also, the leader leading the group of people is an example of Chain Network. The message has to reach from top-level to bottom level without any alteration of meaning or words. Care should be taken to avoid the same. This network is not fast and few people who don't understand the message will remain in the loop.



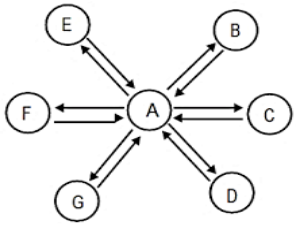
3. Circle Network

When the communication between two people happens simultaneously in a circuit is called Circle Network. Though it works like Vertical Network, there are no superiors or subordinates or at least not considered like them. Here the communication is a two-way communication. The messaging or information reception is continuous and the people involved can be at the same hierarchical level.



4. Wheel or Spoke Network

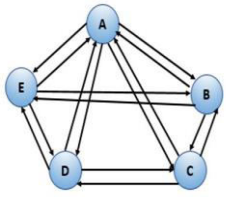
The commands or information is from a single superior and subordinates form a wheel in the network. The entire network is highly centralized format and expects immediate feedback once the message is given to the receiver. And due to this, we can call this communication as a type of micromanagement. This network is an improved form of Chain Network. Since the information is received directly from the central authority, there is no chance of miscommunication and the communication is very powerful. Startups mostly use this type of network.



Wheel and Spoke Network

5. Star Network

Several people are involved in this network and the process forms a star shape. This network enables people to communicate with each other or with people who are involved in the same process. This network can be considered as a development of a wheel network with no central person to control the way of communication. All are free to communicate with each other. No restrictions are present to block the communication between people in the process.Teamwork is built using this communication. A WhatsApp group which is related to work is a good example of Star Network.



Star Network

Characteristics of Communication Network

Below are some of the characteristics explained.

- The information to be passed or the message to be shared among the people in the same network should be clear and should be free from any jargon. Active voice should be preferred and the message should be in simple words and short. If the message is long, it is better to transfer the message with bulleted points.

- The message has to be concise which only then the listener be careful to read with full attention and with no loss of concentration. Long or lengthy messages should be avoided at any cost. People will not have enough patience to read the entire message if it is elaborated with very less meaningful words.

- The message passed should be explained well with concrete information. False messages should not be passed in any case which leads to communication mishaps.

- The messages should be passed in relevant order. It is not good if the message is passed saying the end in the beginning or finishing the message without full information. The receiver will understand the message in a wrong manner which will lead to conflicts and the ideas will differ. The information should be passed between persons in a logical, sequential and well-planned manner. Hence this part has to be concentrated well.

- The transmitter person should be honest, respecting others and open with the listener at the bottom level or end of the conversation. The transmitter should be considerate with the listener and should use polite words. The messenger should not be rude at all as the rude messenger will not find any receptors for his information even if the information is important. The messenger should not be a racist and should never use such terms while passing the information. All the persons in the other end receiving the information should be considered equal and should never use inconsiderate words while transmitting the information.

- The listener also plays an important role in the communication network. They should understand the information very well and should clarify the same if possible. The message should be detected from the mixed words, non-verbal actions should be analyzed well, practical to understand the problems and mature enough to act according to the information.

- Care should be there from the listener's side to focus the message when it is sent from the other end. Miscommunication should not happen.

- Emotions should be controlled while passing information. The listener should not use his knowledge to pass information to other people in the loop. The focus should only be on the information passed from the top level.

- The type of network to be used depends on the message to be passed from one level to another. Also, security has to be considered for the network communication.

FORMAL AND INFORMAL COMMUNICATION CHANNELS

Formal communication is, typically, conveyed from the top leadership to various departments and employees. Usually, every organization follows a procedure for formal conversation. Think about the annual meetings or even team meetings that your manager calls for. These are examples of formal communication.

However, there is no predetermined structure for informal communication in any organization. So what is informal communication all about? To start with, it helps create and maintain a relationship among colleagues. For instance, consider those chats with your coworkers about the latest movies over a cup of coffee.

Informal communication can also play a much larger role than just generating friendly chatter. This form of communication can be very useful in resolving a conflict between the employees and the management.

