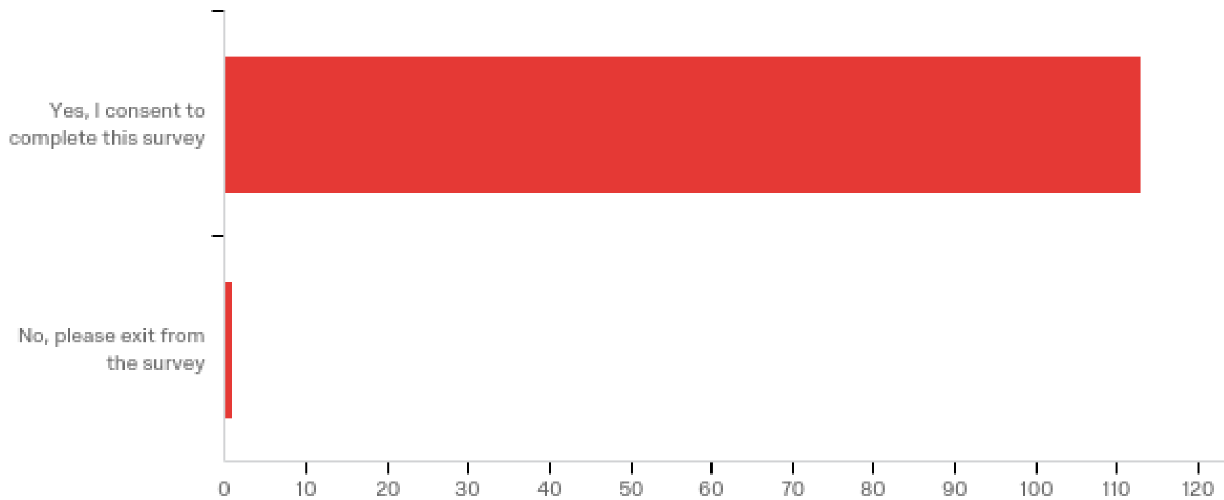
Appendix C: Survey Results

A Fuzzy Cognitive Mapping Approach to Scenario Development in the South African Mining Industry

