

CIB Sebastian Future Leader Award – Proposal

Theme – Built Environment in a COVID-19 World

Topic: The Effect of the COVID-19 Crisis on Construction Workers in the New Zealand Built Environment

Research team: Massey CIB Student Chapter

Working Commissions and Contacts:

- **W123 – People in Construction** – Prof. Fidelis Emuze (femuze@cut.ac.za)
- **W055 – Construction Industry Economics** – Prof. Less Ruddock (les.ruddock@ucl.ac.uk)

Background

COVID-19 is considered the biggest threat to world health since the Spanish Flu of 1918. The economic and social impacts are comparable in scale to the 1929 Great Depression (International Monetary Fund, 2020). The global employment impacts of COVID-19 are expected to include around 195 million jobs losses (Modrego, Canales, & Bahamonde, 2020; Fletcher, Prickett, & Chapple, 2021). However, Fana, Torrejón Pérez, and Fernández-Macías (2020) suggest that the COVID-19 crisis has turned a temporary tremor into long term consequences in terms of economic impact. In the COVID-19 recovery, the demand for construction workers may outstrip supply as economies start to “build out” of recession. Shortages might be amplified by firms' closures and redundancies, thus aggravating a potential shortage. In the COVID-19 setting, standard financial inducements, such as tax breaks, may be less effective (Fletcher, Prickett, & Chapple, 2021). The economic impact of the pandemic on construction is evolving, and still, very few estimations of its sub-national economic effects exist.

The New Zealand response to COVID-19 has been to close borders and to restrict entry, with a quarantine system requiring anyone entering the country to enter specialist quarantine facilities. In doing so, migration has virtually stopped, but the country has been relatively safe from the pandemic with very few community cases, all of which have been successfully dealt with. Current travel restrictions, visa processing issues, visa exemptions and the closure of the border until further notice, except for the citizen and permanent residents of New Zealand create stress on the general economy and the construction sector (Wilson, & Fry, 2020). In New Zealand, COVID-19 has affected the country's economy, with the primary measure of economic activity, the Gross Domestic Product (GDP), falling (an example is GDP falling by 12.2% in the June 2020 quarter alone). Weak global conditions are negatively impacting firms and employment (including throughout the 4th quarter of 2020 and first quarter of 2021).

According to the Ministry of Business Innovation and Employment (2020), long-term border restrictions of New Zealand have made a substantial impact on the construction sector (The New Zealand Infrastructure Commission, 2021). It further explains that a quarter of respondents to the CCNZ Construction Industry Survey conducted in June 2020 chose skills shortages as the leading industry challenge, and 69% would hire today if the right skills were available (The New Zealand Infrastructure Commission, 2021). International skill migration is crucial for the New Zealand economy, and construction sector in particular, to fill the skill shortage gap. Since the pandemic started, migrants already in New Zealand have been faced with uncertain futures, especially regarding visa and work, which puts them at high risk from both health and employment perspectives (Moroz, Shrestha, & Testaverde, 2020). Specialized expertise for

New Zealand's civil, water, rail, structural engineering, project management, and vertical infrastructure is in demand. Some areas of infrastructure expertise such as tunneling, are almost entirely sourced from outside New Zealand. Training construction workers with the proper knowledge and skills to function effectively takes time. In many cases, a combination of education and on-the-job training is required before construction workers can become productive. COVID-19 has created the environment where construction skills shortages now exist, however, there is a relatively small body of literature that examines the effect of COVID-19 on skilled workers in the construction sector in New Zealand. This study intends to investigate the impact of COVID-19 on the New Zealand construction workforce .

Aim and objectives

The research aim is to:

Investigate the impact of COVID-19 on the New Zealand construction workforce

The key research objectives are:

- To analyse the impact of skills and skills shortage on construction firms due to COVID-19 in New Zealand
- To investigate the impact of New Zealand's COVID-19 response on immigration of overseas construction workers
- To evaluate the economic impact on the construction sector due to any skills shortages and existing border closures.
- To provide guidelines to mitigate any skills shortages in the construction sector and to make recommendations to New Zealand Government, Ministry of Business, Innovation and Employment and Immigration New Zealand on potential solution to any skills shortages, including reimagining border control procedures for overseas construction workers

Research Methodology

Covid-19 effects on the construction sector remains a novel area of research. Authors of previous studies elsewhere in the world suggested that a deeper understanding of effects on the global construction sector was needed to contain adverse impacts (Alsharif, Banerjee, Uddin, Albert & Jaselskis, 2021). Recent studies have looked into the effects of COVID-19 on the construction sectors and how the labour markets have reacted in countries such as the USA, India, Malaysia (Alsharif et al., 2021, Biswas, et al., 2021, Kapoor, 2020, Zamani, Rahman, Fauzi, & Yusof, 2021). The authors perceive Covid-19 to affect each country differently due to the policies adopted, economic factors, and the responses to the pandemic. Therefore a study specific to NZ context is suggested.

