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# Managing Global Transitions

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# *Managing Global Transitions*

## *International Research Journal*

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#### AIMS AND SCOPE

*Managing Global Transitions* (MGT) is a quarterly, scholarly journal that covers diverse aspects of transitions and welcomes research on change and innovation in increasingly digitalized and networked economic environments, from a societal, organizational, and technological perspective. MGT fosters the exchange of ideas, experience, and knowledge among developed and developing countries with different cultural, organizational, and technological traditions. MGT invites original scientific, research, and review papers advancing the field of transitions in societies, organizations, and technologies.

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# *Living Up to Young Employees' Expectations: Employer Brand Management in Health Care Organisations*

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Health care professionals are ageing, and there is a severe, global need to attract future employees. This study examines the construction of employer brand image among young health care professionals, and related elements. The qualitative research data were collected through email and personal interviews from young nursing and physician students. The analysis results indicate that organisations can affect their employer brand image for future employees through supportive working culture and human resource practices as well as direct marketing actions. The marketing and human resource practices targeted towards young health care professionals are underused. The results can help health care organisations in planning recruitment and marketing processes according to young health care professionals' expectations. This study integrates human resource management research and marketing research relating to employer branding and recruitment.

*Key Words:* employer brand management, young employees, recruitment, health care, strategic human resource management

*JEL Classification:* M12, M51

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## **Introduction**

Traditional brand-related research has generally related to nations, individuals, products, and organisations. According to a recent study, young people have a need to know how organisations take care of their employees. Young employees hope for an interesting job, so it is not insignificant

what kind of image the organisations present (Suomalaisen työn liitto 2020). The topic of this paper, employer brand image as a part of strategic organisational branding, relates to recruitment, with a specific focus on the Finnish health care sector. Employer branding is examined from the perspective of new health care professionals applying for their first job as this is a key target group for future recruitment and for securing the pool of needed talent for health care organisations.

The biggest current professional groups in health care, nurses and physicians, are ageing. The greying of the workforce in all industrialised countries has been described as ‘a demographic time bomb’ (Vettori 2010, 14; Kunze, Boehm, and Bruch 2011). In Finland, this especially concerns the public sector, as over 80% of public sector employees work in social and health care, and over half of the Finnish public sector personnel will retire between 2008–2025 (KEVA 2016; 2019). Hence, motivated applicants with the right skills profiles and attitudes are needed to replace the retiring personnel. There is plenty of research relating to employer brand and recruitment, but only a few studies from the perspective of health care and especially that of young health care professionals. These potential future employees are very important to organisations in times of employee shortage. The importance of attracting the workforce to the health care sector has been rising globally since the Covid-19 outbreak, making the question of employer branding especially timely and crucial in this context.

In countries where the average age of health care personnel has grown, hiring skilled personnel can be difficult as the public image of the health care profession is not attractive due to the working conditions and high workload. Concurrently, there are several recruitment-related challenges (Askfors and Fornstedt 2018; Heilmann 2010) involving the lack of specialist skills, lack of experience, applicant salary requirements, and the overall lack of applicants (Beardwell and Claydon 2010). Nowadays the biggest challenge involves the lack of applicants, which has, for example, led to recruiting potential candidates from abroad. Therefore, organisations need to understand the expectations of young professionals and manage their image (Yu 2019) to improve their brand and recruitment. The research topic is thus very timely, and the context is interesting as there is a long-awaited public health care reform on the way.

The scientific discussion of employer branding relates to human resource (HR) management, organisational behaviour, and marketing research, and is understood as a common effort to promote a desirable

workplace image. People's perceptions of organisations are based on a set of corporate, organisational and institutional images. The corporate image is considered as an image of an organisation experienced by various stakeholders (Furman 2010; Luoma-aho and Vos 2010). Prospective applicants generate an opinion of the organisation, and the overall employer brand is based on their opinions and views of the organisation as an employer. Thus, the discussion on employer brand image is particularly linked to recruitment studies within human resource management (see, e.g., Heilmann 2010).

The reputation and image of a corporation, as well as the industry image, are important factors for potential job applicants, affecting their decisions on applying for work (Lee, Lee, and Wu 2011; Turban, Forret, and Hendrickson 1998). Good organisational image and reputation (Mariconda, Zamparini, and Lurati 2021) influence the applicants' intentions to seek employment opportunities, and their perceptions of a particular organisation (Helm 2013). The employer image of a company is an impression of the organisation as a place to work. Good organisational image can explain the organisational attraction of applicants (Drury 2016; Lievens and Slaughter 2016). Also, the impact of advertisement-image congruity has a high impact on its attractiveness for applicants (Baum, Schäfer, and Kabst 2016).

Although some studies focus on defining the elements of constructing an employer brand and discuss its consequences such as the positive impact on organisational attractiveness, surveys covering the employee side are lacking (Charbonnier-Voirin and Poujul 2017). One such recent example is provided by Yu and Davis (2019) who discuss how employee job search behaviour influences organisational attraction. Additionally, there is a shortage of knowledge of how employer brand is formulated when discussing recruitment and related practices (e.g. Lievens and Slaughter 2016; Yu 2019). This paper tries to cover both gaps. Furthermore, this study aims to clarify the blurry discussion on the conceptualisation of employer branding by focusing on potential employees as called for by recent authors (Theurer et al. 2018; Lane 2016). The organisational viewpoint of employer brand image in the health care context has been investigated, for example, from the viewpoint of using social media for nurse recruitment (Carpentier et al. 2017), but studies from the perspective of young health care professionals and employer branding are rare.

The research problem of this paper is to examine how employer brand is constructed among young Finnish health care professionals. The prob-

lem is approached through investigating the elements of the employer brand image; the important factors that encourage or discourage potential young employees to apply for a job; and actions and tools used in improving employer branding in a health care organisation. The current research approaches these themes from the perspectives of the individual physician and nursing students who are about to complete their studies.

As an important finding, this study stresses the change of the employment culture in the eyes of young health care professionals who dare to demand certain terms of employment even from their first employer. Young professionals also ask for collegial support, good working conditions and leadership practices in their first workplace. In response to this, health care organisations should be more visible in educational institutions and use different marketing tools in their recruitment.

The findings of this study are useful to both academics and practitioners in passing information from young professionals to health care organisations on what they expect of future work. This paper encourages practitioners to invest more in employment marketing and proper recruitment processes. Employer brand image and recruitment processes that target young professionals have not been well covered by health care management research, but an ageing health care profession and changing job market environment necessitate preparing for the future.

This paper is organised as follows: first, the literature relating to employer brand image and recruitment is reviewed. Second, the qualitative research material and methods are presented. Third, the analysis results are reported, followed by discussion and conclusions.

## Previous Research

### EMPLOYER BRAND IMAGE

The term *brand* originates from marketing management literature and can be defined as ‘a name, term, sign, symbol, design or a combination of them, meant to identify the goods or services of one seller or group of sellers and to differentiate them from competitors’ goods or services’ (Kotler and Keller 2009). It relates to organisational competitiveness (Keller and Lehmann 2006; Sullivan 2004). A brand is a product or service whose dimensions differentiate it from other products or services designed to fulfil the same need. These differences can be rational, functional, or tangible, associated with a brand’s product performance. If these differences are related to what the brand represents, they can be symbolic, emotional,



or intangible (Kotler and Keller 2009). The employer brand is 'a package of functional, economic, and psychological benefits provided by employment' (Ambler and Barrow 1996) and identified with the employing company. The primary role of the employer brand involves providing a coherent framework for the management to simplify and focus on priorities, increase productivity, and improve recruitment, retention, and commitment. Recent studies have focused mostly on the 'best employer' surveys (Love and Singh 2011), and on how a person thinks about working for a specific company (Nolan et al. 2013). Employer branding covers both the current and potential employees as the branding targets, whereas product branding considers how a product is represented to customers (Edwards 2010). The employer brand can be said to have a personality that could be positioned as a product brand. Therefore, traditional marketing techniques, especially research, could be usable (Ambler and Barrow 1996).

According to Aggerholm, Andersen, and Thomsen (2011), employer branding covers the 'communicative, relationship building, and cross-disciplinary processes, which create, negotiate and enact sustainable employee-employer relationships, i.e., long-term relationships between an organisation and its potential, and the existing employees, initiated by corporate branding processes that integrate the notion of corporate social responsibility (CSR) through sustainable HRM.' Employer branding aims to communicate to both prospective and existing employees that the organisation is a desirable place to work (Backhaus 2016; Foster, Punjaisri, and Cheng 2010). It also forms beliefs on how well the employees and prospective employees will 'fit' with the employment opportunities (Nolan et al. 2013; Kristof-Brown and Guay 2011).

This paper focuses on potential new employees only. New employees are usually young, and as a study conducted among college students highlighted, employee-centred HR is important in forming a strong employer brand to support recruiting (Wayne and Casper 2012). Employment branding reflects the image of the organisation in the eyes of employees concerning working for the company.

The term *employer branding* has been mainly used for developing a distinctive external reputation; some authors also include internal attempts to achieve positive employee engagement or culture change. Recently, a more integrated approach has evolved. External recruitment promises have been aligned with the internal employee experience and employer brand development integrated with the corporate and customer

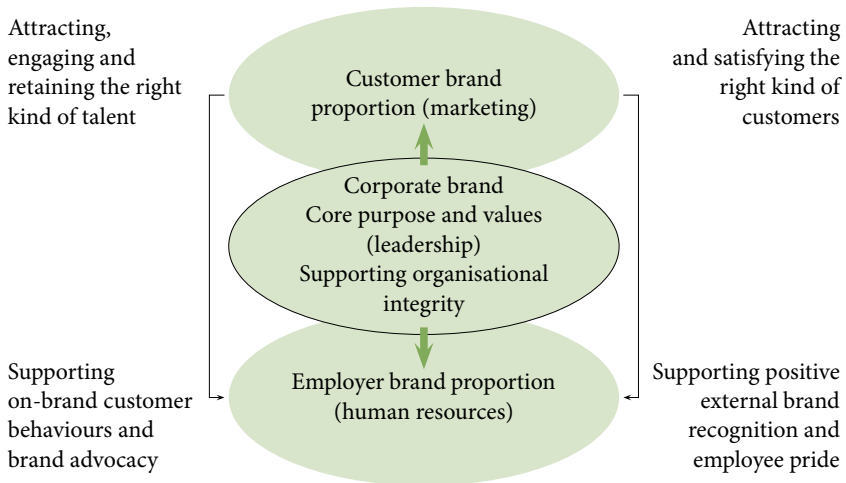


FIGURE 1 Integrated Service Brand Model (adapted from Mosley 2007)

brand in many organisations. This approach (figure 1) defines the HR-led role of employer brand management as a reinforcing counterpart to the marketing-led role of customer brand management. The role of leadership is to maintain the integrity of the corporate brand through applicable communication and behaviours (Mosley 2007).

The progression towards a more integrated perspective of the brand has promoted acknowledging that employer brands must have a dual purpose. The employer brand proposition clarifies what potential and current employees can expect from the organisation regarding rational and emotional benefits. Additionally, it must clarify what is expected from the employees in return. Most integrated employer brand propositions involve 'give' and 'get' sides that align the promise of the employer brand with the corporate performance agenda and the customer brand (Mosley 2007).

Current conceptualisations of employer branding are characterised by:

- A static inside-out notion of the employer brand: the employer brand propositions are defined by brand strategists based on brand identity, and conceptualised as stable and enduring core characteristics, or the brand DNA (Urde 2013).
- The exposure and transmission of employer brand propositions or attributes, internally (Punjaisri and Wilson 2011) or externally (Kucherov and Zavyalova 2012; Edwards 2010).

- A linear employer branding practice entailing static sender (employer) and receiver (employees) positions (Backhaus 2016).
- A channel to enhance customer experiences (Mosley 2007) and organisational performance (Ambler and Barrow 1996).
- A brand value pyramid model that measures the strength of the employer brand on three hierarchically ordered dimensions: knowledge of the employer, consideration of the employer and choice of the employer (Franca and Pahor 2012).

#### EMPLOYER BRAND MANAGEMENT

To deliver a consistent brand service experience, the organisation must manage all significant operational and interpersonal touchpoints with the customer, not only the communication channels. The employee experience is much more complex than a service experience, therefore organisations would benefit from adopting a similar approach and even appointing an employer brand manager responsible for specific tasks related to creating and nurturing the employer brand for potential and current employees (Edlinger 2015). Employee touchpoints can be described as a wide range of ritualised processes and HR 'products' that are involved in people management. They could equally be used on recruitment, orientation, communication, shared services, performance management, employee development, measurement, reward, and recognition. Similarly, the core values and competencies govern the everyday employee experience through their immediate line managers' and corporate leaders' communication and behaviour. The employer brand experience framework is shown in figure 2.

In the employer brand context, there exist a wide range of functional (good salary, career opportunities) and emotional benefits (belonging, caring, personal growth) that people derive from their work. Barrow and Mosley (2011) have defined the employer brand mix that helps to assess organisations' current employer brand realities and plan on how to deliver the desired employer brand proposition. The employer brand mix has 12 key dimensions that can be divided into two broad groups. The first group includes organisational and policy aspects (external reputation, internal communication, senior leadership, values and corporate social responsibility, internal measurement systems and service support) and the second group includes local and practice-related aspects (recruitment and induction, team management, performance appraisal, learning and development, reward and recognition and working environment).

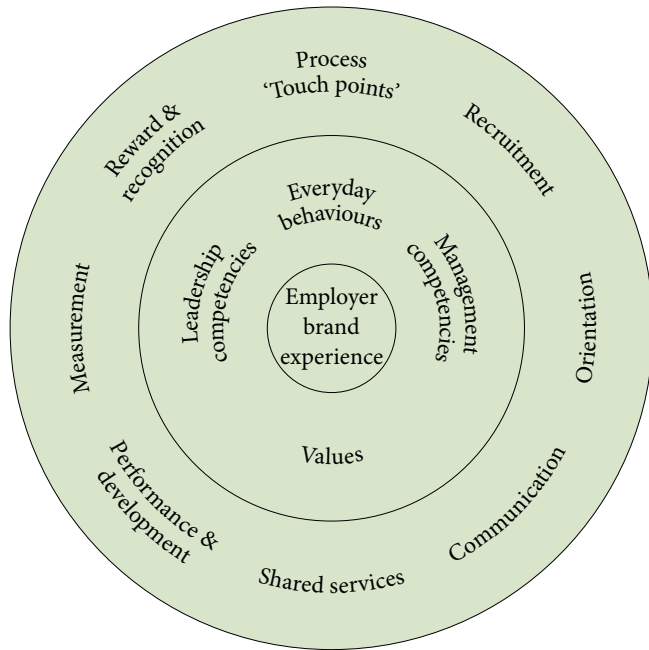


FIGURE 2  
Employer Brand  
Experience  
Framework  
(adapted from  
Mosley 2007)

This model can support organisations in differentiating themselves from their competition.

Additionally, differentiating from competition involves organisations ensuring that their employer brand attracts the right kind of people. Thus, the employer brand management reinforces the right kind of culture, which includes everything from the customer-facing frontline to the deepest recesses of every support function (Mosley 2007).

Nowadays, the Internet and social media play an important role in creating employer brand image (Carpentier et al. 2017; Mehta and Sharma 2016). Organisations have used their websites to attract and inform prospective applicants by adding features and content that highlight career aspects. A survey of websites of the top fifty US accounting firms has revealed that most could improve in providing information relevant to job seekers, and in presenting the information in ways that emphasise originality and flair. The career pages could be made more appealing and useful by keeping the content fresh, opening avenues for one-to-one online communication, and giving more specifics about the benefits aside from any other career information. Websites and social media should give young people an idea of what it is like to work at the organ-

isation, preferably through videos and other multimedia presentations that highlight young people who already work there. The use of modern media creates an impression of being dynamic. Organisations can embrace new technologies in tailoring content to individual interests such as videos, podcasting, RSS feeds (Really Simple Syndication) and blogs. Young people already share their impressions of corporate cultures – whether favourable or not – via Facebook and other online communities (McCabe 2017). However, the role of the Internet in employer brand building and recruitment has not been properly used in many health care organisations. Wilden, Gudergan, and Lings (2010) have discovered that the effectiveness of a brand signal to potential employees is dependent on the consistency, clarity, credibility, and associated investments in the employer brand.

### RECRUITMENT

Recruitment is the most important function of human resource management (Boxall and Purcell 2011). Recruiting is based on an organisation's vision, strategy, human resource management and human resource planning activities (Chung, Brewster, and Bozkurt 2020). The key stages of a systematic approach to the recruitment and the selection process can be summarised as *defining the vacancy, attracting applicants, assessing candidates, and making the final decision* (Boxall and Purcell 2011; Beardwell and Claydon 2010; Tanwar and Prasad 2016).

Recruitment is a broad term used to communicate the notion of acquainting someone with the organisation, which covers everything from advertising to induction. Themes that affect recruitment and selection are changes in organisation, job, persons, society, legislation, technology, and markets (Wood and Payne 1998). The recruitment and selection process is concerned with identifying, attracting, and choosing suitable people to meet an organisation's human resource requirements. When planning employment requirements, there is usually a need to forecast 1) personnel needs, 2) the supply of inside candidates, and 3) the supply of outside candidates (Dessler 2002).

Intensification of recruitment methods, recruiting health professionals from abroad and increasing the number of health care students (Aluttis, Bishaw, and Frank 2014) have been proposed as solutions to tackle the employee shortage in health care. Other identified current trends in human resource management related to recruitment in the health care sector include employer branding, online recruitment, and HR outsourc-

ing (Bejtkovsky 2017). Recruitment strategies include actions that aim at making the organisation an attractive workplace, and at reaching better applicants, for example, profiling the ideal candidate, choosing the recruitment channels and deciding on the incentives offered to candidates (Boxall and Purcell 2011). For reaching potential candidates, choosing the right media is essential, and, for example, efficient advertising provides a better range of applicants. Also, the selection method used should be tailored according to the job. The more valuable the task, the more time and resources should be invested (Nieto 2006). Recruitment branding relates to the advertisement of positions that are vacant in a company and explains the process for application (Mandhanya and Shah 2010).

There are many possible methods and channels for recruitment, such as the following:

- informal personal contacts (word of mouth, speculative applications),
- formal personal contacts (employee referral schemes, career fairs and open days),
- (electronic) notice boards, accessible by current staff and/or the public,
- advertising (local and national press, specialist publications, radio, and TV),
- external assistance (job centres, career service, employment agencies and ‘head-hunters’) (Beardwell and Claydon 2010); potentially saves costs, but may cause negative mediating effects on job acceptance intention (Wehner, Glardini, and Kabst 2015),
- social media platforms and tools (LinkedIn, Facebook), which are the most common among recruiters and jobseekers (Carpentier et al. 2017) or Twitter and YouTube.

A study conducted in 2018 among professional recruiters and managers shows that the importance of online tools and especially social media (LinkedIn, Facebook) as recruiting channels is growing, and in addition, the current personnel’s networks are utilised in identifying potential candidates (Kansallinen rekrytointitutkimus 2018). Companies usually use many of these contemporaneously. Overall, digital channels, for example, websites (Kim, Wang, and Boon 2021), have a more significant impact on applicant attraction than printed channels (Baum and Kabst 2014). The professional recruiters also identify building employer brand image as an important trend in recruitment, along with the increasing use

of artificial intelligence in the process (Kansallinen rekrytointitutkimus 2018).

Recruitment is an expert function in an organisation. Recruitment mistakes can lead to an inconvenient experience for the displaced worker and the organisation. The costs of advertising, interviewing, induction, training, and production loss during new employees' settlement are considered as the overall cost of replacement (Nieto 2006).

Based on the theoretical background presented above, employer brand management and recruitment actions are closely connected (Sivertzen, Nilsen, and Olafsen 2013; Edwards 2010; Backhaus 2016).

### **Material and Methods**

Qualitative research is a way of learning about social reality. There are several methods for qualitative data collection; however, the selection of the methods should be based on the research topic and on how the research questions are framed (Leavy 2014). In this study, a qualitative research approach is used with asynchronous email interviews and inductive oriented analysis. The central motifs of qualitative research are the ways in which people interpret and understand their social reality: how they interpret the experiences, how they construct the world, and what meaning people dedicate to their experiences (Merriam 2009, 5). One of the most used methods to reach a person's social reality is an interview, which is considered as a process within which a participant and a researcher are focused based on questions (Leavy, 2014). When collecting qualitative research information, an individual interview is a widely used technique. The main quality of an interview is the ability to offer pure concentration on the interviewee, and therefore the interview is used in this research to provide the possibility of investigating a person's perspectives for detailed examination of their viewpoints, to reach an in-depth understanding of a person's context and catching the research phenomena, and to attain an in-depth coverage of the subject. The clarification and understanding can be provided by a suitable interview tool (Ritchie 2003; Silverman 2006).