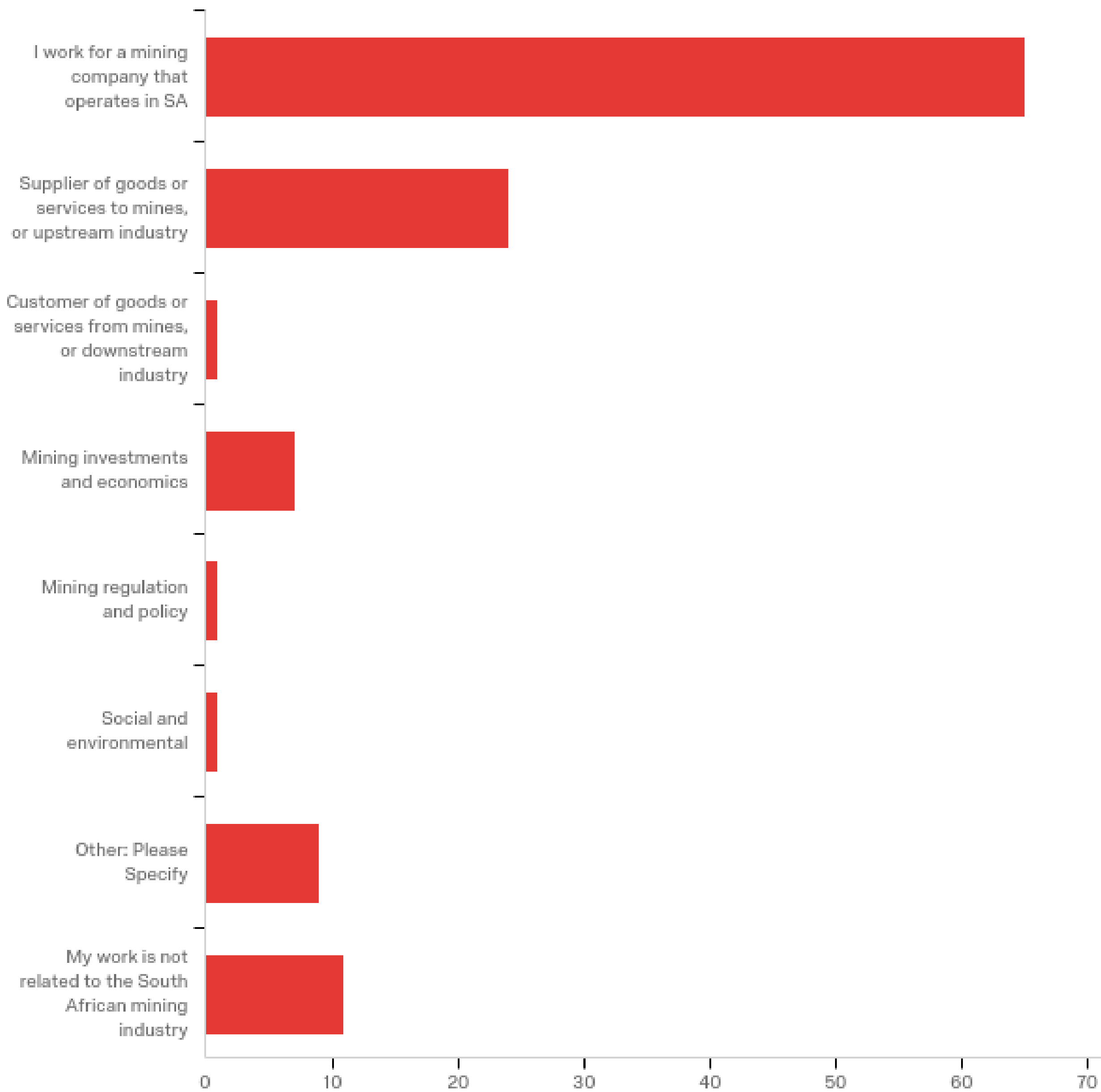
August 9th 2018, 9:53 am CAT

Q4 - Respondent Consent Do you consent to completing this survey? There is no obligation or expectation for completing this survey and if the respondent chooses to continue it is of their own choice.



#	Answer	%	Count
1	Yes, I consent to complete this survey	99.12%	113
2	No, please exit from the survey	0.88%	1
	Total	100%	114

Q5 - How is your work related to the South African mining industry?



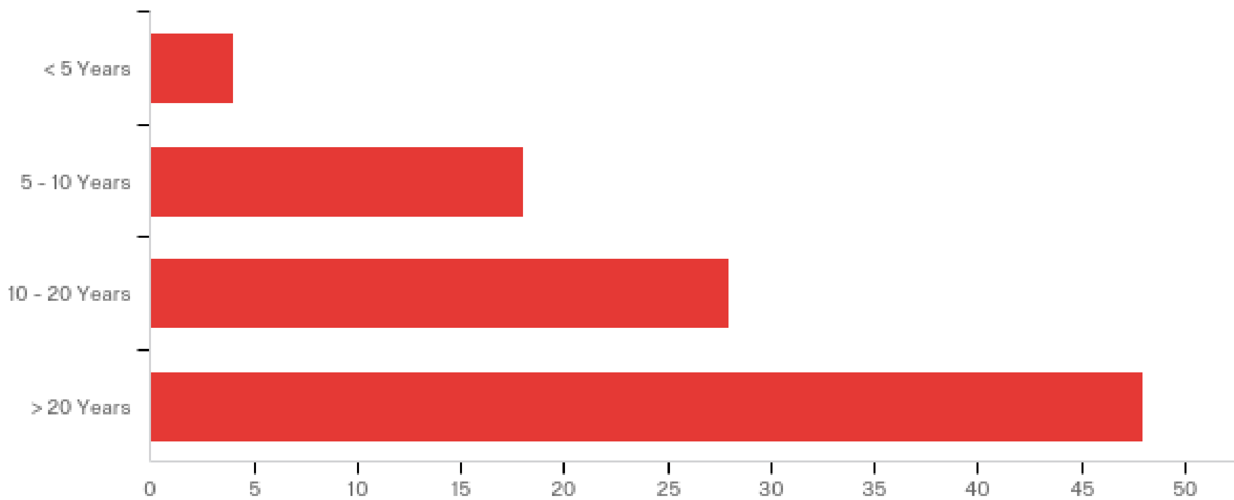
#	Answer	%	Count
1	I work for a mining company that operates in SA	54.62%	65
2	Supplier of goods or services to mines, or upstream industry	20.17%	24
3	Customer of goods or services from mines, or downstream industry	0.84%	1
4	Mining investments and economics	5.88%	7
5	Mining regulation and policy	0.84%	1

