

# LDA2Net: Digging under the surface of COVID-19 topics in literature

Topic 57 companion sheet

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This file contains the following supplementary information for Topic 57 of the manuscript “*LDA2Net*: Digging under the surface of COVID-19 topics in scientific literature”:

- Human label and automatic n-gram label proposals (Table 1)
- Summary measures (Table 2)
- Network of top 25 bigrams (Figure 1)
- Wordclouds of top 25 words by node relevance measure (Figure 2)
- Wordclouds of top 25 bigrams by edge relevance measure (Figure 3)
- Filtered (0.99 percentile) topic network (Figure 4)

Table 1: Human and automatic label proposals. Automatic label candidate for largest word community of the topic. In parenthesis: absolute frequency of the walk out of a sample of size 1000.

Human label	2-gram label	3-gram label	4-gram label
effective strategies	effective->strategies (17.4%)	effective->strategies->strategy (5.9%)	effective->strategies->strategy->approach (2.1%)

Here follows the set of topic-specific measures that have been used to classify the topic and to analyse its structural properties (see manuscript for details):

Table 2: Summary measures

	JSD	Mean propensity	Variance propensity	Modularity	Barrat Clustering Coeff.
value	0.704458	0.007896	0.000127	0.000000	0.559592
rank	79	42	14	18	37

Based on the aforementioned measures, Topic 57 has been classified as a CROSS-CUTTING topic.

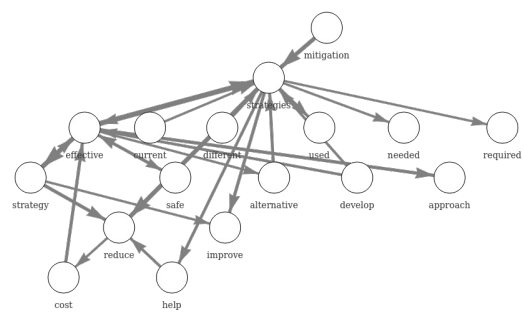


Figure 1: Network of top 25 bigrams (i.e., edges) by weight.

A word cloud of terms related to business strategy. The words are arranged in a circular pattern, with 'strategy' and 'strategies' being the most prominent in the center. Other visible words include 'approach', 'effective', 'efficient', 'current', 'identify', 'targeted', 'alternative', 'improve', 'help', 'reduce', 'required', 'cost', 'achieve', 'approaches', 'benefit', 'limited', 'successfully', 'develop', 'needed', 'effectively', 'used', 'best', and 'success'.

A word cloud of terms related to the research. The most prominent words are 'strategies', 'effective', 'approaches', 'different', 'develop', 'adopted', 'used', 'reduce', 'strategy', 'approach', 'help', 'alternative', 'safe', 'identify', 'required', 'developing', 'mitigation', 'efficient', 'current', 'needed', 'improve', 'cost', 'best', 'achieve', and 'different'. The words are arranged in a circular pattern, with 'strategies' and 'effective' being the largest and most central.

A word cloud of strategies for reducing the carbon footprint of the built environment. The words are arranged in a circular pattern, with 'strategies' being the largest and most central word. Other prominent words include 'approaches', 'employed', 'adopted', 'safe', 'needed', 'improve', 'cost', 'developed', 'alternative', 'develop', 'identify', 'help', 'applied', 'reduce', 'effective', 'required', 'achieve', 'effectively', 'approach', 'used', 'efficient', 'targeted', and 'implemented'.

A word cloud of terms related to business strategy. The most prominent words are 'strategies', 'effective', 'approaches', 'successful', 'current', 'develop', 'safe', 'alternative', 'achieve', 'required', 'different', 'cost', 'reduce', 'identity', 'mitigation', 'approach', 'strategy', 'used', 'help', 'potentially', 'efficient', 'needed', 'best', and 'highly'. The words are arranged in a circular pattern, with 'strategies' and 'effective' being the largest and most central.

A word cloud of terms related to effective strategies. The most prominent word is 'effective'. Other significant words include 'strategies', 'implemented', 'resources', 'employed', 'required', 'improve', 'achieve', 'burden', 'way', 'help', 'efficient', 'safe', 'developed', 'identified', 'needed', 'approach', 'alternative', 'cost', 'strategy', 'used', 'reduce', 'current', 'adopted', and 'effectively'. The words are arranged in a circular pattern around the central word 'effective'.

A word cloud of terms related to the research topic. The most prominent words are 'strategies', 'effective', 'reduce', 'improve', 'approach', 'develop', 'use', 'cost', 'used', 'limited', 'base', 'help', 'burden', 'required', 'achieve', 'effectively', 'developed', 'efficient', 'different', 'identify', 'safe', 'needed', 'current', 'alternative', and 'strategy'. The words are arranged in a circular pattern, with 'strategies' and 'effective' being the largest and most central.

### Out-degree

## Betweenness

## PageRank

Figure 2: Top 25 unigrams (i.e., nodes) by measure.



Figure 3: Top 25 bigrams (i.e., edges) by measure.