An interview can be carried out by the means of computer-assisted interviewing (Singleton and Straits 2012), as an email interview in which the communication between the interviewer and interviewee is done in a computer-mediated fashion consisting of several emails. This type of interviewing is also referred to as an asynchronous email interview (James 2015; Ratislavová and Ratislav 2014). An email interview has several ben-

efits over face-to-face interviews: cost, range of participants, time for reflection, saying things that would not be said face-to-face, working with a set of interviews simultaneously, creating rapport and overcoming interviewer effects. Disadvantages of email interviews include problems with the sample, the interview taking too long and losing its focus, ethical issues, working with a set of interviews simultaneously, missing nonverbal cues, and impersonality (Cleary and Walter 2011). The type of interview in this study was guided and semi-structured (Adeoy-Olatunde and Olenik 2021; McGrath, Palmgren, and Liljedahl 2019; Kallio et al. 2016; Galletta 2012; Eriksson and Kovalainen 2008); an outline of topics, issues, or themes existed but the wording and the order of questions varied in the email correspondence. The computer-aided research method was chosen based on resources: geographical reasons, cost-saving and flexibility. In other words, there was no need to travel, and participants could choose when to respond (Cleary and Walter 2011; Eriksson and Kovalainen 2008).

The respondents were originally difficult to reach but finally, they were found with the help of educational organisations, universities, and universities of applied sciences. Qualitative samples are usually relatively small. The research data of the current study is based on textual material that was gathered through emails directed to a total of eight Finnish physician students and six nursing students at the end of their studies. The data was complemented with interviews with a senior nurse, after which the size of the total sample was 15 informants. The informants were asked to answer questions such as ‘On what basis did you chose your first job?’, ‘Which issues are important when choosing a job?’, ‘What is an attractive employer like?’, ‘What kind of recruitment channels are used?’ and ‘What is the role of management in choosing a job?’

Inductively oriented analysis was applied in this study to find similarities and differences within the qualitative research data by organising it into themes, categories and activities, and finding patterns as well as extracting from the natural variation (Eriksson and Kovalainen 2008). The data were analysed qualitatively by specifically classifying text into different themes and types and by using mind maps. The email interviews were analysed under four themes: (1) health care employer brand image, (2) recruitment process, (3) motivation relating to applying for a job, and (4) strategic human resource management in health care. The findings presented in the results section cover mainly themes 1 and 2, following the research problem formulation. After the specific examination, more com-



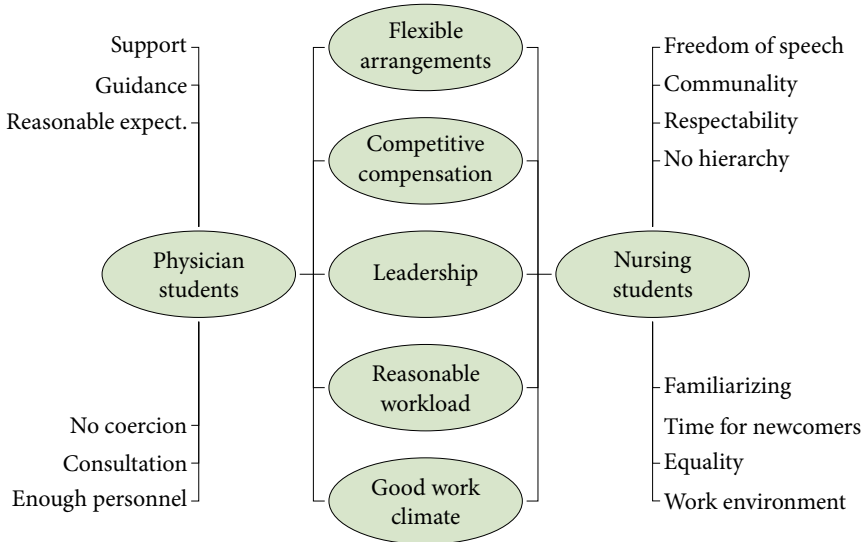


FIGURE 3 An Example of the Mind-Map Used for Inductive Analysis on 'Attractive Employer Brand Image'

fact findings were extracted, and the overall picture of employer brand image in health care was drawn.

### Results

The main focus of the study relates to the experiences concerning the employer brand image of health care organisations among those studying to become physicians and nurses. The interview results emphasise the importance of employer brand image and the need for improving the recruitment processes in health care. The analysis of the interviews utilised mind-maps as a graphical tool in classifying the text material and finding similarities and differences in the research data. An example of the material classification in the analysis phase is presented in figure 3. The issues mentioned by both informant groups are placed in the middle.

#### ELEMENTS OF ATTRACTIVE EMPLOYER BRAND IMAGE

Work community spirit and professional support were seen as important among both physician and nursing students. Physician students emphasised the importance of adequate support and guidance in their work, good opportunities for collegial consultation, competitive compensation, a good work climate, and enough personnel to carry out the needed tasks.

Leadership and collegial spirit were seen as important for new nurses. Nursing students emphasised the importance of the supervisor's leadership skills. In addition, a functional work environment, good work climate and communality, flexible work arrangements, non-hierarchical actions, and good processes familiarising employees were essential for young professionals. The role of professional support, consultation, and guidance were seen as important. Supervisors should give enough time to newcomers; also, the good leadership skills of a supervisor were appreciated.

As a comparison, according to a study among young technology or IT professionals, the most valued issues when choosing a future employee were interesting and challenging work, positive atmosphere and colleagues, and reimbursement (pay and other benefits) for the work. 11% of technology professionals and 16% of IT professionals chose employer brand image among the three most important factors. (Virtanen 2018). Noteworthy is that the young health care professionals stated demands of their first employer. Previously the employment situation has been more of a 'give or take' nature, and organisations have given open positions and made the recruitment rules. The employees' role has only been to accept the rules given by the employer, but now, due to the shortage of potential applicants, the negotiation power of the employees has increased. Now, new professionals dare to set terms of their own. The economy has changed, the average age of professionals has grown, and many nurses and physicians are soon retiring. The current Covid-19 pandemic has also caused exhaustion among health care professionals, encouraging them to consider career changes. At the same time, there are many health care professionals outside the workforce. The current situation has resulted in the lack of a competent workforce and opened new markets for professionals. The professionals are in more of a situation in which they can choose what they want to do and where they want to work. Recruitment has changed more towards a commercial situation. Both employer and employee can set terms; the employee can, for example, refuse to sign an employment contract if the terms of employment are not negotiable and suitable for them.

#### FACTORS STRENGTHENING OR WEAKENING EMPLOYER BRAND IMAGE AMONG YOUNG EMPLOYEES

Employer brand image encourages or discourages potential job applicants. The study results indicate that flexible work arrangements, super-

TABLE 1 Summary of Factors Strengthening or Weakening Employer Brand Image by Informant Group

<i>Physician students/strengthening factors</i>	<i>Nursing students/strengthening factors</i>
<ul style="list-style-type: none"> <li>• Flexible work arrangements</li> <li>• Leadership skills of a supervisor</li> <li>• Adequate support</li> <li>• Competitive compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership skills of a supervisor</li> <li>• Competitive compensation</li> <li>• Good work climate</li> <li>• equality among personnel</li> </ul>
<i>Physician students/weakening factors</i>	<i>Nursing students/weakening factors</i>
<ul style="list-style-type: none"> <li>• Inflexibility</li> <li>• Lack of support or consult. possibilities</li> <li>• Unreasonable expectations</li> <li>• Poor compensation</li> <li>• Coercion and excessive workload</li> </ul>	<ul style="list-style-type: none"> <li>• Rumours relating to lack of respect</li> <li>• Bad work climate</li> <li>• Huge workload</li> <li>• Poor compensation</li> <li>• Lack of voice in organization</li> </ul>

visor leadership skills, adequate support and competitive compensation improve the employer brand image among physician students. Inflexibility, lack of support or consultation possibilities, unreasonable expectations, poor compensation, coercion, and excessive workload were the key preventive factors. According to the nursing students, the most important improving factors of employer brand image were leadership skills of a supervisor, competitive compensation, good work climate, and equality among personnel. On the other hand, rumours relating to the lack of respect in an organisation, bad work climate, enormous workload, poor compensation, and lack of voice in the organisation prevented young professionals from applying for a job in such an organisation. A graphical summary of the analysis results is presented in table 1.

#### SUGGESTED EMPLOYER BRANDING ACTIONS

Physician students suggested that potential employers should be more visible among the students and that they should use more direct marketing actions towards the students in educational institutions. For example, organisations can arrange coffee, lunch, or dinner events with students to inform them about their organisations and open positions. In addition, organisations should be present at professional and recruitment fairs. Physician students encouraged health care organisations to send them direct emails. Nursing students trusted the grapevine, traditional and online bulletin boards, and their own experience from compulsory practical training periods. In both examined professional groups, it was seen as important how the trainees are treated during their trainee periods in health care organisations. Both positive and negative experiences

TABLE 2 Summary of Suggested Employer Branding Actions by Informant Group

<i>Physician students</i>	<i>Nursing students</i>
<ul style="list-style-type: none"> <li>• More visibility among students</li> <li>• More direct marketing actions</li> <li>• Coffee, lunch or dinner events</li> <li>• Being present at professional and recruitment fairs</li> <li>• Direct emails</li> </ul>	<ul style="list-style-type: none"> <li>• The grapevine</li> <li>• Bulletin boards</li> <li>• Own experience from practice periods</li> </ul>

were seen to spread in the professional networks. Positive information can form an impression of a magnetic employer. A graphical summary of the analysis results is presented in table 2.

## Discussion and Conclusions

### SCIENTIFIC CONTRIBUTION

The findings of this study contribute to the discussion on employer brand image and recruitment. It seems that the employer brand image has not been managed properly in Finnish health care organisations and there is a need for ‘face-lifting’ of the employer brand image. This kind of improvement of employer brand image can be achieved as suggested by several earlier authors with better employment marketing and actions relating to a proper applicant-employer-interaction process taking into account the high impact of advertisement-image congruity when attracting applicants (Baum, Schäfer, and Kabst 2016; Mandhanya and Shah 2010; Mosley 2007).

Health care organisations need to market more vigorously and communicate more effectively the organisational culture, different HR practices and job opportunities to students (Kooij et al. 2010; Mosley 2007). The present lack of competent personnel has forced employers to think about the role of a good organisational image and their current related actions. The actions aiming at better employer brand image are twofold. First, building employer brand image relates to marketing and communication by using different tools. Different marketing actions can be used in communication, for organisational ‘face-lifting.’ Young professionals can be approached by using different channels, for example, the internet and social media, magazines, newspapers, professional and recruitment fairs, and through direct communication. The internet should be used diversely; it can be more than only a job-board for informing about open vacancies. Interviews with physicians and nurses, videos, webcasts and podcasts that demonstrate the organisation culture and work envi-

ronment can be attached to the organisation's webpages (Kauhanen 2012; Beardwell and Claydon 2010). A customer-oriented, applicant perspective is important in communicating the employer brand image. Second, the employer brand image is built in people's minds during interaction with health care organisations, including the themes such as what kind of impression a person achieves from inside or outside the organisation, and what is their experience when they have been working in the organisation. Additionally, what stories are told about different employers among the students, or what kind of observations a health care professional makes when using health care services themselves, may interest applicants.

Employer brand image seems to be constructed from different aspects. According to the results, it can be argued that employer brand image is constructed in the dynamic and continuous interaction between a health care organisation and a health care professional. It is a question of the organisational image that is built in the mind of a potential employee. Employer brand building should be taken seriously in health care organisations. Good or bad messages are spread widely. In times of personnel shortage, employers cannot afford a bad reputation.

An important finding in this paper relates to the change of employment culture. Especially in times of employee shortage, young health care professionals dare to ask for compensation, support, and opportunities to combine work and private life. An organisation can influence their employer brand by communicating the organisational politics and different HR practices to young professionals in different ways. Working practices, working climate, leadership styles, professional consultation, collegial support, good working conditions and proper recruitment processes are important when a young health care professional makes decisions relating to their first workplace. In addition, an opportunity for recovery and work-life balance is important. Previously, employees have been more at the mercy of employers, and space for negotiation concerning the terms of employment has been considerably limited.

#### PRACTICAL IMPLICATIONS

Employer brand is built in the minds of young professionals. The challenge for organisations is to influence these impressions. Better employer brand image can be achieved through communication and influencing the impressions of potential applicants. Organisations can influence future employees by organisational behaviour, HR practices, the work cul-

ture, leadership in units, or by providing good orientation and support. Young professionals are used to using social media and their networks, where good and bad employer information is shared among students. Employers need to actively follow different forums and groups where young people are active. Also, good treatment of students during their training periods in health care organisations is important. During these training periods, employers can have discussions with trainees and gather information from students. Organisations need to listen to the quiet voice of future professionals and shape their processes and practices to respond to these expectations. Organisations should ask themselves what the new health care employees expect from their employers, what their work-life values are, and what conditions they set for their recruitment. Practically, the results of this study will help health care organisations in planning recruitment and marketing processes. Practitioners can use the information relating to young professionals' demands, to understand what they appreciate in their future work.

Based on the findings, the following actions can be suggested to organisations: it is important for health care organisations to market attractive career choices to young professionals by using different channels, for example, the internet, social media, magazines, newspapers, professional and recruitment fairs and through direct communication to young professionals. In communicating challenges and open career possibilities, it is important to clarify what kind of work and working culture young people appreciate. The recruitment process should be managed professionally and by using modern IT technology. Young people seek work-life information on the Internet, and they are used to filling in applications online. A proper Internet-based recruitment tool will help both applicants and employers in the recruitment process.

Cognisant 'face-lifting' of employer brand image should be done in the media, while simultaneously avoiding underestimating the importance of the grapevine. Leadership in units is very important during the practical training periods of students. During these fixed periods, the future professionals gain impressions of organisations as potential employers. Young people evaluate their personal treatment in their first jobs, gain an understanding of how teams work in the organisation, and what the team spirit is like, how the work processes are organised, and what type of organisational culture exists. Reasonable compensation and development opportunities are also important at the beginning of a career. Also, younger generations appreciate the possibility to combine work and pri-

vate life with the help of flexible work arrangements. Professional development can be achieved by using different methods, for example, by training, job rotation, or by working as a substitute. Based on the impressions of organisations, trainees decide whether to apply for a job in the future.

According to future health care professionals, work well-being is important. Therefore, the message of good work culture and leadership is an important recruitment-marketing factor. The positive information of an organisation filters into the young professionals' networks. A well-managed employer brand image increases the number of applications, and positively impacts organisational attractiveness. An employer brand image in the health care context includes a strong organisational profile, good services and processes, new ways of organising work, good organisational culture, collegial support, and opportunities for personal and career development.

In the future, organisations must enhance their recruitment marketing towards potential applicants. Organisations need to communicate the organisational culture, values and HR practices to potential applicants through modern communication channels and tools. Employers should be more visible and informed about the good work practices and development opportunities in the organisation. Information concerning work descriptions, open vacancies, development possibilities, and working environment can be distributed by using modern technological applications, such as the Internet, and social media such as LinkedIn, Facebook, Twitter, YouTube, blogs, and such. In addition, employers should be visible in educational institutes and recruitment events and fairs of health care professionals by being physically present, and thus highlight employee-centred HR. Employer brand image should be managed and nurtured. The impression is built in a dynamic situation between the organisation and potential applicants. It is a question of defining the image an organisation wants to convey and what combination of recruitment and communication tools are used.

#### LIMITATIONS AND FUTURE STUDIES

This study is based on qualitative data; therefore, it is not possible to make any generalisations based on the data. The interview method is justified when the target is understanding and describing the phenomenon, and when the perspective of the interviewee is the focus. However, the results can also be useful for other professional fields facing similar challenges

with a shortage of young employees in improving their employer brand management. The study is focused on discussions of employer brand image and recruitment, and the larger context of strategic HRM including, for example, research on retaining and commitment was excluded as out of scope and will be a topic of further research. The discussion is limited on the role of social media in creating employer brand image, which is also a timely and possible topic for further research. The results of the study have implications for management practices in health care organisations, especially with young employees, which implies that studying the changes in management practices in this context could be another topic for future research. We hope this research can inspire other researchers in management and marketing fields to continue studies relating to employer brand image.

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# *The Potential of Information and Communication Technologies to Generate International Trade in Africa*

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This article employs the dynamic panel two-step system generalised method of moments (GMM) approach to investigate the effects of information and communication technology (ICT) on trade and economic growth at a multisectoral level in 38 African countries from 1990 to 2019. The study reveals a significant and positive relationship between ICT and the export of agricultural raw materials and services. ICT shows a negative relationship with import in the agricultural sector, and a positive and significant relationship within the manufacturing sector. Additionally, there is no evidence of statistically significant relationships between ICT and service import. In relating ICT to growth, at the sectoral level, significant positive effects on growth were found with a varying magnitude in all sectors. The national ICT recommendation is that governments in African countries should increase investment in the ICT sector of the economy, which will have a remarkable effect on international trade and the economy.

*Key Words:* information technology, international trade, agriculture, manufacturing, services, Africa

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## **Introduction**

The importance of technology as an instrument of economic growth and development has prompted different sensitive and important investigations, by visualising the causality from the explicit model of growth perspective, the neoclassical model of growth and its augmented version, the

endogenous factor-augmenting technology change model, and the structuralist perspective to economic growth (Pohjola 2000; Smulders and De Nooij 2003; Dittmar 2011; Mansfield 2019). Most of these studies have shown the strength of ICT in ensuring economic growth and development among nations of the world.

Unlike other forms of technology, however, the contribution of ICT to growth and development in countries, especially developing countries, is dependent on some factors which include externalities and spill-over, established policies supporting innovations, and human capital. ICT can therefore be said to be a general-purpose technology affecting different facets of the economy and gradually changing the approach of technology to development through many aspects and perspectives. Firstly, ICT serves as a means of applying technology to the various sectors of the economy, that is, the externalities or spill-over effect of ICT to the level of productivity or its contribution to GDP. Secondly, ICT has helped in the reformation of production processes and the creation of networks, and improves the exchange of information within the country and globally. Thirdly, ICT has helped poorer and disadvantaged people to support their livelihood. Fourthly, ICT has helped to transform the mode of supplying services in the form of e-finance, e-government, and e-commerce (United Nations Conference on Trade and Development 2007). Consequently, the importance of ICT to economic growth and development has attracted diverse research from economists, policymakers, and other researchers in Africa and other parts of the world (Langmia 2006; Nasab and Aghaei 2009; Stanley, Doucouliagos, and Steel 2018). The interaction between ICT and international trade has also attracted several empirical investigations ranging from individual countries to panel investigations connecting regions of the world (Freund and Weinhold 2002; Xing 2018; Gholami, Guo, and Lee 2009; Thiemann, Fleming, and Mueller 2012; Nath and Liu 2017; Liu and Nath 2013).

The investigations of ICT and economic growth and international trade in different countries and panel analysis of countries by employing various empirical techniques have not existed without disparities in their results. For example, a positive link between ICT and economic growth was established (Seo, Lee, and Oh 2009; Adeleye and Eboagu 2019; Sassi and Goaiad 2013). Kurihara and Fukushima (2013) did not, however, find evidence of ICT stimulating economic recovery. Similarly, investigation of the impact of ICT on international trade by adopting different empirical methodologies to analyse individual countries, and the collection



of a spectrum of panel data also shows some disparities in their results (Thiemann, Fleming, and Mueller 2012). Fink, Mattoo, and Neagu (2002) found a positive link between ICT and international trade, while Freund and Weinhold (2004) and Mattes, Meinen, and Pavel (2012) found no evidence of the effect of ICT on international trade.

From the foregoing, the existing literature on the link between ICT, economic growth, and international trade in African countries are limited and their results exist with different disparities. The disparities will be a problem for policy makers on the directions to be followed in formulating policies concerning these matters. Additionally, to the best of the authors' knowledge there is no evidence of empirical investigations of the effect of ICT on economic growth and international trade in various sectors of the economy in Africa. It is against this background that this study has decided to answer the question 'What is the impact of ICT on different sectors of the economy in Africa?' Consequently, this study decided to conduct an empirical investigation to determine this impact by adopting a two-step system generalised method of moments (GMM). This study examines exclusively the impact of ICT on service sector import and export, manufacturing sector import and export, agricultural sector import and export, inflation, population growth, and gross capital formation.

This article is structured as follows. The second section reviews the existing literature. The third section describes the data used and sources, as well as the econometric model used. The fourth section analyses the empirical models and results, while the fifth section concludes the article.

### **Literature Review**

As clearly stated earlier, the importance of ICT in achieving economic growth within different sectors of the economy and achieving economic development in the country can never be over-emphasized. Several authors have used different theories in the explanation and clarification of the importance of ICT in achieving organizational growth, sectoral improvement, economic growth, and economic development.