6	Social and environmental	0.84%	1
7	Other: Please Specify	7.56%	9
8	My work is not related to the South African mining industry	9.24%	11
	Total	100%	119

Q5_7_TEXT - Other: Please Specify

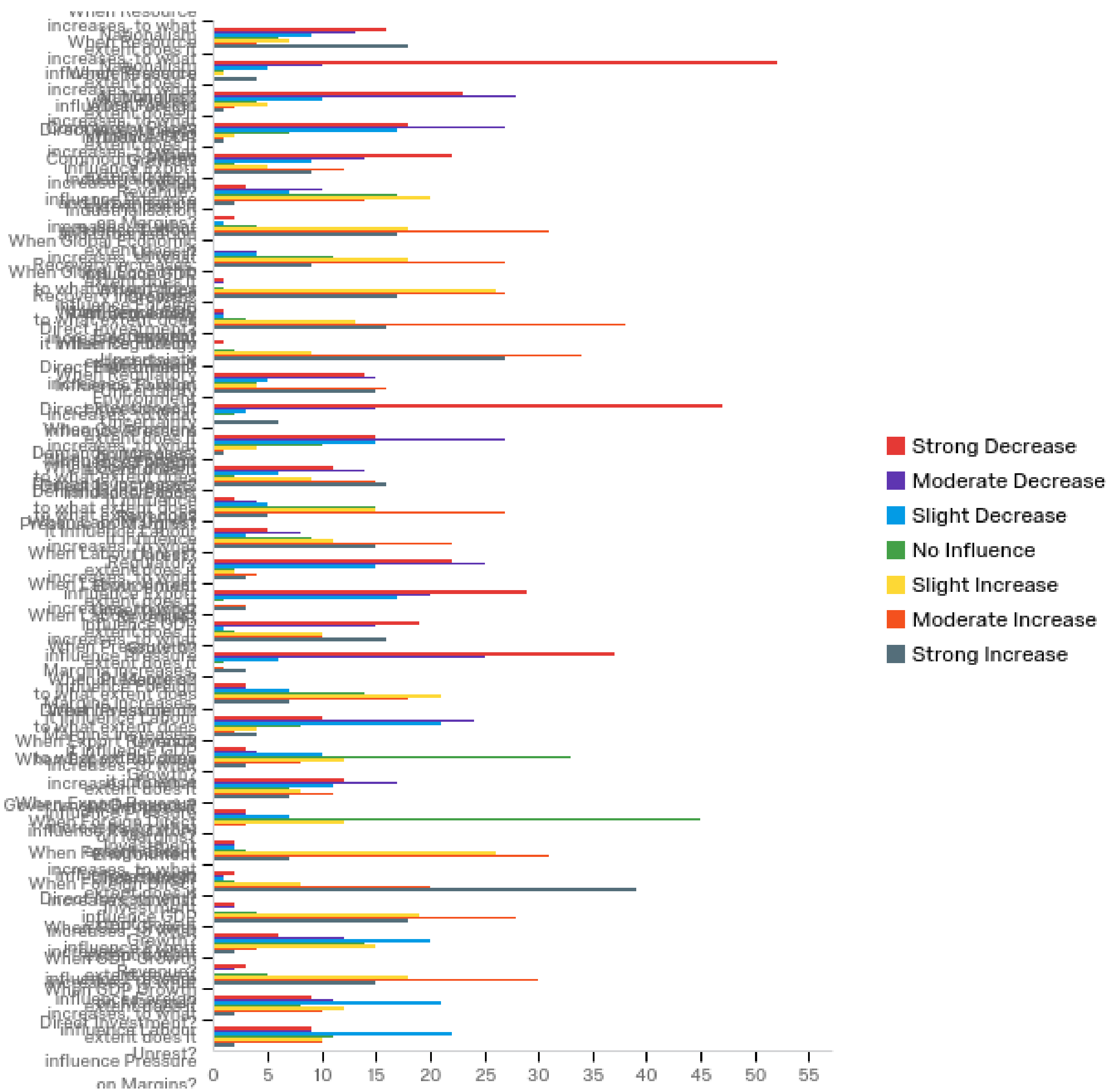
Other: Please Specify - Text
Junior exploration
Project Management consultant to mining industry in South Africa as well as Africa
Uranium mining in Namibia
Software Vendor
Work in Namibian Mining Industry
Work as Contracts Manager for an EPCM company specializing in Mining
I am a Mineral Economist working as a Consultant for the Coal Mining Industry
Mining Consultancy
I work for a mining company that operates in Mozambique