Both formal communication and informal communication are crucial for maintaining a clear and cordial work culture. Examples of formal communication include minutes of a meeting as well. But what makes casual conversation different from official meetings? Let's discover the difference between formal and informal communication.

1. As we know it, formal communication is also called official communication. Formal communication often follows a specific structure or channels such as emails to the clients, whereas informal communication can often flow freely in any direction.
2. Formal meets must maintain secrecy for the messages shared. But when you are having a casual chat, maintaining confidentiality gets tough. In fact, it will be safe to say that most rumors or gossip start through the route of informal communication.
3. Formal communication is time-consuming. On the other hand, informal communication is usually quick and easy to navigate.
4. Formal communication is more reliable, as it follows a pattern set by the organization. In contrast, informal communication takes off on its own and sets its own course.
5. Documentary evidence is always available for formal communication whereas there are no supporting documents available for informal communication.
6. Formal communication has a long chain of command whereas informal communication is very simple due to its short chain of command.
7. Formal communication is more reliable than Informal communication.
8. Formal communication mostly includes written documents like business letters, reports, and orders, while informal communication includes verbal communication like face-to-face communication and telephonic conversations.

Examples of formal communication such as email exchange, video conferencing and Zoom calls have certain procedures and processes in place. From the greeting to the sign-off, the tone and style is completely different from informal communication. The difference between formal and informal communication will also depend on the audience and your message.

Types of Formal Communication

Within the organization, formal communication can make up of any of these forms:

1. Downward Communication

Downward communication represents the most stereotypical form of formal communication. Information flows from management level down to lower levels. It is the most common form of formal communication. Downward communication includes orders and instructions represented in oral or written format. Reports, emails, letters and manual communication are commonly used downward communication tools.

2. Upward Communication

Upward communication contains information which passes from subordinate levels up to management and senior levels. Common forms of upward communication include (from employees to managers and above) reports, suggestions, requests, instructions and complaints.

3. Horizontal Communication

Horizontal communication refers to communication between individuals who are at the same or similar levels within an organization but have different areas of responsibility. Horizontal communication is slightly more fluid and dependent on cross-individual communication. Typical examples exist as communication between managers of different departments (HR, Marketing, Sales, etc.).

4. Diagonal Communication

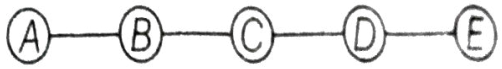
This occurs when employees of different departments at different levels communicate with each other irrespective of the chain of command. Communication between a floor manager and a Sales team is a prime example of diagonal communication.

Types Of Informal Communications

Keith Davis found four basic types of informal communication networks: single strand, gossip, probability, and cluster.Davis, K. (1969). Grapevine communication among lower and middle managers. *Personnel Journal, 48*, 269–272.

1. Single Strand:

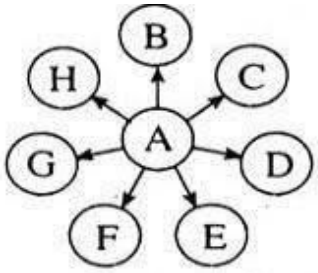
   The first type of informal communication network described by Davis was the single strand communication network in Figure 5.3 "Informal Communication Networks (a)" Davis, K. (1969). Grapevine communication among lower and middle managers. *Personnel Journal, 48*, 269–272. In a single strand network, the process of communication is very linear and information travels from one person to the next person. The best way to think of this type of informal communication network is like a relay race. But instead of passing a baton between runners, some type of information is passed from person to person. This communication network represents the traditional notions of serialized transmission.Redding, W. C. (1972). *Communication with the organization: An interpretive review of theory and research*. New York: Industrial Communication Council, Inc.



Single strand network

2. **Gossip Chain**:

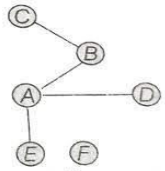
The second type of informal communication network Davis discussed was the gossip communication network Figure 5.3 “Informal Communication Networks (b).” Davis, K. (1969), Grapevine communication among lower and middle managers. *Personnel Journal, 48*, 269–272. In a gossip network, you have one individual who serves as the source of the message who transmits the message to a number of people directly.