We begin from the Schumpeterian theory that viewed innovation which can be likened to technology as a form of new ideas to replace the old ways of doing things, thereby creating opportunities for growth in organizations and countries (Schumpeter 1934; Pyka and Andersen 2012; Bahrini and Qaffas 2019). The theory according to Solow (1956) views output (Y) as derived by the combination of technology (A), capi-

tal (K) and labour (L). The Solow model as imbedded in the combination of technology, labour and capital has different elements of ICT which will be contributory to its positive effect on the output of the firm (Fay 2012; Hallegatte et al. 2012; Biagi 2013). The Network Readiness Index, as proposed by Kirkman et al. (2002), viewed the internet and other forms of ICT as a game changer in the way the world works. The model is directed towards creating a better understanding of how ICT helps in the achievement of economic development, with emphasis on developing countries, by ranking 78 countries. The theories analysed above show a positive link between a firm's productivity and economic growth. The review of related literature was done from two different directions concerning ICT and economic growth and ICT and international trade.

#### ICT AND ECONOMIC GROWTH

Various studies reviewed the link between ICT and economic growth in individual countries and conducted panel studies. For example, Adeleye and Eboagu (2019) conducted an empirical investigation on the impact of ICT on economic growth in 54 African countries from 2005 to 2015 with empirical variables of individuals using the internet, fixed telephone subscribers, mobile subscribers, and trade openness and taking inflation as control variables by employing the system generalised pooled ordinary least square, and random and fixed effects. The authors established a direct and significant relationship between ICT and economic growth.

Sassi and Goaied (2013) adopted the system GMM estimators of a dynamic panel model to investigate the relationship between ICT and economic growth of 17 Middle Eastern and North African (MENA) countries from 1960 to 2009. The result shows a positive and significant relationship between ICT and economic growth. Seo, Lee, and Oh (2009) examined the link between ICT and economic growth of 29 countries in the 1990s by employing a model of cumulative growth. The authors found a positive relationship between ICT and economic growth. Adopting the gravity regression technique, Kurihara and Fukushima (2013) did not find evidence of ICT stimulating economic recovery among Asian countries.

Majeed and Ayub (2018) adopted an ordinary least square (OLS), the GMM, and the two-stage least square (SLS) to analyse the link between ICT and economic growth of 149 countries comprising developed, developing, and emerging economies from 1980 to 2015. The study confirmed a positive relationship between ICT and economic growth. Aghaei and Rezagholizadeh (2017) adopted a dynamic model method of growth,

GMM, to analyse dynamic and static data of selected countries from the Organisation of Islamic Conference (OIC) countries from 1990 to 2014. The study reveals a positive and significant relationship between ICT and economic growth among the countries considered. Stanley, Doucouliagos, and Steel (2018) adopted meta-regression analysis to investigate the impact of ICT on the economic growth of 58 developed and developing economies. The results show that the developed and developing countries benefit more from the usage of landline and cell technologies; however, developed countries benefit more from computing than developing countries do.

#### ICT AND INTERNATIONAL TRADE

Thiemann, Fleming, and Mueller (2012) employed a gravity model of international trade on importing and exporting countries between 1995 and 2009 to evaluate the hypothesis of the effect of ICT on the vegetable and fruit trade in general. The study found a significant impact of mobile penetration on vegetables and fruits by exporting countries. The study also found a negative impact of telephone usage on banana import, and internet usage also affects fruit and vegetables negatively for exporting countries. Freund and Weinhold (2004) adopted a gravity equation of trade among 56 countries and found no evidence of the impact of the internet on total trade flows for 1995, and established only weak evidence of the impact of the internet on total trade flows in 1996. On the other hand, they found a significant effect of ICT on trade at an increasing rate from 1997 to 1999 and found a stronger impact of the internet on trade for the poor countries compared to the rich countries. Fink, Mattoo, and Neagu (2002) showed a significant impact of communication cost on bilateral trade flows.

Yushkova (2014) examined the relationship between ICT and trade costs for export flows between 40 OECD countries and India, China, Indonesia, Brazil, Russia, and South Africa for the period 2010/2011. The result of the study shows that the level of internet use for business activities has a positive relationship with the export flows between the countries under review. Mattes, Meinen, and Pavel (2012) adopted the gravity equation in a different specification to find whether the use of ICT at the European Union national level enhances trade among EU countries. The study shows no evidence of the significant impact of ICT on EU trade or the trade diversion effect towards ICT in developed countries from less ICT-developed countries.

Nath and Liu (2017) employ the gravity model framework and the GMM to determine the effect of ICT on imports, exports, and the trade of ten services collected from 49 countries for the period 2000 to 2013. The authors found a positive and significant impact of ICT on international trade in seven out of ten selected service items. ICT was also found to have a significant impact only on import of insurance services, telecommunication services, royalties, travels, license fees, and export of transportation services.

Choi (2010) adopts pooled ordinary least squares regression, a panel GMM, and fixed effects to find the effect of ICT on service trade among 151 countries from 1990 and 2006. The study found a significant impact of ICT on service trade, and Vemuri and Siddiqi (2009) employed the extended gravity model of a panel study of 64 countries from 1985 to 2005 to find the relationship between ICT, internet services, and international trade. The article found the existence of significant and positive effects of ICT on international trade. Kurihara and Fukushima (2013) adopted the cross-country gravity regression technique to investigate the impact of ICT on international trade in developed countries and developing Asian countries. The investigation shows that ICT promotes international trade for the countries.

### **Econometric Methodology**

In this section, we present the econometric model that is adopted for this study. The variables used, sources of data and their measurements are provided. Further, the empirical analysis is presented and results of the findings are discussed.

#### **THE MODEL UTILISED**

The current study employed the dynamic panel generalised method of moments technique (GMM) to examine the effects of ICT on international trade and growth at sectoral levels. Arellano and Bond (1991) developed the difference GMM in the panel data model to correct potential endogeneity problems. This procedure also generates estimates that are consistently free from heteroscedasticity and autocorrelation. The difference GMM produces instruments that are stationary at first difference series alone. The difference GMM used the lagged level of variables as instruments; in many cases, the difference GMM performs poorly due to weak instrumentation if the variables follow a random walk process.

The system GMM, initially developed by Arellano and Bover (1995) and extended by Blundell and Bond (1998), can be used to estimate two equations (the level and first difference equation) simultaneously; therefore, it shows significant improvement on the difference GMM. The system GMM adopts the orthogonal deviations transformation as against the first difference of variables proposed by Arellano and Bond (1991). According to Blundell and Bond (1998), by considering the lagged levels and lagged first difference of variables, the instruments will improve the efficiency and consistency of the estimator. In addition, the system GMM procedure is used in dealing with the potential problem of endogeneity which may occur in simultaneous equations (Blundell and Bond 1998). The system GMM, therefore, produces a more reliable estimate than difference GMM. The Hansen (1982) test of overriding restrictions can be used to determine the validity of the instruments. The two categories of system GMM usually utilised in dynamic panel data estimation include one-step and two-step. Roodman (2009) states that the two-step system GMM is better than the one-step because it is more efficient asymptotically. The efficiency of the two-step GMM depends on its use of an optimal weighting matrix. Consequently, this study uses the two-step system GMM to analyse the empirical effect of ICT on international trade and economic growth at sectoral levels. The empirical models for this investigation are provided in three categories, namely export model, import model and service model, as follows:

*Sector-Level Export Model*

$$\begin{aligned}
 are &= \alpha_0 + \alpha_1 are_{t-1} + \alpha_2 fts + \alpha_3 intu + \alpha_4 mcs + \alpha_5 reer \\
 &+ \alpha_6 gdp_g + \alpha_7 top + \alpha_8 pe + \alpha_9 se + \alpha_{10} of + u_1
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 me &= \alpha_0 + \alpha_1 are_{t-1} + \alpha_2 fts + \alpha_3 intu + \alpha_4 mcs + \alpha_5 reer \\
 &+ \alpha_6 gdp_g + \alpha_7 top + \alpha_8 pe + \alpha_9 se + \alpha_{10} of + u_1
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 serve &= \alpha_0 + \alpha_1 are_{t-1} + \alpha_2 fts + \alpha_3 intu + \alpha_4 mcs + \alpha_5 reer \\
 &+ \alpha_6 gdp_g + \alpha_7 top + \alpha_8 pe + \alpha_9 se + \alpha_{10} of + u_1
 \end{aligned} \tag{3}$$

*Sector-Level Import Model*

$$\begin{aligned}
 ari &= \beta_0 + \beta_1 ari_{t-1} + \beta_2 fts + \beta_3 intu + \beta_4 mcs + \beta_5 reer \\
 &+ \beta_6 top + \beta_7 inf + \beta_8 pg + \beta_9 lf + u_2
 \end{aligned} \tag{4}$$

$$\begin{aligned}
 mi &= \beta_0 + \beta_1 ari_{t-1} + \beta_2 fts + \beta_3 intu + \beta_4 mcs + \beta_5 reer \\
 &+ \beta_6 top + \beta_7 inf + \beta_8 pg + \beta_9 lf + u_2
 \end{aligned} \tag{5}$$

$$\begin{aligned} \text{servi} = & \beta_0 + \beta_1 \text{ari}_{t-1} + \beta_2 \text{fts} + \beta_3 \text{intu} + \beta_4 \text{mcs} + \beta_5 \text{reer} \\ & + \beta_6 \text{top} + \beta_7 \text{inf} + \beta_8 \text{pg} + \beta_9 \text{lf} + u_2 \end{aligned} \quad (6)$$

#### *Sector-Level Growth Model*

$$\begin{aligned} \text{agric} = & \gamma_0 + \gamma_1 \text{agric}_{t-1} + \gamma_2 \text{fts} + \gamma_3 \text{intu} + \gamma_4 \text{mcs} + \gamma_5 \text{gfcf} \\ & + \gamma_6 \text{gdp} + \gamma_7 \text{top} + \gamma_8 \text{pg} + \gamma_9 \text{pe} + \gamma_{10} \text{ose} + \gamma_{11} \text{olf} + u_1 \end{aligned} \quad (7)$$

$$\begin{aligned} \text{manu} = & \gamma_0 + \gamma_1 \text{agric}_{t-1} + \gamma_2 \text{fts} + \gamma_3 \text{intu} + \gamma_4 \text{mcs} + \gamma_5 \text{gfcf} \\ & + \gamma_6 \text{gdp} + \gamma_7 \text{top} + \gamma_8 \text{pg} + \gamma_9 \text{pe} + \gamma_{10} \text{ose} + \gamma_{11} \text{olf} + u_1 \end{aligned} \quad (8)$$

$$\begin{aligned} \text{serv} = & \gamma_0 + \gamma_1 \text{agric}_{t-1} + \gamma_2 \text{fts} + \gamma_3 \text{intu} + \gamma_4 \text{mcs} + \gamma_5 \text{gfcf} \\ & + \gamma_6 \text{gdp} + \gamma_7 \text{top} + \gamma_8 \text{pg} + \gamma_9 \text{pe} + \gamma_{10} \text{ose} + \gamma_{11} \text{olf} + u_1 \end{aligned} \quad (9)$$

Table 1 presents descriptions of variables and measurements.

#### **DATA**

The study uses panel data of 38 African countries from 1990 to 2019 (30 years). The selection of the countries was due to the availability of comprehensive data and considerable representation of various blocs in the continent. In most of the series, data were available from 2000, which makes the scope justifiable as most African countries have no record of ICT data before this period. Data for the analysis were gathered from the World Bank's World Development Indicator.

The countries considered are Algeria, Benin, Burkina Faso, Botswana, Burundi, Carbo Verde, Cameroon, Comoros, Republic of the Congo, Côte d'Ivoire, Ecuador, Egypt, Eswatini, Ethiopia, Gambia, Gabon, Ghana, Guinea, Kenya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Nigeria, Niger, Rwanda, Senegal, Seychelles, South Africa, Sudan, Tanzania, Togo, Tunisia, Zambia, and Zimbabwe.

Some of the limitations of the study are stated consequently. Only 38 out of 54 countries in sub-Saharan Africa were selected based on the data available at the time of the research. In the case of this study, the effect of telecommunication and ICT are examined for trade and output of 3 sectors, namely, agricultural, manufacturing and service.

#### **Empirical Analysis**

The summary statistics of variables utilised in this article are presented in table 2. The general focus is to examine the effects of ICT on trade and growth at sectoral levels. In this study, international trade is bifurcated

TABLE 1 Description of Variables and Measurements

Var.	Descriptions	Measurement
<i>are</i>	Agricultural export	Agricultural export as % of goods export
<i>me</i>	Manufacturing export	Manufactures export as % of goods export
<i>serve</i>	Service export	Service export in US\$
<i>ari</i>	Agricultural import	Agricultural import as % of goods import
<i>mi</i>	Manufacturing import	Manufactures import as % of goods import
<i>servi</i>	Service import	Service import in US\$
<i>agric</i>	Agricultural growth	Agricultural value added
<i>manu</i>	Manufacturing growth	Manufactures value added
<i>serv</i>	Service growth	Service value added
<i>fts</i>	Fixed telephone subscriptions	Fixed telephone subscriptions per 100 people
<i>mcs</i>	Mobile cellular subscriptions	Mobile cellular subscriptions per 100 people
<i>intu</i>	No. of internet users	Individuals using internet as % of population
<i>reer</i>	Real effective exchange rate	REER index (2010 = 100)
<i>gdp</i>	Real GDP growth	% change in real GDP
<i>top</i>	Trade openness	Trade as % of GDP
<i>pe</i>	Primary school enrolment	School enrolment, primary % of gross
<i>se</i>	Secondary school enrolment	School enrolment, secondary % of gross
<i>pg</i>	Population growth	Population growth annual %
<i>lf</i>	Labour force	Labour force participation rate
<i>inf</i>	Inflation rate	Consumer prices annual %
<i>gfcf</i>	Gross fixed capital formation	Gross fixed capital formation as % of GDP

into export and import in various sectors. Among the commodity export, manufacturing goods have the highest mean, median and standard deviation, suggesting a relatively high contribution of the sector to aggregate export. The results of the skewness indicate that all the export variables are positively skewed. Manufacturing export's kurtosis value (3.14) is close to normal distribution, while the kurtosis' figures of other export variables deviate from normal distribution.

Similar to the statistics of the export, manufacturing import (*mi*) recorded the highest values of mean, median and standard deviation. Agricultural raw material import (*ari*) shows, however, a low mean median and standard deviation compared to other sectors. In addition, the values of manufacturing import are negatively skewed and positive in

TABLE 2 Summary Statistics

Variables	(1)	(2)	(3)	(4)	(5)	(6)
<i>are</i>	8.92	3.21	16.11	2.98	11.76	1.81
<i>me</i>	25.30	15.14	24.69	1.10	3.14	0.98
<i>serve</i>	7.70	4.83	9.64	3.33	16.03	1.25
<i>ari</i>	1.57	1.25	1.23	3.85	41.32	0.79
<i>mi</i>	62.40	62.83	11.37	-0.19	2.86	0.18
<i>servi</i>	10.71	8.41	7.74	2.63	13.23	0.72
<i>fts</i>	3.70	1.12	5.80	2.63	13.23	0.72
<i>intu</i>	8.74	1.80	14.13	2.03	6.49	1.62
<i>mcs</i>	35.60	9.78	44.43	1.07	3.04	1.25
<i>reer</i>	108.40	100.00	33.20	1.51	6.05	0.31
<i>gdpg</i>	1.57	1.71	4.23	-1.04	23.87	2.69
<i>top</i>	68.51	60.07	33.21	1.33	5.18	0.48
<i>inf</i>	9.64	5.72	15.42	5.18	41.84	1.60
<i>pe</i>	96.73	102.01	25.15	-58.00	3.31	0.26
<i>se</i>	45.61	40.77	26.59	0.48	2.32	0.58
<i>pg</i>	2.31	2.54	0.98	-1.91	18.27	0.42
<i>lf</i>	67.40	68.12	13.10	-0.09	1.85	0.19
<i>gfcf</i>	21.32	20.35	8.31	1.23	8.67	0.39
<i>agric</i>	20.27	20.17	12.23	0.37	2.34	0.60
<i>manu</i>	12.18	10.41	6.96	2.03	8.72	0.57
<i>serv</i>	47.58	47.87	9.84	0.05	3.17	0.21

NOTES Column headings are as follows: (1) mean, (2) median, (3) standard deviation, (4) skewness, (5) kurtosis, (6) coefficient of variation.

other sectors. Again, the value of kurtosis of the manufacturing sector is near normal distribution.

In line with the aim of these studies, growth is analysed on a sectoral basis. Variables used to proxy growth on a sectoral level include agricultural value added (*agric*), manufacturing value added (*manu*) and service value added (*serv*). The summary statistics of the variables in the last three rows of table 2 show that, on average, the service sector has the highest value added, next is the agricultural sector and the lowest is recorded in the manufacturing sector. The average (*mean*) values of sectors show the low contribution of the manufacturing sector in the value chain of the real sector. The skewness and kurtosis statistics indicate that



TABLE 3 IM Pesaran and Shin Panel Unit Root Test

s/N	Variables	At level		At first difference		Remarks
		(1)	(2)	(1)	(2)	
1	<i>are</i>	-1.9079	0.0000	-3.3340	0.0000	I(0)
2	<i>me</i>	-1.9645	0.0000	-3.3127	0.0000	I(0)
3	<i>serve</i>	-1.7814	0.0200	-3.5360	0.0000	I(0)
4	<i>ari</i>	-1.9330	0.0000	-3.4216	0.0000	I(0)
5	<i>mi</i>	-2.1372	0.0000	-3.5306	0.0000	I(0)
6	<i>servi</i>	-1.7933	0.0100	-3.5040	0.0000	I(0)
7	<i>agric</i>	-1.5224	0.2528	-3.8956	0.0000	I(1)
8	<i>manu</i>	-1.5707	0.1411	-3.6835	0.0000	I(1)
9	<i>serv</i>	-1.7061	0.0167	-3.7396	0.0000	I(0)
10	<i>fts</i>	-1.2624	0.9146	-3.1305	0.0000	I(1)
11	<i>intu</i>	1.4190	1.0000	-3.0085	0.0000	I(1)
12	<i>mcs</i>	1.1357	1.0000	-2.4781	0.0000	I(1)
13	<i>reer</i>	-2.0831	0.0016	-3.7234	0.0000	I(1)
14	<i>gdp<sub>g</sub></i>	-3.3786	0.0000	-4.4026	0.0000	I(0)
15	<i>top</i>	-1.6950	0.0800	-3.7124	0.0000	I(1)
16	<i>pe</i>	-1.2254	0.9384	-2.7243	0.0000	I(1)
17	<i>lf</i>	-0.1716	1.0000	-2.1819	0.0000	I(1)
18	<i>inf</i>	-2.6643	0.0000	-3.8363	0.0000	I(0)
19	<i>pg</i>	-1.9653	0.0000	-1.9513	0.0000	I(0)
20	<i>gfcf</i>	-1.7304	0.0200	-3.6504	0.0000	I(0)

only service value added exhibits a normal distribution. The descriptive statistics of the variables used to proxy ICT are also discussed as follows. These variables include fixed telephone subscription (*fts*), mobile cellular subscriptions (*mcs*) and individuals using the internet as percentage of population (*intu*). Among these variables, mobile cellular subscriptions have the highest mean, median and deviation, while fixed telephone subscription shows the lowest computed average and standard deviation. All these ICT variables are positively skewed, and the kurtosis of mobile cellular subscription shows the trend is normally distributed. The summary statistics of other variables used in this study are provided in table 2.

Table 3 presents the IM Pesaran and Shin unit root test. The variables of interest are tested at level and first difference. The computed *t*-statistics

TABLE 4 Two-Step System GMM for ICT and Sectoral Export

Variables	Expect.	Agricult. Model 1	Manufact. Model 2	Service Model 3
<i>L. are</i>		-0.210 (0.243)		
<i>fts</i>	+	7.112** (3.610)	-4.913 (6.564)	0.388** (0.166)
<i>intu</i>	+	-0.114 (0.290)	0.668* (0.347)	0.074* (0.040)
<i>mcs</i>	+	0.453*** (0.160)	-0.709 (0.537)	0.038** (0.017)
<i>reer</i>	-	0.024 (0.491)	-0.220 (0.306)	0.033 (0.022)
<i>gdpg</i>	+	-0.514 (0.446)	0.293 (0.327)	0.050* (0.028)
<i>top</i>	+	0.088 (0.115)	0.286*** (0.088)	0.049 (0.033)
<i>pe</i>	+	0.179 (0.299)	-0.486 (0.453)	-0.036 (0.027)
<i>se</i>	+	-1.845*** (0.555)	2.010 (1.674)	0.022 (0.038)
<i>lf</i>	+	-0.353 (1.184)	0.467 (0.481)	0.031 (0.055)
<i>L. me</i>			0.159 (0.312)	
<i>L. serve</i>				-0.098 (0.306)
Constant		55.82 (175.800)	-16.210 (59.470)	-1.219 (5.722)
AR(1)		0.42 (0.675)	-0.44 (0.661)	-1.03 (0.304)
AR(2)		-1.30 (0.195)	-0.28 (0.779)	-0.33 (0.738)
Sargan Test		1.01 (0.908)	5.79 (0.215)	5.56 (0.118)
Hansen Test		1.03 (0.906)	0.50 (0.974)	1.02 (0.314)
No. of instruments		8	8	8
Observations		524	575	602
Number of countries		38	38	38

NOTES Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

( $t$ -tilde-bar) of the variables are reported and the statistical significance of the variables are given. The results show that some variables are stationary at level while others are stationary at first difference. Specifically, agricultural sector export (*are*), manufacturing sector export (*me*), service sector export (*serve*), agricultural sector import (*ari*), manufacturing import (*mi*), service import (*servi*), service output (*serv*), real GDP growth (*gdpg*), inflation (*inf*), population growth (*pg*) and gross fixed capital formation (*gfcf*) are stationary at level. Other variables used in the study are only stationary after first difference. Since the results of the panel unit root test in table 3 shows that some variables are stationary at level while others are stationary after first difference, we can use a dynamic panel data regression.