Q22 - How many years experience do you have in the mining industry?



#	Answer	%	Count
1	< 5 Years	4.08%	4
2	5 - 10 Years	18.37%	18
3	10 - 20 Years	28.57%	28
4	> 20 Years	48.98%	48
	Total	100%	98

Q1 - Strength of Causal Relationships   Please state the intuitive causal relationship between each of the following system concepts, e.g. When Concept A goes up (increase), does Concept B go down (decrease), go up (increase), or does the relationship not exist (No Influence)?



#	Question	Strong Decrease		Moderate Decrease		Slight Decrease		No Influence		Slight Increase		Moderate Increase		Strong Increase		Total
1	When Resource Nationalis	21.92%	16	17.81%	13	12.33%	9	8.22%	6	9.59%	7	5.48%	4	24.66%	18	73

	m increases, to what extent does it influence Pressure on Margins?															
2	When Resource Nationalism increases, to what extent does it influence Foreign Direct Investment?	71.23%	52	13.70%	10	6.85%	5	1.37%	1	1.37%	1	0.00%	0	5.48%	4	73
3	When Resource Nationalism increases, to what extent does it influence GDP Growth?	31.51%	23	38.36%	28	13.70%	10	5.48%	4	6.85%	5	2.74%	2	1.37%	1	73
4	When Resource Nationalism increases, to what extent does it influence Export Revenue?	24.66%	18	36.99%	27	23.29%	17	9.59%	7	2.74%	2	1.37%	1	1.37%	1	73
5	When Market Commodity Prices increases, to what extent does it influence Pressure on Margins?	30.14%	22	19.18%	14	12.33%	9	2.74%	2	6.85%	5	16.44%	12	12.33%	9	73
6	When Market	4.11%	3	13.70%	10	9.59%	7	23.29%	17	27.40%	20	19.18%	14	2.74%	2	73

	Commodity Prices increases, to what extent does it influence Labour Unrest?														
7	When Industrialisation and Urbanisation increases, to what extent does it influence GDP Growth?	2.74%	2	0.00%	0	1.37%	1	5.48%	4	24.66 %	18	42.47%	31	23.29 %	17	73
8	When Industrialisation and Urbanisation increases, to what extent does it influence Foreign Direct Investment ?	0.00%	0	5.48%	4	5.48%	4	15.07 %	11	24.66 %	18	36.99%	27	12.33 %	9	73
9	When Global Economic Recovery increases, to what extent does it influence GDP Growth?	1.37%	1	1.37%	1	0.00%	0	1.37%	1	35.62 %	26	36.99%	27	23.29 %	17	73
10	When Global Economic Recovery increases, to what extent does it influence Foreign Direct Investment	1.37%	1	1.37%	1	1.37%	1	4.11%	3	17.81 %	13	52.05%	38	21.92 %	16	73

	?														
11	When Africa Attractiveness increases, to what extent does it influence Foreign Direct Investment?	1.37%	1	0.00%	0	0.00%	0	2.74%	2	12.33%	9	46.58%	34	36.99%	27	73
12	When Regulatory Environment Uncertainty increases, to what extent does it influence Pressure on Margins?	19.18%	14	20.55%	15	6.85%	5	5.48%	4	5.48%	4	21.92%	16	20.55%	15	73
13	When Regulatory Environment Uncertainty increases, to what extent does it influence Foreign Direct Investment?	64.38%	47	20.55%	15	4.11%	3	2.74%	2	0.00%	0	0.00%	0	8.22%	6	73
14	When Regulatory Environment Uncertainty increases, to what extent does it influence Export Revenue?	20.55%	15	36.99%	27	20.55%	15	13.70%	10	5.48%	4	1.37%	1	1.37%	1	73
15	When Governmen	15.07%	11	19.18%	14	8.22%	6	2.74%	2	12.33%	9	20.55%	15	21.92%	16	73