The proposed project will be carried out using a qualitative research methodology. A study by Teti, Schatz, and Liebenberg (2021) supported the view that qualitative inquiries are best suited to explore, address and plan solutions and strategies in order to manage the situation created by the pandemic. A case study approach will be adopted using semi-structured interviews that would involve construction sector employees such as managerial level professionals and human resource professionals from several New Zealand construction firms. The participants will be purposefully selected, and the process would continue with snowball sampling until data saturation occurs (Francis et al., 2010). A case study approach will allow "in-depth, multi-faceted explorations of complex issues in their real-life settings" which is vital to come up

with context-specific solutions to the pandemic (Crowe, Creswell, Robertson, Huby, Avery and Sheikh, 2011). Semi-structured questions would facilitate probing into areas of interest to gain insightful views (Saunders et al., 2016; Gray, 2018). Document analysis in terms of government published reports will inform secondary data used to evaluate job loss, skill shortage, and existing border closure procedures. The data will be audio-recorded with participants’ consent, under Massey University Ethics approval. The researchers would evaluate the effects of the aforementioned factors on the NZ economy through the Content analysis technique using NVivo 12.

Project Deliverables

The outputs are expected in terms of technical publications and other possible ways that could give publicity to the results of the research.

Technical Publications

- Present the findings at the CIB World Building Congress 2022
- Paper publication in CIB Encouraged Journal “Construction Management & Economics”

Other Deliverables

- The findings will be presented through a webinar/workshop to the members of New Zealand Institute of Building (NZIOB) and Building Research Association of New Zealand (BRANZ), Ministry of Business, Innovation and Employment and immigration NZ.
- The developed guidelines will be reported to Ministry of Business, Innovation and Employment (MBIE), New Zealand

Outcomes of the project

This research will provide a platform for New Zealand and the construction sector to address economic and social issues in the country in response to COVID-19. Specifically, New Zealand Immigration might be able to make changes to the existing border control procedures to mitigate skill-shortage of the construction industry.

Action plan and proposed budget of the proposed research

Action plan:

Milestone	Description	Date
1	Selection of the winner	31/03/21 – 31/04/21
2	Literature review	1/05/21 – 31/05/21
3	Developing a questionnaire for conducting interviews	1/06/21 – 31/06/21
4	Ethical application and approval from Massey University	01/05/21 – 31/06/21
5	Selection of potential participants from the construction sector	1/07/21 – 31/07/21

6	Conducting interviews with selected professionals	01/08/21 – 15/09/21
7	Analysing and selecting the secondary data source	16/09/21 – 07/10/21
8	Data analysis and outcomes evaluation	08/10/21 – 31/10/21
9	The first draft of the Chapter's report of the project	01/11/21 – 30/11/21
10	The final draft of the Chapter's report of the project and submission	01/12/21 – 25/12/21

Budget: €2500

If the application is granted, the budget can be used for: (1) Participant recruitment, (2) Transcription of the interview, (3) Translation of the interview, (4) Hiring interview equipment and etc.

A brief introduction to the research expertise of the team

	Research themes	Team Members
Research Expertise and Experience	People in Construction	Alice Bui <i>President</i> Achini Weerasinghe <i>Vice President-Administration</i> Alex Goryachev <i>Vice President-General</i> Raymond Tan <i>Vice President-Finance</i> Chinthaka Atapattu <i>Outreach Coordinator</i> Niransha Rodrigo <i>Outreach Coordinator</i>
	Construction Management and Economics	Alice Bui <i>President</i> Achini Weerasinghe <i>Vice President-Administration</i> Alex Goryachev <i>Vice President-General</i>

		Chinthaka Atapattu <i>Outreach Coordinator</i>
	Research techniques	
	Qualitative Research	Alice Bui <i>President</i> Achini Weerasinghe <i>Vice President-Administration</i> Niransha Rodrigo <i>Outreach Coordinator</i> Chinthaka Atapattu <i>Outreach Coordinator</i>
	Action Research	Alice Bui <i>President</i> Raymond Tan <i>Vice President-Finance</i>