Table 4 depicts the results of the two-step system GMM for ICT and export at sectoral level. Accordingly, the regressions of the three sectors, namely agriculture (*agric*), manufacturing and service are provided. The robustness of the results is determined by checking for autocorrelation in the first and second order. In addition, Hansen and Sargan tests were conducted to verify the appropriateness of instruments used. In all three models, there is no evidence of both first- and second-order autocorrelation. Furthermore, eight instruments were used for each of the export models; however, these instruments are supported by Hansen and Sargan tests.

Beginning with the agricultural sector, two ICT diffusion variables, namely, fixed telephone subscriptions and mobile telephone subscriptions, exert a statistically significant effect on agricultural export. Variables are significant at one and five per cent levels, respectively. A percentage increase in fixed telephone subscriptions would lead to a 7.1% increase in agricultural export. Similarly, a one percent rise in mobile telephone subscriptions causes agricultural export to increase by 0.4%. This result shows the importance of telecommunication in agricultural export in Africa. Hence, improvement in ICT can facilitate export of agricultural products. The findings are in line with the empirical results of Thiemann, Fleming, and Mueller (2012) as well as Fink, Mattoo, and Neagu (2002). Secondary school enrolment shows a negative effect on agricultural export. This suggests that as more people pursue formal education in secondary schools, less labour is available to support the agricultural value chain.

The results obtained for the manufacturing sector are presented in the second column of table 4. In the regression, fixed telephone subscriptions (*fts*) and mobile telephone subscriptions are statistically insignificant at conventional levels. The coefficient of individuals using the internet as a percentage of the population is, however, statistically significant only at the ten per cent level. This result suggests that in the manufacturing sector, ICT has a low effect on export of goods. A percentage increase in the number of individuals using the internet as a percentage of the population could lead to a 0.7% rise in manufacturing export, on average. Amidst other variables employed in the manufacturing sector regression, trade openness exhibits a positive and statistically significant effect on manufacturing export. Its coefficient shows that a one percent increase in trade openness could result in a 0.3% rise in manufacturing export. This finding conforms to the open economy theoretical predic-

tions that trade openness fosters the export of commodities. The last column of table 4 depicts the regression of the service sector. In this model, fixed telephone subscriptions and mobile telephone subscriptions exert a statistically significant effect on export at the five per cent level. Nonetheless, the number of individuals using the internet as a percentage of the population is significant only at the ten per cent level. These results indicate that a percentage rise in fixed telephone subscriptions and mobile telephones subscriptions would generate an increase in export of about 0.4% and 0.04%, respectively. This result is expected due to the significant growth of the service sector in Africa and its significant contribution to trade over the two decades. Available statistics have shown a remarkable performance of trade in services in recent years.

Table 5 depicts the results of the two-step system GMM for the effect of ICT on sectoral import. In this segment, agricultural, manufacturing and service sectors' models were analysed, and their results reported. The robustness of the results is confirmed by Arellano and Bond's AR (1) and AR (2). Based on Hasen and Sargen's tests for appropriate instruments, seven variables were utilised as instruments in each of the models estimated.

In the agricultural sector, a negative effect of both fixed telephone subscriptions and mobile telephone subscriptions on agricultural import was found. These two variables are statistically significant at a five per cent level. The results suggest that a percentage increase in fixed telephone subscriptions and mobile telephone subscriptions would lead to a decline in import of about 0.9% and 0.03%, respectively. These results suggest that an increase in ICT provision would discourage import in the agricultural sector. Also, this is in line with the findings of Thiemann, Fleming, and Mueller (2012). One plausible reason for this could be the inadequate coverage of telecommunication in Africa. Low ICT connectivity with the rest of the world could discourage the flow of imported goods. In addition, some government policies such as tariff and non-tariff barriers to import can be facilitated by ICT and telecommunication which could lead to a negative effect of ICT on import. Furthermore, the coefficient of the real effective exchange rate (*reer*) shows that, on average, domestic currencies' depreciation would increase agricultural import.

The result of the manufacturing sector of the import model is in contrast to the one obtained in the agricultural model. Here, fixed telephone subscriptions and mobile telephone subscriptions have a statistically significant effect on import in the manufacturing sector. A close look at the

TABLE 5 Two-Step System GMM for ICT and Sectoral Import

Variables	Expect.	Agricult. Model 1	Manufact. Model 2	Service Model 3
<i>L.ari</i>		-0.154 (0.356)		
<i>fts</i>	+	-0.875** (0.373)	10.58*** (3.463)	-0.054 (0.07)
<i>intu</i>	+	0.013 (0.018)	-0.343 (0.312)	0.016 (0.073)
<i>mcs</i>	+	-0.031** (0.012)	0.240* (0.140)	-0.009 (0.019)
<i>reer</i>	-	-0.035** (0.016)	0.443*** (0.167)	-0.014*** (0.004)
<i>gdp<sub>g</sub></i>	+	0.483 (0.344)	0.721 (2.445)	-0.07 (0.09)
<i>top</i>	+	-0.02 (0.02)	0.341 (0.250)	0.032*** (0.009)
<i>inf</i>	-	0.001 (0.025)	-0.1 (0.313)	-0.002 (0.012)
<i>pg</i>	+	-0.638 (0.656)	7.541 (8.964)	0.287 (0.233)
<i>lf</i>	+	-0.448** (0.197)	3.934*** (1.431)	-0.012 (0.012)
<i>L.mi</i>			0.803*** (0.211)	
<i>L.servi</i>				0.818*** (0.065)
Constant		40.97*** (15.15)	-376.7*** (113.2)	1.355 (2.015)
AR(1)		-1.45 (0.148)	-2.81 (0.005)	-2.55 (0.011)
AR(2)		-1.03 (0.303)	0.59 (0.555)	-0.05 (0.964)
Sargan Test		1.92 (0.589)	3.06 (0.383)	1.32 (0.726)
Hansen Test		1.42 (0.700)	3.56 (0.313)	1.15 (0.764)
No. of instruments		7	7	7
Observations		524	675	621
Number of countries		38	38	38

NOTES Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

regression shows that fixed telephone subscriptions exert a greater and more significant effect on import. This implies that, in the manufacturing sector, ICT expansion would increase the rate of import. Further evidence reveals that, in the sector, real effective exchange rate appreciation would lead to a significant increase in import. Additionally, evidence was found that an increase in the labour force generates more increase in import in the sector.

Consequently, the parameter estimates of the service sector model indicate that the three ICT variables considered in our study, namely fixed telephone subscriptions, mobile telephone subscriptions and individuals using the internet as a percentage of the population are not statistically significant at the required levels. This implies that ICT does not have a

TABLE 6 Two-Step System GMM for ICT and Sectoral Growth

Variables	Expect.	Agricult. Model 1	Manufact. Model 2	Service Model 3
<i>L.agric</i>		0.073 (0.270)		
<i>fts</i>	+	1.048 (0.897)	0.368** (0.149)	0.165*** (0.056)
<i>intu</i>	+	-0.866* (0.518)	0.699** (0.277)	-0.016 (0.028)
<i>mcs</i>	+	0.404*** (0.148)	0.272** (0.108)	0.016* (0.008)
<i>gfcf</i>	+	-0.196** (0.094)	-0.038 (0.047)	-0.007 (0.021)
<i>gdp<sub>g</sub></i>	+	-0.072 (0.124)	0.295 (0.236)	-0.242 (0.245)
<i>top</i>	+	-0.138*** (0.049)	0.045** (0.022)	-0.004 (0.008)
<i>pg</i>	+	-2.444 (2.005)	-0.151 (0.625)	-0.664 (0.444)
<i>pe</i>	+	0.084 (0.144)	-0.013 (0.019)	0.019* (0.01)
<i>se</i>	+	-0.716* (0.424)	0.105** (0.051)	-0.009 (0.018)
<i>lf</i>	+	-0.104 (0.302)	-0.052 (0.066)	0.001 (0.0216)
<i>L.manu</i>			0.375 (0.281)	
<i>L.serv</i>				0.719*** (0.088)
Constant		56.59*** (21.02)	10.99 (8.504)	13.20*** (4.439)
AR(1)		0.18 (0.861)	-0.54 (0.589)	-2.90 (0.004)
AR(2)		0.86 (0.392)	1.25 (0.212)	-1.58 (0.115)
Sargan Test		5.97 (0.113)	9.19 (0.027)	1.82 (0.768)
Hansen Test		5.44 (0.143)	2.79 (0.425)	2.53 (0.640)
No. of instruments		8	8	8
Observations		624	565	616
Number of countries		38	38	38

NOTES Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

significant effect on the volume of imported goods. Again, this could be a result of the poor state of telecommunication and less coverage in Africa. Most of the countries in Africa are still facing challenges with telecommunication networks. The significance of the coefficient of the real effective exchange rate suggests that real exchange rate depreciation could increase service import. As expected, the coefficient of trade openness indicates that trade liberalisation promotes service import in Africa.

The next line of discussion is the results of the two-step system GMM for ICT and growth at sectoral level. The estimations as provided in table 6 show diverse evidence. In the model, eight instruments were used. The choice of the instruments adopted is consistent with Hansen and Sargan's

tests. Similarly, the statistics obtained for Arellano and Bond AR (1) and AR (2) show that the models are free from autocorrelation.

Empirical evidence from the results of the agricultural sector indicates that ICT variables, especially mobile telephone subscriptions, exhibit a positive and statistically significant effect on agricultural output. A one percent increase in mobile telephone subscriptions would lead to about 0.4% growth in the agricultural sector. This result suggests that efficient mobile communication enhances the growth of the agricultural sector. Similar results were obtained by Adeleye and Eboagu (2019) for SSA countries as well as Sassi and Goaid (2013) for 17 MENA countries. Other variables employed in the model show interesting results. For instance, coefficients of gross fixed capital formation and trade openness harm agricultural output. These results are contrary to theoretical expectation. A possible reason for the negative coefficient of gross fixed capital formation could be the poor state of infrastructure and capital investment in the agricultural sector. The agricultural sector in Africa depends on a peasant system with little capital investment.

In the manufacturing sector model, fixed telephone subscriptions (*fts*), numbers of individuals using the internet as a percentage of the population (*intu*) and mobile telephone subscription (*mcs*) exert a positive and statistically significant effect on the sector's performance and growth. In other words, all the ICT variables employed in this study promote manufacturing growth. The results suggest that a percentage increase in fixed telephone subscriptions, internet users and mobile telephone subscriptions would enhance manufacturing sector performance by 0.4%, 0.7% and 0.3%, respectively. These results suggest that, on average, the manufacturing sector's growth in Africa is positively affected by ICT. Further evidence from the model indicates that trade openness and secondary school enrolment facilitate manufacturing sector performance.

The last column of table 6 shows the results of the two-step system GMM for ICT and service sector output. Among the ICT variables employed, fixed telephone subscriptions (*fts*) show a positive and statistically significant impact on the service sector. This implies that a percentage increase in fixed telephone subscriptions would generate about a 0.2% increase in the service sector's growth. Similarly, mobile telephone subscriptions have a positive effect on service sector growth; however, this is only statistically significant at the 10% level. Overall, the results of the empirical investigation on the effect of ICT on growth show that ICT contributed to sectoral growth in African economies.

## Conclusion

Information and communication technology (ICT) plays a significant role in the growth and international trade transactions of developed countries. However, the development and coverage of ICT in Africa have yet to reach the level of developed countries. This study empirically investigated the effect of ICT on international trade and growth in Africa. It was seen that earlier studies on either ICT and trade or ICT and growth generally considered it at the aggregate level; therefore, our study examined these relationships at multisectoral levels. For this study, a panel of 38 African countries was analysed using a dynamic two-step system GMM.

The findings of this study show that ICT positively and significantly enhances the export of agricultural raw materials and services; this result is in line with the theories reviewed in the earlier part of this study as they viewed ICT as a form of technology having a positive link with a firm's performance and economic growth. The effect of ICT on the manufacturing sector's export is, however, negligible. Furthermore, the effect of ICT on import shows diverse findings. In the agricultural sector, ICT variables show a negative effect on import. In the manufacturing sector, however, a positive and significant effect of ICT on import was found. The effect of ICT on service import is not statistically significant. A plausible explanation for the statistically insignificant effect of ICT on service import could be as a result of the poor state of telecommunication and less coverage in Africa.

Concerning the effect of ICT on growth at sectoral levels, a positive and statistically significant effect of ICT on the growth of all the sectors was found. The magnitude of the effect varies across the sectors, however. While only one out of three of the variables used to proxy ICT is significant in the agricultural and service sectors, all three ICT proxies show significant contributions to the manufacturing sector's growth.

Several policy implications can be drawn from this study. Firstly, given the low contribution of ICT to export in the manufacturing sector, African governments should provide an enabling environment to attract investment in the ICT sector of the economy. Secondly, ICT support systems should be made available by various industries to enhance the positive effect of ICT in productive processes.

Future studies in this area might look at more countries in Africa. Similarly developing countries in general can be explored. Only three sectors



were considered in this study; hence, a future study could look at the mining or raw materials extraction sector.

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# *Sustainability and Sustainable Development Research around the World*


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This paper reviews the existing research on sustainability and sustainable development around the world. It begins by defining the sustainability and sustainable development concepts. Thereafter, the paper highlights the dimensions of sustainable development and sustainability based on the literature. The paper also shows the relationship between sustainability and sustainable development. The paper used the literature review methodology. The paper finds that each region of the world has made some progress towards achieving high levels of sustainable development; however, each region also faces unique challenges that affect the attainment of the sustainable development goals in the region. These challenges have social, political, structural, institutional and economic dimensions. Also, while sustainable development is a widely acknowledged concept in academia its practicality in policy circles has been contested. Existing empirical studies show that incorporating sustainability or sustainable development concerns into business or environmental management yields some positive benefits. Finally, some areas for future research are suggested.

*Key Words:* sustainability, sustainable development, world, environment, society, research, sustainable development goals

*JEL Classification:* Q01

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## **Introduction**

The objective of this article is to review the existing research on sustainability and sustainable development around the world. The paper achieves this goal by reviewing the existing research that identifies the progress made, issues, and research output in several regions in the sustainability and sustainable development literature.

There is growing interest in sustainability and sustainable development in the academic and policy literature. These two concepts have dominated the international development policy arena for over two decades now. In the policy arena, recent events such as climate change, the race to reduce fossil fuel emission, the transition to renewable energy, and the transi-

tion to a circular economy, have intensified the push towards sustainability and sustainable development (Aven 2020; Leal Filho et al. 2019; Ozili 2021; Wackernagel, Hanscom, and Lin 2017). In academia, academics and researchers have undertaken research to identify the factors that promote or hinder the attainment of sustainable development goals in the hope that the resulting research output can inform policy decisions aimed at attaining the sustainable development goals.

Sustainable development has a very broad meaning depending on the dimensions being considered. Sustainable development has received much attention from policy makers and academics for four main reasons. Firstly, sustainable development is considered to be the end-goal of the United Nation's plan for the planet, and many countries have agreed to achieve the sustainable development goal (Linnér and Selin 2013; Bexell and Jönsson 2017). Secondly, sustainable development helps to promote a sustainable planet for every generation (Weiss 1992; Emina 2021). Thirdly, sustainable development is considered to be an all-embracing development goal because the aim of all other development goals is to achieve a level of development that is sustainable. Finally, sustainable development is expected to bring lasting socio-economic benefits to all people and the environment (Szymańska 2021).

Prior studies have examined several themes in the sustainability and sustainable development literature such as the determinants of sustainability and sustainable development (Vinuesa et al. 2020), promoting sustainable development through building infrastructure and innovations (Thacker et al. 2019; Silvestre and Țîrcă 2019), the different approaches to sustainable development (Liu et al. 2018; Chindavijak, Phusavat, and Kess 2016; Chichilnisky 2011; Hassan, Wright, and Struthers 2013), country-specific sustainable development practices (Roy and Pramanick 2019; Wang, Shi, and Zhou 2020), financial inclusion for sustainable development (Ozili forthcoming.b), and sustainable development through environmental responsibility and economic growth (Worae, Ngwakwe, and Ambe 2018; Sharmin and Tareque 2018; Ganda, Ngwakwe, and Ambe 2017). While these themes address very important issues in the literature, there are very few studies that present an overview of the progress made and issues affecting sustainable development and sustainability in different regions of the world.

There is a need to identify the advances made in the sustainability and sustainable development literature, and the issues that are yet to be addressed, alongside some suggested areas for future research into sustainability and sustainable development practices. This paper is one of the

few papers that review the existing research in the sustainability and sustainable development literature. This paper presents a review of the existing research on sustainability and sustainable development across several regions of the world. It also identifies areas for future research in sustainability and sustainable development.

Regarding the methodology used in this review paper, the articles used must meet three criteria. One, the articles should be published as an empirical study, analytical study, policy discussion paper or a working paper. This means that unpublished dissertations and media information from websites and online blogs were excluded in this review. Two, the time range for the articles included in this review is from 2000 to 2021. This time frame was chosen because sustainable development and sustainability have received a lot more attention in the literature in the post-2000 period. Over 70 research articles were reviewed in this article, including more than 20 policy papers. Three, the articles included in the review are those that explore sustainability and sustainable development as a major theme in the study or explore the interlinkages between sustainable development, sustainability and other relevant topics. Finally, for ease of conversation, the terms ‘sustainability’ and ‘sustainable development’ have been used interchangeably to mean the same thing in every section of the paper except in the second section.

This paper contributes to the literature in the following way. First, it contributes to the literature that examines the role of sustainability and sustainable development for better development outcomes. Second, this review contributes to the ongoing debate about the sustainability of the planet. Third, for academics and researchers, the discussion in this review adds to the sustainable development and sustainability literature that attempts to proffer solutions to the challenges affecting the world such as climate change, greenhouse gas emission, and fossil fuel pollution. The rest of the paper is structured as follows. The second section presents the conceptual framework. The third section discusses the global research on sustainability and sustainable development. The fourth section reviews some empirical studies. The fifth section presents some areas for future research. The sixth section presents the conclusion of the study.

## **Conceptual Framework**

### **DEFINING SUSTAINABLE DEVELOPMENT**

The first definition of sustainable development surfaced in a 1987 United Nations report titled ‘Our Common Future’ which is now generally re-

ferred to as the ‘Brundtland Report of the World Commission on Environment and Development 1987.’ It defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United Nations 1987). Also, the National Sustainable Development Strategy defines sustainable development as a targeted, long-term, comprehensive and synergic process that (i) affects the conditions and all aspects of life at all levels, (ii) satisfies the biological, material, spiritual and social needs and interests of people, (iii) eliminates or significantly reduces interference that endangers, damages or destroys conditions and forms of life, (iv) does not burden the country, (v) preserves resources, and (vi) protects cultural and natural heritage. In the academic literature, sustainable development is defined as the process of improving the quality of human life while living within the carrying capacity of supporting ecosystems (see Willers 1994). Pearce, Atkinson, and Dubourg (1994) define sustainable development in terms of a per capita consumption path that is constant or rising over time.

#### DEFINING SUSTAINABILITY

Defining sustainability is not an easy task. The literature shows that sustainability is a philosophy, approach or practice that guides the use of today’s resources in an efficient manner to ensure that resources are available and sufficient to meet today’s needs and the needs of future generations (Greenland 1997; Grant 2010). Sustainability is also defined as the ability to make responsible decisions in using and allocating resources to economic and non-economic activities in an effort to achieve certain desired social, economic and environmental outcomes (Grant 2010). Many studies defined sustainability in relation to other contexts or disciplines such as business sustainability (Bansal and DesJardine 2014), career sustainability (Tordera et al. 2020), urban sustainability (James 2015), product sustainability (Dyllick and Rost 2017) and fiscal sustainability (Byrne, Fiess, and MacDonald 2011).