	t Demands increases, to what extent does it influence Pressure on Margins?														
16	When Government Demands increases, to what extent does it influence Labour Unrest?	2.74%	2	5.48%	4	6.85%	5	20.55%	15	20.55%	15	36.99%	27	6.85%	5	73
17	When Government Demands increases, to what extent does it influence Regulatory Environment Uncertainty?	6.85%	5	10.96%	8	4.11%	3	12.33%	9	15.07%	11	30.14%	22	20.55%	15	73
18	When Labour Unrest increases, to what extent does it influence Export Revenue?	30.14%	22	34.25%	25	20.55%	15	2.74%	2	2.74%	2	5.48%	4	4.11%	3	73
19	When Labour Unrest increases, to what extent does it influence GDP Growth?	39.73%	29	27.40%	20	23.29%	17	1.37%	1	0.00%	0	4.11%	3	4.11%	3	73
20	When Labour Unrest increases, to what	26.03%	19	20.55%	15	1.37%	1	2.74%	2	13.70%	10	13.70%	10	21.92%	16	73

	extent does it influence Pressure on Margins?															
21	When Labour Unrest increases, to what extent does it influence Foreign Direct Investment?	50.68%	37	34.25%	25	8.22%	6	1.37%	1	0.00%	0	1.37%	1	4.11%	3	73
22	When Pressure on Margins increases, to what extent does it influence Labour Unrest?	4.11%	3	4.11%	3	9.59%	7	19.18%	14	28.77%	21	24.66%	18	9.59%	7	73
23	When Pressure on Margins increases, to what extent does it influence GDP Growth?	13.70%	10	32.88%	24	28.77%	21	10.96%	8	5.48%	4	2.74%	2	5.48%	4	73
24	When Pressure on Margins increases, to what extent does it influence Government Demands?	4.11%	3	5.48%	4	13.70%	10	45.21%	33	16.44%	12	10.96%	8	4.11%	3	73
25	When Export Revenue increases, to what extent does it influence Pressure on	16.44%	12	23.29%	17	15.07%	11	9.59%	7	10.96%	8	15.07%	11	9.59%	7	73

	Margins?															
26	When Export Revenue increases, to what extent does it influence Regulatory Environment Uncertainty?	4.11%	3	4.11%	3	9.59%	7	61.64%	45	16.44%	12	4.11%	3	0.00%	0	73
27	When Export Revenue increases, to what extent does it influence Foreign Direct Investment?	2.74%	2	2.74%	2	2.74%	2	4.11%	3	35.62%	26	42.47%	31	9.59%	7	73
28	When Foreign Direct Investment increases, to what extent does it influence GDP Growth?	2.74%	2	1.37%	1	1.37%	1	2.74%	2	10.96%	8	27.40%	20	53.42%	39	73
29	When Foreign Direct Investment increases, to what extent does it influence Export Revenue?	2.74%	2	2.74%	2	0.00%	0	5.48%	4	26.03%	19	38.36%	28	24.66%	18	73
30	When Foreign Direct Investment increases, to what	8.22%	6	16.44%	12	27.40%	20	19.18%	14	20.55%	15	5.48%	4	2.74%	2	73

	extent does it influence Pressure on Margins?													
31	When GDP Growth increases, to what extent does it influence Foreign Direct Investment?	4.11%	3	2.74%	2	0.00%	0	6.85%	5	24.66%	18	41.10%	30	20.55%	15	73
32	When GDP Growth increases, to what extent does it influence Labour Unrest?	12.33%	9	15.07%	11	28.77%	21	10.96%	8	16.44%	12	13.70%	10	2.74%	2	73
33	When GDP Growth increases, to what extent does it influence Pressure on Margins?	12.33%	9	12.33%	9	30.14%	22	15.07%	11	13.70%	10	13.70%	10	2.74%	2	73