Gossip Chain.

3. Probability chain:

The third type of informal communication described by Davis is referred to as the probability communication network Figure 5.3 “Informal Communication Networks (c)” Davis, K. (1969). Grapevine communication among lower and middle managers. *Personnel Journal, 48*, 269–272. In a probability communication network, you have one individual as the primary source of the message who randomly selects people within her or his communication network to communicate the message. These secondary people then randomly pick other people in the communication network to pass along the message. Think of this type of informal communication network as really annoying internet spam. In the case of internet Spam, someone creates the e-mail, and then sends it to random people who then feel the need to forward it to other people, and so on and so on. There is no way for the source of the message to truly track where the message has been sent after the message is communicated because the transmission is random.

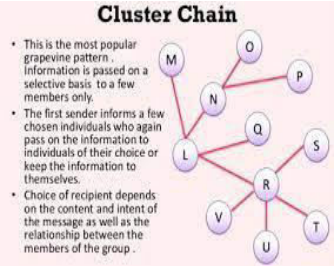


Probability network

4. Cluster network:

The final form of informal communication network described by Davis is the cluster network in Figure 5.3 “Informal Communication Networks (d)” Davis, K. (1969). Grapevine communication among lower and middle managers. *Personnel Journal, 48*, 269–272. Cluster networks are considerably more systematic than probability networks. In the case of a cluster network, the source of the message chooses a number of pre-selected people with whom to communicate a message. The secondary people then pass on the message to a group of people who have also been pre-selected to receive the message. This type of network is the origin of the telephone tree. In a telephone tree, one person calls two people. Those two people then are

expected to call three other people. Those three people are then also expected to call three other people. Before you know it, everyone who is on the telephone tree has received the message.



THE IMPORTANCE OF A COMPREHENSIVE COMMUNICATION STRATEGY

Most HR professionals and organizational leaders agree that linking corporate communication to business strategy is essential to effective and consistent business operations. With a formal and comprehensive communication strategy, organizations can ensure that they:

- Communicate consistent messages.
- Establish a recognizable employment brand.
- Deliver messages from the top that are congruent with the organization's mission, vision and culture.

THE IMPACT OF EFFECTIVE COMMUNICATION

Effective communication may contribute to organizational success in many ways. It:

- Builds employee morale, satisfaction and engagement.
- Helps employees understand terms and conditions of their employment and drives their commitment and loyalty.
- Educates employees on the merits of remaining union-free (if that is the organization's goal).
- Gives employees a voice—an increasingly meaningful component of improving employees' satisfaction with their employer.
- Helps to lessen the chances for misunderstandings and potentially reduces grievances and lawsuits.
- Improves processes and procedures and ultimately creates greater efficiencies and reduces costs.

THE IMPACT OF INEFFECTIVE COMMUNICATION

Ineffective communication may increase the chances for misunderstandings, damage relationships, break trust, and increase anger and hostility. Ineffective communication may stem from poorly aligned strategy, a failure to execute the strategy, use of the wrong communication vehicle, bad timing, and even nuances such as word choice or tone of voice.

CONCLUSION

To conclude, effective communication is a vital tool for any business owner. The success of a business manager at getting their point across can be the difference between sealing a deal and missing out on a potential opportunity. They should be able to clearly explain company policies to customers and clients and answer their questions about your products or services. It is crucial to communicate effectively in negotiations to ensure you achieve your goals.

Communication is also important within the business. Effective communication can help to foster a good working relationship between a manager and their employees, which can in turn improve morale and efficiency. Strong communication, particularly from managers, enables them to better instruct and inform their employees on particular tasks, goals and general performance expectations. This, in turn, minimizes the risk of mistakes being made and reduces the likelihood of confusion amongst employees. A good communicator will seek to provide consistent feedback to their staff, advising them on areas for improvement and giving praise when warranted. Even if your organizational structure operates with a long chain of command and span of control, delivering good communication throughout layers of hierarchy can still be an effective way to improve employee management.

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