#### A CRITIQUE OF THE SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT CONCEPTS

Although the concepts of sustainable development and sustainability should be defined according to accepted standards of academic rigour, there is some critique of what the two concepts actually mean, and to whom. Regarding the question ‘to whom?’ we know that over the years



the two concepts have influenced, and been influenced by, policy-makers, activists and academics. Academics view the two concepts broadly as the process of increasing average material wellbeing without irreversibly damaging the natural environment. Policymakers see the two concepts as a set of codes, standards, rules or laws that guide the use of resources in a sustainable manner. Activists view the two concepts as an agenda that favours protection of the environment at the expense of increased material well-being, especially when increased material well-being comes at the cost of degrading the environment (McNeill 2004). Another criticism is that the meaning of sustainability and sustainable development can be differentiated by disciplines. People in policy disciplines tend to define the two concepts in terms of laws, while those in the ecology, economics, anthropology, chemistry, physics and geology disciplines define the two concepts in terms of materials, development and the environment (McNeill 2004). These differences suggest that sustainability and sustainable development have to be broadly defined for it to be all-encompassing since almost all disciplines have something to contribute to the study of sustainability and sustainable development (McNeill 2004). The focus of sustainability and sustainable development is also problematic in some ways as it keeps the focus on the global South (e.g. developing countries) when in fact more radical changes are required in the developed countries in the form of de-development or de-growth (Lele 2013).

#### CONCEPTUAL RELATIONSHIP BETWEEN SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

The two concepts are technically not the same. Sustainability is the driving force or agenda that guides a development process towards achieving a level of development that is sustainable (Hodge 1997; Jabareen 2008). Sustainability sets the tone, the approach or the guiding principles that coordinates all facets of development with the aim of achieving a sustainable level of development (Hodge 1997). In contrast, sustainable development is a goal or a target that is achieved by following a set of sustainability principles or guidelines (Diesendorf 2000). Figure presents a simple illustration of how development that is guided by a relevant sustainability framework can lead to sustainable development. The illustration in figure 1 infers a positive relationship between sustainability and sustainable development, and the positive relationship may be linear or non-linear. The implication of the framework in figure 1 is that sustainable development is achieved when sustainability is made a priority on the path to

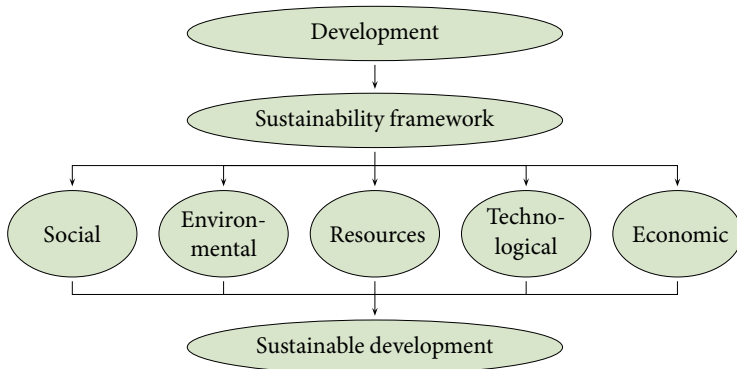


FIGURE 1 Conceptual Relationship between Sustainability and Sustainable Development

development. Any level of development that is achieved with a guiding sustainability framework is considered to be a development outcome that is sustainable. In contrast, any level of development that is achieved without a guiding sustainability framework is considered to be a development outcome that is not sustainable.

#### DIMENSIONS OF SUSTAINABLE DEVELOPMENT AND SUSTAINABILITY

There is a consensus in the literature that sustainable development or sustainability consists primarily of three dimensions, namely, the social, economic, and environmental dimensions (see, for example, Ranjbari et al. 2021; Duić, Urbanies, and Huisingh 2015; Clune and Zehnder 2020; Kumar and Anbanandam 2019). Recent studies have suggested a fourth dimension of sustainable development which is the governance dimension (see van Zeijl-Rozema et al. 2008; Stojanović, Ateljević, and Stević 2016). The governance dimension reflects the political system through which power is exercised to implement policies and actions for sustainable development. There is also a consensus that sustainable development and sustainability are multi-dimensional and are achieved through mutual interaction between the social dimension, the economic dimension, the environmental dimension and the governance dimension of sustainable development or sustainability (see, for example, Lehtonen 2004; Golusin and Ivanović 2009). Other studies have introduced additional dimensions of sustainable development or sustainability, such as the technological or technical dimension (Penzenstadler and Femmer 2013; Finkbeiner

et al. 2010), the cultural dimension (Brocchi 2010), the knowledge dimension (Mebratu 2001), etc.

### **Regional Overview of the Progress and Challenges of Sustainable Development**

This section presents an overview of the progress and challenges of sustainable development in some regions: Europe, Asia, Africa, the Middle East, and Oceania. It summarizes some of the progress made towards sustainable development and the challenges of sustainable development in these regions. The summaries are based on a review of studies that document the regional developments in sustainable development. The terms ‘sustainable development’ and ‘sustainability’ are used interchangeably in this section.

#### **EUROPEAN STUDIES ON SUSTAINABLE DEVELOPMENT**

Several European studies have offered some propositions regarding the state of sustainable development in the region as well as the progress made and issues affecting the attainment of sustainable development in Europe. For example, there are claims that the European Union played a leadership role at the 2002 World Summit on Sustainable Development (Lightfoot and Burchell 2005). Since then, there has been a surge in national strategies for sustainable development in several parts of Europe (Steurer and Martinuzzi 2005). Some European countries have used scenarios to determine whether there is sufficient rationale to pursue sustainable development as a national policy priority (Rotmans et al. 2000), while other advocates of sustainable development often pressure policymakers to allow sustainable development goals to permeate every facet of economic life, such as: education for sustainable development (Adomßent et al. 2014; Jucker and Mathar 2015), public sector management for sustainable development (Steurer and Hametner 2013), sustainable development in the form of corporate social responsibility in European firms (Miralles-Quiros, Miralles-Quiros, and Arriano 2017), employment policy for sustainable development (Hinterberger, Omann, and Stocker 2002), improving environmental quality for sustainable development (Van den Brink et al. 2018), change in land-use for sustainable development (Mann et al. 2018; Gibas and Majorek 2020), tourism for sustainable development or sustainable tourism (Alfaro Navarro, Andrés Martínez, and Mondéjar Jiménez 2020), and climate change mitigation for sustainable development (Casado-Asensio and Steurer 2014).

Regarding progress in sustainable development, South Eastern European countries are in the early phases of sustainable development, and have only recently begun to develop plans to steer their economies towards sustainable growth and development although the process has been slow, particularly in the early 2000s (Ivanovic et al. 2009). The slow pace in achieving sustainable development in South Eastern Europe is due to a rigid political structure, weak legal system, weak institutions, lack of political will to embrace the change from traditional development to sustainable development and lack of a free market mechanism (Láng 2005). While South Eastern Europe lags behind in progress towards sustainable development, Western European countries such as Denmark, Germany, Finland and Norway have made tremendous progress towards sustainable development (Golusin and Ivanović 2009), and are often considered to be the champions of sustainable development in Europe. Several studies have found evidence to support this claim. For example, Resce and Schiltz (2021), Škrinjarić (2020), and Lior, Radovanović, and Filipović (2018) show that developed European countries, such as Denmark, rank higher on sustainable development rankings while countries like Romania and Bulgaria lag behind. There is also evidence that European countries that are members of the European Union perform better than European countries outside the European Union in the sustainable development rankings. This leads to the conclusion that the process of attaining collective sustainable development in continental Europe may be slower than anticipated due to existing institutional and political fault lines, particularly in South Eastern European countries. Also, there have been arguments that some European countries tend to focus more on the economic and environmental dimensions of sustainable development while ignoring the social dimension of sustainable development, particularly the health sector, despite the importance of good health for the well-being of European citizens (Bickler, Morton, and Menne 2020).

#### ASIAN STUDIES ON SUSTAINABLE DEVELOPMENT

Some studies identify the progress made and issues faced by Asian countries in achieving sustainable development goals in the region. For instance, Lee et al. (2018) show that much of the continent's efforts towards attaining sustainable development have been to engage the business community and solicit their support in resolving sustainable development issues in Asian countries, as well as prioritizing low-carbon-emission energy production and energy efficiency in order to attain the

United Nations' sustainable development goals (Zavyalova, Studenikin, and Starikova 2018). Savage (2006) examines the concept of sustainable development in Southeast Asia based on four themes: population growth and distribution, the capitalist system, ecological systems and the nature of development. He emphasizes the need to contextualize sustainable development within an ecosystem paradigm, and that Asian governments should focus on sustainable urban development because cities will play an important role in sustainable development in the future. He further argues that the long-term solutions to sustainable development in South Asia will lie in changing consumption habits, lifestyle goals and value systems. De Sousa Jabbour, Ndubisi, and Seles (2020) examine the factors affecting the environmental, social and financial performance of small and medium-sized enterprises (SMEs) in the manufacturing sector in Asia. They find that innovation, entrepreneurial orientation, governmental actions, and lean manufacturing systems are some of the prominent factors which drive Asian SMEs' financial, social and environmental performance towards sustainable development. Other studies document a number of factors affecting sustainable development in Asia, namely, the acquisition of land for growing biofuels (Zoomers 2011), overdependence on international tourists and foreign investment (Trupp and Dolezal 2020), the marginalization of poor people in South Asia (Müller-Böker et al. 2004), and the weak institutional coordination between agencies charged with disaster response for sustainable development (Seidler et al. 2018).

#### AFRICAN STUDIES ON SUSTAINABLE DEVELOPMENT

The African environment is unique due to its many developmental challenges. Some studies identify the challenges faced by African countries in achieving sustainable development goals in the region while other studies have identified the areas that require attention for successful sustainable development in African countries.

Some of the identified challenges that undermine efforts towards sustainable development in the African continent include: poor infrastructural support to harness renewable resources (Bugaje 2006), high population growth and inadequate employment opportunities (Ahenkan and Osei-Kojo 2014), low climate change adaptive capacity (Tumushabe 2018; Bauer and Scholz 2010), and the COVID-19 pandemic (Ekwebelem et al. 2021; Ozili forthcoming.a). Despite these challenges, there seems to be a consensus that sustainable development in Africa should begin at the

local level (Annan-Aggrey, Bandaiko, and Arku 2021), and should be driven by the local governments (Atisa, Zemrani, and Weiss 2021). Also, there is a consensus that policy coherence and coordination between the local, state and federal governments is a prerequisite to promote sustainable development in African countries (Auriacombe and van der Walt 2021).

Some of the areas that require attention for successful sustainable development in African countries include: reducing the excessive usage of fuel wood (Bugaje 2006), preserving indigenous knowledge and local language literacy (Eyong 2007; Trudell 2009), investing in energy efficient strategies (Ouedraogo 2017; Winkler, Howells, and Baumert 2007), strengthening democratic institutions and improving agriculture (Ahenkan and Osei-Kojo 2014; Mbow et al. 2014), developing better information and communication technology systems (Asongu and Odhiambo 2019; Onyango and Ondiek 2021), incorporating sustainable development into educational policies in Africa (Manteaw 2012), better financing for education (Oketch 2016), domestic mobilization of financial resources (Nhamo 2017), the contribution of religion to sustainable development in Africa (Ogbonnaya 2012), local economic development (Abrahams 2018), effective leadership (Dartey-Baah 2014), strengthening tourism governance (Siakwah, Musavengane, and Leonard 2020; Kimbu and Tichaawa 2018), promoting cooperation between the private and public sector in achieving the sustainable development goals (Jaiyesimi 2016), improved quality of institutional governance (Mc Lennan and Ngoma 2004), using technology to achieve the sustainable development goals (Omwoma et al. 2017), improving capacity to mobilize resources to increase water-sanitation-hygiene services (Nhamo, Nhemachena, and Nhamo 2019), and the role of African scientific research centres in promoting sustainable development (Dafaalla et al. 2021). Furthermore, some research findings identify additional areas that policy makers in African countries should pay attention to. For instance, Oke, Ibrahim, and Bokana (2021) find evidence of a significant positive relationship between renewable energy and the economic dimension of the sustainable development index. Tiba and Belaid (2021) investigate whether renewable energy is a determinant of sustainable development for 25 African countries over the period 1990 to 2014. They use simultaneous equation models and find a positive relationship between renewable energy and sustainable development. This indicates that higher levels of renewable energy have a positive influence on the economic, environmental,

social, and institutional dimensions of sustainable development. Aust, Morais, and Pinto (2020) investigate whether foreign direct investment contributes to the achievement of sustainable development goals (SDGs) using data from 44 African countries. They find that the presence of foreign investors positively influences SDG scores in African countries. Ojike et al. (2021) examine whether government spending on education and health affects the level of sustainable development in Nigeria. They use the Autoregressive Distributed Lag Model (ARDL) bounds test technique and construct a Sustainable Society Index (SSI) as a measure of sustainable development. They find significant evidence that government spending on education and health improves the level of sustainable development in both the short- and long-run in Nigeria.

#### MIDDLE EAST STUDIES

Few studies discuss the progress made in sustainable development in the Middle East region. These studies have stated that some Middle Eastern countries such as the United Arab Emirates (UAE), Qatar, and Lebanon strive to become more environmental-friendly (Issa and Al Abbar 2015; Subeh and Al-Rawashdeh 2012; Bayomi and Fernandez 2019). The governments in these Middle Eastern countries have established sustainable development initiatives such as green building codes and regulations to promote environmental-friendly construction towards the attainment of sustainable development goals (Issa and Al Abbar 2015). Also, there is growing interest in urban sustainability in cities such as Dubai, Mascat, Beirut and Amman (Subeh and Al-Rawashdeh 2012). But efforts towards sustainable development in the Middle East region are hindered by natural constraints and underlying political and social issues such as inefficient energy production and consumption (Bayomi and Fernandez 2019), scarcity of water, lack of awareness about sustainability and environmental issues, wars and other operational challenges (Issa and Al Abbar 2015).

#### OCEANIA STUDIES

Emerging studies in the Oceania region show that sustainable development has become a discursive device for advocating compact city policies and collaborative approaches to policymaking in Western Australia (Hopkins 2013). This has been possible due to the availability of environmentally friendly (green) material, financial incentives to clients and contractors, government policy for implementation, and overall awareness about sustainable development within the industry (Khalfan et al.

2015). Curran (2015) proposes two key interrelated strategies for achieving sustainable development in Australia: the modernization of production and its practices, and the modernization of the political sector and its institutions. Gurrán, Gilbert, and Phibbs (2015) show that Australia incorporates sustainability provisions in land use, and there is a responsive relationship between sustainable development pressures and regulatory development control for land use. Meanwhile, Allen et al. (2020) assess national progress and priorities for sustainable development goals (SDGs) in Australia, and find that there is strong progress in achieving goals relating to health and education while there is poor progress in achieving goals relating to climate action and reducing inequalities. In New Zealand, several studies suggest ways to promote sustainable development in New Zealand, such as applying a capital-based framework to local government planning (Saunders and Dalziel 2010), adopting the Cittaslow approach for local sustainable development (Semens and Freeman 2012), incorporating the enviro-schools programme into the curriculum of schools in New Zealand (Williams 2012), embedding education for sustainable development in the curriculum of New Zealand schools (Zguir, Dubis, and Koç 2021) and sustainability reporting by local governments in New Zealand (Bellringer, Ball, and Craig 2011).

### **Some Empirical Studies**

Many empirical studies in the literature investigate the effect of sustainability and sustainable development on firms, industries and material preservation. Some studies explore the association between energy, carbon reduction and sustainable development. For instance, Lin and Zhu (2019) examine the impact of the energy saving and emission reduction (ESER) fiscal policy on urban sustainable development. They use a panel data of 114 Chinese cities, and find that the ESER policy had a positive and significant effect on the eco-efficiency of Chinese cities. The implication is that the sustainability-fiscal policy improved the eco-efficiency of Chinese cities during the study period. Yu and Tsai (2018) examine the influence of firms' carbon reduction behaviour on the sustainable development of the firm and investigate the effect on sustainable development of carbon emission reduction by state-owned enterprises (SOEs) in high-carbon-emission industries in China. They find that SOEs and high-carbon-emission industries emphasize the need to achieve carbon reduction more than privately owned enterprises and non-high-carbon-emission industries. They also find that carbon reduction positively influ-



TABLE 1 Some Empirical Studies According to Regions: Africa

Author(s)	Purpose	Method	Finding
Odugbesan and Rjoub (2019)	Assessed the relationship between sustainable development and HIV/AIDS prevalence and controlling for good governance and human capital.	They analysed data from 26 sub-Saharan African countries from 1990 to 2016. They used the pooled mean group (PMG) estimator based on Pesaran, Shin, and Smith's (1999) methodology.	There is a significant relationship between HIV/AIDS prevalence and sustainable development, and between human capital and sustainable development.
Sarpong and Bein (2021)	Investigate the effect of sustainability on the quality of life in selected sub-Saharan African countries from 2000 to 2017.	The data was estimated using different panel estimation methods, e.g. fixed effect panel estimation and GMM dynamic panel estimation.	Sustainability improves human wellbeing in sub-Saharan Africa.
Bokpin (2017)	Investigates how governance and institutions may regulate the impact of foreign direct investment (FDI) on environmental sustainability.	The author used panel estimation methodology to analyse the 24-year panel data from 1990 to 2013.	An increase in FDI inflows significantly increases environmental degradation, hence causing a negative impact on environmental sustainability.
Asongu and Odhiambo (2019)	Investigate whether enhancing information and communication technology (ICT) reduces inequality in 48 countries in Africa from 2004 to 2014.	They used the generalised method of moments (GMM) estimation technique. Three inequality indicators were used, namely, the Gini coefficient, Atkinson index, and Palma ratio. The ICT indicators include mobile phone penetration, internet penetration, and fixed broadband subscriptions.	Enhancing internet penetration and fixed broadband subscriptions have a net effect on reducing the Gini coefficient and the Atkinson index, whereas increasing mobile phone penetration and internet penetration reduces the Palma ratio.

ences corporate sustainable development. This suggests that carbon reduction is beneficial to both the ecological environment and corporate sustainable development. Pătări et al. (2012) examine the relationship between a firm's sustainability efforts and its financial performance in the

TABLE 2 Some Empirical Studies According to Regions: Europe

Author(s)	Purpose	Method	Finding
Ibănescu et al. (2018)	Investigate how tourism affects the sustainable development of rural localities in Romania from 2001 to 2016.	They used three composite indexes: demographic stability, public utilities, and socio-economic sustainability. The Mann-Whitney U test was used to determine the differences in each of the sustainability indexes.	There is a significant positive effect of tourism on all the composite indexes analysed, implying that tourism increased rural sustainable development in Romania.
Voica, Panait, and Haralambie (2015)	Investigate whether sustainable development is related to the flow and stock of foreign direct investment (FDI) in 28 EU member states from 2000 to 2012.	The study used cross-data panel regression to analyse the EU country data.	The environmental effect of FDI has the greatest effect on the sustainability indicators, followed by the social effect and then the economic effect of FDI.
Cioacă et al. (2020)	Assessed the relationship between the ICT sector development indicators and some measures of sustainable development for EU countries from 2008 to 2018.	They used panel regression data models based on data collected from the Eurostat database.	There is a positive relationship between ICT development and a change in GDP per capita.
Fotis and Polemis (2018)	Investigate the relationship between sustainable development, environmental policy and renewable energy use.	They utilized a dynamic GMM approach over a panel of 34 European Union countries from 2005 to 2013.	There is a positive relationship between development and pollution. Energy saving positively affects environmental degradation, while energy intensity increases air pollution.

*Continued on the next page*

energy industry. The authors compared firms included in the Dow Jones Sustainability Indexes (DJSI) with the biggest firms in the global energy sector. They analysed the two groups using data from 2000, 2005, and 2009. They find evidence of a positive association between sustainable development and firms' financial performance, especially when performance is measured as the market capitalization value.

TABLE 2 Continued from the previous page

Author(s)	Purpose	Method	Finding
Cavicchi and Vagnoni (2017)	Determine whether General Directors (GDS) of Italian hospitals were adopting formalized sustainable development strategies.	They used a survey of a sample of General Directors (GDS) of Italian hospitals.	The majority of GDS had adopted a formalized sustainability plan in which informal and/or occasional structures or collegial bodies dealt with sustainability.
Ayuso and Navarrete-Báez (2018)	Investigate the relationship between the entrepreneurial behaviour of small and medium-sized enterprises (SMES) and their commitment to sustainable development.	Used survey data from Spanish and Mexican SMES.	Entrepreneurial orientation is positively associated with sustainable development engagement. Also, SME internationalization has a positive impact on sustainable development engagement in Mexican but not in Spanish firms.
Méndez-Picazo, Galindo-Martín, and Castaño-Martínez (2021)	Analyse the impact of general entrepreneurship and social entrepreneurship on sustainable development in 15 OECD countries between 2015 and 2016.	They used structural equation models.	Both general and social entrepreneurial activity stimulate sustainable development, although the impact of general entrepreneurship is greater than that of social entrepreneurship.
Armeanu, Vintilă, and Gherghina (2018)	Investigate the drivers of sustainable economic growth in 28 EU countries.	They used panel data regression models, in the form of fixed and random effects models, alongside the system generalized method of moments.	Expenditure in higher education, and research and development expenditures, are positively linked with sustainable economic growth.
Vorontsova et al. (2020)	Analyse the relationship between state regulation of the education sector and the achievement of sustainable development goals using data from 14 countries of CEE from 2006 to 2016.	The method of principal components method and panel regression methods were used.	State financing of the education sector contributes to the achievement of sustainable development goals.

