In the result tables you can see some of the factuals that were generated by our model and the model of [1].

Factual Seq. Amount	Activity	label	Resource	Our CF Seq. Amount	Activity	label	Resource	DiCE4EL CF Seq. Activity	Resource	Amount
		0				1				
		0				1				
		0				1				
		0				1				
		0				1				
		0				1				
		0				1				
5 000	A-SUBMITTED	0	112.0			1				
5 000	A-PARTLYSUBMITTED	0	112.0			1				
5 000	A-PREACCEPTED	0	112.0			1				
5 000	W-Completeren aanvraag	0	11180.0			1				
5 000	A-ACCEPTED	0	11180.0	14 940	A-SUBMITTED	1	112.0			
5 000	A-FINALIZED	0	11180.0	14 253	A-PARTLYSUBMITTED	1	112.0			
5 000	O-SELECTED	0	11180.0	14 478	A-PREACCEPTED	1	112.0	A-SUBMITTED	112	5 000
5 000	O-CREATED	0	11180.0	12 500	A-ACCEPTED	1	11180.0	A-PARTLYSUBMITTED	112	5 000
5 000	O-SENT	0	11180.0	12 500	A-FINALIZED	1	11180.0	A-PREACCEPTED	112	5 000
5 000	W-Completeren aanvraag	0	11180.0	14 783	O-SELECTED	1	11119.0	A-ACCEPTED	11000	5 000
5 000	W-Nabellen offertes	0	11180.0	12 500	O-CREATED	1	11180.0	O-SELECTED	11000	5 000
5 000	W-Nabellen offertes	0	11180.0	12 500	O-SENT	1	11180.0	A-FINALIZED	11000	5 000
5 000	W-Nabellen offertes	0	11119.0	15 109	W-Completeren aanvraag	1	10859.0	O-CREATED	11000	5 000
5 000	O-SENT-BACK	0	11029.0	15 107	W-Nabellen offertes	1	11119.0	W-Completeren aanvraag	11000	5 000
5 000	W-Nabellen offertes	0	11029.0	15 381	W-Nabellen offertes	1	10889.0	O-SENT	11000	5 000
5 000	O-DECLINED	0	10609.0	15 265	W-Nabellen offertes	1	10972.0	O-SENT-BACK	11259	5 000
5 000	A-DECLINED	0	10609.0	14 980	O-SENT-BACK	1	10912.0	W-Nabellen offertes	11259	5 000
5 000	W-Valideren aanvraag	0	10609.0	15 252	W-Valideren aanvraag	1	11029.0	O-ACCEPTED	10809	5 000
		0		12 551	W-Nabellen incomplete dossiers	1	11019.0			

Table 1: A comparison between the CBI-ES-UC3-SBM-RR and D4EL

Factual Seq. Amount	Activity	label	Resource	Our CF Seq. Amount	Activity	label	Resource	DiCE4EL CF Seq. Activity	Resource	Amount
		0				1				
		0				1				
		0				1				
		0				1				
		0				1				
		0				1				
		0				1				
5 000	A-SUBMITTED	0	112.0			1				
5 000	A-PARTLYSUBMITTED	0	112.0			1				
5 000	A-PREACCEPTED	0	112.0			1				
5 000	W-Completeren aanvraag	0	11180.0	8 500	A-SUBMITTED	1	112.0			
5 000	A-ACCEPTED	0	11180.0	8 500	A-PARTLYSUBMITTED	1	112.0			
5 000	A-FINALIZED	0	11180.0	8 500	A-PREACCEPTED	1	112.0			
5 000	O-SELECTED	0	11180.0	8 500	A-ACCEPTED	1	10861.0	A-SUBMITTED	112	5 000
5 000	O-CREATED	0	11180.0	8 500	A-FINALIZED	1	10861.0	A-PARTLYSUBMITTED	112	5 000
5 000	O-SENT	0	11180.0	8 500	O-SELECTED	1	10861.0	A-PREACCEPTED	112	5 000
5 000	W-Completeren aanvraag	0	11180.0	8 500	O-CREATED	1	10861.0	A-ACCEPTED	11000	5 000
5 000	W-Nabellen offertes	0	11180.0	8 500	O-SENT	1	10861.0	O-SELECTED	11000	5 000
5 000	W-Nabellen offertes	0	11180.0	8 500	W-Completeren aanvraag	1	10913.0	A-FINALIZED	11000	5 000
5 000	W-Nabellen offertes	0	11119.0	10 000	W-Nabellen offertes	1	11180.0	O-CREATED	11000	5 000
5 000	O-SENT-BACK	0	11029.0	14 677	W-Nabellen offertes	1	11201.0	O-SENT	11000	5 000
5 000	W-Nabellen offertes	0	11029.0					W-Completeren aanvraag	11000	5 000
5 000	O-DECLINED	0	10609.0	15 351		1		O-SENT-BACK	11259	5 000
5 000	A-DECLINED	0	10609.0	16 326	O-DECLINED	1	11019.0	W-Nabellen offertes	11259	5 000
5 000	W-Valideren aanvraag	0	10609.0	8 500	W-Valideren aanvraag	1	10609.0	O-ACCEPTED	10809	5 000
		0		8 500	O-ACCEPTED	1	10609.0			

Table 2: A comparison between the CBI-RWS-OPC-SBM-FSR and D4EL

In this section we show how both models (*CBI-ES-UC3-SBM-RR* and *CBI-RWS-OPC-SBM-FSR*), that the models are capable of changing the outcome of the outcome. Both models also return reasonable counterfactuals. However, *CBI-ES-UC3-SBM-RR* appears to be more consistent with the counterpart of [1]. Especially in terms of the activity sequence. For instance, both, our counterfactual and the D4EL counterfactual recognize that after O-SENT, there has to be an O-SENT-BACK that wil eventually lead to an accpetance of the counterfactual.Both evolutionary algorithms also manage to start the process with the correct sequence of A-SUBMITTED, A-PARTLYSUBMITTED and A-PREACCEPTED. Furthermore, our model appears to be much closer in terms of sequences than the model by Hsieh et al. *CBI-RWS-OPC-SBM-FSR* (the model that only chooses the fittest survivors) has gaps. These gaps are an indication that the model also attempts

to align towards the correct structure of the factual model. We do not see that in *CBI-ES-UC3-SBM-RR*, as it ranks feasibility above similarity and sparcity. Introducing gaps automatically reduces the feasibility of the model. In the attachment you will find more examples.

We also see, that the value for *Amount* fluctuates for the evolutionary generators. Similar, holds for the resource field. Hence, the model tends to focus on event structure first and the event attributes second. However, we cannot be certain, as those values are drawn from a probability distribution. Hence, this might be a limitting factor when it comes to event attributes. However, one could argue that the most reveling information the counter-factuals provide for sequences are within the sequence structure and less the event attributes.