

## LIST OF INDICES AND PARAMETERS

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### Indices And Parameters for Chapter 4

$i$	Index for enablers rows wise	$i = 1,2,\dots,7$
$j$	Index for enablers column wise	$j = 1,2,\dots,7$
$a_{ij}$	Unitary value at $i^{th}$ row and $j^{th}$ column	
$R(p_i)$	Reachability Set	
$A(p_i)$	Antecedent Set	
$R(p_i) \cap A(p_i)$	Intersection Set of Reachability Set and Antecedent Set	

### Indices And Parameters for Chapter 5

$i$	Index for enablers	
$j$	Index for attributes	
$k$	Index for sub-attributes	
$a$	Index for experts	
$E_i$	$i^{th}$ Enablers	
$E_a$	$a^{th}$ expert	
$A_{ij}$	$j^{th}$ Attribute in $i^{th}$ enabler	
$SA_{ijk}$	$k^{th}$ Sub-attribute in $j^{th}$ attribute in $i^{th}$ enabler	
$R_{ijk}$	Performance rating for ASC sub-attribute $ijk$	
$W_{ijk}$	Importance weight for ASC sub-attribute $ijk$	
$AI_{ij}$	Agility index of attribute in $i^{th}$ enabler	
$W_{ij}$	Importance weight for ASC attribute $ij$	
$AI_i$	Agility index of $i^{th}$ enabler	
$W_i$	Importance weight for enabler $i$	

FAI	Overall Agility Index of supply chain
$D(\text{FAI}, \text{AL})$	Euclidean distance between FAI and AL
$FPII_{ijk}$	Fuzzy Performance Importance Index of ASC sub-attribute $ijk$

### Indices And Parameters for Chapter 6

$i$	Enablers' index, $i = 1$ to $7$ .
$j$	Criteria' index, $j = 1$ to $5$ .
$w_i$	Overall weights of the agility enablers $i$
$w_{ij}$	Priority weights of enablers $i$ with respect to the criteria $j$
$w_j$	Priority weights of criteria $j$

### Indices And Parameters for Chapter 7

$i$	Enablers' index, $i = 1$ to $7$
$j$	Criteria' index, $j = 1$ to $5$
$P_1, P_2$ and $P_3$	Priorities attached to each of the goals
$d_c^+, d_m^+$ and $d_e^+$	Positive deviation from the available cost of operation, available management hours and available employee hours respectively
$d_c^-, d_m^-$ and $d_e^-$	Negative deviation from the available cost of operation, available management hours and available employee hours respectively
$d_a^+$	Positive deviation from the targeted agility level
$d_a^-$	Negative deviation from the targeted agility level
$d_{gw}^+$	Positive deviation from the targeted global weight
$d_{gw}^-$	Negative deviation from the targeted global weight
$d_j^+$	Positive deviation of criterion $j$ from targeted weight
$d_j^-$	Negative deviation of criterion $j$ from targeted weight
$w_j$	Weight of the $j^{\text{th}}$ criterion

$x_i$	Decision variables used in problem
$c_i$	Unit cost incurred for the variable $x_i$
$m_i$	Unit management hour incurred for the variable $x_i$
$e_i$	Unit employee hour incurred for the variable $x_i$
$a_i$	Unit agility score achieved for the variable $x_i$
C	Yearly available cost of operation
M	Yearly available management hours
E	Yearly available employee hours
A	Targeted agility level
$w_i$	Global score of the enablers $i$
$w_{ij}$	Local score of enabler $i$ with respect to criterion $j$
Q	Targets defined for the constraint equation linked to the global score maximization
$Q_j$	Targets defined for the constraint equations linked to the local score maximization

## ABBREVIATIONS

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AD	Adaptability
AHP	Analytical Hierarchy Process
AI	Agility Index
AL	Agility Level
AMEs	Agile Manufacturing Enablers
ASC	Agile Supply Chain
BTO	Build-to-Order
CFGTSA	Chaos-based Fast Genetic Tabu Simulated Annealing
CI	Consistency Index
CR	Collaborative Relationship
$C_R$	Consistency Ratio
CS	Customer Satisfaction
CTO	Configuration-to-Order
DEA	Data Envelopment Analysis
FAEA	Fuzzy Agility Evaluation Approach
FAI	Fuzzy Agility Index
FARM	Fuzzy Association Rules Mining
FL	Flexibility
FPPI	Fuzzy Performance Importance Index
GP	Goal Programming
GRA	Grey Relation Approach
IT	Use of Information Technology
JIT	Just-in-Time

MCDM	Multiple Criterion Decision Making
MICMAC	Matrice d'Impacts Croises Multiplication Applique' an Classment (Cross-Impact Matrix Multiplication Applied to Classification)
MS	Market Sensitivity
OARM	Objectivated Agility Realisation Model
QFD	Quality Function Deployment
RI	Random Index
SCA	Supply Chain Agility
SCM	Supply Chain Management
SSIM	Structural Self-Interaction Matrix
TOC	Theory of Constraints
TRIZ	Theory of Inventive Problem Solving
VE	Virtual Enterprises