TABLE 3 Some Empirical Studies According to Regions: Asia

Author(s)	Purpose	Method	Finding
Chai et al. (2021)	Investigate the constraints created by economic growth targets' impacts on air pollution.	They used the spatial Durbin model.	The constraints created by economic growth targets were shown to increase air pollution.
Liu and Kong (2021)	Investigate whether and how business strategies affect firms' sustainable development from the viewpoint of green innovation.	Used regression methodology.	Firms following prospector strategies engage less in sustainable development behaviours than those following defender strategies.
Huang, Shen, and Miao (2021)	Assess the economic-environmental coupling and coordination degree in order to measure sustainable development.	The system coupling model and the coordination degree model were used to measure sustainable development.	The better the socio-economic development of a city, the better the effects of the emissions trading scheme (ETS) on sustainable development.
Sekarlan git and Wardhani (2021)	Analyse the board of directors' commitment to Sustainable Development Goals (SDGs) by looking at the influence of the characteristics and activities of the board of directors and the existence of Corporate Social Responsibility (CSR) committees on disclosures regarding the SDGs.	The study used an ordinary least square linear regression model to analyse data obtained from companies in five Southeast Asian countries (Indonesia, Malaysia, Singapore, Thailand, and the Philippines) from 2016 to 2017.	The percentage of attendance at board directors' meetings and the existence of CSR committees positively affected SDG disclosures. It also indicates that the presence of the board at the meeting can encourage more intensive SDG disclosures.

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Other empirical studies examine the sustainability practices in firms. Nguyen and Nguyen (2020) investigate the determinants of the disclosure of sustainable development information by enterprises. They analysed 120 manufacturing companies listed on the Vietnam stock market in 2019. They use the ordinary least squares methodology and find that state ownership has a significant negative effect on the disclosure of sustainable development information of manufacturing companies listed on

TABLE 3 Continued from the previous page

Author(s)	Purpose	Method	Finding
Koirala and Pradhan (2020)	Examine the factors that determine sustainable development, measured by adjusted net saving, using panel data for 12 Asian countries from 1990 to 2014.	The random-effect panel regression model was used.	There is a positive and significant effect of per capita income and financial development on sustainable development.
Singh, Issac, and Narayan (2019)	Investigate the association between economic development, human development and environmental sustainability index for 22 selected Asian economies from 1990 to 2012.	Linear, log-linear and nonlinear regression models were used.	Economic development, human development and social development have a significant and complex association with the environmental sustainability index.

TABLE 4 Some Empirical Studies According to Regions: North America

Author(s)	Purpose	Method	Finding
Solarin and Bello (2019)	Examine the possibilities of substituting fossil fuels including natural gas, coal, and oil for biomass consumption in Brazil from 1980 to 2015.	The study used the ridge regression, a second-order Taylor Series approximation of log linear trans-log specification, and a constructed index of sustainable development.	The sustainable development model gives more robust output elasticity estimates as it detects the inherent negative effect of some of the fossil fuels on the economy.
Prud'homme and Raymond (2013)	Determine the antecedents of customer satisfaction in the hospitality industry including those related to the sustainable development practices adopted by hotels.	A survey of 473 customers in eleven hotels located in the province of Quebec, Canada.	Customer satisfaction is positively influenced by the hotel's adoption of sustainable development practices. Also, the level of customer satisfaction varies according to the hotel's size and type of ownership.

the Vietnam stock market. Xiao et al. (2013) investigate whether there is a 'world price' of corporate sustainability. They find that sustainability investments have no significant impact on global equity returns, which

TABLE 5 Some Empirical Studies According to Regions: Australia

Author(s)	Purpose	Method	Finding
Chen, Eweje, and Kennedy (2021)	Examine sustainability tensions among firms in business partnerships, and how managers make sense of them.	Used 33 in-depth individual interviews alongside one informal group discussion at 16 relatively large Chinese and New Zealand firms in business partnerships.	Found that managers in Chinese and New Zealand firms tend to apply three kinds of logic: paradoxical, dichotomous, and business logic. Paradoxical logic is the type most commonly adopted.
Bond and Perrett (2012)	Identify the barriers that need to be overcome so that progress can be made towards advancing the sustainable building agenda in New Zealand's commercial property sector that will help improve building energy performance and reduce greenhouse gas emissions.	Used an in-person structured interview with a representative of the New Zealand Green Building Council and an online survey of participants in the commercial property sector.	Found that there are key issues the property industry has to resolve, the most significant of which is the commercial property sectors' view of the cost premium for green buildings versus conventional buildings.
Reddy and Gordon (2010)	Investigate the effect of sustainability reporting on companies' financial performance.	Used the event study method to estimate abnormal returns for a 31-day event window for 68 listed companies, 17 listed in the New Zealand Stock Exchange and 51 listed in the Australian Stock exchange.	Sustainability reporting is statistically significant in explaining abnormal returns for the Australian companies.
Bebbington, Higgins, and Frame (2009)	Examine organizations' self-descriptions of why they initiated sustainable development reporting and explore these explanations using an institutional theory framework.	Used organizational narratives from semi-structured in-depth interviews with reporting champions who participated in a sustainable development reporting workshop series.	Found that sustainable development reporting is initiated because it has come to be an accepted part of pursuing a differentiation strategy. It offers some contribution to existing business challenges, and organizations value the rewards it offers.

implies that large institutional investors are free to implement sustainability mandates without fear of breaching their fiduciary duties. Gupta and Benson (2011) examine whether sustainable companies are able to compete effectively in terms of financial performance and attractiveness to investors. They analysed firms appearing in the Innovest 'Global 100' rankings, and find that sustainable companies do not significantly underperform the stock market as a whole; rather, they are highly competitive within their industries. López, Garcia, and Rodriguez (2007) examine whether there are significant differences in performance indicators between European firms that have adopted corporate social responsibility (CSR) practices and others that have not. They compared a group of firms belonging to the Dow Jones Sustainability Index (DJSI) with another group comprised of firms quoted on the Dow Jones Global Index (DJGI) but not on the DJSI. They analysed the two groups of 55 firms from 1998 to 2004. They find that differences in performance exist between firms that belong to the DJSI and to the DJGI and that these differences are related to CSR practices. Kumar and Rahman (2016) investigate the factors affecting sustainability adoption in the Indian automobile supply chain, and the inter-relationships among them. They took a survey of 157 Indian automobile companies. They used the Partial least square (PLS) methodology and find that external influence and expected sustainability benefits increase top management's commitment to adopt sustainable practices. Collectively, these studies show that incorporating sustainability or sustainable development concerns into business or environmental management yields some positive benefits. Other empirical studies have conducted research in a regional context as shown in tables 1–5.

### **Areas for Future Research**

This section identifies several opportunities for further research. The suggested areas for future research in this section are limited to areas in the literature that I find to be particularly significant. These areas are mainly the politics and political economy of sustainable development, how sustainable development can help to solve local problems, and the uneven level of sustainable development.

#### **POLITICS AND THE POLITICAL ECONOMY OF SUSTAINABLE DEVELOPMENT**

More research is needed on the politics of sustainable development. Although studies such as O'Riordan and Voisey (1997), Cadman et al. (2015),

Gale (2018), and Sabau (2020) have examined a number of issues regarding the political economy of sustainable development, there are many other political dimensions of sustainable development that have not been explored yet. For example, existing studies on sustainability and sustainable development have not analysed how a government's priorities and political ambitions can hinder efforts to achieve sustainable development. Introducing and enforcing sustainable development policies may lead to the discontinuation of harmful economic activities whose stakeholders or owners are politically powerful. When this happens, powerful stakeholders and owners can resist and frustrate the sustainable development policies of the government and make such sustainable development goals unattainable. There is also the issue of funding for sustainable development activities. There can be intense politics in deciding how much public funds should be allocated to sustainable development activities. There is also the question of whether sustainable development should be made a national policy priority to the detriment of other areas of life that are important to society. If sustainable development becomes a national priority, politicians can lobby the funding process to ensure that the national sustainable development programmes of the government benefit their own constituency in order to win the votes of their constituent members in upcoming elections.

Future research is needed to explore these political dimensions and other political economy issues associated with the sustainable development and sustainability agenda. Understanding how political interests influence sustainable development and sustainability outcomes can provide some insights on how to satisfy competing political interests on the path to sustainable development.

**MUCH RESEARCH IS NEEDED ON HOW THE SUSTAINABILITY  
AND SUSTAINABLE DEVELOPMENT AGENDA CAN SOLVE  
LOCAL PROBLEMS**

Few studies examine the link between sustainable development, local economy goals and the role of local governments. Cuthill (2002) shows that the sustainability initiatives in Australia can best be implemented through the collaborative effort of the local community which involves local citizens working in partnership with local government. Meanwhile, Ruhanen (2013) shows that while local governments can assume responsibility for achieving a relevant sustainable development agenda to build the local economy, the local economy still suffers due to power struggles,



tokenistic public participation and the strong influence of the local government authority in local governance structures, and this is a hindrance to achieving local economy goals.

In practice, there may be a divergence between the sustainable development goals and the local economy goals of a country for several reasons. Some policy makers may reject the sustainable development agenda because they think it is too ambitious in that the sustainable development and sustainability agenda seeks to solve the world's problems without first helping to solve the local problems faced by individual countries. Policy makers may be concerned that sustainable development goals do not offer immediate local solutions to uplift poor countries and equip them with more resources which they can use to achieve global sustainable development goals. Other policy makers may not consider the sustainable development agenda to be an important national priority in their countries, either, because the sustainable development goals are too vague or too boring to provide meaningful guidance to solve local problems, much less the world's problems. Future research should find ways in which the sustainable development goals can fit into the current local priorities of the government of a country so that it can offer local solutions to common problems faced by many countries. Future research should also explore how the sustainable development and sustainability agenda can improve the way of life of people and improve their economic wellbeing at the local level.

#### UNEVEN LEVEL OF SUSTAINABLE DEVELOPMENT

There is the expectation that global sustainable development will be achieved when individual countries attain high levels of sustainable development. Although this idea is logical, it might be unrealistic due to cross-country differences in resource endowment. Developing countries have fewer financial resources than richer countries. Other developing countries still operate a non-circular economy which encourages waste of resources and is a setback to the attainment of the sustainable development goals in such countries. This means that the transition to a sustainable economy could take a long time, and it could take a longer time for poor countries to attain a reasonable level of sustainable development. In fact, it is more probable to expect uneven levels of sustainable development because individual countries are at different levels of development and have unequal resource endowment. Future studies should explore the concept of uneven sustainable development and consider the possi-

bility of making ‘uneven level of sustainable development’ an attainable goal rather than a one-size-fits-all level of sustainable development.

### Conclusion

This paper reviewed post-2000 studies on sustainable development and sustainability. The key findings of the review are as follows. One, there has been abundant research into sustainable development and sustainability since the post-2000 period. Two, each region of the world has made some progress towards achieving high levels of sustainable development; however, each region faces unique challenges that affect the attainment of the sustainable development goals in the region and these challenges have social, political, structural, institutional and economic dimensions. The review also identified some areas for future research such as the need for more research on the politics and the political economy of sustainable development, the need for more research on how the sustainability and sustainable development agenda can solve local problems in a country, and finally, future studies should explore the concept of an uneven level of sustainable development.

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# *Policy Development for Crisis Management in the Context of Sri Lanka*


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The paper aims to explore the key policy devising measures under crisis management in dealing with the COVID-19 pandemic. A key argument in the study is that building policy for crisis requires the understanding of both governance capacity as well as legitimacy. Through the theoretical lens of crisis management and resilience building, the study explores the key literature on the topic to arrive at a conceptual framework which is further explored through mixed-method research. The study explores the phenomenon in the context of Sri Lanka and its mechanism to deal with the pandemic. Fifteen interviews were conducted, followed by a survey covering key sectors of tourism, information technology and education to understand the extent to which crisis management strategies were achieved in the policy procedures. The article identifies some key themes: political capacity, stakeholder involvement, input capacity and throughput capacity in the overall governance system that requires further improvements, including the gender differences in accepting the policy decisions, which can be explored in future work for greater insight.

*Key Words:* crisis management, COVID-19, resilience building, governance capacity, governance legitimacy

*JEL Classification:* O38, M10

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## **Introduction**

Life crises often strike without warning, and there is rarely enough time to prepare for such eventualities. Such critical situations can occur because of both internal and external influences, which can have serious consequences if not managed carefully (Bhaduri 2019). Therefore, due to their disruptive character, crises may have a detrimental influence on businesses as well as other stakeholders involved in operations (Bundy et

al. 2017). Crises can be manifested in various forms, ranging from terrorism and civil war to governmental reactions and management, to name a few (Rosenthal and Kouzmin 1997; Bruce and O’Hair 2020; Nemeč 2020). Thus, it can be surmised that a crisis may disrupt society’s regular flow, shatter tranquillity, and jeopardise the legitimacy of public policy and the state (Boin et al. 2016).

In dealing with the growing threat of crisis, the concept of resilience has gained significant interest from individuals and organisations, to continue their operations without facing unforeseen disasters (Valero, Jung and Andrew 2015). Crisis management and resilience are often understood as two dimensions dealing with uncertainty (Williams et al. 2017). While crisis management focuses on the extraordinary circumstances, resilience considers both incremental and sudden changes, which provides an advanced understanding of how crisis management can be further improved (Christensen and Læg Reid 2020). Moreover, given the complexity of a crisis and its impact on society, many governments globally depend on timely collaboration and coordination in devising public policy for crisis mitigation (Oh 2021).

Existing research on crisis management has pointed out the need for a greater number of stakeholders in policy decision making and expanding the knowledge base (Willi et al. 2020). It is significant to understand how policy needs to be framed in dealing with such crises: more specifically, on the administrators’ capacity and the concerns surrounding legitimacy in the actions taken in mitigating the challenges arising from adversity.

Existing literature has pointed out the need to explore the effectiveness of crisis management implementation and the combination of governance capacity and legitimacy as essential dimensions (Christensen and Læg Reid 2020). Research on the topic has identified both legitimacy and capacity as central concepts in the exploration of crisis management (Ma and Christensen 2019). Despite the importance of the two dimensions of crisis management and resilience, there is not yet a clear consensus of their use as separate understandings (Prayag 2018). Given that both concepts play an important role in understanding uncertainty, the study aims to fill the gap in research by further strengthening the theoretical underpinnings of the two concepts and distinguishing their role more comprehensively in overall policy framing. The study aims to introduce a new theoretical model by combining the understanding of crisis management, governance capacity and legitimacy that is linked to the over-

arching outcome of resilience to gain a holistic picture of certain policy decisions.

The COVID-19 pandemic is the most destructive crisis witnessed by this generation, and the state of normality is a 'luxury' term under the ongoing challenges witnessed throughout the pandemic (Grover 2020). Given the significant pressure exerted on governments to balance their respective economies whilst ensuring the health and safety of the general public, much attention has been given to the topic of crisis management by scholars and policymakers (Glover et al. 2020; Bromfield and McConnell 2020). In addition to the need to build resources and capacity in the face of the pandemic, it is imperative to assess the extent to which the policy decision-making process is aligned with the expectations of the public and other stakeholders (Christensen and Læg Reid 2020). The study aims to tackle this policy issue in the background of the pandemic adding significant value to studies of what has been learned in global policy from the COVID-19 pandemic context (He, Shi, and Liu 2020).

The study aims to explore the phenomenon in the context of Sri Lanka, where strong measures of prevention and mitigation of the pandemic in the country were observed since its onset in March 2020 (Ratnasekera et al. 2020). The Sri Lankan government established a task force comprising administrators, disease specialists, military and social personnel who were able to utilise most of the available resources to tackle and prevent the pandemic situation (Hettiarachchi et al. 2021). The government further provided social assistance such as LKR 5000 for many of the vulnerable parties of society to support their livelihoods during the economically challenging period of the pandemic (Robinson and Kengatharan 2020).

The governmental measures, however, met with many challenges. This was vastly due to shortcomings in communication among certain responsible institutions as well as poor resource management, to name but two (Hemachandra et al. 2021). Further, the lack of consistency in certain government decision making in regard to resilience building, coupled with the spread of false and misleading information surrounding the pandemic, highlights the risks of both governance capacity and legitimacy in the context of Sri Lanka (Amaratunga et al. 2020). Despite the challenges of the pandemic crisis presented in Sri Lanka, it has also sparked a growing belief in using the challenge as an opportunity to be self-sufficient and develop specific capacities. This idea was encouraged with substantial support for local enterprise development in order to champion re-

search and development (Jayasena and Chinthaka 2020). Sri Lanka has had a strong track record of facing crises, and dark experiences that have tested the country's capacity and enabled the nation to build resilience to move forward despite setbacks (Karunaratne et al. 2021).

Thus, the study aims to take the case of Sri Lanka and its COVID-19 policy to understand this phenomenon. Moreover, by focusing on crisis management through the lens of capacity building and governance legitimacy, the study aims to understand its impact on resilience building. The research question encapsulating the above research problem is as follows: To what extent do governance capacity and legitimacy in regard to crisis management lead to resilience building?

The paper is divided into six sections. Following this introduction, the next section presents the literature review consisting of crisis management, governance capacity, governance legitimacy and resilience building. The third section presents the research process covering the methodological section, followed with the fourth section of findings in answering the key research question. The fifth section discusses the findings in line with literature and the paper ends with section six which also includes study limitations and potential for future work in the area.

## Literature Review

### CRISIS MANAGEMENT

Facing challenges in life is identified as part and parcel of human understanding. However, a crisis is identified as an unexpected event that does not allow an individual sufficient time for preparation and requires careful handling to ensure minimum damage (Bhaduri 2019). A crisis can often shatter the peace and order of societies and is often recognised as a 'rude surprise' in regard to the establishment of the legitimacy of organisations (Boin et al. 2016). In modern complexities, humans face many obstacles that are not limited to economic, social, and environmental challenges but also include other manufactured crises that lead to the loss of human life and displacement (Kosuda et al. 2020). Crisis management as a definition has multiple understandings and cannot simply be limited to one categorisation, as highlighted in the literature (Bundy et al. 2017; Coombs and Laufer 2018).

In understanding crisis management, the crisis could be identified as a serious threat to the fundamental values and norms of a specific social system, requiring critical decision making within minimum time dura-

tion (Ererdi et al. 2021). Although 'crisis' carries multiple meanings, most of them guide individuals and the organisations facing such situations to take certain important actions (Zamoum and Gorpe 2018). The term 'crisis' could have multilevel understandings varying from a person or an organisation to a country as well as an eco-system. A personal crisis, for example, can be emotional meltdowns, an economic crisis is the drop in business activities, and an ecological crisis is the threat towards species survival (Boin et al. 2016). Crisis is also a time when many seek leaders whom they expect not only to identify pathways towards solutions but also avert threats and minimise potential damage (Boin et al. 2016). Effective leadership during a crisis could provide the required assistance to individuals as well as the organisation with their vision, traits and performance abilities to achieve recovery from external disruptions (Bhaduri 2019). The leadership qualities exhibited during the crisis are also vital for a balancing act of interests amongst various stakeholders as well as to meet the need for strong negotiation skills in compromising and achieving the relevant objectives (Christensen, Lægred, and Rykkja 2016).

Despite many organisations and individuals identifying the importance of proactive strategy development to face a crisis, the COVID-19 pandemic is identified as a global crisis. This pandemic is a deviation from other crises due to its significant global impact as well as the wide-spreading negative effects on respective economies across the world (Abdoul-Azize and El Gamil 2021). The unique nature of the pandemic crisis could also be interpreted as a 'novel crisis' due to its unprecedented and transboundary nature (San, Bastug, and Basli 2021). The pandemic has tested the ability of many organisations to switch and embrace technology and online platforms to ensure continuity of essential work as well as that of businesses to reduce their vulnerabilities and risks of running out of business (Abdoul-Azize and El Gamil 2021). Businesses are expected to reinvent themselves not only to survive during COVID-19; such innovations and novelty allow them to exploit some of the unique opportunities presented during the pandemic crisis (Liu, Lee, and Lee 2020). This notion is closely connected with the idea of conducting proactive research with clear communication lines for early detection and preparation for any unforeseen changes (Miguel et al. 2022).

Although the topic of crisis has gathered significant momentum recently, from a management perspective there is still a lack of research on the topic of crisis management and its implications (Bhaduri 2019). One of the key developments on the topic has surrounded the work of Herbane

(2010), conceptualising crisis as a three-step process of identifying a particular threat, followed by devising a certain response and finally identifying its impact upon implementation. This idea could also be recognised from the perspective of pre-crisis and post-crisis developments. This line of reasoning helps to identify certain factors at a prior stage before a complex scenario, a post-analysis to analyse the lessons learnt from a specific disaster situation and potentially avoid a recurrence of a similar event (Ayadi, Arbak, and de Groen 2011). This viewpoint is taken even further in the management literature, which aims to conceptualise crisis as two broad spectrums of work: one identifies crisis as an event and the other focuses on the crisis as an inevitable process in motion (Williams et al. 2017). Due to the growing concerns of such challenging circumstances, there is significant attention paid to the extent to which individuals and organisations could successfully prepare for such challenges (Parker et al. 2020).