Statements from the relevant Commission Coordinators

Bui, Alice

From: Ruddock, Les <les.ruddock@ucl.ac.uk>
Sent: Friday, 19 March 2021 3:06 AM
To: Bui, Alice
Cc: Sutrisna, Monty
Subject: Re: Request an Endorsement for CIB Sebestyén Future Leaders Award 2021 Proposal - Massey University CIB Student Chapter - New Zealand

Dear Alice,
On behalf of W55, I am pleased to offer our endorsement.
The economic aspects of skills shortages are obviously of interest to the Commission.
Please let me know if we can play any active role in this work.
Good luck with the application.
Regards
Les
Prof. Les Ruddock
Honorary Professor
The Bartlett School of Construction and Property Management
Tel: 0776 991 8523
Email: les.ruddock@ucl.ac.uk

From: Bui, Alice <T.Bui@massey.ac.nz>
Sent: 18 March 2021 00:58
To: Ruddock, Les <les.ruddock@ucl.ac.uk>
Cc: Sutrisna, Monty <M.Sutrisna@massey.ac.nz>; Wilkinson, Suzanne <S.Wilkinson@massey.ac.nz>; Chawynski, Greg <G.Chawynski@massey.ac.nz>; Weerasinghe, Achini <A.Weerasinghe@massey.ac.nz>; Goryachev, Alex <A.Goryachev@massey.ac.nz>; Tan, Raymond <R.Tan1@massey.ac.nz>; Rodrigo, Niransha <N.Rodrigo@massey.ac.nz>; Arya, Vineet <V.K.Arya@massey.ac.nz>; Pardeshi, Poonam <P.Pardeshi@massey.ac.nz>; Atapattu, Chinthaka <C.Atapattu@massey.ac.nz>
Subject: Request an Endorsement for CIB Sebestyén Future Leaders Award 2021 Proposal - Massey University CIB Student Chapter - New Zealand

Dear Prof. Les Ruddock,

On behalf of the Massey University Student Chapter, I am contacting you to seek your endorsement – **CIB Working Commission W055** for our proposal for the **CIB Sebestyén Future Leaders Award 2021**.

We are Massey CIB Student Chapter – School of Built Environment, Massey University, New Zealand, supported by **Prof. Monty Sutrisna** – Head of School, **Prof. Suzanne Wilkinson** – Director of Research, and **Dr. Gregory Chawynski** – Director of Engagement. Our research proposal information is as follow:

Research title: Effect on skilled workers of New Zealand Built Environment due to the COVID-19 crisis

Research aim: To improve the existing border control procedure in New Zealand for facilitating the skill-shortage of the Built Environment due to COVID-19.

Research objectives:

- To analyse the impact of skill shortage on construction firms due to the COVID-19 pandemic situation in New Zealand.

Bui, Alice

From: Emuze Fidelis <femuze@cut.ac.za>
Sent: Wednesday, 17 March 2021 7:21 PM
To: Bui, Alice
Subject: RE: Request an Endorsement for CIB Sebestyén Future Leaders Award 2021 Proposal - Massey University CIB Student Chapter - New Zealand

Dear Alice

The initiative is commendable. CIB W123 (formerly TG59) is pleased to endorse it.

Stay safe
Prof E



Professor (& Deacon) Fidelis A. Emuze
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International Coordinator: CIB W123
Working Commission on People in Construction

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Website: <https://fidelisemuze.wordpress.com/> & www.emuzee.co.za

Call for Papers for a JEDT Special Issue Guest Edited by Emuze, Deacon & Smallwood
Journal: Journal of Engineering, Design & Technology
Theme: Impact of COVID-19 on construction
Submission date: 1st December 2020
Website: <https://www.ameraldgrouppublishing.com/journal/jedt/impact-covid-19-construction>

Call for Papers for a Safety Science Special Issue Guest Edited by Mann, Emuze, Saurin & Hadikunmas
Journal: Safety Science
Theme: Construction Health and Safety in Developing Countries
Submission date: 30th December 2020
Website: <https://www.tandfonline.com/journals/safsci/call-for-papers/construction-health-and-safety-in-developing-countries>

Published:

Books:
Emuze, F. (2020) Construction Safety Pocketbook for South Africa, Bloemfontein, RSA: Sun Media. ISBN: 978-1-928424-40-6 (Print) & 978-1-928424-41-3 (e-version).

TO ORDER THE PRINTED COPY: 051-444-2552 | sunmedia@sunbloem.co.za
TO PURCHASE THE e-BOOK: <https://africansunmedia.store.it/si/za/book/construction-safety-pocketbook-for-south-africa/988781>

Edited Books

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