

Fuzzy Logic – scenario. First idea's on FL Inputs and Outputs

Scenario:

Based on content of the email the email will be forwarded to the right department for answering the e-mail. This will happen in the following steps:

1. Word-list production out of e-mail. This happens outside the FL system.
2. Theme production out of work-list. This is executed based on a word list per Theme. This happens outside the FL system.
3. The Themes are Input variables in the FL system. We will specify 5 – 10 Theme's which will be FL Variables, and for each of these FL Variables membership functions.

FL Inputvariable – Theme	FL variable Range	Membership functions	Mf specifications	
BuyProduct1	0 – 100	BitInterested1	Trap -10 0 20 40	
		WantIt1	Triangular 25 50 75	
		NeedItNow1	Trap 60 80 100 120	
BuyProduct2	0 – 100	BitInterested2	Trap -10 0 20 40	
		WantIt2	Triangular 25 50 75	
		NeedItNow2	Trap 60 80 100 120	
ComplaintProduct1	0 – 100	Suggestions1	Trap -10 0 20 40	
		RepairIt1	Triangular 25 50 75	
		YouHaveItBack1	Trap 60 80 100 120	
ComplaintProduct2	0 – 100	Suggestions2	Trap -10 0 20 40	
		RepairItProduct2	Triangular 25 50 75	
		YouHaveItBackProd2	Trap 60 80 100 120	
Marketing	0 – 100	RelationshipBuilding		
		NewProductIdeas		
		KillerApp		
Press / Public Relations	0 – 100	GeneralInterest		
		Specific question		
		BadPress		
HR –	0 – 100	GeneralInterest		
		JobApplicant		
		KeyJobApplicant		
General	0 – 100	No Match	Singleton 50	

4. Outputvariable of the FL system is department. Based on the FL Input-variables (Themes) a connection will be made via Rules to departments. We start with 10 – 15 departments.

FL Outputvariable – Theme	FL variable Range	Membership functions	Mf specifications	
CustomerServiceA	0 – 100	Attention	Trap -10 0 20 40	
		Potential Action	Triangular 25 50 75	
		Immediate Action	Trap 60 80 100 120	
CustomerServiceB	0 – 100	Attention	Trap -10 0 20 40	

		Potential Action	Triangular 25 50 75	
		Immediate Action	Trap 60 80 100 120	
TechnicalSupportA	0 – 100	Attention	Triangular	
		Potential Action	Triangular	
		Immediate Action	Triangular	
TechnicalSupportB	0 – 10	Attention	Triangular	
		Potential Action	Triangular	
		Immediate Action	Triangular	
Marketing		Attention	Triangular	
		Potential Action	Triangular	
		Immediate Action	Triangular	
Public Relations	0 – 100	Attention	Triangular	
		Potential Action	Triangular	
		Immediate Action	Triangular	
HR –		Attention	Triangular	
		Potential Action	Triangular	
		Immediate Action	Triangular	
General Management		Attention	Triangular	
		Potential Action	Triangular	
		Immediate Action	Triangular	
General Affairs		If nothing else matches		