#### GOVERNANCE CAPACITY AND CRISIS MANAGEMENT

Governance capacity as a topic has gained significant attention in several fields such as environmental research, climate adaptation, capacity building, and public administration (Koop et al. 2017). Further, governance capacity is identified as a systemic process to analyse, study, and adapt creatively to the problems and challenges faced through a network of diverse players (Innes and Booher 2003). Developing governance capacity in a policy framework also requires the room to introduce new integrative strategies in addressing any additional changes required throughout the process. A key interest within the topic of governance capacity has been in its ability to not only communicate with various actors but also ensure the interactions are effective between the different levels and functions as well as domains (Edelenbos and Teisman 2013). Moreover, governance capacity is identified under four key areas of interest of delivery, coordination, regulatory and analytical capabilities (Lodge and Wegrich 2014). Delivery capacity is identified as crisis handling; coordination is combining disparate organisations for joint action; the regulatory aspect focuses on control and oversight; and analytical capabilities comprise analysing information to provide advice on potential vulnerabilities (Christensen and Lægveid 2020). The above-mentioned administrative capacities are identified as essential in regard to overall crisis management, and this leads to the first assumption of the study on a positive relationship between governance capacity and crisis management.

#### GOVERNANCE LEGITIMACY AND CRISIS MANAGEMENT

Governance legitimacy as a concept is identified as a complex relationship between various government authorities and citizens (Christensen and Læg Reid 2020). Although an institution coordinates many activities to reduce transactional costs and create opportunities, certain decisions taken should supersede self-interested reasons and appeal to moral judgement (Buchanan and Keohane 2006). Legitimacy, therefore, could be identified as the acceptance of a certain community of a particular regulation (Bernstein 2005). From a crisis management perspective, it means how individuals perceive the actions of government officials in certain tasks (Christensen and Ma 2021).

Despite the concept of legitimacy discussed as an overall concept, one of the important explanations is the delineation of the concept under three categories: input, output, and throughput legitimacy for effective governing mechanisms (Bekkers and Edwards 2007). Input legitimacy primarily deals with the participants' inputs and ideas concerning the process of developing laws and regulations, throughput deals with the processes and the interactions of all actors involved in the governance process, and finally the output aspect deals predominantly with the effectiveness of certain policy outcomes in regard to the general public (Schmidt 2013; Haggart and Keller 2021). Particularly, throughput legitimacy is an interesting concept as it allows space for debate, reasoning and learning opportunities to understand certain policy choices that are decided (Kleine 2018). The umbrella concept of legitimacy, therefore, is a complex procedure which not only identifies the various inputs through governing institutions to reach policy outputs but the throughputs could also have multiple ways in which these policies are developed for effective governance (Schmidt and Wood 2019). This, the legitimacy perspective assesses the people's perception of how the respective parties handle a crisis and whether their decisions are supported by the public. The positive relationship between governance legitimacy and crisis management is identified as the second key assumption of the study.

#### RESILIENCE BUILDING AND CRISIS MANAGEMENT

The role of legitimacy in a context of crisis is not simply limited to our understanding of the actions of a certain government in each scenario but also to what extent these actions are being assessed by the public and other stakeholders (Christensen and Læg Reid 2020). Literature has already identified both governance capacity and legitimacy as key focus

areas essential in preparing for a crisis or a pandemic situation (Christensen and Ma 2021). One of the key developments within this idea is how the accumulation of crisis management strategies could potentially lead to resilience building (Koronis and Ponis 2018a). Literature on both crisis management and resilience has identified them as two aspects of the same challenge, and how crisis management is conceptualised provides avenues for theory building on resilience (Williams et al. 2017).

Resilience as a concept has emerged from multiple bodies of literature and subject areas and is identified as a process of returning to normality and thriving after post-traumatic experiences (Pfefferbaum et al. 2008; Koswatte 2015). Resilience is also a broad conceptual umbrella with all concepts leading towards the ability to adapt during adverse conditions. Given this idea, resilience could be applied to almost any functional system to understand how they are threatened with changes in the environment as well as to understand how one would alter their behaviours to fit into such changes (Masten and Obradović 2006). Given the nature of uncertainty and volatility, resilience is inherently identified as a dynamic concept as opposed to possessing uniform and static dimensions (Resnick 2014).

A key distinction to be made in the literature surrounds the concept of resilience as well as crisis management. Despite both ideas discussing disaster and crisis, the application of resilience shows a wider scope in its application (Prayag 2018). While conventional crisis management literature focuses on how to escape adversity and minimise impact, modern societies need to explore the capacity to absorb and adapt under the complex phenomenon which is discussed under resilience (Koronis and Ponis 2018b). This idea is further extended in the case of resilience which goes beyond not only extraordinary circumstances as often discussed under crisis management, but also extends to subtle incremental changes to match the needs of the environment (Prayag 2018).

Resilience is also interpreted from the viewpoint of multiple levels affecting individuals and organisations as well as the environment in dealing with unforeseen challenges (Tasic et al. 2020). Much emphasis is placed on individual-level resilience as it is identified as a key factor in developing resilient organisations (Kantur and İşeri-Say 2012). While some who face trauma are unable to concentrate and become confused, there is another group who demonstrate signs of strength and endurance under similar situations (Mancini and Bonanno 2009). From an individual standpoint, resilience could be therefore identified as the ability



of an individual to recover and return to a favourable position despite adversity (Luo, Eicher, and White 2020). In identifying the various dimensions of individual resilience, having a sense of financial comfort is a pivotal dimension (Fullerton, Zhang, and Kleitman 2021). Therefore, from a financial lens, building resilience focuses on vigilance and alertness in money spending and control in the long run (Hua, Chen, and Luo 2018; Klontz, Britt, and Mentzer 2011). In this study, resilience building is identified through the idea of economic resilience behaviour and having financial strength to adapt in difficult situations is demonstrated to be key in exploring the phenomenon.

Governance legitimacy is an important democratic feature where public policy is implemented through elected officials (Cosens 2013). This could also be interpreted as the level of confidence the public has in the policymakers as officials in power to carry out the plans and ideas (Turner et al. 2016). The confidence invested through legitimacy is crucial, especially during challenging circumstances. During a crisis, governance legitimacy allows the parties and authorities to provide a joint and coordinated indication and clear message to the public to continue to place confidence in the authorities making the right decisions (Christensen and Læg Reid 2020). Previous work has highlighted perceived legitimacy to be positively associated with resilience building (Cisneros 2019). On the other hand, governance capacity is identified as the structures, formal as well as informal processes, and elements of the administrative scope (Christensen, Læg Reid, and Rykkja 2016). The capacity building process is identified as a crucial element to learn, reflect and improve on previous mistakes and errors (Albright and Crow 2021). The aspects discussed, such as analytical capacity, explain the optimal resources required to face a disaster successfully as well as the required competencies to mitigate such challenges which are essential for resilience building in organisations (Christensen, Læg Reid, and Rykkja 2018). However, in a situation of high trust and civil, friendly society, the public has high confidence in the authorities (Christensen and Læg Reid 2020). Furthermore, in a high trust situation, the capacity levels of the government will also be affected, which would require further analysis. Finally, as inferred in the literature, the consistent ability to manage the crisis, in the long run, could potentially lead to an avenue of resilience-building. The positive relationship between crisis management and resilience-building was identified as the third assumption of the study. Based on the above arguments and organisational theory framing, the following conceptual model is identified.

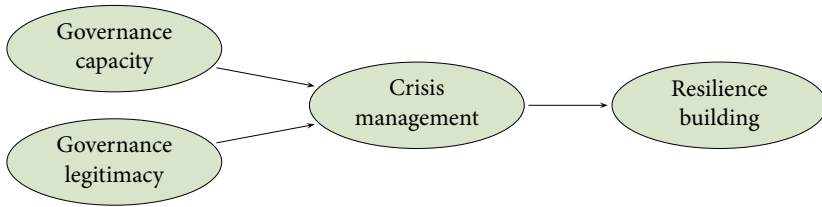


FIGURE 1 Conceptual Model

### SRI LANKA AND COVID-19

COVID-19 has had devastating impacts on many global economies across the world and the island nation of Sri Lanka has felt its impacts quite significantly. The Sri Lankan economy contracted by 3.6% in the year 2020 which is the worst growth performance of the country while many of its key sectors such as tourism, construction and transport are struggling to recover from its effects (The World Bank 2021a). The tourism sector, which accounts for 12.5% of the country's GDP and over 250,000 employers, was one of the most impacted industries in Sri Lanka in the pandemic (Karunarathne et al. 2021). As the pandemic situation was announced as global, the country also was swift in imposing quarantine rules and regulations as well as the integration of the healthcare services, other official employees and the Sri Lankan forces to develop administrative processes in controlling the crisis (Jayasinghe forthcoming). Large-scale testing and vaccination programmes were carried out despite the limited resources of the Ministry of Health in Sri Lanka for managing and coping with the stressful circumstances associated with the situation (Perera et al. 2021). The organising of various responsible parties was also identified as part of the government task force, which was also responsible for the wide distribution of essential items such as food and medicine for the affected public as well as certain benefit packages to low income and elderly individuals (Jayasuriya 2020).

### Research Process

#### METHOD

The study was conducted as mixed-method research where qualitative and quantitative data were collected simultaneously and analysed separately. This methodology enabled the researcher to assess a complex phenomenon qualitatively as well as via numbers and basic statistical tools (Creswell 1999). This is the most used technique in mixed method re-

search as it brings together the different strengths and weaknesses of qualitative and quantitative work (Creswell and Plano Clark 2011). The study used a combination of initial interviews which were complemented through a quantitative survey in the similar population selected for this study.

#### THE SAMPLE

The study has adopted a convenience sampling technique. Convenience sampling is a tool used by researchers to make use of their accessibility to certain networks (Bryman and Bell 2015). Although convenience sampling is a non-probability sampling strategy, it is usually possible to obtain a certain specific understanding of the selected audience. The study has identified the sectors of education, tourism, and IT as the key areas for the research process. The selection of the sectors was primarily based on the World Bank Contingent Emergency Response Components (CERC) pool funding for Sri Lanka to uplift some of its key sectors which included the three identified in the study (The World Bank 2021b). Moreover, the three sectors selected in the study have been recognised as some of the crucial fields for a developing nation such as Sri Lanka (Ranasinghe and Sugandhika 2018; Nuskiya 2018; Adikaram, Khatibi, and Yajid 2016). Given the relevance of the sectors, the sample selected was not representative of the population of Sri Lanka but was related to the three key sectors chosen for the study's purpose.

#### INTERVIEW DEVELOPMENT

As the first stage of the study, fifteen interviews were carried out. The study identified the interview respondents who were from the education, IT and tourism sectors and were active members in their respective field. The selection of interview respondents was chosen from the alumni network of the researcher's academic institution. A summary of the interview respondent details is shown in table 1. A semi-structured interview guideline was prepared which consisted of more thought-provoking questions towards the latter part of the study to gain greater engagement from the interviewees (Underwood and Mensah 2018). The semi-structured interview guideline was developed based on the initial literature review discussions, and it helped to gain deeper insight and knowledge into the survey results and substantiated the understanding of the topic. The interviewees had the opportunity to be familiar with the questions beforehand, and the interviews were transcribed to identify key themes surrounding gov-

TABLE 1 Interview Respondent Profile

Participant	Gender	Age	Sector
A	M	20–30 years	Education
B	F	20–30 years	Education
C	M	40–50 years	IT
D	F	20–30 years	Education
E	F	30–40 years	IT
F	M	20–30 years	IT
G	F	20–30 years	Tourism
H	M	30–40 years	IT
I	M	20–30 years	IT
J	F	20–30 years	Education
K	F	20–30 years	Education
L	F	20–30 years	Tourism
M	M	Above 50 years	Tourism
N	F	40–50 years	IT
O	M	20–30 years	Education

ernance policies and their impact on resilience building. The qualitative components were analysed using the identification of potential themes discussed in the results section. The interviews were tape-recorded and transcribed before the analysis process.

#### SURVEY DEVELOPMENT

The study carried out a convenience sampling technique distributed through an online survey via Google Forms. The material was in the English language, and due to the COVID-19 restrictions, an online survey was decided as the most feasible option. The survey included a 7-point Likert scale covering aspects of governance legitimacy, governance capacity and resilience building. The survey was distributed from mid-August to late September 2021. The primary sample consisted of 133 responses that cover the key sectors of education, healthcare, and tourism. The survey responses consisted of students who are predominantly in the educational sector completing their degree programme. The tourism sector consists of students who have graduated and found employment with the tourism sector as well as independent individuals from the tourism sector firms where the university maintains industry relationships. The IT sec-

tor consists of students who have recently graduated and joined the sector who are also part of the alumni network as well as individuals from IT companies with whom the university has certain business partnerships.

The questionnaire used in the survey gathered information on demographic variables, namely gender, size of household location of residence, level of education and the respondent's opinion on whether COVID-19 is 'controlled' or 'not controlled' in Sri Lanka. The survey achieved a response rate of approximately 80%. The study also took into consideration that, given the sample was a convenience sample that was based on the researcher's access to data, there is a possibility of a certain bias in the data. The sample had an inclusion criterion of only selecting respondents from the education sector who are actively pursuing their degree at the university, members active in the tourism sector and related professions as well as members who are actively employed in IT and related work. The study excluded respondents from the tourism and IT sectors who were currently on internship programmes and had not completed their degrees.

#### MEASURES

The survey was developed using established scales for dimensions and constructs. The study measured governance capacity adopting the scales of business model experimentation of European SMES as well as some of the more established scales (Conway, Woodard, and Zubrod 2020; Lopez-Nicolas et al. 2020). In terms of governance legitimacy, the study has adopted the scales from the work of the Pakistan medical services in controlling the COVID-19 pandemic (Khan et al. 2020) as well other established scales of Lopez-Nicolas et al. (2020), and Conway, Woodard, and Zubrod (2020). In terms of resilience building, the study focused on financial resilience dimensions that were initially developed under economic resilience behaviour (Hua, Chen, and Luo, 2018). The original dimensions included items such as 'I would change my money-saving routines' which were changed and adapted to fit the current context which focused on financial resilience dimensions. The operationalisation of the dimensions is shown in table 2.

#### Findings

The sample consists of 133 respondents, out of which 51 (38.3%) were males, and 82 (61.7%) were females. The number of people living in a household varied from 1 to 7 members, and most of the households had

TABLE 2 Operationalisation Table

Construct	Definition	Items	References
Governance capacity	Ability to face diverse concerns using a diverse network of players	<p>We need military officials right now to take action to stop the spread of disease.</p> <p>The government needs to severely punish those who violate orders to stay home.</p> <p>It is vital right now that the government strongly enforces social distancing measures.</p> <p>The government is involving other sectoral actors to combat the COVID-19 outbreak.</p> <p>There is a lack of budget or financial support in response to this outbreak.</p> <p>Most of the poor people will not have access to existing healthcare facilities if they are infected by COVID-19.</p> <p>There will be a lower supply of basic goods products for daily use.</p> <p>Poor people will suffer from food and nutritional deficiency.</p> <p>The formal education system will be hampered.</p>	Adapted from Lopez-Nicolas et al. (2020), and Conway, Woodard, and Zubrod (2020)
Governance legitimacy	The complex relationship between the government and the general public	<p>I think we should spend most of our government resources right now towards bringing down a vaccine for COVID-19.</p> <p>I think a government stimulus package during the virus spread is a good idea.</p> <p>I think it is a good idea for the government to give individual citizens the LKR 5000 allowance during these difficult times.</p> <p>I distrust the information I receive about COVID-19 from my government.</p> <p>I think the government is not giving the whole story about the pandemic situation.</p> <p>The government is making timely decisions at the right time.</p>	Adopted from Lopez-Nicolas et al. (2020); Khan et al. (2020); Conway, Woodard, and Zubrod (2020)
Resilience building	Ability to adapt to difficult situations successfully	<p>The Coronavirus has impacted me negatively from a financial point of view.</p> <p>Shutdown or lockdown or social distancing will have an economic impact in the future.</p> <p>I have had a hard time getting needed resources (food, essential items) due to the Coronavirus.</p> <p>I have lost job-related income due to the Coronavirus.</p>	Self-developed based on Hua, Chen, and Luo (2018)

four members (45.9%). Most households had at least two members earning (49.6%), and the remaining householders had a single member out of 3–4 members earning. Most of the respondents (75%) belong to the 20–30 age group. Ninety-seven (72.9%) were from the Western Province. Regarding the level of education, 90 (67.7%) of the respondents were university undergraduates, followed by 35 (26.3%) who possessed at least a master's degree. Area of employment saw the education sector comprising 60 (45.1%) followed by 41 (30.8%) from tourism and 32 (24.1%) from the IT sector. Income levels saw over 52 respondents (39.1%) below LKR 30,000 monthly income and over 43 (32.3%) individuals recording an income of above LKR 100,000. In terms of the ability of the government to control the COVID-19 situation, 101 (75.9%) believed in its inability to control the pandemic situation.

To explore the understanding of whether COVID-19 was successfully controlled, we have now identified the majority who said it was not successfully controlled. However, other variables were not significant based on the demographic factors except for the number of people in the household. As the study adopted a mixed-method approach, why individuals believed the government was unable to control the pandemic situation was explored using qualitative answers, which were analysed using NVivo to recognise potential emerging themes based on this issue. The study identified four themes, namely, political capacity, stakeholder involvement, input development and throughput development. The four themes identified are discussed in greater detail below. The following section on qualitative data presents how the above-mentioned themes emerged.

### **POLITICAL CAPACITY**

According to the participants, an emerging issue regarding the responses to this question is the topic of political capacity, identified as the ability for government actors to have a transparent procedure amongst government stakeholders. The lack of transparency mentioned above is emphasised through the statement below.

- A The government plays with people's lives. They never go for a proper lockdown [...] This president and all the henchmen around never listen to the health ministry and their warnings. The real facts are not coming out. When people start worrying about this matter, slowly the government changes the topic until the people gets distracted. So the government is out of control.

The lack of procedures is further explained as timely decisions are not being made, and the general public has a strong impression that the measures regarding the pandemic are made simply as political propaganda rather than a strategic prevention mechanism.

- D The government has not taken proper actions at the right time, and I feel they are just using it to cover other political matters.

Closely linked to the idea of political capacity are formal regulation procedures and policy principles. The policies and regulations are identified to be crucial as they allow the preventive measures to be implemented efficiently. Rules and regulations in place should decrease any vulnerabilities, and the key assumption is that the stronger the rules and regulations are, the higher the level of legal capacity which can, in turn, strengthen governance capacity. However, a key reason as to why the respondents believed the policymakers were unable to handle the pandemic situation is explained as:

- J I think the government should be more strict when it comes to imposing laws regarding COVID-19 and should take necessary action to control the inappropriate behaviour of people which leads to the spread of COVID-19.

#### STAKEHOLDER INVOLVEMENT

Making decisions at the government level requires close coordination and organization of tasks. This requires key officials and individuals from different expertises and areas at the policy level to have a clear idea of their respective duties and roles during the pandemic in order to take swift decisions. The lack of such cohesiveness and involvement by key stakeholders has made recovery difficult. The stakeholders such as healthcare officials, police forces, and other religious parties who have not taken collective decisions are discussed below.

- B The small strategies implemented by the government to try to control the pandemic did not effectively work. The PCR Testing and the vaccinations are a mess. The lockdowns imposed were ineffective due to people being able to move between districts. The government is encouraging festivities to be held, which is an obvious red flag.

The involvement of relevant stakeholders also highlights the responsibility of the general public as well as other enforcement processes. The lockdown period was one such example where individuals highlighted



their displeasure at how certain rules were not taken seriously by individuals, causing concern among many.

E Most of the time people are outside, but I can't say it's not successful or successful because some people are coming outside to get some essentials or go to the bank, and some of them are coming outside for fun, so it's hard to identify who's coming out for buying essentials.

The medical officials, as well as other government actors not coordinating the vaccination programme during the pandemic, were also clearly highlighted in the interviews as this demonstrates the lack of clarity and understanding of the overall process by certain key stakeholders making policy-level decisions.

H There seem to be irregularities in the distribution of the vaccine, where certain individuals below 30 are not vaccinated in certain programmes whilst the others do. The absence of a streamlined/clear cut process makes the success of the programme doubtful.

#### INPUT DEVELOPMENT

As the pandemic ensues, individuals strongly believe in the need to have the right resource base and structure in place to develop a pandemic prevention strategy. The input strategies, from identifying patients to isolating areas of concern as well as having a systematic strategy of how the vaccination programme should take place, needed initial thought before the implementation process commenced.

L The government didn't take necessary actions. Now the virus has been spread all over the country.

When initial plans and strategies were discussed, there was a need to look at certain best practices around the world, as highlighted by certain respondents. However, it was also emphasised that these practices would require adjustments to suit the Sri Lankan context and requirements. Many participants believed that rules and regulations regarding pandemic control needed enforcement as there was a lack of social obligation by individuals and serious consequences needed to be communicated to the general public if the rules and regulations were not followed as instructed.

O I think the government should be stricter when it comes to imposing laws regarding COVID-19 and should take necessary action to control the inappropriate behaviour of people which leads to the spread of COVID-19.

The pandemic situation getting out of control was also due to the lack of another key input of communication platforms. The general public lacked the awareness of the seriousness of the virus spread, and there was a strong necessity for clear, reliable information to be constantly fed through media outlets to make the public aware of the danger and the repercussions of the virus spread.

F There is no clear information to prove the real situation. As an example, the records of death are not reliable.

The lack of input extends beyond the obvious pandemic situation directly impacting the economic situation of individuals. The policymakers needed a strategic plan to ensure people had their basic needs fulfilled. The strategy also required solutions and alternatives for daily income earners to ensure their financial sustainability. General dissatisfaction concerning the lack of such input was visible among the responses of the interviewees. For instance, one respondent highlights the fact that certain procedures were hidden by policymakers to cover the lack of key inputs as answers.

A The government is trying to suppress it [sic] and move the country forward because many people are poor. The government is trying to hide the fact that if the country closes down, they will have to be given allowances, which will limit their exploitation.

#### THROUGHPUT DEVELOPMENT

Similar to the respondents' idea of having certain key input mechanisms, there is also a requirement to ensure the mechanism is functioning effectively throughout the process. The respondents have found it difficult and confusing, with the lack of continuation of certain initiatives, which has reduced their trust in the government.

G The systematic and orderly manner in which the first COVID-19 wave was controlled was not seen in the second and third waves. In short, in my opinion, despite the full potential to prevent a third wave, the people were allowed to celebrate the New Year as they wished and a third wave was opened.

As mentioned by many interviewees, the vaccination process was a key instance of the lack of throughput development. Individuals who managed to get their first vaccination felt the second vaccination process was not organised in time, which led to frustration and a lack of trust in regard to the government's process in controlling the pandemic.

TABLE 3 Descriptive Statistics

Statistics	Governance capacity	Governance legitimacy	Resilience building
Mean	16.75	12.05	6.72
Standard deviation	2.297	1.861	2.035
95% confidence interval	(16.35,17.14)	(11.73,12.38)	(6.36,7.07)
Minimum	10	8	4
Maximum	22	16	12

K Most of the people who got the 1st dose, weren't able to get the second dose at the right time, so the effectiveness of the vaccine will surely decrease.

The throughput mechanism also needs to be flexible in adjusting to unforeseen changes, as seen with certain cases of manipulation in the system. The public expects the government to have certain contingency plans and the capacity to act once certain manipulative behaviours are seen in the overall process of pandemic control.

There are people who were hiding this COVID-19 from them because they want to do their business. When they are told that they could not do their business. And the parties like PHI officers, also do not take any action because they were receiving money from that kind of people.

Thus, based on the interview data, how the themes emerged were revealed.

In the next step, a quantitative analysis was performed using the scores developed for the dimensions, namely, governance legitimacy, capacity and resilience (table 3). The range of governance capacity was 5–25. Governance legitimacy had a range of 4–20. The range of resilience-building was 3–15.

Based on the findings, we can identify governance capacity with a maximum and minimum score of 22 and 10, respectively. The average of 16.75 is skewed towards the highest score possible for governance capacity, implying the sample believed the government could control the pandemic. Governance legitimacy has an average of 12.05, which is halfway in the range. This score implies the sample had a divided opinion on the trust placed in government action in controlling the pandemic. However, resilience-building indicated an average of 6.72, which is closer to

the minimum. This shows that the resilience-building ability of the respondents was lower under the pandemic situation.

With this understanding, a two-way analysis was conducted to further explore the relationship between the response to ‘whether the pandemic was controlled or not controlled in the country’ and the demographic variables. In terms of gender, most of the male respondents (88.2%) believed the pandemic was not controlled, with 69.6% of females upholding the same opinion. Based on the chi-squared test, gender was significantly correlated with the response to this issue ( $\chi^2 = 6.05, p = 0.014$ ) Therefore, it can be concluded that opinions differ between males and females.

In terms of the size of households and their beliefs, one third had one member believing the pandemic was controlled. However, with the increase of members in the family reaching 4, they tend to believe the pandemic was not controlled. Thus, it can be observed that compared to smaller families, larger families believed the pandemic was not controlled. Furthermore, there was no association between income and the belief in pandemic control. Subsequently, the two groups were compared based on their scores for capacity, legitimacy and resilience building, and the results are as follows.

#### COMPARISON OF SCORES BETWEEN THE TWO GROUPS, ‘CONTROLLED’ AND ‘NOT CONTROLLED’

In further exploring the idea on governance capacity in the two groups, the average is higher (mean = 17.87, SD = 1.995) for those who said ‘controlled’ when compared to those who said ‘not controlled’ (mean = 16.41, SD = 2.283). This difference is highly statistically significant ( $t = 3.150, p = 0.002$ ). This result shows that if the stakeholders could collaborate, the response to this query would have improved. When comparing governance legitimacy scores between the two groups, the average is higher (mean = 13.20, SD = 1.77) for those who said ‘controlled’ relative to others (mean = 11.71, SD = 1.754). This difference is also highly statistically significant with  $t = 4.073, p = 0.000$ . It was observed that the varying levels of trust in the government and their policies, as showcased by the public opinion, regarding the pandemic control resulted in this difference.

When comparing the two groups concerning resilience building, the average is higher (mean = 6.77, SD = 2.18) for those who said ‘controlled’ when compared with those who said otherwise (mean = 6.70, SD = 2.003). However, this difference is not statistically significant ( $t = 0.157, p = 0.876$ ). This implies that respondents believe that the government

TABLE 4 Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
110.164*	0.208	0.315

NOTES \* Estimation terminated at iteration number 6 because parameter estimates changed by less than 0.001.

TABLE 5 Variables in Equation

Variable	B	SE	Wald	DF	Sig.	Exp(B)
Capacity	0.286	0.116	6.096	1	0.014	1.331
Legitimacy	0.472	0.152	9.603	1	0.002	1.603
Gender(1)	1.508	0.556	7.364	1	0.007	4.518
Constant	-13.014	2.803	21.553	1	0.000	0.000

should take responsibility for controlling the pandemic where individual resilience has no role to play. The model is statistically significant (table 4).

On average, the score for governance capacity was significantly higher for those who said ‘controlled’ compared to those who stated otherwise. The higher the governance capacity score, the higher the chance of believing COVID-19 is controlled. A positive response to this question is 1.33 (odds ratio = 1.33,  $p$ -value < 0.05) times more likely if the respondents’ score on capacity is increased by one unit. This can be achieved by increasing stakeholder involvement and building collective problem-solving abilities.

On average, the score for governance legitimacy was much higher for those who said ‘controlled’ in comparison to those who said otherwise. A positive response to this question is 1.6 (odds ratio = 1.6,  $p$ -value < 0.05) times more likely if the respondents’ score on capacity is increased by one unit. This can be achieved by focusing on input and throughput building capacity.

Gender was found to be significantly correlated with the positive re-

TABLE 6 Model Summary Household

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
106.429*	0.230	0.349

NOTES \* Estimation terminated at iteration number 6 because parameter estimates changed by less than 0.001.

TABLE 7 Variables in Equation Household

Variable	B	SE	Wald	DF	Sig.	Exp(B)
Capacity	0.314	0.121	6.698	1	0.010	1.369
Legitimacy	0.455	0.151	9.131	1	0.003	1.577
Gender(1)	1.496	0.569	6.922	1	0.009	4.465
Household	-0.668	0.355	3.549	1	0.060	0.513
Constant	-12.031	2.889	17.345	1	0.000	0.000

sponse on the opinion whether the pandemic was controlled or not. Moreover, according to the findings, the chance of females responding positively relative to males is more than fourfold.

The number of people in a household was included in the model, and the following results were obtained. The model is still significant, and the other odds ratios were not affected. However, the household is only marginally significant (odds ratio = 0.513,  $p$ -value < 0.1), indicating an effect that is almost halved when people living in a household increase.

### Discussion

Research on governance capacity and legitimacy in crisis management is on the rise with the present COVID-19 situation spreading across the world (Christensen and Læg Reid 2020; Di Mascio, Natalini, and Cacciatore 2020). The present study contributes to this phenomenon by not only providing the context-specific characteristics of the governance legitimacy and capacity but further providing evidence as to how the process would lead to resilience building. Although the literature has discussed legitimacy and capacity in detail, its connection in regard to resilience building as an antecedent is relatively understudied. One of the key findings has been the political capacity of the Sri Lankan government mechanism. The findings revealed that the public is keeping a close eye on every action of the government and are knowledgeable enough to question the rationality of certain procedures. This idea is consistent with the findings of Sørensen and Torfing (2019) as the growth of competent and assertive citizens spots the complexities in society more than ever before; the elected politicians and their capacities are consistently challenged. This idea could be further linked to having a wider idea of the positions and the roles of respective actors. The political capacity dimension is linked to governance capacity as having certain accounting practices and making sure fair and effective decisions are taken, while

balancing the interests of various parties is also part of this idea (Mees and Driessen 2011). The governance capacity framework further explains this as enabling rules of the game, explaining everyone's role and how they should be interacting as people with power (Dang, Visseren-Hamakers, and Arts 2016).

Another crucial development from the findings is stakeholder involvement in the decision-making process. The study findings show that for governance legitimacy to materialise, there is a strong need for stakeholder involvement of those who are willing to take responsibility both formally and informally. Especially under the topic of the output legitimacy process, the involvement of the stakeholders at the final decision-making stage is discussed, showing the link of this dimension to the overall governance legitimacy building process (Klijn 2011). Despite COVID-19 pushing high-stake decisions to be made with little stakeholder involvement, the ethical approach requires open and inclusive decision making to be practised (Norheim et al. 2021). This is further explained in the work of Christensen and Lægreid (2020), emphasising making meaning, participation, and trust-building amongst political leadership as well as other administration officials. The value of trust-building is further shown in the results as when the trust is greater, the confidence of the Sri Lankan public in pandemic control is far superior. Additionally, developments focusing on public participation in regard to an integral political governance model could be adopted as a stepping-stone to build trust and ensure that all stakeholder engagement can be guaranteed in making policy decisions (Sørensen and Torfing 2019).

The input capacity identifies some of the first steps necessary at the start of the governance process in the case of a pandemic. For example, despite having certain resources at hand, processes such as vaccinations have systematically not taken place. The results are consistent with the previous findings that indicate that regardless of governments' possessing resources and relevant experts at their disposal, the handling of the pandemic has been severely mismanaged, and therefore unsuccessful (Christensen and Lægreid 2020). This idea can be linked to the overall idea of input legitimacy of the governance capacity framework which discusses some of the first steps needed for effective decision making (Klijn 2011). In terms of the input legitimacy, the findings demonstrated the inconsistency of the government policy in controlling COVID-19 and the lack of public participation and their feedback in the required steps towards the control of the pandemic.

In building the case of legitimacy, we must also understand what choices are to be made at the end of a process. In defending governance legitimacy, the steps initiated at the onset need to be complemented at the very end, which is the output. As the majority believed that the government was unable to control the pandemic, a key is to identify their responses to some of the decisions of the policymakers. As governance is identified as a process needing legitimacy from the start (input) towards the very end (output), there is a third dimension, the idea of throughput legitimacy. The throughput dimension primarily focuses on the complexities and the advanced decision-making process, which can be managed through the constant flow of information between the relevant actors involved. The throughput linked with the outcome is another significant point in the overall process as it allows democracy and the people representation of the decisions taken by the respective policymakers and practitioners (Popelier 2020). The higher the flow of information and transparency between the stakeholders involved in decision making, the greater throughput to establish legitimacy. This further stresses that a more inclusive and joint decision-making process will not only find short term solutions for the pandemic but has the potential to deliver long term strategic socio-economic objectives of revitalisation after COVID-19 (Bekker, Ivankovic, and Biermann 2020).

A critical discussion based on the quantitative analysis is the difference of females responding to the pandemic control compared to the males. This corresponds to the idea of both governance legitimacy and the capacity of the policy decisions developed in the research. Females believed that the pandemic was controlled to a greater extent compared to their male counterparts. This is consistent with previous findings, as evidence has shown gender inequality in attitudes towards COVID-19 based on how both men and women are impacted in their occupations and other realities (Reichelt, Makovi, and Sargsyan 2021).

The study also focused on resilience-building, which was initially discussed in the literature review. The literature suggested the possibility to control a pandemic through capacity building and legitimacy, leading towards resilience building (Blanchet et al. 2017). Despite the study results not showing significance, the literature infers, and suggestions provide, sufficient evidence to explore the phenomenon further in line with crisis management literature to identify the possibility of resilience development (Koronis and Ponis 2018a). This is potentially an area for future research as both legitimacy and capacity discussed in crisis management



literature have shown hints and possibilities of being an avenue for resilience building that needs to be theorised in future lines of work (Koronis and Ponis 2018a; Christensen and Ma 2021). Overall, the study has helped to develop the theoretical underpinnings of both governance capacity and legitimacy in the case of crisis management and further supports the idea of building resilience in the long run through this process. This is a key theoretical contribution as existing work on policy framing has yet to discuss the role of resilience in greater detail.

### **Study Limitations**

The study predominantly adopted a convenience sampling technique which is inherently biased and should not be identified as a true representation of the actual case of Sri Lanka (Etikan, Musa, and Alkassim 2016). Given the study utilised the university networks in collecting data, the study might be influenced by a degree of sampling bias (Jeong and Park 2020). Although this means that some of the key findings of the study are not generalisable, the development of governance capacity and legitimacy as driving towards resilience building is identified as an avenue for future empirical work. This is a crucial point despite the use of convenience sampling lacking generalisability; the technique is crucial when socio-cultural and other factors influence the overall outcomes (Andrade 2021). Despite the other two groups not knowing each other, education sector respondents do tend to know each other so they might have a certain bias. The study identified resilience building as a key outcome but requires greater empirical work in future to address its development.

### **Conclusion**

Crisis is inherent in the business environment, and COVID-19 has been one such phenomenon that has caused chaos and destruction for multiple lines of work. In this article, governance legitimacy and capacity were identified as two mechanisms that aid in the successful management of a crisis. Moreover, the study assessed how these variables could assist in the development of resilience. Further, both the qualitative and quantitative findings pointed out several key themes (political capacity, stakeholder involvement, input capacity, as well as throughout capacity) in the overall governance system. An interesting finding from the data was that gender was a moderating variable in making decisions as females had a higher tendency to trust the government decision-making process in the pandemic efforts as opposed to male participation, which requires

more exploration in future lines of work. The results support previous research and work on both governance capacity and legitimacy and provide a niche for future work to explore its connections to resilience building via extensive exploratory studies.

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### **Izpolniti pričakovanja mladih zaposlenih: upravljanje z blagovno znamko delodajalca v zdravstveni negi**

*Pia Heilmann, Hannele Lampela in Kyllikki Taipale-Eräväla*

Zdravstveni delavci se starajo in obstaja velika globalna potreba po privabljanju bodočih zaposlenih. Ta študija preučuje konstrukcijo podobe blagovne znamke delodajalca med mladimi zdravstvenimi delavci in s tem povezane sestavne dele. Podatki za kvalitativno raziskavo so bili zbrani po elektronski pošti in v osebnih intervjujih z mladimi študenti zdravstvene nege in medicine. Rezultati analize kažejo, da lahko organizacije na podobo svoje blagovne znamke delodajalca za bodoče zaposlene vplivajo s podporno delovno kulturo in praksami ravnanja s človeškimi viri kot tudi z neposrednimi trženjskimi dejavnostmi. Tovrstne prakse, namenjene mladim zdravstvenim delavcem, se premalo uporabljajo. Rezultati lahko zdravstvenim organizacijam pomagajo pri načrtovanju zaposlovanja in trženjskih procesov v skladu s pričakovanji mladih zdravstvenih delavcev. Ta študija združuje raziskave upravljanja človeških virov in trženjske raziskave v odnosu do blagovne znamke delodajalca in zaposlovanja.

*Ključne besede:* upravljanje z blagovno znamko delodajalca, mladi zaposleni, zaposlovanje, zdravstvena nega, strateško upravljanje s človeškimi viri

*Klasifikacija JEL:* M12, M51

*Managing Global Transitions* 20 (3): 211–235

### **Potencial informacijske in komunikacijske tehnologije za ustvarjanje mednarodne trgovine v Afriki**

*Ibitoye J. Oyebanji, Dayo B. Olanipekun, and Ewert P. J. Kleynhans*

Ta članek uporablja generalizirano metodo trenutkov (GMM) za raziskovanje učinkov informacijsko-komunikacijske tehnologije (IKT) na trgovino in gospodarsko rast na večsektorski ravni v 38 afriških državah od leta 1990 do 2019. Študija razkriva pomemben in pozitiven odnos med IKT in izvozom kmetijskih surovin in storitev. IKT kaže negativen odnos z uvozom v kmetijskem sektorju ter pozitivnega in pomembnega znotraj proizvodnega sektorja. Poleg tega ni dokazov o statistično pomembnih povezavah med IKT in uvozom storitev. Pri povezovanju IKT z rastjo na sektorski ravni so bili v vseh sektorjih ugotovljeni pomembni pozitivni učinki različne velikosti na rast. Nacionalno

priporočilo v zvezi z IKT je, da bi morale vlade v afriških državah povečati vlaganja v IKT-sektor gospodarstva, kar bo imelo izjemen učinek na mednarodno trgovino in gospodarstvo.

*Ključne besede:* informacijska tehnologija, mednarodna trgovina, kmetijstvo, proizvodnja, storitve, Afrika

*Klasifikacija JEL:* A, E

*Managing Global Transitions* 20 (3): 237–257

### **Raziskave trajnostnosti in trajnostnega razvoja po svetu**

*Peterson K. Ozili*

Pričujoči članek pregleda obstoječe raziskave o trajnostnosti in trajnostnem razvoju po vsem svetu. Začne se z opredelitvijo trajnostnosti in konceptov trajnostnega razvoja. Nato prispevek na podlagi literature izpostavi dimenzije trajnostnega razvoja in trajnostnosti. Prispevek prikaže tudi razmerje med trajnostnostjo in trajnostnim razvojem. Uporabljena je bila metoda pregleda literature. Članek ugotavlja, da je vsaka regija sveta dosegla določen napredek v smeri doseganja visokih ravni trajnostnega razvoja; vendar pa se vsaka regija sooča tudi z edinstvenimi izzivi, ki vplivajo na doseganje ciljev trajnostnega razvoja v regiji. Ti izzivi imajo družbene, politične, strukturne, institucionalne in ekonomske razsežnosti. Medtem ko je trajnostni razvoj splošno priznan koncept v akademskih krogih, je njegova praktičnost v političnih krogih izpodbijana. Obstoječe empirične študije kažejo, da vključevanje pomislekov s perspektive trajnostnosti oziroma trajnostnega razvoja v poslovno ali okoljsko upravljanje prinese določene koristi. Na koncu predlagamo nekaj področij za prihodnje raziskave.

*Ključne besede:* trajnostnost, trajnostni razvoj, svet, okolje, družba, raziskave, cilji trajnostnega razvoja

*Klasifikacija JEL:* Q01

*Managing Global Transitions* 20 (3): 259–293

### **Razvoj politik za krizno upravljanje v kontekstu Šrilanke**

*Isuru Koswatte and Chandrika Fernando*

Prispevek si prizadeva raziskati ključne ukrepe za oblikovanje politike kriznega upravljanja pri soočanju s pandemijo covid-19. Ključni argument študije je, da oblikovanje politike za čas krize zahteva razumevanje tako sposobnosti vladanja kot tudi njegove legitimnosti. S teoretične perspektive kriznega upravljanja in izgrajevanja odpornosti študija razišče ključno literaturo na to temo, da bi prišli do konceptualnega okvira,

ki ga nadalje raziščemo z mešano metodo. Študija pojav raziskuje v kontekstu Šrilanke in njenega mehanizma za soočanje s pandemijo. Opravljenih je bilo 15 intervjujev, ki jim je sledila anketa, zajemajoča ključne sektorje turizma, informacijske tehnologije in izobraževanja, da bi razumeli, v kolikšni meri so bile v političnih postopkih upoštevane strategije kriznega upravljanja. Članek identificira nekaj ključnih tem: politična zmogljivost, vključenost deležnikov, vhodna zmogljivost in pretočna zmogljivost v celotnem sistemu upravljanja, ki zahteva nadaljnje izboljšave, vključno z razlikami med spoloma pri sprejemanju političnih odločitev, kar bi bilo za doseg boljšega vpogleda mogoče raziskati v prihodnje.

*Ključne besede:* krizno upravljanje, covid-19, izgradnja odpornosti, sposobnost vladanja, legitimnost vladanja

*Klasifikacija JEL:* O38, M10

*Managing Global Transitions* 20 (3): 295–327